

Operation Manual

Undermount UM3



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Introduction

This Operating Manual has been written for users of the Genmark Undermount UM3 and those carrying out maintenance or repairs to the Undermount UM3. This Operating Manual must remain accessible to all users and maintenance personnel. Correct use of the Undermount UM3 and the associated safety regulations are the basis of a long-lasting, safe use of the Undermount UM3.

This Operating Manual is written for those who use the Undermount UM3 and who should be able to operate it competently. In addition to this Operating Manual, an assembly manual and a parts book have also been published for the Undermount UM3.

This Operating Manual is intended for Undermount UM3 end users. With the help of this manual, it is assumed that the end user can operate the product properly and resolve any simple product problems.

For actions and/or problems not covered in this Operating Manual, more knowledge than this manual provides is required. In this case, contact Genmark or an authorised dealer. Only allow authorised personnel are to carry out maintenance, assembly and commissioning of the Undermount UM3. Do not make any changes to the Undermount UM3 without the express permission of the supplier; this is especially true for the Undermount UM3 safety features.

The following symbols are used in this manual: To understand the warning symbols on the gensets, an overview of the symbols used is provided below.

1. Safety Summary

1.1 General Safety Notices

The following general safety notices supplement the specific warnings and cautions appearing elsewhere in this manual. They are recommended precautions that must be understood and applied during operation and maintenance of the equipment covered herein. The general safety notices are presented in the following three sections labeled: First Aid, Operating Precautions and Maintenance Precautions. A listing of the specific warnings and cautions appearing elsewhere in the manual follows the general safety notices.

1.2 First Aid

An injury, no matter how slight, should never go unattended. Always obtain first aid or medical attention immediately.

1.3 Operating Precautions

- Always wear safety glasses and hearing protection.
- Keep hands, clothing and tools clear of the radiator fan and rotating belts.
- No work should be performed on the unit until all circuit breakers and start-stop switches are turned off and the negative battery terminal has been disconnected.
- Always work in pairs. Never work on the equipment alone.

In case of severe vibration or unusual noise, stop the unit and investigate.

1.4 Maintenance Precautions








Installation and servicing of equipment can be hazardous due to moving parts, hot coolant and electrical components. Only trained and qualified service personnel should install, repair, or service the equipment. Be sure power is turned off and the negative battery cable is disconnected before working on generator set.

Do not bypass any electrical safety devices, e.g. bridging an overload, or using any sort of jumper wires. Problems with the system should be diagnosed, and any necessary repairs performed, by qualified service personnel. In case of electrical fire, open circuit switch and extinguish with CO₂ (never use water).

Fuel Tanks present explosion, fire and rupture hazards even if liquid fuel has been drained. Do not attempt any repairs, especially repairs using flame, welder or torch, unless you have been properly trained and the tank has been emptied of liquid fuel and fuel vapors and the tank is properly ventilated.

1.5 Unit Hazard Label Identification

To help identify the hazard labels on the Unit and explain the level of awareness each one carries, explanations with appropriate consequences are provided below:

	GM. 001 – FORKLIFT LIFTING POCKETS
	GM. 002 – DANGER, ELECTRICITY
	GM. 003 – MOVING PARTS can cause severe injury. - Do NOT operate with doors open. - Stop engine before servicing.
	GM. 004 – MOVING PARTS can crush and cut. - Do NOT operate with guard removed.
	GM. 005 – HOT Parts can burn skin. - Do NOT touch until the machine has sufficiently cooled down.
	GM. 006 – HOT COOLANT can cause severe burns. - Do NOT remove the cap if radiator is hot.
	GM. 007 – Only operate machine in well ventilated areas. - Do NOT inhale exhaust gas.

1.6 Specific Hazard Statement

The statements that follow are applicable to the generator set and appear elsewhere in this manual. These recommended precautions must be understood and applied during operation and maintenance of the equipment covered herein.

DANGER

- *To prevent injury, the procedures provided for installation and removal of the generator set must be followed carefully.*
- *Disconnect power plug before removing generator set.*
- *Under no circumstances should ether or any other unauthorized starting aids be used in conjunction with the air intake heater.*
- *Beware of moving poly V-belt, belt driven components and hot exhaust components.*
- *Beware of pinch points.*
- *Do not use gasoline to clean air cleaner parts.*
- *Do not direct water or steam nor high pressure cleaning into the generator openings.*
Do not allow any soap and water solutions to enter the alternator.
- *High voltage (dielectric) testing must not be performed to the machine without first observing NEMA rules.*

CAUTION

- *Never pour cold water into a hot engine.*
- *Use only ethylene glycol (anti-freeze with inhibitors or at least -25°C protection) in system. Use of glycol by itself will damage the cooling system. Always cover the engine inlet tube while the air cleaner is being serviced.*
- *Continued operation with failed shockmounts may result in engine or generator damage.*

2. Genmark Guarantee Provisions

Article 14.

- 14.1 Genmark guarantees that products and/or services supplied by Genmark shall meet the customary requirements that can be normally expected.
- 14.2 Should the guarantee provided by Genmark concern a product that has been produced by a third party, the guarantee is limited to the guarantee provided by the manufacturer of the product.
- 14.3 The guarantee provides for replacement or repair of the product free of charge at the discretion of Genmark, provided the other party immediately submits a detailed description of the shortcoming in writing.
- 14.4 The work to be carried out under the guarantee will be carried out during normal working hours. All additional costs, such as travel and accommodation for the deployment of Genmark mechanic(s), and any other transportation costs are to be borne by the other party.
- 14.5 The other party is obliged to keep the damaged products available for inspection by Genmark. In the event the product needs to be replaced, the other party is to return the replaced product to Genmark and not to transfer ownership to Genmark.
- 14.6 Replaced or repaired parts are only given a guarantee that lasts until the end of the original guarantee period.
- 14.7 Regarding revision and repair assignments, the guarantee only covers the reliability of the implementation of the agreed work activities.
- 14.8 All rights for the other party arising from this article shall lapse if repairs or changes to products have been carried out by the other party or third parties without the prior written consent of Genmark, or if damage has been caused by improper use of the products or not following the maintenance schedules correctly.
- 14.9 The guarantee will be void and complaints about the delivered product will not be accepted if:
 - a. the other party does not immediately report any defects in writing to Genmark immediately after discovery of said defect.
 - b. the instructions for use provided by Genmark and any checks are not accurately followed.
 - c. defects are the result of improper use or omission on the part of the other party or his personnel.
 - d. the product has not been used in accordance with the agreed purpose and, in the absence thereof, the customary purpose
 - e. defects are the result of normal wear and tear
 - f. defects are the result of external circumstances such as: fire, natural disasters (force majeure), explosions, terrorism, cleaning products, smoke, dirt, landslides, floods and weather.
 - g. defects are the result of any government requirements regarding the nature or quality of the materials used.
 - h. the damage has been caused by third parties (destruction)
 - i. there is no customary use and/or technically unavoidable deviation.
 - j. defects are the result of components and/or products that have not been supplied by Genmark.
 - k. defects are the result of use outside the technical specifications.

Further guarantee provisions:

- If it turns out your product is not working correctly within the period of 1 year after purchase, even if you have used it in the customary manner, this product will be repaired free of charge in our workshop at Röntgenweg 8 Spijkenisse, the Netherlands. (Including compliance with the written user and operating instructions)
- The customer must deliver the product at his own expense to our workshop on the Röntgenweg 8, Spijkenisse - the Netherlands. Any transportation or shipping costs shall be borne by the customer.
- This guarantee does not cover the following situations, for which the customer will also be charged during the guarantee period.
 - Defects resulting from incorrect use (such as an application that is not listed in the user and operating instructions, shut down caused by extension cables, shut down caused by the equipment that has been connected, etc.)
 - Defects that are the result of repairs, changes and/or cleaning work that has been carried out by anyone other than our workshop.
 - Defects or damage resulting from transport, accidents, shocks, etc. after purchase of the product.
 - Defects or damage caused by fire, earthquakes, floods, lightning, natural disasters, rockfall and problems that cause an incorrect load to be placed on the generator.
 - Defects that result from careless or improper use such as a failure to check/refill the oil or coolant, cleaning with a high-pressure hose, or due to the use of harmful substances, etc.
 - Defects that are the result of bad batteries.
 - Defects caused by sand, mud, etc., in the product housing.
 - In the event that changes have been made to the purchase date, customer name, dealer name and/or the serial number of the supplied set.

This guarantee only applies to the product and does not include accessories such as plugs, cables, etc. Genmark B.V.'s liability under this guarantee is limited to repairing the product. Genmark B.V. accepts no liability for indirect or consequential damages (lost profit, business interruption, loss of business information, etc.), or any other suffering of the customer arising from product defects and for any delays in the repair and/or loss of data. Of course, the legal liability provisions remain in force.

- A guarantee period of 1 (one) year is applicable to the Undermount UM3 mentioned in this Operating Manual. The guarantee period begins on the date of commissioning of the Undermount UM3.

Fault within the guarantee period

Guarantee work to the Undermount UM3 may only be carried out by authorised service partners.

- In the event of a fault within the guarantee period, if guarantee work is possible, contact the nearest service partner or Genmark

3. Genset Products

Genmark's statement of manufacturer's warranty differs depending on product lines and models. Current samples of some of these are given after this section as shown below:

The following basic conditions and limitations apply to all products and models:

1. Genmark does not warrant the workmanship of the installer and will not bear any cost due to faulty or incorrect installation or damage in shipment, nor shall this warranty apply in the case of accidental damage to finish of the product, abuse, misuse, flood, fire, or if the unit serial plate has been altered, defaced, or is missing.
2. This warranty shall not apply to any Genmark product, which, in the opinion of Genmark, has been altered, installed, or repaired in a manner affecting the efficiency or performance of the equipment.
3. Warranty repairs or replacements shall be performed by Genmark, authorized dealers, authorized service centers at their place of business during normal working hours.
4. For the remainder of this manual 'Service Center' includes: authorized dealers, authorized service centers, is defined as those firms specifically authorized to perform warranty work by Genmark. Authorized dealers or service centers can be found by checking the website of Genmark. (www.genmarkgensets.com)
5. In the event a Service center does not perform warranty repairs, said warranty repairs claims will be administered through the nearest regional Genmark office in accordance with the specified manufacture's warranty.
6. The service center is responsible for repairs or replacements during the warranty period in accordance with the procedures contained herein.
7. Genmark's warranty is limited to the repair or replacement of defective parts during the warranty period. Labor charges for the repair or replacement of defective parts within the warranty period will be reimbursed at the Service Center's authorized straight time hourly labor rate times the appropriate labor allowance.
8. Genmark is not liable for loss of time, equipment rental, late deliveries, or other incidental or consequential damages while the equipment is out of service for a warranty repair.

3.1 Repair Review (Warranty Verification/Requirements)

Warranty repairs to a Genmark manufactured unit that fails because of defective material or manufacturer's workmanship should be handled according to the instructions that follow. These instructions should be used as a guide to determine what is covered by Genmark's Manufacturer's Warranty and what the responsibilities are of the Owner/End User and Service Center. These guidelines apply to any warranty repairs. These steps should be followed before performing any warranty work on Genmark manufactured equipment.

3.2 Unit Serial Plate Warranty Verification

To ensure the Owner/End User receives full value for the coverage they purchased with the unit, it is essential that the Service Center review the coverage for the unit. This information is shown on the website of genmark. (www.genmarkgensets.com)

3.3 Improper Serial Plate

If the unit serial plate decal is illegible, or shows evidence of tampering, do not perform warranty work until the unit's warranty status can be verified. In instances where confirmation is not available, the Owner/End User should be billed and instructed that a Warranty Request will be filed when confirmation of the unit's warranty status can be made.

Warranty coverage verification/confirmation can be obtained by using the warranty check on the website of genmark to confirm coverage. (www.genmarkgensets.com) Questions concerning coverage should be directed to the appropriate Genmark's Warranty Department.

3.4 Expiration Dates

Genmark will not accept warranties for any repairs beyond the warranty expiration date. Unusual circumstances or requests for any additional payment beyond the warranty sold with the product should be discussed with Genmark's Warranty Department.

In those instances where Genmark's Warranty Department approves any payment beyond the warranty you will be provided with written approval by email containing an approval number and this approval number **MUST** be entered into the claim along with specific details of what was additionally approved to allow follow-up verification. Claims submitted outside the warranty period without any prior authorization will be rejected.

4 Major Repairs

4.1 Pre Authorization & Approval

Claims for microprocessor controller, engine change out or overhaul, and rebuilding of major components (i.e., engines, generators, etc.) require pre-authorization and approval from the Genmark office.

4.2 Field Repairable Assemblies

When repairing components in lieu of replacing the component, the Service Center must use good discretion in determining when it is economical to make the repair. As a general rule, it is not economical to repair a component when the cost of repair (parts and labor) exceeds 50% of the replacement cost.

4.3 Sublet Repairs

In the event that it is necessary to sublet a portion of a unit's repair, for example, electric motor repair at a local repair shop, pre-authorization is required from Genmark. You will be provided with written approval by email. It is also necessary that a copy of the repair invoice be submitted with the Warranty Request.

4.4 Cause of Unit Failure

Genmark relies on the ability of the Service Center to determine if a failure was the result of defective material or workmanship. If the Service Center concludes that the failure was the result of defective material or manufacturer's workmanship, warranty work should be completed.

A warranty request should subsequently be completed and sent to the appropriate Genmark office by using the website. (www.genmarkgensets.com) The Warranty Departments decision regarding the equipment failure will be based on the Service Center's report, so the description of the failure should include sufficient detail (like photo's) to assist the Warranty Department in making this decision.

4.5 Purchase And Use Of Genuine Genmark Parts

Any repairs, for which warranty reimbursement is requested, must be made as follows.

- Any repairs for which warranty reimbursement is expected must be made using genuine Genmark parts with the exception of consumable and common hardware items not sold by Genmark.
- No warranty coverage is provided for any parts used other than those supplied by Genmark or those purchased from an authorized service provider pursuant to the applicable warranty claims procedure unless approved by Genmark prior to repairs starting. You will be provided with written approval by email.
- No upgrade of parts is allowed. Parts used for warranty repairs must be on a like for like basis and in the event there are alternative parts of differing standard then the replacement must conform to the original installed in the factory.

5. Engine

- Engine oil is covered by only if contaminated as a result of a warrantable engine failure. Contaminated oil is defined as oil having a high metal content as a result of an internal drive train failure or dilution as a result of a failure causing fuel or coolant to enter the oil pan. Oil is not warranted if the oil is removed from the engine to make a warranty repair such as gaskets, seals, etc., as the oil can be reused. Oil is also not warrantable if contaminated by faulty injector nozzles or failure to maintain the fuel system or perform recommended oil changes.
- Oil filters are covered only if defective (leak) or contaminated as stated above.
- Fuel and air filters are covered only if replaced due to a defect in the filter or contaminated by another warrantable failure.
- Belts are covered only if replaced due to damage or breakage as a result of a warrantable failure or defect in the belt material. Belts are not warranted if failure occurred due to improper tension or other reasons that are associated with improper maintenance procedures.
- Engine coolant is covered only if lost as a result of a warrantable failure in the cooling system. Coolant is not warranted if it is necessary to remove the coolant to make a warranty repair, as the coolant can be reused.
- Gasket and Seals with the exception of the engine head gasket, all gaskets are covered against manufacturing defects by the standard unit warranty. Gasket replacement is also allowed if replacement is required as a result of any other warranted failure in the unit.
- Injector nozzles are covered as part of the injector under the standard unit warranty.
- Batteries are not covered.

5.1 Failed Non Genmark Parts

If a failed part is found not to be a Genmark part, the owner should be advised that warranty is not applicable on the failed part due to a non Genmark part having been used. Parts other than authorized Genmark parts are not covered by warranty.

5.2 Review Use Of Service Center Shop Supplies

Materials such as, cleaning agents, wire ties, soldering materials, nitrogen, gasket cements, miscellaneous hardware, and hazardous materials, etc., are considered Service Center overhead expense and are considered to be included in the cost of the Service Center's authorized labor rate.

6. Warranty Part Returns and Disposition

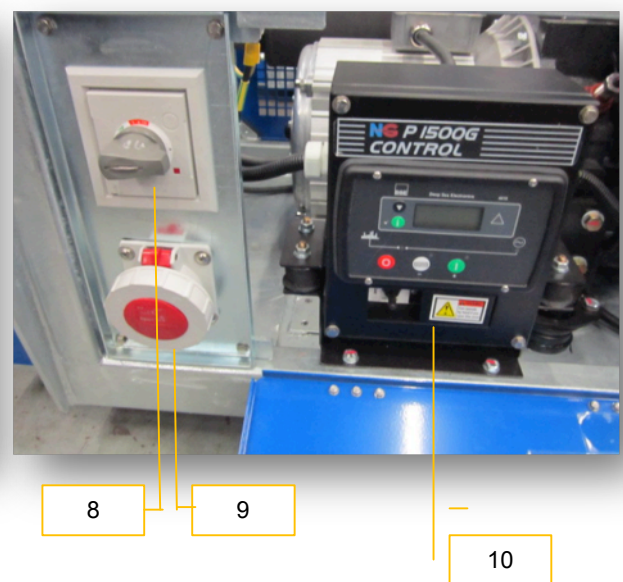
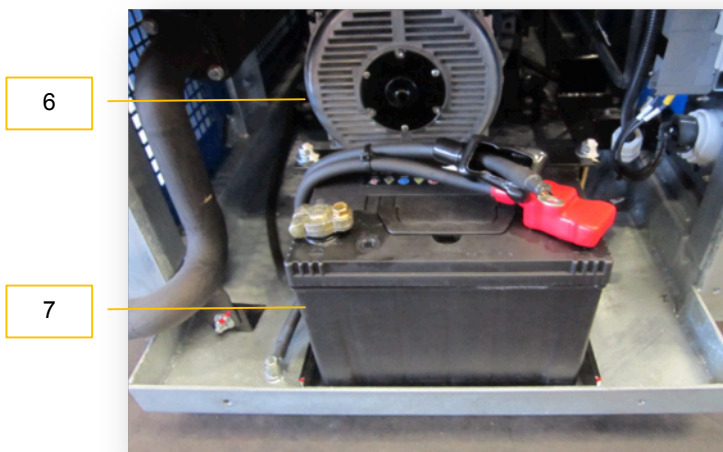
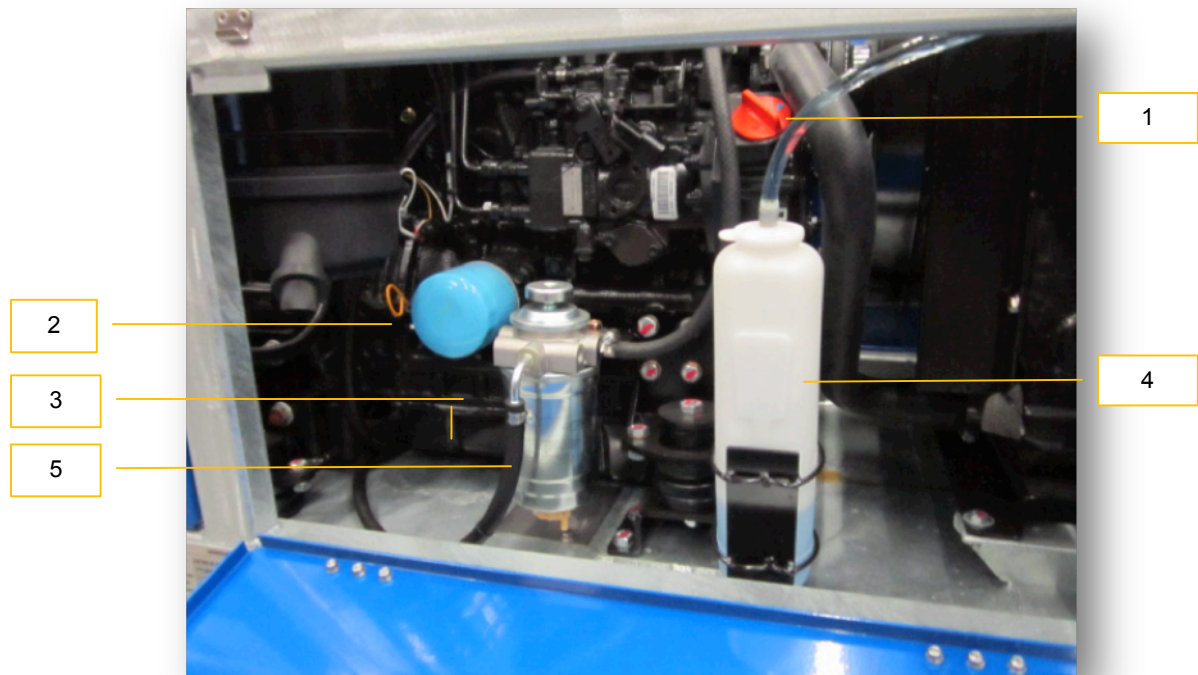
6.1 Identification of Warranty Parts

- A few parts are placed on a mandatory return list for a variety of reasons. Genmark reserves the right to add and remove parts within this mandatory parts return program as required to conduct its business.
- Mandatory parts not received within 90 days from the date of failure can result in a rejection of the warranty claim on which the parts were filled.
- Warranty replaced parts, can be used with the help of Genmark's Warranty Tag (GWT)

		RETURN MATERIAL TAG	
RM TAG nr:		Defective part nr:	
Customer:		Defective serial nr:	
Cont nr:		New part nr:	
Serial nr:		New serial nr:	
Model nr:			
Date in serv:		<input type="checkbox"/> Testreport made: Yes / No	
Engineer:		<input type="checkbox"/> Foto's made: Yes / No	
Running hours:		Repair date:	
Cause of failure:			

8. Description of the Undermount UM3

Main Components



1	Refill oil if necessary	4	Coolant reservoir	7	Battery	10	Controller/Operating Panel
2	Oil dipstick	5	Fuel feed pump	8	Head switch		* See annex for diesel tank
3	Fuel filter	6	Generator	9	380 Volt connection		


8.1 Control

Controller/Operating Panel & Starting the Undermount UM3





Figure 0.1


1	Extra Option Button
2	Overview of the last 5 alarm codes
3	Stop/Reset Button
4	Alarm LED
5	Start Button

If applicable: Ensure the reefer container is OFF before the Undermount UM3 is turned on. Then press the green start button , the set will then pre-heat and start up.

8.2 Switching off the diesel engine

The **Red** stop button  is used to switch off the Undermount UM3. If applicable: Ensure the ON/OFF switch is in the OFF position if the set is not to be used for more than 24 hours. Overlooking this will result in the battery losing its charge.

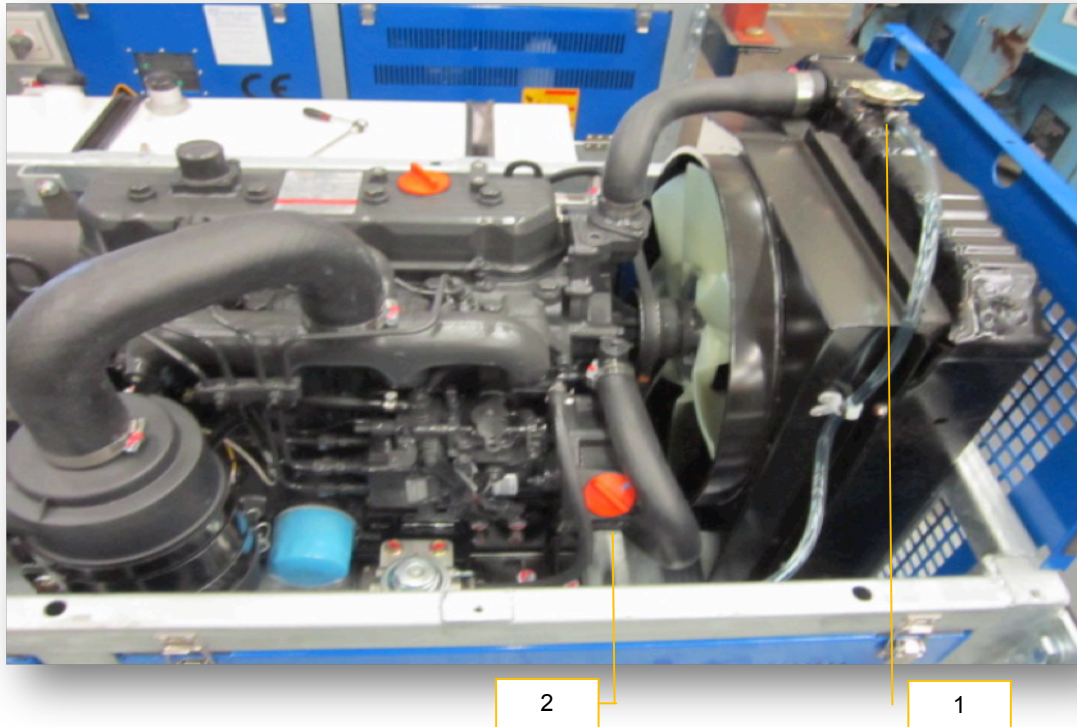
If the Alarm LED (1) flashes red, this means there is an Alarm condition; this can be resolved by pressing the red stop/reset  button, the LED will then go out and the alarm code should go away. If the alarm remains active and the LED red after resetting, contact the nearest dealer. (Trademark: +31 (0)108 20 89 80)

Using the  mode button, it is possible to run through the additional options (if the set is on); it is also possible to see the operating hours of the set from here.

9. Maintenance

Daily & Monthly Maintenance

The oil level should be checked every day before the Undermount UM3 is started. For the Undermount UM3, the coolant level must be checked every month.



1	Coolant level check/refill if necessary
	<i>Check oil with dipstick see page 14</i>
2	Oil refill see page 14

- *Do not carry out any maintenance work while the unit is switched on!*
- *Turn the main switch to the 0 position before carrying out any maintenance work*

9.1 Routine Maintenance




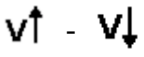







Routine maintenance must be carried out on the Undermount UM3 every 400 operating hours or 12 months after the last maintenance.

The oil and the coolant level must be checked regularly. An oil check can be carried out via the inspection windows on the front of the set. This should be monitored closely in the first few weeks of operation; the engine uses more oil during this running-in period. If the oil needs to be refilled, 10W40 (API SL/CF, ACEA, A3/B3/B4) must be added via the oil filler cap (orange) on the front of the unit.

A check of the cooling water can be carried out via the inspection window at the top.

10. Faults

Possible alarm codes/faults:

Fault	Info	Action
	Oil pressure too low	Check oil
	Water temperature too high	Check coolant
	Dynamo charging voltage too low or too high	Check or replace the dynamo
	Generator voltage too high / low	Contact nearest dealer
	Battery voltage too high / low	Check or replace battery
	Unit won't shut down	-
	Low fuel level	Check fuel level or refill with fuel
	RPM too high	Contact nearest dealer
	RPM too low	Contact nearest dealer
	Flexible sensor alarm	Contact nearest dealer
	Frequency too high / low	Contact nearest dealer

10.1 Fault guide

Should a fault occur, check the table above to determine the cause and what action may be taken to eliminate the fault. If the cause of the fault cannot be found, or you are unable to remedy the fault as a user of the Undermount UM3, contact your service partner immediately.

- *In the event of a fault code being reported, the Undermount UM3 must be switched off immediately!*
- *Do not carry out any checks and/or repair work while the unit is switched on!*
- *Set the main switch to the 0 position before carrying out any checks and/or repair work*

10.2 Service

Maintenance must be carried out on the set after every 400 hours of operation or up to 6 months after the last maintenance. If you have any questions please call your nearest dealer.

- *Ensure you always have the relevant Undermount UM3 data available when you call (see maintenance record book).*

11. Liability

Genmark is only liable for direct damages suffered by the other party. Direct damage is exclusively understood to mean:

- The reasonable costs incurred to determine the cause and extent of the damage, insofar as this determination relates to damage within the meaning of these terms and conditions.
- Any reasonable costs to make up for Genmark's defective performance in fulfilling agreed requests, unless this poor performance is not the fault of Genmark.
- The reasonable costs incurred to prevent or limit damage, as far as the other party can show that these costs led to the limitation of direct damage as meant in these terms and conditions.

The liability referred to in Paragraph 1 is limited to an amount equal to the invoice value, up to a maximum of €10,000.00. This compensation only applies as damage compensation and excludes any other claim for compensation, unless the other party proves that the damage is due to gross negligence on the part of Genmark and/or its subordinates.

- Genmark is not liable for indirect damage, including consequential damage, loss of profit, missed savings and damage due to business stagnation.
- Genmark shall not be liable for any loss of cooling medium.
- Genmark cannot be held responsible for reimbursement of any damage that is a direct or indirect result of:

- * An event that is beyond the power of Genmark and/or cannot be attributed to Genmark.

- * Any act, or omission of the other party, its servants or other persons who are employed by or on behalf of the other party.

Genmark is not liable for any accidents associated with the product, for example, by wrong or improper use or use contrary to the operating manual. Genmark shall never be liable in any event for damage incurred or that has occurred due to the other party using the product for a purpose other than that for which it is intended.

If the other party or a third party makes changes to the product, Genmark is not liable in any way due to the operation and any (consequential) damage.

The other party indemnifies Genmark against legal acts in respect of third parties against Genmark for occurrences, acts or omissions for which Genmark is not liable pursuant to the foregoing. The other party is obliged to indemnify Genmark on first request for all costs, damages and interests that may arise for Genmark as a direct or indirect result of a claim made by a third party against Genmark as referred to in this paragraph.

Any rights to claim and other entitlements of the other party against Genmark for whatever reason and in any case expire after 1 year from the moment an event occurs that could result in the other party using these rights and/or entitlements against Genmark.

The other party is liable for loss of and/or damage to property, materials, tools, machines, etc. that Genmark has stored at the premises of the other party while carrying out the work.

Annex

Diesel Tank

