


OPECL
The Oil Monitor (TOM)

Oil Leveller

1. Application

The OPECL series of products, type TOM-500 and TOM-1000, are designed for automatic adjustment of the optimal oil lubrication level within a bearing housing, gear box, crankcase or similar oil bath application.

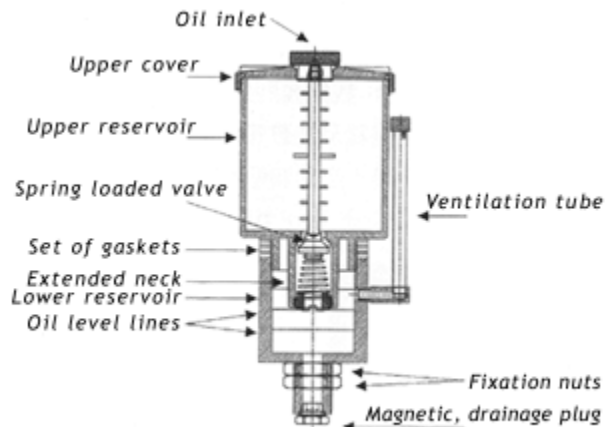
They effectively solve the problem of adjusting the correct oil level during running conditions rather than during stand-still.

Furthermore, they will automatically compensate for oil leakage and offer the possibility for visual inspection of the oil level.

The oil leveler will not compensate if the oil level is too high.

2. Description

The oil leveler basically consist of two communicating oil reservoirs, one on top of the other. The lower reservoir is in direct contact with the application and hence its oil level is the same as the oil level inside the application. Through a ventilation tube the lower reservoir is in direct contact with the ambient air.



Assembly Drawing of TOM

3. Technical data

Boundary dimensions

-TOM-500

Ø 91mm x 290mm high (3.6 x 11.4in)

-TOM-1000

Ø 122mm x 290mm high (4.8 x 11.4in)

Reservoir volume

-TOM500

500 ml (17 fl.oz. US)

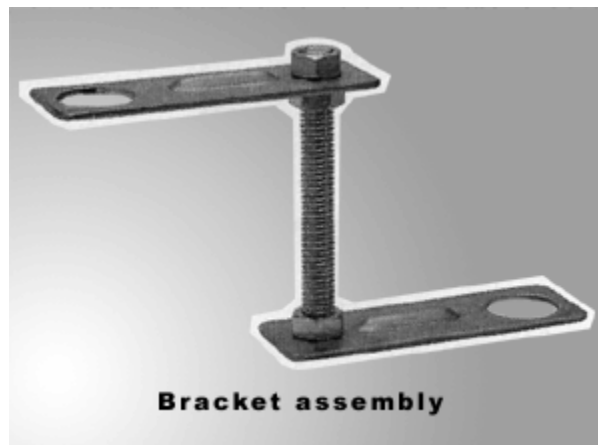
-TOM1000

1000 ml (33 fl.oz. US)

Container material	Polycarbonate
Temperature range permitted	-20 °C ~ 125 °C (-5 °F ~ 255 °F)
Permissible humidity	0 – 100%
Length of connecting tube	540mm (1.8 ft)
Connection thread	G ½
Tube material	Polyurethane
O-ring material	NBR - 70 shore NBR – 80 shore
Gaskets	6 pieces, (3) 3 x 64.5 x 82.5mm (2) 2 x 64.5 x 82.5mm (1) 2 x 62.5 x 82.5mm
Other material	Aluminum, Bronze, Stainless Steel
Suitable oil types	Mineral and Synthetic oils

4. Instruction for Installation

1. Determine the required oil level in the application during operation. For oil lubricated bearing housing this is normally defined as two millimeters (0.08in) above the inner diameter of the outer ring of the bearing. It is however, strongly advised to check the recommendation from the bearing manufacturer. Similar recommendations exist for gear boxes and crankshaft casings.
2. Determine the best location for the installation of the support bracket assembly. The Oil Monitor (TOM) must not be more than 540mm (1.8 ft length of plastic tube) from the application.



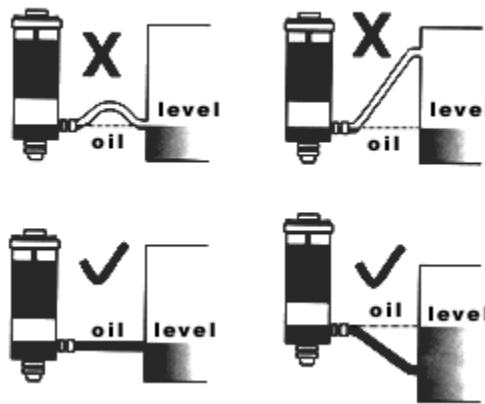
3. Adjust the support bracket which holds the oil leveler to approximately 50mm (2in) below the required oil level.
4. Separate the lower and the upper reservoirs from each other.
5. Connect the lower reservoir to the support bracket by means of the two fixation nuts at the bottom of the oil leveler.
6. Adjust the height of the oil leveler so that the required oil level is between the two lines marked on the lower reservoir.
7. Measure and cut the plastic tube to the adequate length.

8. Prepare both ends of the tube with the swivel connectors. Start by sliding the swivel adapter (with the thread facing outwards) on top of the tube. Insert the copper sleeve into the tube and slide the copper ring on top of the sleeve.



Tube and Coupling assembly

9. Thread the two connection couplings (G ½) onto the oil leveler and the application and connect the tube. Firmly tighten the swivel adapters.
10. Ensure there are no bends or kinks in the tube preventing the oil to flow freely from The Oil Monitor (TOM) to the application.



11. Adjust the oil level in the application to the required level and assure that this corresponds to a level between the lines marked on the lower reservoir. If necessary, adjust the height of the lower reservoir by means of the support bracket screw.
12. Screw the upper reservoir tightly onto the lower reservoir ensuring that the extended neck is flush with the oil level in the lower reservoir. Use the six rubber gaskets to obtain the correct height. (Ensure the gasket with the smallest bore remains on top).
13. For high precision applications use the support bracket screw for the fine tuning (otherwise the accuracy will depend on the thickness of the gaskets).
14. Unscrew the cover of the upper reservoir and fill it with the same oil as used in the application.
15. Screw back the cover of the upper reservoir and fill it with the same oil as used in the application.

16. Start the machine.
As the oil in the application will lower due to splashing, oil will flow from the lower reservoir into the application, exposing the extended neck to open air. This will allow air to enter the upper reservoir and hence oil to flow down to the lower reservoir. Once the oil has reached the preset level, air can no longer pass to the upper reservoir, effectively stopping the flow of oil.
- N.B** During stand-still the oil will stop splashing and the level in the application will rise. As a consequence the oil level in the oil leveler will also rise above the preset level.

5. Maintenance and Trouble shooting

5.1 Maintenance

Regularly :

- Check and refill the upper oil reservoir with new, clean oil.
- Check the The Oil Monitor (TOM). For this purpose the lower reservoir is equipped with a drainage neck with a magnetic plug.

5.2 Trouble shooting

In case of different oil levels in the application and the The Oil Monitor (TOM) check that :

- The application is provided with a ventilation nipple preventing over / under pressure
- The ventilation tube of the The Oil Monitor (TOM) is not clogged.

In the case the oil continues to flow from the upper reservoir despite the preset level having been reached :

- Ensure the cover and the oil inlet on the upper reservoir is properly sealed

In the case of excessive oil consumption check :

- The application for leakage.

5.3 Spare parts

Designation	Description
TOM 500-1	Upper reservoir with gaskets, 500ml
TOM 1000-1	Upper reservoir with gaskets, 1000ml
TOM-1	Lower container with ventilation tube and gaskets.
TOM-2	Lubrication tube with end fittings (1 m)

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