

GMK 4100**1000-hour Maintenance Kit****Chassis engine E3b / T4i, Super engine E3a / T3 (no DEF)****Part Number 03065742**

Manitowoc Crane Care congratulates you for making the purchase of this maintenance kit. Good maintenance at the right time will make a difference in the daily reliability and long-term life of your GMK.

We offer this guide to help you utilize this kit efficiently.

Should you have any feedback or questions regarding this maintenance kit, please contact Manitowoc Crane Care.

The 1000-hour kit basically follows the 12-month maintenance plan (M12) as shown in chapter 5 of the Maintenance manual. Please refer to the given Maintenance manual (**3 112 749**) for specific details and requirements.

Please note that there may appear to be some discrepancies with the part numbers given in the Maintenance manual compared to those in the kit. The kit contains the latest recommendations, where any discrepancies are a function of our continuous improvement program. For example, superseded part numbers may be for Engineering Design changes, improved technology, more cost-effective solutions or a different supply chain.

Consider additional maintenance items when completing, Y2, Y3, Y5, Y6 or Y10 intervals, such as transmission oil and filter, hoist inspection, slewing sensor, cable drums etc. – please refer to the Maintenance manual for more details.

5.2.6

Maintenance plan M 12

















M 12

Maintenance work on the CARRIER: Every twelve months / after 20 000 - 25 000 km (12 430 - 15 530 mi)	
Engine – Notes; <i>Engine manufacturer's documentation</i>	p. 7 - 13
Fuel system – Changing fuel filter 2	p. 7 - 26
Exhaust system with exhaust emission control ¹⁾ – Having the urea system checked	p. 7 - 33
Transmission – Checking the oil level	p. 7 - 35
Axle lines – Axle centre drives – changing the oil – Final drives – changing the oil	p. 7 - 47 p. 7 - 51
Suspension – Pressure accumulator – checking the gas pressure	p. 7 - 66
Compressed air system – Replacing the filter cartridge of the compressed air drier	p. 7 - 71
Hydraulic system – Changing the ventilation filter – Taking oil samples: depending on the oil sample test results: – Change the oil – Changing the hydraulic oil filter	p. 7 - 79 p. 7 - 80 p. 7 - 85 p. 7 - 89
Air-conditioning system – Checking the entire air conditioning system – Changing the pollen filter	p. 7 - 102 p. 7 - 104
Other maintenance work – Lubricating the cab door – Lubricating the connecting and socket pins	p. 7 - 115 p. 7 - 116

¹⁾ Additional equipment *Urea System*

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M 12

Maintenance work on the SUPERSTRUCTURE: Every 12 months / after 1000 oper. hrs.	
Engine – Notes;  <i>Engine manufacturer's documentation</i>	 p. 8 - 9
Fuel system – Changing fuel filters 2 and 3	 p. 8 - 23
Hoists – Changing the oil/Checking the oil	 p. 8 - 30
Slewing gear – Changing the oil/Checking the oil	 p. 8 - 36
Ball slewing bearing – Measuring tilting play	 p. 8 - 41
Hydraulic system – Changing the ventilation filter – Pressure accumulator – checking the gas pressure – Taking oil samples depending on the oil sample test results: – Changing the hydraulic oil – Changing the hydraulic oil filter	 p. 8 - 46  p. 8 - 47  p. 8 - 47  p. 8 - 52  p. 8 - 49
Main boom – Checking the locking system	 p. 8 - 63
Hook blocks – Lubricating	 p. 8 - 84
Air-conditioning system – Checking the entire air conditioning system	 p. 8 - 88
Other maintenance work – Lubricating the crane cab door – Lubricating the connecting and socket pins	 p. 8 - 93  p. 8 - 94

1. What's in the box?



List of contents

03134850	Super hydraulic oil filter 1 & 2	4
03134931	Chassis hydraulic oil tank breather	1
03134932	Super hydraulic oil tank breather	1
03142356	Super hydraulic oil filter 3	1
03316035	Super engine oil filter	1
03316343	Super engine air filter outer	1
03316344	Super engine air filter inner	1
03319653	Chassis engine fuel filter 2	1
03322877	Chassis & super engine fuel filter 1	2
03324183	Chassis engine air filter	1
03328573	Super engine fuel filter 2	1
03329152	Chassis hydraulic oil filter 1 & 2	2
04157569	Super engine fuel filter 3	1
04157573	Chassis cab pollen filter	1
04286260	Chassis air dryer filter	1
04286277	Chassis engine oil filter	1

00117125	Seal - slew units oil level	2
00117132	Seal - slew units oil drain	2
00117134	Seal - transfer case oil drain	1
00117139	Seal - chassis engine oil drain plug	1
00117145	Seal - axle centre drive level and drain, final drives	10
00117147	Seal - chassis engine oil drain plug	1
00117151	Seal - transfer case & axle centre drives oil level	5
01371208	Seal - axle centre drives drain	4
01377793	Seal - main & aux hoist level, hoist drain	10
03135778	Seal - chassis hydraulic oil filter 1 & 2	2
03326049	Seal - super hydraulic oil filter 3	1
03328331	Seal - transmission oil level	1
03329825	Seal - super engine oil drain plug	1

2. The Filters

4x 03134850 Superstructure hydraulic oil filter 1 and 2



1x 03134931 Chassis hydraulic oil tank breather



1x 03134932 Superstructure hydraulic oil tank breather



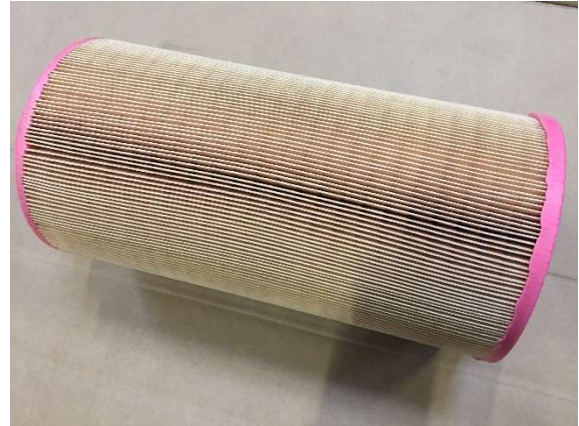
1x 03142356 Superstructure hydraulic oil filter 3



1x 03316035 superstructure engine oil filter



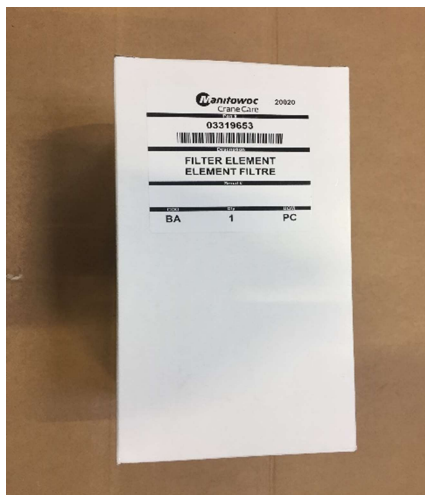
1x 03316343 Superstructure engine air filter (outer)



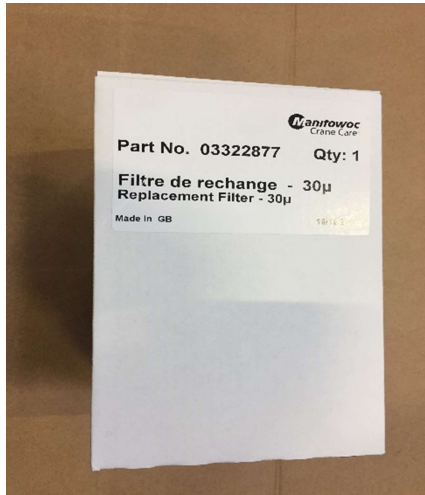
1x 03316344 Superstructure engine air filter (inner)



1x 03319653 Chassis engine fuel filter 2



2x 03322877 Chassis and Superstructure engine fuel filter 1



1x 03324183 Chassis engine air filter



1x 03328573 Superstructure engine fuel filter 2



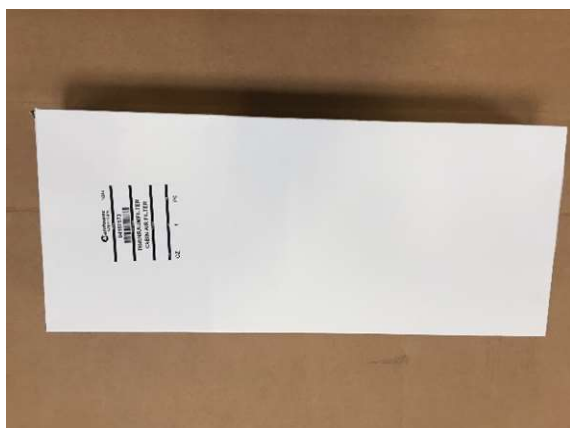
2x 03329152 Chassis hydraulic oil filter 1 & 2



1x 04157569 Superstructure engine fuel filter 3



1x 04157573 Chassis cab pollen filter



1x 04286260 Chassis air dryer filter with oil coalescer



1x 04286277 Chassis engine oil filter



3. The Seals (see contents list for usage)



4. Additional maintenance items (not in the kit)

Oil condition analysis:

As part of the annual maintenance, you should take samples from the hydraulic system (7.14.7 and 8.8.7) to determine the condition of the hydraulic oil.

We recommend our oil analysis kit, which is available under part number 03141012. The kit contains: an oil sample bottle, oil description form (to be completed) and return envelope. The price of this kit includes laboratory analysis of the sample and report that will be sent to your email address.



DEF (Ad-Blue) Filter:

GMK 4100 Chassis engine: 1x 04157650



Oils and Greases

Many oils and greases will be available locally to you, we strongly recommend that the specifications given in chapter 6 of the Maintenance manual be followed when selecting any local equivalents.

These oils and greases have no equivalent and should be ordered from Manitowoc Crane Care as required:

- Sliding surface boom grease
 - 400 gr. Cartridge for spray gun 03329071
 - 10 kg can 01373458
 - 25 kg bucket 02314698
- Cylinder rod corrosion protection (400ml spray) 01929824
- Boom pinning bolt grease (400g cartridge) 03313195
- Suspension lubricant (1-liter bottle) 02310863

Suspension pressure accumulators

To perform the check of nitrogen pressure in the accumulators as explained in 7.5.4, 7.11.4 and 8.8.6 of the Maintenance manual, Manitowoc Crane Care offers a test kit P/No 02257617 (gas bottle adapter and pressure regulator also required). Reference service bulletin SB D15-022 GMK suspension hydraulic accumulators.

Maintenance video

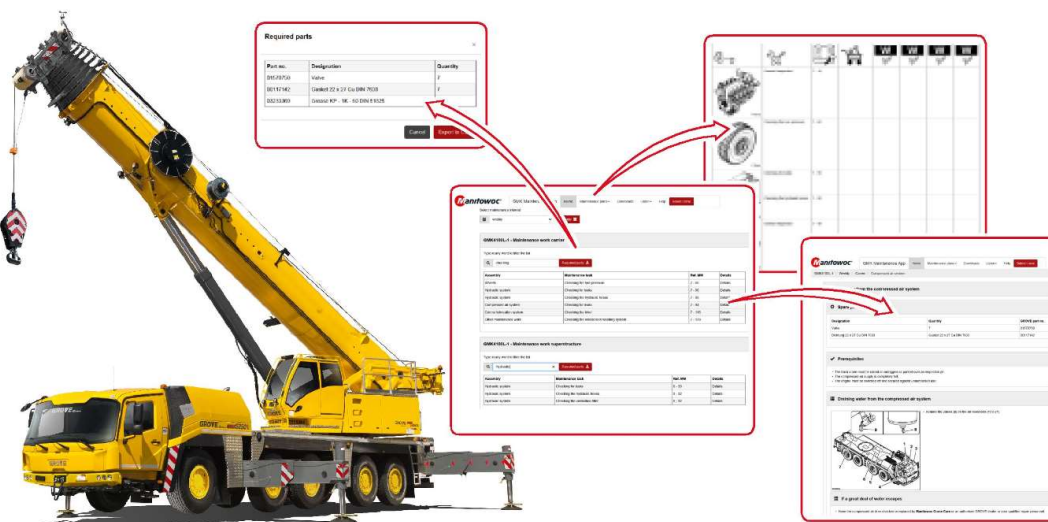
You may also find our video outlining some simple maintenance procedures useful, under the following link:

<https://www.manitowoccranes.com/en/Resources/videos/2016/Grove-GMKpreventive-maintenance>

Maintenance App

When planning your routine crane maintenance, consider utilizing our GMK Maintenance App.

- Freely accessible giving all details for current GMK production models
- Individual maintenance plans by interval or engine hours / mileage
- Including a description of the relevant tasks from the maintenance manual



Visit our dedicated website: <https://eu100.manitowoc.com/GMKMaintenance/>

Read the Quick Start Guide for using the App:

