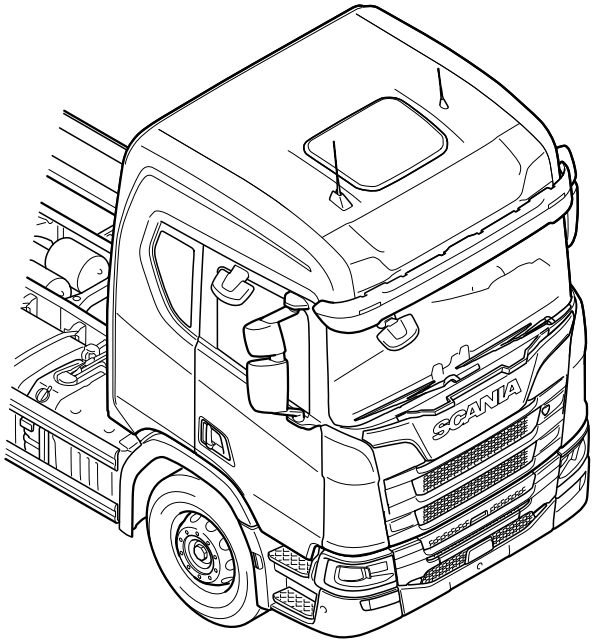
00:17-30
Issue: 39 en-GB

Preface to periodic maintenance

00:17-30

L, P, G, R and S series



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Preface

A Scania vehicle is designed to provide good transport economy. Regular maintenance is vital for optimum service life of a Scania vehicle. It is also necessary to retain good driveability and operational reliability and to 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 the maintenance programme should be adapted to different operating conditions and bodywork.
- 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.

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
9. The effect of any bodywork on the interval
10. Electric powertrain maintenance requirements.

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.

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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

Standard maintenance

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.

- Large pre-delivery inspection (D): Performed by Scania workshops when the vehicle bodywork is built before delivery to the customer.
  - The vehicle is equipped and fitted with bodywork by an external bodybuilder. A check whether the declaration of conformity document is available in the vehicle takes place during the pre-delivery inspection. The document is issued by the company performing the bodybuilding.
  - If the above condition is not met, carry out a Small pre-delivery inspection.
- Small pre-delivery inspection (D): Carried out by Scania workshops prior to delivery to the customer. Only performed on vehicles that satisfy the following requirements:
  - The vehicle is delivered directly from the factory via the dealer to the customer.
  - The vehicle is a tractor with 4x2, 6x2 or 6x4 wheel configuration that has not been converted.
  - If the requirements are not satisfied, carry out a Large-scale pre-delivery inspection.
- R maintenance (running-in maintenance): Performed by Scania workshops no more than 6 weeks or 20,000 km after delivery to the customer. Maintenance is carried out according to which scenario occurs first:
  - Checking fluid levels
  - Checking attachments
  - Look for damage
- S maintenance: Minimum basic maintenance. May contain the following:
  - Engine oil change
  - Transmission oil change
  - Filter renewal
  - Lubrication. Cab and chassis
- M maintenance: More extensive maintenance. May contain the following:
  - Engine oil change
  - Transmission oil change
  - Filter renewal
  - Lubrication, chassis
  - Renewing the oxidation catalytic converter
- L maintenance: Includes all maintenance items. May contain the following:

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

Maintenance as option

- X maintenance: Mainly concerns an extra chassis lubrication; refer to X maintenance.
- XO maintenance: In principle, comprises 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, see the section Preventive renewals.

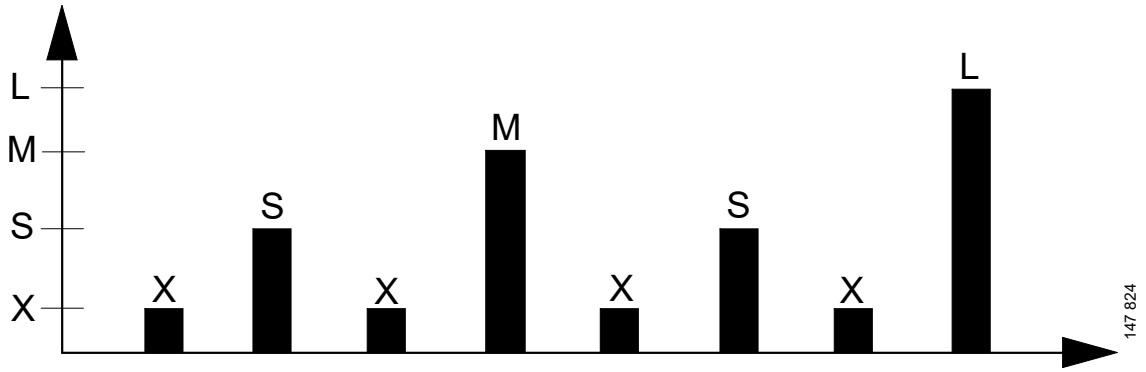
Maintenance sequence

Without X:

S-M-S-L = 1 period

With X:

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



The diagram shows the sequence of maintenance events for a periodic maintenance programme with X maintenance

The periodic maintenance report is available, for example, in Scania Multi. Select the Maintenance *function button in* the menu bar.

Operation types and programmes

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

Operation types are divided into the following categories:

- Very light long distance transport
- Light long distance transport
- Long distance transport
- Heavy long distance transport
- Construction operations
- Short haul distribution operations

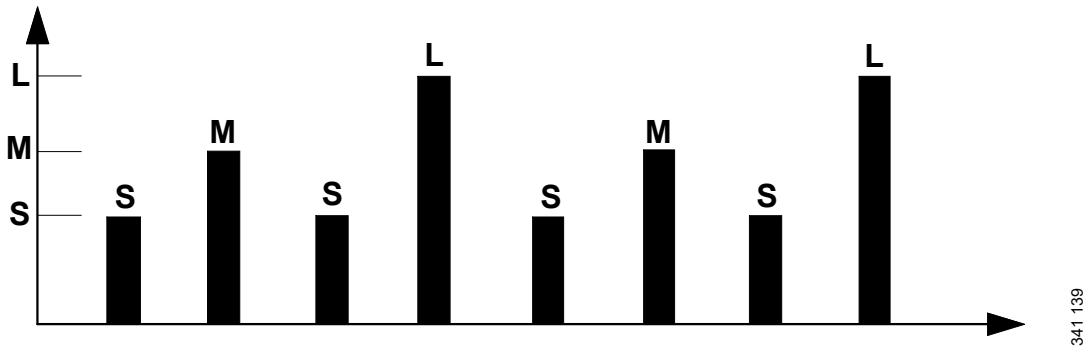
The bar charts for each operation type are examples of the sequence for the maintenance events Therefore, there are no intervals specified

Otherwise, there are intervals for changing engine oil in the chapter *Intervals for components and systems*

This chapter also describes the maintenance intervals if the fuel is other than diesel

With this in mind, choose the operation type that most closely resembles the operating conditions.

Operation type 0:0, Very light long distance transport

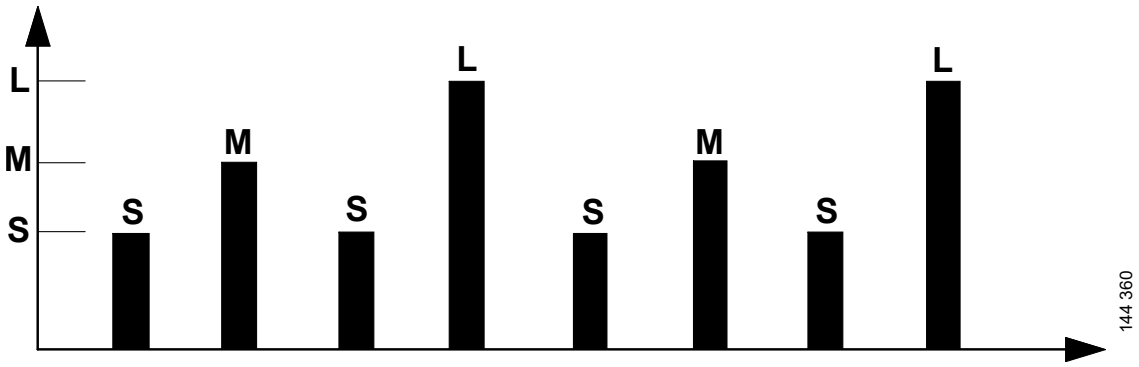


The diagram shows the sequence of maintenance events for a periodic maintenance programme

- Fuel consumption is less than 24 litres/100 km.
- Travel is without obstacles, i.e. fewer than 20 stops or major decelerations per 100 km.
- Idling and power take-off operation is less than 25% of the total operating time.
- Gross weight is typically below 36 tonnes.
- Average speed is typically over 70 km/h.
- Transport example: General cargo or bulk goods.
- Application example: Tractor with various semi-trailers, truck with box body or curtainsider.
- 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.

For more information about the different maintenance events, see the Scania maintenance programme section.

Operation type 0, Light long distance transport

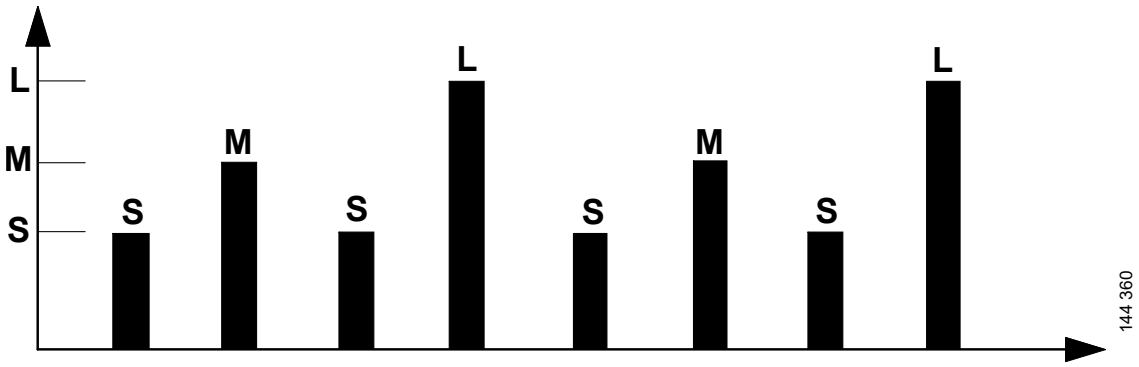


The diagram shows the sequence of maintenance events for a periodic maintenance programme

- Fuel consumption is less than 33 litres/100 km.
- Travel is without obstacles, i.e. fewer than 20 stops or major decelerations per 100 km.
- Idling and power take-off operation is less than 25% of the total operating time.
- Gross weight is typically below 40 tonnes.
- Average speed is typically over 70 km/h.
- Transport example: General cargo or bulk goods.
- Application example: Tractor with various semi-trailers, truck with box body or curtainsider.
- 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.

For more information about the different maintenance events, see the Scania maintenance programme section.

Operation type 1, Long distance transport

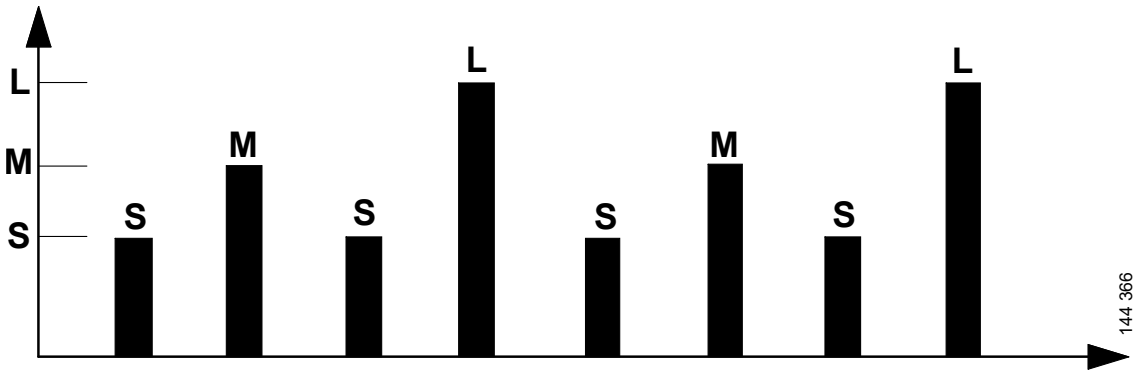


The diagram shows the sequence of maintenance events for a periodic maintenance programme

- Fuel consumption is less than 42 litres/100 km.
- Like operation type 0, but with higher load on the powertrain due to higher gross weight.
- Travel is without obstacles, i.e. fewer than 20 stops or major decelerations per 100 km.
- Idling and power take-off operation is less than 25% of the total operating time.
- Gross weight is typically below 45 tonnes.
- Average speed is typically over 60 km/h.
- Transport example: General cargo.
- Application example: Tractor with various semi-trailers, truck with box body or curtainsider.
- 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.

For more information about the different maintenance events, see the Scania maintenance programme section.

Operation type 2, Heavy long distance transport

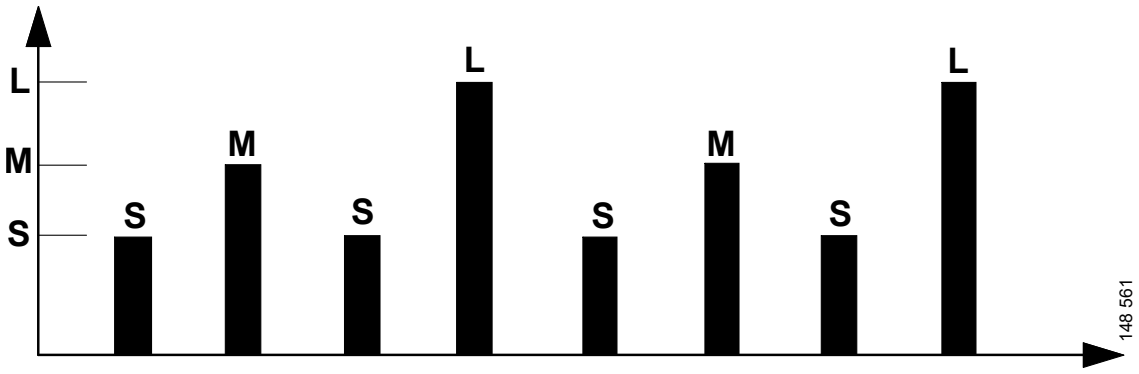


The diagram shows the sequence of maintenance events for a periodic maintenance programme

- Fuel consumption is greater than 42 litres/100 km.
- Like operation type 0 or 1, but with higher load on powertrain and chassis due to greater gross weight or hilly topography.
- Gross weight is typically over 45 tonnes.
- Average speed is typically over 50 km/h.
- Transport example: Bulk, timber, gravel or construction machines.
- Application example: Truck or tractor with hooklift, swap body, flatbed truck, timber truck or tanker.
- 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.

For more information about the different maintenance events, see the Scania maintenance programme section.

Operation type 3, (Off-road) construction operations



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

- There are high or extremely high levels of the climate factors dust, dirt, snow and salt.

  AND:

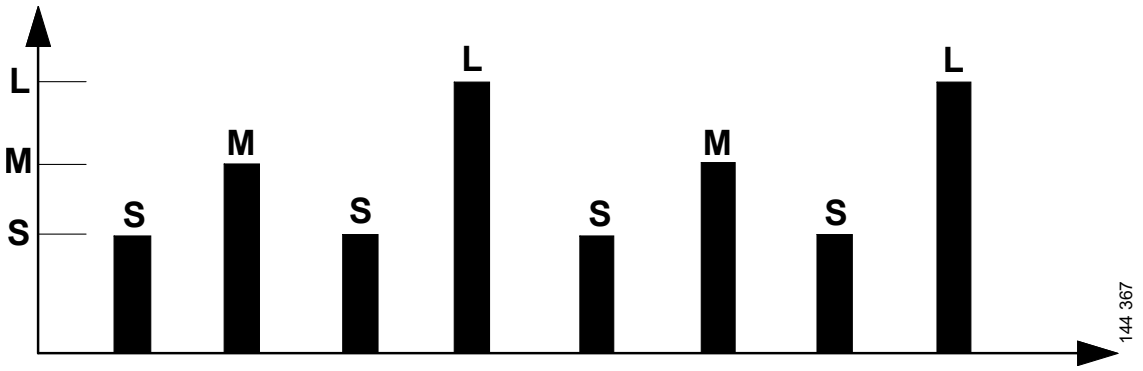
- Total idling and power take-off operation is more than 25% of the total operating time.

  OR:

- Traffic is heavy, i.e. more than 150 stops or major decelerations per 100 km.
- Transport example: Gravel, crushed rock, ore, concrete or waste.
- Application example: Truck with tipper body, swap body, concrete mixer truck or flatbed truck with crane.
- 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

For more information about the different maintenance events, see the Scania maintenance programme section.

Operation type 4, Short-haul distribution operations



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

- Total idling and power take-off operation is more than 25% of the total operating time.

  OR:

- Traffic is extremely heavy, i.e. more than 250 stops or major decelerations per 100 km.
- Gross weight is typically below 36 tonnes.
- Average speed is typically below 40 km/h.
- Transport example: Local or regional distribution of products such as food, medicine or electronic products.
- Application example: Truck with box body, temperature controlled truck or tanker.
- 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.

For more information about the different maintenance events, see the Scania maintenance programme section.

Additions and adaptations

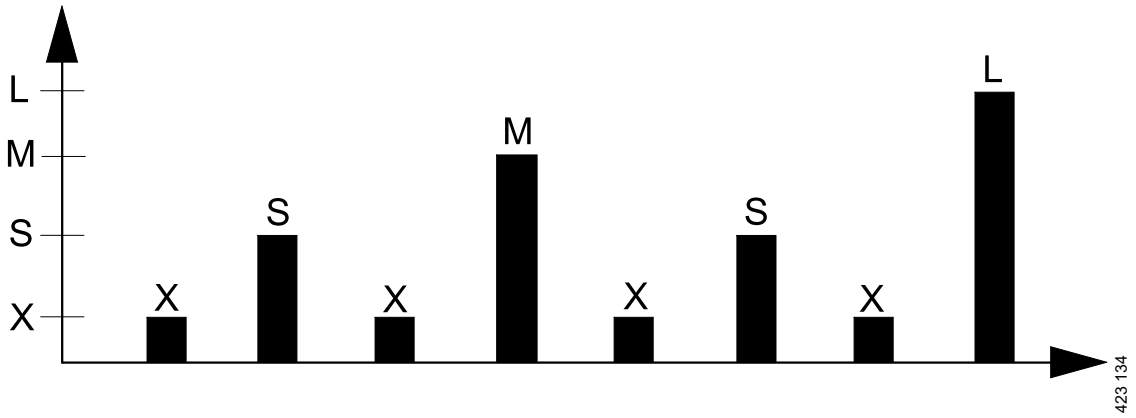
This chapter describes maintenance programmes which are adapted for special operations and vehicle types.

Under certain circumstances, it may be necessary to supplement the maintenance with X and/or XO maintenance. These programmes are optional additions to the ordinary maintenance programme.

Below there is also a presentation of:

- Programme for fully electric vehicles
- Program when a large proportion of the operating time takes place in idling mode, with active power take-off

X maintenance



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

The maintenance programme for the vehicle may be supplemented with X maintenance in certain circumstances.

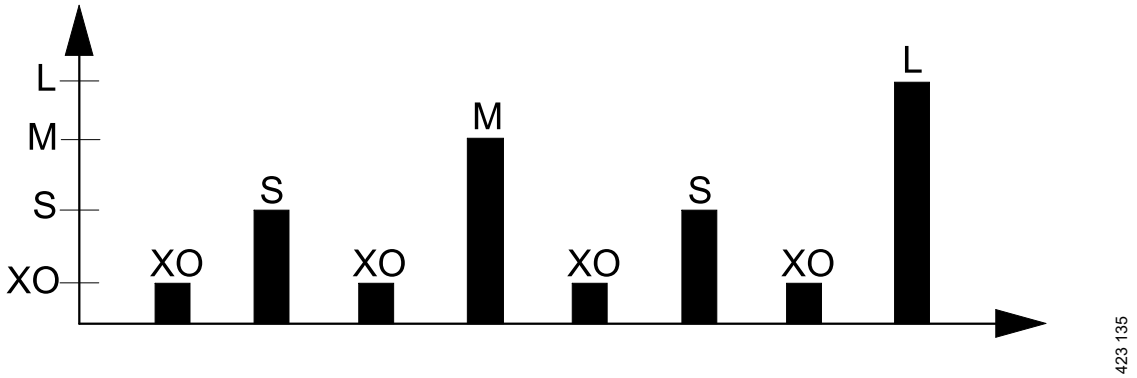
Here are some examples of circumstances that may necessitate X maintenance:

- Poor, partly unsurfaced roads that do not allow the driver to maintain a uniform vehicle speed.
- Dusty conditions
- Humid environments
- The vehicle is washed frequently
- Fuel quality
- Driving on roads that are frequently gritted throughout the season.
- Extra lubrication of the chassis and checks of e.g. bodywork and extra equipment are necessary.
- The customer wants intermediate maintenance in order to shorten the time between workshop visits.

X maintenance includes, among other things:

- Checking batteries
- Checking the brake lining thickness
- Lubricating the chassis

XO maintenance



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

XO maintenance includes in principle the same maintenance items as X maintenance, but with a number of additions, such as:

- Engine oil change
- Checking the brake lining thickness
- Renewing the fuel filter
- Maintenance of the centrifugal oil cleaner

Here are a couple of factors that affect whether XO maintenance is required:

- The operation includes more idling than is found in ordinary driving time.
- More frequent oil change intervals due to operation with a high sulphur fuel.

Examples of transport where this is relevant: Buses in urban traffic, vehicles with slurry suction units or refuse collection trucks.

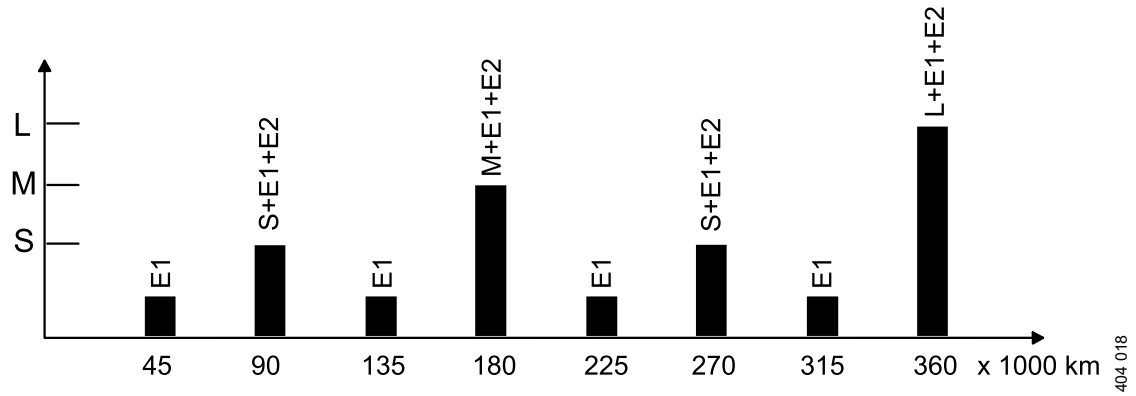
Programme for ethanol-powered vehicles

For information about Oils, refer to the document 00:16-15 Fuel, lubricants and fluids.

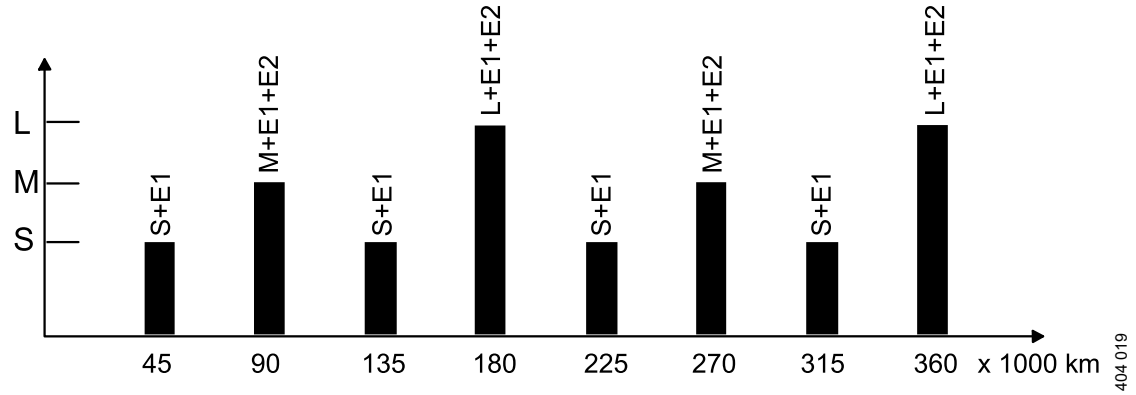
Use the maintenance forms for truck together with maintenance form E1 and E2 for ethanol-powered vehicles.

With engine oil grade Scania BEO-2

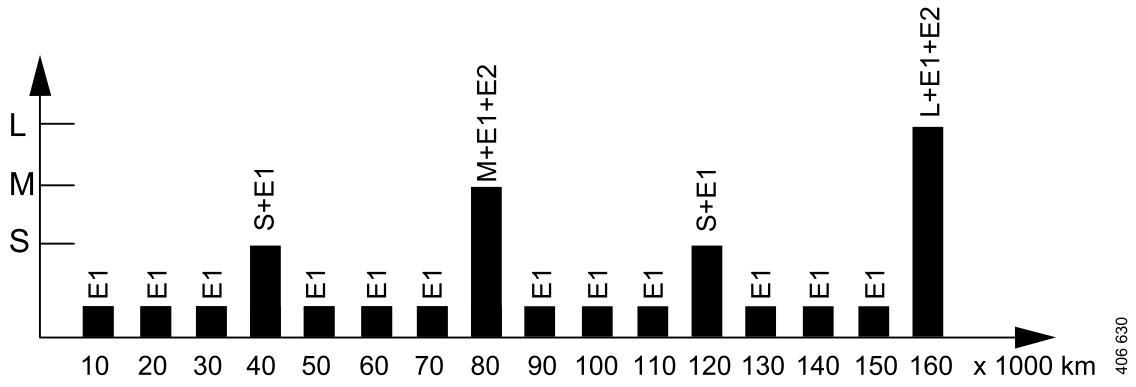
Operation type 0:0, 0



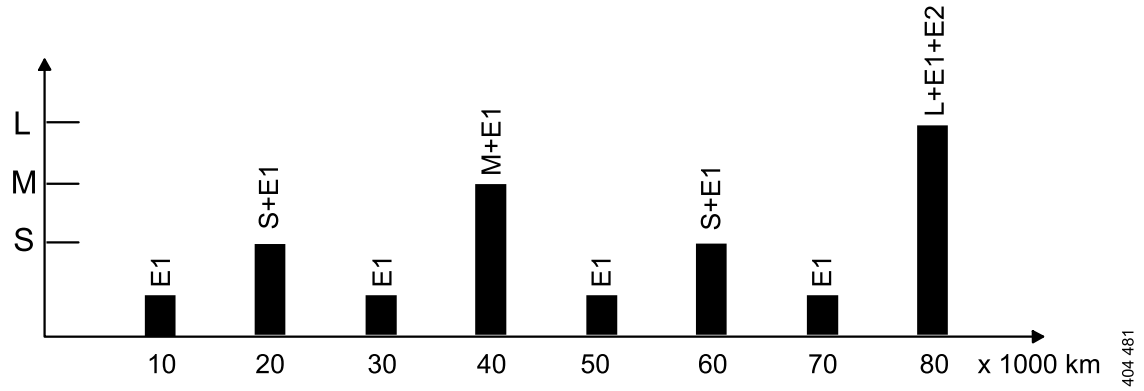
Operation type 1 and 4



Operation type 2



Operation type 3



E1 Ethanol maintenance 1

Includes the following:

- Engine oil change
- Oil filter renewal

E2 Ethanol maintenance 2

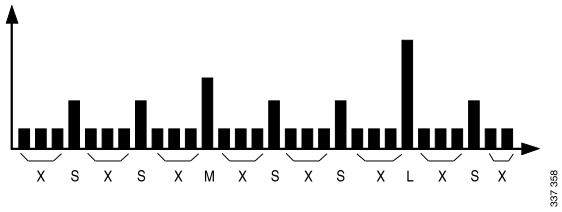
Includes the following:

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

Programme for mining operation

Typical operating conditions for mining operation

- Very hilly with 10% gradients, sometimes 20%.
- High gross laden train weight at low speeds, generally on unsurfaced roads.
- Frequent starts and stops.
- The vehicles are often operated in shifts up to 22 hours a day.



Maintenance cycle for mining operation

Maintenance cycles, forms and intervals may be considered guidelines.

These are set after an analysis of local driving conditions.

Hours	Maintenance items
150 h - 200 h (X)	Lubrication and checks
250 h -500 h (S)	Engine oil change and checks
500 h -1,500 h (M)	Engine oil change and current checks. Any transmission oil change, if this is included in a valid maintenance plan.
1,000 h -3,000 h (L)	Extensive maintenance on the entire vehicle

Oil grade requirements

Component	Oil grade	Viscosity
Euro 3-6 engine	Refer to the interval table for the relevant engine in the *Engine oil* section.	-
Transmission	Refer to the interval table for the relevant transmission component in the *Transmission* section. For oil grade for gearboxes, refer to the section *Mining programme.*	See the information in the document 00:16-15, *Fuel, lubricants and fluids*.
Retarder	See the interval table for retarder type 2 in the *Transmission* section.	-

Special requirements for gearboxes with type designations GR/S/OXXX and GXX, mining operation

The *Transmission* section contains a summary of all types of gearboxes, regardless of application.

This table shows maintenance for GR/S/OXXX - and GXX gearboxes intended, for mining operation.

Component	Oil grade	Maintenance intervals Running time in hours or calendar time[1]
GR/S/O/875/895/905/925/926/935	STO 1:1 G STO 2:0 G	1,500 h or 1 year
G25-, G33-, G38-, -CH/-CM	STO MTF	5,000 hours or 1 year

1. Perform maintenance at the interval reached first.

Renewal interval for electric machine, mining operation

Component	Oil grade	Maintenance intervals Running time in hours or calendar time[1]
Electric machine	STO EV	5,000 hours or 1 year

1. Perform maintenance at the interval reached first.

Time in idling mode with power take-off active

A precondition is that the vehicle has a very high proportion of its running time with active power take-off.

Some use of power take-offs is already included in the operation types, see the relevant description. In special cases it may be necessary to take into account the operating time with a power take-off active in addition to what is already included. An example of this would be vehicles which are stationary with a power take-off active during most of the operating time. The distance driven per year for the vehicles is below 1,000 km. Thus, the distance driven is short in relation to the vehicle's total operating time.

The conversion from hours to kilometres in the table below can be used to set an oil change interval.

Example: See the table in the section on oil change intervals for engines. In the following example, the engine type is DC13 141, operation type 3, oil grade Scania LDF-3 and the oil change interval 20,000 km for the vehicle.

The same vehicles are stationary and pump concrete. According to the conversion in the table below, 20,000 km corresponds to an oil change interval of 300 hours.

Distance driven	Operating time, power take-off
10,000 km	150 hours
20,000 km	300 hours
30,000 km	450 hours
40,000 km	600 hours
50,000 km	750 hours

Fuel and lubricants

The recommended time or distance driven between each oil change applies where lubricants and fuels satisfy Scania requirements; see Workshop Manual main group 00.

Fuels, lubricants and fluids (00:16-15) contains, among other things, information on oil quality requirements.

Sulphur content in the fuel

IMPORTANT!

If the vehicle has a diesel particulate filter aftertreatment management system with SCR, the sulphur content in the fuel must not exceed 10 ppm

Type of exhaust gas aftertreatment	Emission class	Max. sulphur content in fuel for unaffected oil change intervals[1]	Note
Diesel particulate filter with EGR/SCR	Euro 6	10 ppm (0.001%)	More than 10 ppm is not permitted. A higher content causes engine damage.
SCR	Euro 4 Euro 5	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	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 intervals according to the tables in the chapter Intervals for components and systems – Engine oil.

Biodiesel

Scania currently approves 2 types of biodiesel:

- FAME in accordance with EN 14214
- 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.
- Retrieve the documentation from the Workshop Manual to get the correct filter, adapted to the engine type.
- 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 engines

Exceptions

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

- Emergency vehicles.
- Vehicles with downtimes longer than 2 months.
- 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 EN 590 diesel to FAME EN 14214.
- Switching from FAME EN 14214 to diesel EN 590.

HVO EN 15940

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 the document 00:16-15, Fuel, lubricant and fluids, under the HVO section for the chassis serial numbers approved for HVO.

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.

If it is an electric machine in hybrid or fully electric operation, the oil change interval is specified.

Fuel filter renewal follows the oil change interval unless otherwise specified in the tables. Also see the table Filter renewal intervals for other components.

Programme for fully electric vehicles

Explanation of abbreviations	
Abbreviation	**The term in printed form**
BEV	Battery electric vehicles
HEV	Hybrid Electric Vehicle
PHEV	Plug-in Hybrid Electric Vehicle

Maintenance intervals

Fully electric vehicles	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Distance driven in km					
Maintenance interval: See the relevant operation type in the section *Operation types and programmes.*	120,000	90,000	60,000	45,000	30,000	45,000

Summary of electric machines and associated gearboxes

Component designation/	Type designation on gearbox	Oil grade	Operation types and associated interval for oil changes				
			0:0 and 0	1	2	3	4
			Perform maintenance at the interval that is reached first.				
MG4107-1 (Hybrid)	GRS895 The oil grade and change interval for the gearbox are indicated in the chapter *Intervals for components and systems/ Transmission*.	STO EV	150,000 km/3 years				
MG4115-2 (Hybrid)	GE281	STO EV	1,000,000 km/4 years	800,000 km/4 years	400,000 km/4 years	300,000 km/4 years	400,000 km/4 years
MG4115-1	GE21S21	STO EV	500,000 km/1 year	Prohibited combination	Prohibited combination	200,000 km/1 year	300,000 km/1 year
MG4115-1	GE21S22	STO EV	500,000 km/3 years	Prohibited combination	Prohibited combination	200,000 km/3 years	300,000 km/3 years
MG4130-3	GE281	STO EV	750,000 km/4 years	600,000 km/4 years	300,000 km/4 years	200,000 km/4 years	300,000 km/4 years
MG3214-1	GE12S21	STO EV	750,000 km/4 years	600,000 km/4 years	300,000 km/4 years	200,000 km/4 years	300,000 km/4 years
MG3218-1	GE14M1	STO EV	750,000 km/4 years	600,000 km/4 years	300,000 km/4 years	200,000 km/4 years	300,000 km/4 years
MG3222-1	GE14M1	STO EV	750,000 km/4 years	600,000 km/4 years	300,000 km/4 years	200,000 km/4 years	300,000 km/4 years

The sulphur content effect on the intervals

IMPORTANT!

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

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 includes information on engine type, fuel and injection system.

Engine oil – operation with diesel, with a blend of up to 20% FAME

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). The oil grade used for factory filling is valid for the current issue of the preface to Fuel, lubricants and fluids.

This preface (00:17-30) specifies which grades of engine oil are suitable for an engine. It is therefore not necessary to continue using the specific oil grade used during factory filling.

IMPORTANT!

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

- Scania LDF-5
- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4/CK-4

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

IMPORTANT!

If the vehicle has a diesel particulate filter aftertreatment management system with SCR, the sulphur content in the fuel must not exceed 10 ppm

NOTE:

Engines approved for HVO 15940 are listed in the document Fuels, lubricants and fluids (00:16-15), section HVO EN 15940.

Euro 3, diesel

IMPORTANT!

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

- Scania LDF-5
- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4/CK-4

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

Engine type	Oil grade	Opera-tion type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km or calendar time corresponding to 1.5 years					
DC09 121 250 DC09 125 310	Scania LDF-4 Scania LDF-3	90,000	90,000	60,000	30,000	20,000	45,000
	Scania HD	60,000	60,000	45,000	20,000	15,000	30,000
	ACEA E4, E6, E7, E8, E9, E11 API CI-4, CJ-4, CK-4	45,000	45,000	30,000	15,000	10,000	20,000
DC13 134 360 DC13 140 410 DC13 144 460	Scania LDF-4 Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
	Scania HD	60,000	60,000	45,000	30,000	15,000	30,000
	ACEA E4, E6, E7, E8, E9, E11 API CI-4, CJ-4, CK-4	45,000	45,000	30,000	20,000	10,000	20,000
DC13 189 420 DC13 190 460 DC13 191 520	Scania LDF-5 Scania LDF-4 Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
	Scania HD	60,000	60,000	45,000	30,000	15,000	30,000
	ACEA E4, E7, E8, E11 API CI-4, CK-4, FA-4	45,000	45,000	30,000	20,000	10,000	20,000

Engine type	Oil grade	Opera-tion type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC16 111 560	Scania LDF-4 Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
	Scania HD	60,000	60,000	45,000	30,000	15,000	30,000
	ACEA E4, E6, E7, E8, E9, E11 API CI-4, CJ-4, CK-4	45,000	45,000	30,000	20,000	10,000	20,000

Euro 4, diesel

IMPORTANT!

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

- Scania LDF-5
- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4/CK-4

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

Engine type	Oil grade	Opera-tion type 0:0	Opera-tion type 0	Opera-tion type 1	Opera-tion type 2	Opera-tion type 3	Opera-tion type 4
		Distance driven in km or calendar time corresponding to 1.5 years					
DC09 118 280 DC09 123 320	Scania LDF-4 Scania LDF-3	90,000	90,000	60,000	30,000	20,000	45,000
DC09 131 360	Scania HD	60,000	60,000	45,000	20,000	15,000	30,000
DC09 145 280 DC09 146 320 DC09 147 360	ACEA E4, E6, E7, E8, E9, E11 API CI-4, CJ-4, CK-4	45,000	45,000	30,000	15,000	10,000	20,000

Engine type	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC11 106 350 DC11 107 390 DC11 108 430	Scania LDF-5, Scania LDF-4, Scania LDF-3	90,000	90,000	60,000	30,000	20,000	45,000
	Scania HD	90,000	90,000	60,000	30,000	20,000	45,000
	ACEA E4, E7, E8, E11 API CI-4, CK-4, FA-4	45,000	45,000	30,000	15,000	10,000	20,000
DC13 138 410 DC13 142 450 DC13 145 500 DC13 150 380 DC13 151 440	Scania LDF-4 Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
	Scania HD	60,000	60,000	45,000	30,000	15,000	30,000
	ACEA E4, E6, E7, E8, E9, E11 API CI-4, CJ-4, CK-4	45,000	45,000	30,000	20,000	10,000	20,000
DC13 185 420 DC13 186 460 DC13 187 500	Scania LDF-5 Scania LDF-4 Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
	Scania HD	60,000	60,000	45,000	30,000	15,000	30,000
	ACEA E8, E11 API CI-4, CK-4, FA-4	45,000	45,000	30,000	20,000	10,000	20,000

Engine type	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC16 112 520 DC16 113 620	Scania LDF-4 Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
	Scania HD	60,000	60,000	45,000	30,000	15,000	30,000
	ACEA E4, E6, E7, E8, E9, E11 API CI-4, CJ-4, CK-4	45,000	45,000	30,000	20,000	10,000	20,000

Euro 5/EEV[1], diesel

IMPORTANT!

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

- Scania LDF-5
- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4/CK-4

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

1. EEV is an abbreviation for the European emission standard Enhanced environmentally friendly vehicle.

Engine type	Oil grade	Opera-tion type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km or calendar time corresponding to 1.5 years					
DC07 108 220 DC07 109 250 DC07 110 280	Scania LDF-4 Scania LDF-3	60,000	60,000	45,000	30,000	20,000	45,000
	Scania HD	45,000	45,000	30,000	20,000	15,000	30,000
	ACEA E4, E6, E7, E8, E9, E11 API CI-4, CJ-4, CK-4	30,000	30,000	20,000	15,000	10,000	20,000
DC09 119 280 DC09 124 320 DC09 132 360 DC09 142 280 DC09 143 320 DC09 144 360 DC13 204 380 DC13 205 440	Scania LDF-4 Scania LDF-3	90,000	90,000	60,000	30,000	20,000	45,000
	Scania HD	60,000	60,000	45,000	20,000	15,000	30,000
	ACEA E4, E6, E7, E8, E9, E11 API CI-4, CJ-4, CK-4	45,000	45,000	30,000	15,000	10,000	20,000
DC11 103 350 DC11 104 390 DC11 105 430	Scania LDF-5, Scania LDF-4, Scania LDF-3	90,000	90,000	60,000	30,000	20,000	45,000
	Scania HD	90,000	90,000	60,000	30,000	20,000	45,000
	ACEA E4, E6, E7, E8, E9, E11 API CI-4, CJ-4, CK-4	45,000	45,000	30,000	15,000	10,000	20,000

Engine type	Oil grade	Opera-tion type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC13 139 410 DC13 143 450 DC13 146 500 DC13 152 380 DC13 153 440	Scania LDF-4 Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
	Scania HD	60,000	60,000	45,000	30,000	15,000	30,000
	ACEA E4, E6, E7, E8, E9, E11 API CI-4, CJ-4, CK-4	45,000	45,000	30,000	20,000	10,000	20,000
DC13 172 540	Scania LDF-4 Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
	Scania HD	60,000	60,000	45,000	30,000	15,000	30,000
	ACEA E4, E6, E7, E8, E9, E11 API CI-4, CJ-4, CK-4	45,000	45,000	30,000	20,000	10,000	20,000
DC13 181 420 DC13 182 460 DC13 183 500 DC13 184 550	Scania LDF-5 Scania LDF-4 Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
	Scania HD	60,000	60,000	45,000	30,000	15,000	30,000
	ACEA E8, E11 API CI-4, CK-4, FA-4	45,000	45,000	30,000	20,000	10,000	20,000

Engine type	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC16 114 520 DC16 115 620	Scania LDF-4 Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
	Scania HD	60,000	60,000	45,000	30,000	15,000	30,000
	ACEA E4, E6, E7, E8, E9, E11 API CI-4, CJ-4, CK-4	45,000	45,000	30,000	20,000	10,000	20,000

Euro 6, diesel

IMPORTANT!

If the vehicle has a diesel particulate filter aftertreatment management system with 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 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km or calendar time corresponding to 1.5 years					
DC07 111 220 DC07 112 250 DC07 113 280	Scania LDF-4 Scania LDF-3	60,000	60,000	45,000	30,000	20,000	45,000
	ACEA E6, E8, E9, E11 API CJ-4, CK-4	30,000	30,000	20,000	15,000	10,000	20,000

Engine type	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC09 126 320 DC09 127 360 DC09 130 280 DC09 139 280 DC09 140 320 DC09 141 360	Scania LDF-4 Scania LDF-3	90,000	90,000	60,000	30,000	20,000	45,000
	ACEA E6, E8, E9, E11 API CJ-4, CK-4	45,000	45,000	30,000	15,000	10,000	20,000
DC11 100 350 DC11 102 430 DC11 103 350	Scania LDF-5 Scania LDF-4	90,000	90,000	60,000	30,000	20,000	45,000
	ACEA E8 5w-30, E11 5w-30 API CK-4 5w-30, FA-4, 5w-30	45,000	45,000	30,000	15,000	10,000	20,000
DC13 141 410 DC13 148 450 DC13 149 370 DC13 155 500	Scania LDF-4 Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
	ACEA E6, E8, E9, E11 API CJ-4, CK-4	45,000	45,000	30,000	20,000	10,000	20,000
DC13 162 370 DC13 163 410 DC13 164 450 DC13 165 500 DC13 166 540	Scania LDF-4 Scania LDF-3	90,000	90,000	60,000	45,000	20,000	45,000
	ACEA E6, E8, E9, E11 API CJ-4, CK-4	45,000	45,000	30,000	20,000	10,000	20,000

Engine type	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC13 173 560 DC13 174 500 DC13 175 460 DC13 176 420	Scania LDF-5 Scania LDF-4	120,000	90,000	60,000	45,000	20,000	45,000
	ACEA E8 5w-30, E11 5w-30 API CK-4 5w-30, FA-4	45,000	45,000	30,000	20,000	10,000	20,000
DC16 105 520 DC16 106 580 DC16 107 730	Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
	ACEA E6, E8, E9, E11 API CJ-4, CK-4	45,000	45,000	30,000	20,000	10,000	20,000
DC16 108 730 DC16 116 520 DC16 117 580	Scania LDF-4 Scania LDF-3	120,000	90,000	60,000	45,000	20,000	45,000
DC16 118 650 DC16 120 530 DC16 121 590 DC16 122 660 DC16 123 770	ACEA E6, E8, E9, E11 API CJ-4, CK-4	45,000	45,000	30,000	20,000	10,000	20,000

Engines – operation with FAME EN 14214

IMPORTANT!

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

- Scania LDF-5
- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4/CK-4

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

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

Euro 3, operation with FAME biodiesel, XPI and PDE

IMPORTANT!

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

- Scania LDF-5
- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4/CK-4

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

Engine type	Oil grade	Opera-tion type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km or calendar time corresponding to 1.5 years					
DC09 121 250 DC09 125 310	Scania LDF-4 Scania LDF-3	30,000	30,000	30,000	20,000	15,000	30,000
DC13 134 360 DC13 140 410 DC13 144 460	Scania LDF-4 Scania LDF-3	30,000	30,000	30,000	20,000	15,000	30,000
DC16 111 560	Scania LDF-4 Scania LDF-3	65,000[1]	55,000[1]	40,000[1]	30,000	15,000	30,000

1. For oil change intervals exceeding 30,000 km, Scania requires one or more intermediate maintenance events with associated fuel filter renewals.

Euro 4, operation with FAME biodiesel, XPI and PDE

IMPORTANT!

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

- Scania LDF-5
- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4/CK-4

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

Engine type	Oil grade	Opera-tion type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC09 118 280 DC09 123 320 DC09 131 360 DC09 145 280 DC09 146 320 DC09 147 360	**Distance driven in km or calendar time corresponding to 1.5 years**						
	Scania LDF-4 Scania LDF-3	55,000[1]	55,000[1]	40,000[1]	20,000	15,000	30,000
DC11 106 350 DC11 107 390 DC11 108 430	Scania LDF-5 Scania LDF-4 Scania LDF-3	55,000[1]	55,000[1]	40,000[1]	20,000	15,000	30,000
	Scania HD	45,000[1]	45,000[1]	30,000	10,000	5,000	15,000
	ACEA E4, E7, E8, E11 API CI-4, CK-4, FA-4	20,000	20,000	15,000	5,000	5,000	10,000

Engine type	Oil grade	Opera-tion type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC13 138 410 DC13 142 450 DC13 145 500	Scania LDF-4 Scania LDF-3	65,000[1]	55,000[1]	40,000[1]	30,000	15,000	30,000
DC13 150 380 DC13 151 440	Scania LDF-4 Scania LDF-3	30,000	30,000	30,000	30,000	15,000	30,000
DC13 185 420 DC13 186 460 DC13 187 500	Scania LDF-5 Scania LDF-4 Scania LDF-3	65,000[1]	55,000[1]	40,000[1]	30,000	15,000	30,000
DC16 112 520 DC16 113 620	Scania LDF-4 Scania LDF-3	65,000[1]	55,000[1]	40,000[1]	30,000	15,000	30,000

1. For oil change intervals exceeding 30,000 km, Scania requires one or more intermediate maintenance events with associated fuel filter renewals.

Euro 5/EEV[1], operation with biodiesel FAME, XPI and PDE

IMPORTANT!

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

- Scania LDF-5
- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4/CK-4

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

1. EEV is an abbreviation for the European emission standard Enhanced environmentally friendly vehicle.

Engine type	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km or calendar time corresponding to 1.5 years					
DC07 109 250 DC07 110 280	Scania LDF-4 Scania LDF-3	45,000[1]	45,000[1]	30,000	20,000	15,000	30,000
DC09 119 280 DC09 124 320 DC09 132 360 DC09 142 280 DC09 143 320 DC09 144 360 DC13 204 380 DC13 205 440	Scania LDF-4 Scania LDF-3	55,000[1]	55,000[1]	40,000[1]	20,000	15,000	30,000

Engine type	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC11 103 350 DC11 104 390 DC11 105 430	Scania LDF-5 Scania LDF-4 Scania LDF-3	55,000[1]	55,000[1]	40,000[1]	20,000	15,000	30,000
	Scania HD	45,000[1]	45,000[1]	30,000	10,000	5,000	15,000
	ACEA E4, E7, E8, E11 API CI-4, CK-4, FA-4	20,000	20,000	15,000	5,000	5,000	10,000
DC13 139 410 DC13 143 450 DC13 146 500 DC13 172 540	Scania LDF-4 Scania LDF-3	65,000[1]	55,000[1]	40,000[1]	30,000	15,000	30,000
DC13 152 380 DC13 153 440	Scania LDF-4 Scania LDF-3	30,000	30,000	30,000	30,000	15,000	30,000
DC13 181 420 DC13 182 460 DC13 183 500 DC13 184 550	Scania LDF-5 Scania LDF-4 Scania LDF-3	65,000[1]	55,000[1]	40,000[1]	30,000	15,000	30,000
DC16 114 520 DC16 115 620	Scania LDF-4 Scania LDF-3	65,000[1]	55,000[1]	40,000[1]	30,000	15,000	30,000

1. For oil change intervals exceeding 30,000 km, Scania requires one or more intermediate maintenance events with associated fuel filter renewals.

Euro 6, XPI, approved for FAME biodiesel

XPI engines approved for biodiesel, run on biodiesel.

IMPORTANT!

If the vehicle has a diesel particulate filter aftertreatment management system with 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.

Engine type	Oil grade	Opera-tion type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
Distance driven in km or calendar time corresponding to 1.5 years							
DC07 112 250 DC07 113 280	Scania LDF-4 Scania LDF-3	45,000[1]	45,000[1]	30,000	20,000	15,000	30,000
DC09 126 320 DC09 127 360 DC09 140 320 DC09 141 360	Scania LDF-4 Scania LDF-3	55,000[1]	55,000[1]	40,000[1]	20,000	15,000	30,000
DC11 102 430 DC11 103 350	Scania LDF-5	90,000[1]	90,000[1]	60,000[1]	30,000	20,000	45,000[1]
	Scania LDF-4	60,000[1]	60,000[1]	45,000[1]	20,000	15,000	30,000
	ACEA E8 5w-30, E11 5w-30 API CK-4 5w-30, FA-4, 5w-30	10,000	10,000	10,000	5,000	5,000	10,000

Engine type	Oil grade	Opera-tion type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC13 141 410 DC13 148 450 DC13 163 410 DC13 164 450	Scania LDF-4 Scania LDF-3	65,000[1]	55,000[1]	40,000[1]	30,000	15,000	30,000
DC13 174 500	Scania LDF-5	120,000[1]	90,000[1]	60,000[1]	45,000[1]	20,000	45,000[1]
DC13 175 460	Scania LDF-4	60,000[1]	60,000[1]	45,000[1]	30,000	15,000	30,000
DC16 117 580 DC16 121 590	Scania LDF-4 Scania LDF-3	65,000[1]	55,000[1]	40,000[1]	30,000	15,000	30,000

1. For oil change intervals exceeding 30,000 km, Scania requires one or more intermediate maintenance events with associated fuel filter renewals.

Ethanol engines

Euro 6, ethanol

Engine type	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km or calendar time corresponding to 1 year					
DC13 157	Scania BEO-2	45,000	45,000	45,000	10,000	10,000	45,000

Gas engines

Operation types and associated interval for oil changes

Engine type	Oil grade	Operation type 0:0 and 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km, running time in hours or calendar time.[1]				
OC09 104 280 OC09 105 340 OC13 101 410 OC13 103 420 OC13 104 460	Scania LDF-4	45,000	30,000	20,000	20,000	30,000
		900 h				
		1 year				
	ACEA E6, E8, E9, E11 API CJ-4, CK-4	30,000	20,000	15,000	10,000	20,000
		450 h				
		1 year				

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

Transmission

Oil change intervals

IMPORTANT!

Oil grades STO 1:0 and STO 1:1 G give shorter oil change intervals than factory-filled oils. If these oil grades are used, local adaptation of the M maintenance form may be required, so that this includes an oil change as well.

Component	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km, running time in hours or calendar time[1]					
Gearbox:GR/S/O/875/895/905/925/926/935. See the information in note 2.	STO 1:1 G	240,000 or 3 years	240,000 or 3 years	240,000 or 3 years	120,000 or 3 years	80,000 or 3 years	120,000 or 3 years
	STO 2:0 G	360,000 or 3 years	360,000 or 3 years	360,000 or 3 years	240,000 or 3 years		
	STO MTF	360,000 or 3 years	360,000 or 3 years	360,000 or 3 years	240,000 or 3 years	80,000 or 3 years	120,000 or 3 years
GRS895 **in hybrid vehicles**[5]	STO MTF	360,000 or 3 years	360,000 or 3 years	360,000 or 3 years	120,000 or 3 years	80,000 or 3 years	120,000 or 3 years
Gearbox: G25CM G33CM G38CM	STO MTF	1,000,000 or 5 years	1,000,000 or 5 years	800,000 or 5 years	400,000 or 5 years	300,000 or 5 years	400,000 or 5 years
Gearbox: G25CH G33CH G38CH	STO MTF	1,000,000 or 5 years	1,000,000 or 5 years	800,000 or 5 years	400,000 or 5 years	300,000 or 5 years	400,000 or 5 years
Gearbox GE281	STO EV	1,000,000 or 4 years	1,000,000 or 4 years	800,000 or 4 years	400,000 or 4 years	300,000 or 4 years	400,000 or 4 years
Automatic gearbox[3]	ATF TES 389	20,000 or 6 months	20,000 or 6 months	20,000 or 6 months	20,000 or 6 months	20,000 or 6 months	20,000 or 6 months
	ATF TES 668/ATF TES 295	120,000 or 3 years	120,000 or 3 years	120,000 or 3 years	120,000 or 3 years	120,000 or 3 years	120,000 or 3 years

Component	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
Transfer gearbox GT/D 800, 900, 901, 950, 902	ZF TE-ML 19	Prohibited combination	Prohibited combination	Prohibited combination	60,000 or 1 year	20,000 or 1 year	60,000 or 1 year
Transfer gearbox GT/D 903	ZF TE-ML 19 or TE-ML 13	Prohibited combination	Prohibited combination	Prohibited combination	Prohibited combination	20,000 or 1 year	Prohibited combination
Central gear R756 Central gear RB756	STO 1:0	240,000 or 3 years	240,000 or 3 years	240,000 or 3 years	120,000 or 3 years	80,000 or 3 years	120,000 or 3 years
	STO 2:0 A	750,000 or 3 years	750,000 or 3 years	600,000 or 3 years	400,000 or 3 years	300,000 or 3 years	400,000 or 3 years
Hub reduction gear, RH731	STO 1:0	Prohibited combination	Prohibited combination	45,000 or 3 years	30,000 or 3 years	20,000 or 3 years	30,000 or 3 years
	STO 2:0 A						
Clutch unit: EK750F	ATF oil	1 year					
Central gears with filter with or without hub reduction gear: R560/660/665/ 753/780/885, RB662/885, RBP/ RP735/835/900	STO 1:0	240,000 or 3 years	240,000 or 3 years	240,000 or 3 years	120,000 or 3 years	80,000 or 3 years	120,000 or 3 years
	STO 2:0 A	360,000 or 3 years	360,000 or 3 years	360,000 or 3 years			
Central gears without filter, with or without hub reduction gear[4]: R560/660/665/ 753/780/885, RB662/885, RBP/ RP735/835/900	STO 1:0	120,000 or 3 years	120,000 or 3 years	120,000 or 3 years	60,000 or 3 years	40,000 or 3 years	60,000 or 3 years
	STO 2:0 A						
Powered front axle: AMD601	STO 2:0 A	Prohibited combination	Prohibited combination	Prohibited combination	Prohibited combination	40,000 or 1 year	Prohibited combination

1. Perform maintenance at the interval reached first.
2. Use oil grades STO 2:0 G or STO 1:1 G for all-wheel drive vehicles with retarder. For selecting oil grade for mining: Refer to the section Programme for mining in this preface.
3. If the gearbox has been filled with grade TES 389 oil, then 2 subsequent oil changes with TES 668 or TES 295 must be made before the extended change interval may be applied.For more information about oil change intervals, refer to www.allisontransmission.com.
4. Please note: For some bodywork there is no room for the rear axle housing filter. In these cases, the filter can be replaced with a steel plate, well sealed on the rear axle housing with silicone.
5. Note that STO MTF is the only permitted oil grade in connection with hybrid operation.

Central gear R756	
Venting filter renewal for central gear R756	During maintenance events M and L

Oil change intervals, Retarder type 2

Compo-nent	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Opera-tion type 2	Opera-tion type 3	Opera-tion type 4
		Distance driven in km or calendar time					
Retarder type 2, R3500, R4100, R4100D, R4700D	Engine oil 10W-30 or 15W-40 that complies with ACEA E7	240,000 or 3 years	240,000 or 3 years	240,000 or 3 years	60,000 or 3 years	80,000 or 3 years	60,000 or 3 years
	Engine oil 10W-30 or 10W-40 that complies with Allison C4						
	STO Retarder or ATF oil that complies with Allison C4 or Dexron III	360,000 or 3 years	360,000 or 3 years	360,000 or 3 years	120,000 or 3 years	80,000 or 3 years	120,000 or 3 years

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 oil grade ATF (Automatic transmission fluid) with oil grade STO Retarder or engine oil.

Changing clutch fluid

Component	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Distance driven in km or calendar time					
Clutch fluid Gearboxes with type designations *GR/S/OXXX*. [1]	480,000 or 2 years	480,000 or 2 years	480,000 or 2 years	240,000 or 2 years	160,000 or 2 years	240,000 or 2 years
Gearbox type designation *GXX*	No change of clutch fluid					

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

Other components, diesel and HVO operation

Renewing the filter, diesel and HVO operation

NOTE:

HVO EN 15940 is approved for certain engines. For more information, see document 00:16-15 "Fuel, lubricants and fluids", section HVO EN 15940.

NOTE:

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

Component	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Opera-tion type 4
	Distance driven in km or calendar time					
Fuel filter – diesel Applies to engines approved for diesel (EN 590) and HVO (EN 15940). Including engines with fuel optimisation units.	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 interval. The Scania-generated maintenance plans are based on the use of clean fuel.					
Basic fuel treatment unit: - fuel free from contami-nants.	90,000	90,000	60,000	45,000	20,000	45,000
Basic fuel treatment unit: - fuel with contami-nants.	10,000					
Tank venting filter	2 years or every L					

Maintaining the centrifugal oil cleaner, diesel and HVO operation

Engine type	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
Euro 6 DC09 DC13 6 rocker covers DC16	At every other oil change, i.e. at M and L maintenance events					
With lower emission class than correspond-ing to Euro 6 in the event of diesel operation.	At every oil change, i.e. at each S, M and L maintenance event.					

Change intervals for particulate filter, diesel and HVO operation

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.

All maintenance forms (S, M and L) include the check point that the particulate filter should be renewed.

IMPORTANT!

If the vehicle has a diesel particulate filter aftertreatment management system with 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 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km					
DC07 111 220 DC07 112 250 DC07 113 280	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	367,000	315,000	245,000	183,000	110,000	315,000
	Scania LDF-3	187,000	160,000	125,000	94,000	56,000	160,000
DC09 126 320 DC09 127 360 DC09 130 280	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	315,000	270,000	210,000	157,000	95,000	270,000
	Scania LDF-3	161,000	138,000	107,000	80,000	48,000	138,000
DC09 139 280 DC09 140 320 DC09 141 360	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	504,000	432,000	336,000	252,000	151,000	432,000
	Scania LDF-3	257,000	220,000	171,000	129,000	77,000	220,000
DC11 100 350 DC11 101 390 DC11 102 430	Scania LDF-5 Scania LDF-4 ACEA E8 5w-30, E11 5w-30 API CK-4 5w-30, FA-4 5w-30	879 000	742 000	579 000	440,000	185,000	519 000
DC13 141 410 DC13 148 450 DC13 149 370	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	504,000	432,000	336,000	252,000	151,000	432,000
DC13 155 500	Scania LDF-3	257,000	220,000	171,000	129,000	77,000	220,000

Engine type	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC13 162 370 DC13 163 410 DC13 164 450	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	840,000	720,000	560,000	420,000	252,000	720,000
DC13 165 500 DC13 166 540	Scania LDF-3	428,000	367,000	286,000	214,000	129,000	367,000
DC13 173 560 DC13 174 500 DC13 175 460 DC13 176 420	Scania LDF-5 Scania LDF-4 ACEA E8 5w-30, E11 5w-30 API CK-4 5w-30, FA-4 5w-30	1,114,000	940,000	733,000	557,000	334,000	658,000
DC16 105 520 DC16 106 580	ACEA E6, E8, E11 API CJ-4, CK-4	734,000	620,000	489,000	367,000	220,000	629,000
DC16 107 730	Scania LDF-3	374,000	321,000	250,000	187,000	112,000	321,000
DC16 108 730	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	734,000	629,000	489,000	367,000	220,000	629,000
	Scania LDF-3	374,000	321,000	250,000	187,000	112,000	321,000
DC16 116 520 DC16 117 580 DC16 118 650	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	494,000	424,000	329,000	247,000	148,000	424,000
	Scania LDF-3	252,000	216,000	168,000	126,000	76,000	216,000

Engine type	Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC16 120 530 DC16 121 590 DC16 122 660	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	1,008,00-0	864,000	672,000	504,000	302,000	864,000
DC16 123 770	Scania LDF-3	514,000	441,000	343,000	257,000	154,000	441,000

Renewing the reductant filter in the SCR system

Engine type	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Distance driven in km or calendar time					
Euro 6 DC11 - a rocker cover DC13 – 1 rocker cover	240,000 or 5 years	180,000 or 5 years	120,000 or 5 years	90,000 or 5 years	40,000 or 5 years	90,000 or 5 years
Euro 5/Euro 6 DC07 DC09 DC13 – 6 rocker covers DC16	480,000 or 5 years	440,000 or 5 years	300,000 or 5 years	200,000 or 5 years	140,000 or 5 years	220,000 or 5 years

Other components, biodiesel, 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).

Compo-nent	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Distance driven in km, calendar time or maintenance event[2]					
Fuel filter – biodiesel Engines approved for biodiesel operation (EN 14214)[1].	30,000 or 1 year	30,000 or 1 year	30,000 or 1 year	30,000 or 1 year	20,000 or 1 year	30,000 or 1 year
Tank venting filter.	2 years or every L					

1. More than 7% mixture FAME EN 14214.
2. Maintenance at the interval reached first.

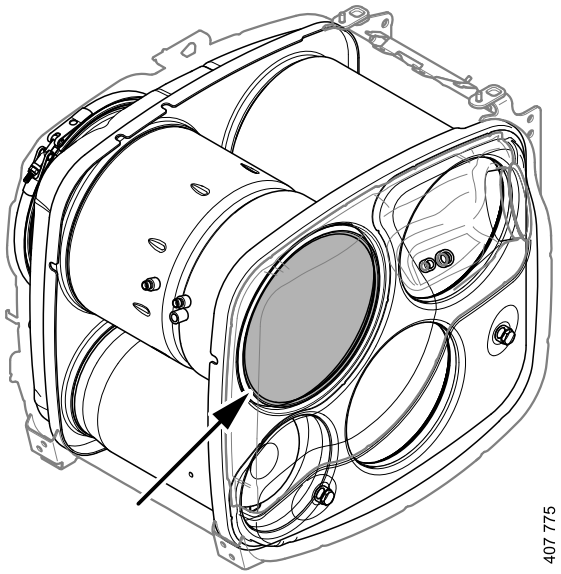
Renewing the oxidation catalytic converter

NOTE:

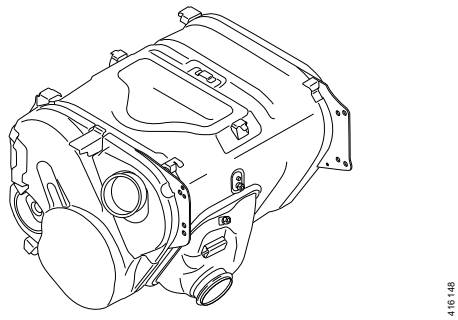
Not all exhaust gas aftertreatment management systems have an oxidation catalytic converter. The length of the silencer determines whether there is an oxidation catalytic converter in the system.

Renewal of the oxidation catalytic converter is relevant when the type of silencer is either 623 mm long or 900 mm long.

The length of the vehicle silencer is indicated in Multi/WIO under Technical Information group 3, under the heading *Silencer length*.



Silencer 623 mm



Silencer 900 mm

Component/ Engine type	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
Oxidation catalytic converter	250,000 km					
DC16 121, with 900 mm integrated silencer	No renewal					

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!

If the vehicle has a diesel particulate filter aftertreatment management system with 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.

All maintenance forms (S, M and L) include the check point that the particulate filter should be renewed.

Engine type	Oil grade	Opera-tion type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km					
DC07 112 250 DC07 113 280	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	200,000	171,000	133,000	100,000	60,000	171,000
	Scania LDF-3	131,000	112,000	87,000	66,000	39,000	112,000
DC09 126 320 DC09 127 360	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	207,000	177,000	138,000	103,000	62,000	177,000
	Scania LDF-3	127,000	109,000	85,000	63,000	38,000	109,000

Engine type	Oil grade	Opera-tion type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC09 140 320 DC09 141 360	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	274,000	235,000	183,000	137,000	82,000	235,000
	Scania LDF-3	180,000	154,000	120,000	90,000	54,000	154,000
DC11 101 390 DC11 102 430	Scania LDF-5 Scania LDF-4 ACEA E8 5w-30, E11 5w-30 API CK-4 5w-30, FA-4 5w-30	465,000	392,000	306,000	232,000	98,000	275,000
DC13 141 410 DC13 148 450 DC13 155 500	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	274,000	235,000	183,000	137,000	82,000	235,000
	Scania LDF-3	180,000	154,000	120,000	90,000	54,000	154,000
DC13 163 410 DC13 164 450	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	351,000	301,000	234,000	175,000	105,000	301,000
	Scania LDF-3	250,000	215,000	167,000	125,000	75,000	215,000

Engine type	Oil grade	Opera-tion type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
DC13 174 500 DC13 175 460	Scania LDF-5 Scania LDF-4 ACEA E8 5w-30, E11 5w-30 API CK-4 5w-30, FA-4 5w-30	465,000	392,000	306,000	232,000	98,000	275,000
DC16 117 580	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	304,000	260,000	202,000	152,000	91,000	260,000
	Scania LDF-3	191,000	164,000	127,000	95,000	57,000	164,000
DC16 121 590	Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4	421,000	361,000	280,000	210,000	126,000	361,000
	Scania LDF-3	300,000	257,000	200,000	150,000	90,000	257,000

Other engine and fuel components, ethanol

This section describes the intervals for the following components:

- Renewing the fuel filter, fuel tank ventilation filter and reductant filter
- Centrifugal oil cleaner maintenance
- Unit injector renewal
- Renewing the particulate filter (Euro 6, XPI).

Renewal of filter, ethanol operation

Compo-nent	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
Fuel filter	Same as engine oil change interval					
Filters for fuel tank ventilation	2 years or every L					
Reductant filter	480,000 km or 5 years	440,000 km or 5 years	300,000 km or 5 years	200,000 km or 5 years	140,000 km or 5 years	220,000 km or 5 years

Centrifugal oil cleaner maintenance, ethanol operation

Component	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
Centrifugal oil cleaner	At every oil change, i.e. at each maintenance event. S, M and L.					

Renewal of unit injector, ethanol operation

Compo-nent	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
Unit injector	90,000 km					

Particulate filter renewal, ethanol operation

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.

Oil grade	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Distance driven in km					
Scania BEO-2	410,000	350,000	275,000	205,000	125,000	350,000

Other engine and fuel components, gas

Gas operation, Euro 6

Explanation: Vehicle gas can be stored as compressed *(CNG)* or cooled in liquid form *(LNG)*.

NOTE:

For vehicles with LNG fuel, there must be at least a 50% mixture of coolant concentrate with corrosion protection.

This mixture corresponds to a freezing point of -38°C or lower. Otherwise, there is a risk that the heat exchanger for the fuel will freeze.

NOTE:

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

Renewing spark plugs

Engine type	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Distance driven in km					
OC09 104 280 OC09 105 340	90,000	90,000	60,000	40,000	40,000	60,000
OC13 104 460	90,000	90,000	60,000	60,000	40,000	40,000
OC13 101 410 OC13 103 420	120,000	120,000	90,000	60,000	40,000	60,000

Maintenance, other components

Compo-nent	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Distance driven in km, running time in hours or calendar time[1]					
Renewing low pressure gas filter CNG	120,000 km					
	3000 h					
	2 years					

Maintenance, other components (continued)

Compo-nent	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
Renewing low pressure gas filter LNG	240,000 km					
	4 000 h					
	2 years					
Checking gas tanks	1 year	1 year	1 year	1 year	1 year	1 year
Checking the tank strap tension[2]	1 year	1 year	1 year	1 year	1 year	1 year
Renewing relief valves on gas tanks, LNG	5 years	5 years	5 years	5 years	5 years	5 years

1. Perform maintenance at the interval reached first.

2. Only applies to CNG steel tanks.

Hybrid and fully electric vehicles

Other components: Hybrid and fully electric vehicles

Explanation of abbreviations	
Abbreviation	**The term in printed form**
BEV	Battery electric vehicles
HEV	Hybrid Electric Vehicle
PHEV	Plug-in Hybrid Electric Vehicle

Tip:

Filter by chassis serial number in Multi. The associated technical information shows the type of compressor

HEV/PHEV and BEV			
Type	**Oil grade**	**Change interval**	**Comment**
Electrical air compressor EACS[1] EACS 2	Castrol Alphasyn T46 or Chevron Cetus PAO 46 Chevron Cetus PAO 68	**Calendar time 1 year Maximum compressor running time 1,500 h.**	Change oil and renew air filter and oil separation filter.
Electrical air compressor EACS 3	Castrol Alphasyn T46 or Chevron Cetus PAO 46 Chevron Cetus PAO 68	**Calendar time 2 years Maximum compressor operating time 3,000 h.**	Change oil and renew air filter and oil separation filter.

1. The designation "EACS 1" is not specified in Multi.
2. Perform maintenance at the interval reached first.

HEV/PHEV	
Component	**Distance driven in km or calendar time 2 years[1]**
Renewing drive belts[2]	240,000

1. Perform maintenance at the interval reached first.
2. The renewal includes idler rollers, drive belt and belt tensioner.

Engine air filter

Vehicles with front air intake (FAI)

Component		Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km or calendar time[2]					
Air filter cartridge[1]	Moderate level of dust	360,000 or 2 years	360,000 or 2 years	360,000 or 2 years	240,000 or 2 years	240,000 or 2 years	240,000 or 2 years
	High level of dust	240,000 or 2 years	240,000 or 2 years	240,000 or 2 years	120,000 or 2 years	120,000 or 2 years	120,000 or 2 years
	Extremely high level of dust	60,000 or 2 years	60,000 or 2 years	60,000 or 2 years	60,000 or 2 years	60,000 or 2 years	60,000 or 2 years

1. Renew the safety cartridge every time you renew the air filter cartridge. Use the air filter indicator to determine whether the air filter cartridge requires renewal.

2. Perform maintenance at the interval reached first.

Vehicles with high air intake (HAI)

Component		Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km or calendar time[2]					
Air filter cartridge[1]	Moderate level of dust	500,000 or 2 years			250,000 or 2 years		
	High level of dust	340,000 or 2 years			170,000 or 2 years		
	Extremely high level of dust	100,000 or 2 years			100,000 or 2 years		

1. Renew the safety cartridge every time you renew the air filter cartridge. Use the air filter indicator to determine whether the air filter cartridge requires renewal.

2. Perform maintenance at the interval reached first.

Vehicles with high air intake (HAI) high-capacity air filter

Component		Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
		Distance driven in km or calendar time[2]					
Air filter cartridge[1]	Moderate level of dust	500,000 or 2 years			250,000 or 2 years		
	High level of dust	400,000 or 2 years			200,000 or 2 years		
	Extremely high level of dust	150,000 or 2 years			150,000 or 2 years		

1. Renew the safety cartridge every time you renew the air filter cartridge. Use the air filter indicator to determine whether the air filter cartridge requires renewal.

2. Perform maintenance at the interval reached first.

Coolant

Renewal intervals

Coolant - applies to vehicles with combustion engine.

Component	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Distance driven in km or calendar time[1]					
Coolant	600,000 or 4 years			450 000 or 3 years	450 000 or 3 years	450 000 or 3 years

1. Perform maintenance at the interval reached first.

Cab

Intervals, components

Component	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Maintenance event					
Fresh air filter	During maintenance events M and L					
A/C air filter on the crew cab						

Brake

Intervals, brake system

Component	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Calendar time					
Brake system, check[1]	1 year					

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

Change intervals, components

Component	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Distance driven in km or calendar time[1]					
Air dryer: Desiccant container	360,000 or 2 years	360,000 or 2 years	240,000 or 2 years	180,000 or 2 years	120,000 or 2 years	180,000 or 2 years

1. Perform maintenance at the interval reached first.

Chassis

Change intervals, components

Wet kit, tank volume 200 litres

Component	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Calendar time					
Filter renewal	1 year					
Changing the oil	3 years					

Scania bodywork

Hydraulic equipment – Bodywork

Component	Oil change	Number of operating hours per year		Number of pressure releases per work shift	
		Up to 1,500	More than 1,500	Up to 15	More than 15
Tipper truck 12 m^2 and wet kit	3 years	X		X	
	1 year		X		X
Rolling floor and cranes	2 years	X		X	
	1 year		X		X

Tail lift, Zepro

For more information on maintenance event XL and what should be checked and renewed, see information from the supplier.

Preventive renewals

Performing preventive renewals serves to reduce the risk of unplanned downtime for the vehicle. 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.

Belt transmission

Statistics from repair and maintenance contracts indicate that overall it is relatively unlikely that the belt transmission will fail. However, the statistics do not differentiate between different operating conditions and vehicle specifications. As the consequential damages from a ruptured belt are extremely serious, there is good reason to perform preventive renewal as specified in the table below.

Component	Operation type 0:0	Operation type 0	Operation type 1	Operation type 2	Operation type 3	Operation type 4
	Distance driven in km or calendar time					
Belt transmis-sion[1], XPI engines and gas engines.	240,000 or 2 years					

1. Idler rollers, drive belt and belt tensioner are part of the belt transmission.

Batteries

Statistics from repair and maintenance contracts show that overall there is a high likelihood of a battery fault occurring. However, the statistics do not differentiate between different operating conditions and vehicle specifications. The majority of contract vehicles that are 5 years old have undergone battery renewal before the end of the contract period. Most battery renewal occurs between years 3 and 5. As an individual component, batteries are the most common cause of emergency calls for Scania Assistance.

Preventive renewal of batteries is not a guarantee that there will not be unplanned stops due to lack of battery capacity. It is important for the customer and workshop to perform battery maintenance, e.g. trickle charging, and to monitor how current consumers are used while the vehicle is stationary.

The table below provides a recommendation of when a preventive renewal may be suitable based on battery type and expected vehicle usage.

Electric power consumption	Ambient temperature		
	Cold, never hot	**Varied**	**Hot, never cold**
Low[1]	3 years Battery type: 180 Ah	3 years Battery type: 140 Ah	4 years Battery type: 140 Ah
Medium[1, 2]	3 years Battery type: 225 Ah	3 years Battery type: 180 Ah	3 years Battery type: 180 Ah
High[2]	2 years Battery type: 225 Ah	3 years Battery type: 225 Ah	2 years Battery type: 225 Ah

1. No overnight stays: For example, parking lights, internal lighting, radio, cab ventilation, etc.

2. Many overnight stops 3-5/week: For example, auxiliary heating, auxiliary radiator, kitchen equipment, PC, TV, DVD player, sound system with amplifier, etc.Distribution vehicles: The tail lift is used frequently.

NOTE:

The above table is a technical estimation that does not take the length of the vehicle contract or ownership period into consideration. If a preventive renewal is to be carried out, it is always best to schedule the renewal halfway through the ownership period.

This minimises the likelihood of unplanned downtime.