

AUTOL
Experts in Lubrication Solutions



AUTOL TECHNOLOGY
Automatic Lubrication Systems
for Commercial Vehicles

Zhengzhou Autol Technology Co.,Ltd.



PROFILE

Zhengzhou Autol Technology Co., Ltd. is dedicated to developing centralized lubrication system with independent intellectual property and the core competitiveness, which provides customers all over the world with integrated lubrication solutions.

As one of the professional manufacturer in centralized lubrication system, Autol has applied for more than 50 national invention patents and several international ones. Autol is one of the chief editors on national professional standard, whose products have covered all the following fields: commercial vehicles, engineering machinery, wind power equipment and heavy equipment, etc.

Autol is committed to market promotion and popularization of the centralized lubrication. With continuous innovation and improvement in technologies, Autol has been providing superior quality products and satisfied service to customers.

Autol persists in the cooperation concept “integrity & multi-win, advanced technology, excellent quality, and unlimited services”, and hopes to make brilliant achievements with friends all over the world.

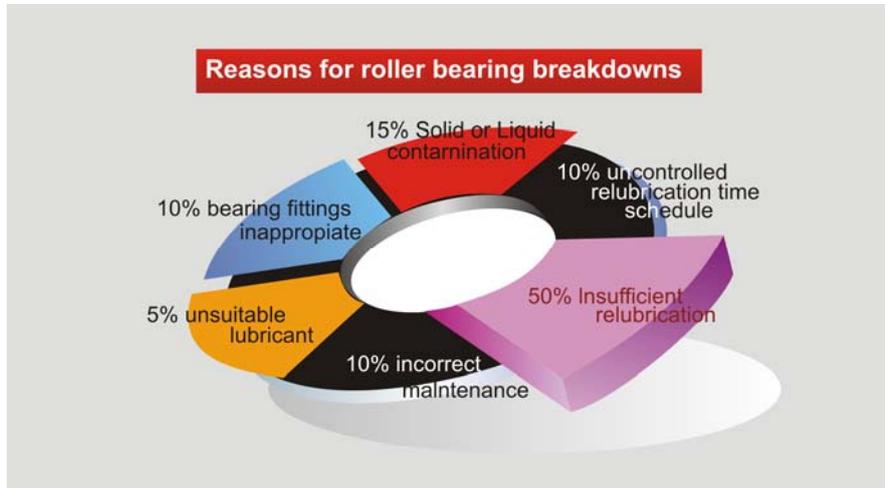


Application of Vehicle Automatic Lubrication

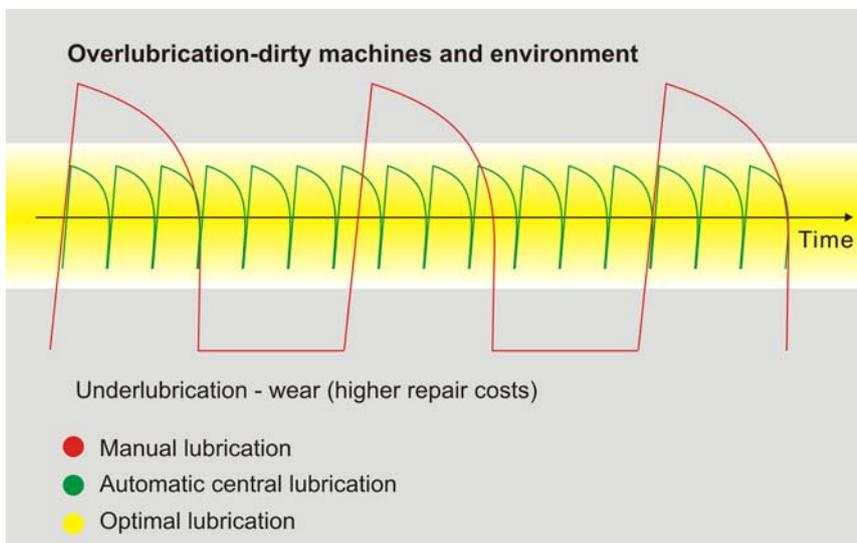
The Autol AR60 automatic lubrication system for commercial vehicles supply soft grease in the correct volumes to the lubrication points. They play an essential role in friction and wear reduction, heat removal, corrosion prevention and shock absorption.

The Autol AR60 automatic system has the features of high efficiency, energy saving and reliability that other systems do not have. The system is simple to understand, instal and troubleshoot if any problems do arise.

The Current Situation of Vehicle Lubrication



In a study conducted by a major component manufacturer, it was determined that over 50% of bearing breakdowns come from improper lubrication. Insufficient lubrication and bearing contamination were the two biggest contributors to improper lubrication.



From the above graph we can see via the red line that traditional manual lubrication has shortcomings compared to automatic lubrication:

- If manual greasing interval is too long the grease film is lost causing the lube points to dry out creating friction and wear.
- With manual greasing it is very difficult to control the grease volume with over lubrication becoming an environmental problem as well as greatly increased grease consumption.
- Manual greasing can introduce contaminants into the lube points causing premature wear.

Benefits from Automatic Lubrication

Minimum Downtime

The Autol Automatic Lubrication System supplies a small precise amount of grease at regular intervals ensuring component wear is kept to a minimum.

Energy Saving

A smooth running vehicle uses less energy. Autol AR60 automatic lubrication system ensures low friction at all lubricating points making sure the vehicle runs easier therefore reducing fuel costs.

Longer Vehicle Life

The closed system design of an automatic system keeps contaminants out allowing for longer bearing life and less downtime. Parts and labor costs are substantially reduced.

Grease Cost Saving

Greasing with manual or pneumatic gun will waste grease as these methods over grease and do not inject precise quantities of grease into the lubrication points.

Improved operational efficiency

Automatic lubrication prolongs the vehicle maintenance intervals and reduces vehicle breakdowns due to component failures and their repair times.

This ensures the vehicles are operationally efficient and therefore profitable.

Increase resale value

Autol AR60 automatic lubrication systems can therefore increase the resale value of vehicles due to these benefits.

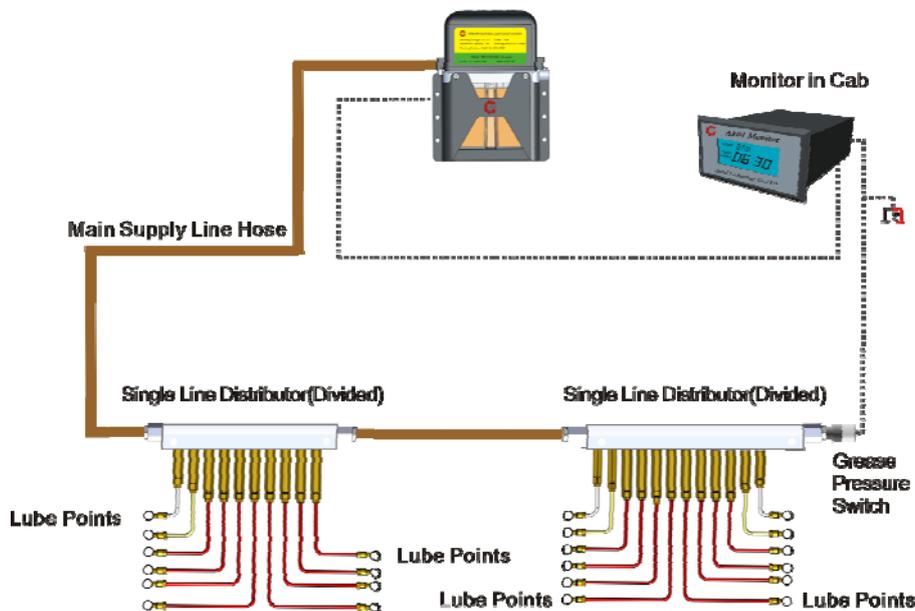


AR60 Series Automatic Lubrication System

System Description

The Autol AR60 automatic lubrication system consists of the pump and reservoir unit, monitoring unit with digital display, timers for pause and on time, single line grease distributors and installation accessories.

The system distributes grease to all the lubrication points at preset times ensuring adequate lubrication to all points.



System Operation

- After the pause/interval timer in the monitor expires the pump is started.
- The pump starts to feed grease into the system. As the gear pump is operating a mixing device stirs the grease making sure of a positive prime and keeping grease from settling at the bottom of the reservoir. (This is Autol technology. Patent No:ZL 20072 0089155.2)
- The pump pressurises the main line that connects the lubricant distributor bases. As the pressure builds up the pistons in the lubricant distributors force the predetermined quantities of grease into the lines feeding the lube points.
- The pressure increases to the point where the grease pressure sensor advises the monitor that correct pressure has been attained. The pressure is held for up to a minute to make sure grease distributors have dispensed the grease and the pump is switched off. The pressure is released back to the reservoir and the distributors reload for the next lubrication cycle.

System Technical Parameter

Item	Content	AR60H
Monitoring unit	Control model	ECU Microcomputer-programmed control AK04 monitor
	Pause interval	6 – 20 hours in 1 hour increments
	LCD screen	LCD dynamic display: grease pressure cycle count, “ON” and “OFF” time, fault code
	Pressure sensor	Closed pressure 2.6 MPa: The system pressure when the grease pressure switch contacts close and then sends a signal to the monitor to keep the system at pressure for a further 40 or 60 seconds. Open pressure 2.0 MPa: As the grease pressure is returned to the reservoir the grease pressure switch contacts open and the oil pressure signal “ON” in the monitor will go out.
	Temperature sensor	When the optional temperature sensor is fitted it will switch off the pump at -20°C. This is to protect the pump
Pump module	Operating time	Operating time Adjustable 40 or 60 seconds after the grease pressure sensor has been activated. To make sure the distributors operate
	Gear pump	High volume gear pump
	Reservoir capacities	2.8L
	Power output	20W 12V/4A (or 24V/2A)DC
	Pump flow rate	120 ml/min
	Output pressure	At normal ambient temperature is 3.8 MPa
	Max.Lube point	65 points
	Grease recommended	NLGI-0#、00#、000#
Distributor	Discharge pressure	At normal temperature 2.5MPa
	Distributor outputs	0.1ml、0.2ml、0.4ml
Tubing specifications	Mainlines	∅ 10×1.5 nylon tubing or ∅ 10×1 nylon tubing
	Distribution lines	∅ 4×0.75 nylon tubing
Temperature range		-40°C to + 80°C

[Note] Please make sure to use the grease recommended.

Grease recommendations – Use Lithium E P grease. Temperatures down to -20°C. use NLGI grade 0. Temperatures from -20°C to - 40°C use NLGI grade 00 or 000.

Key Features of Our Leading Technology

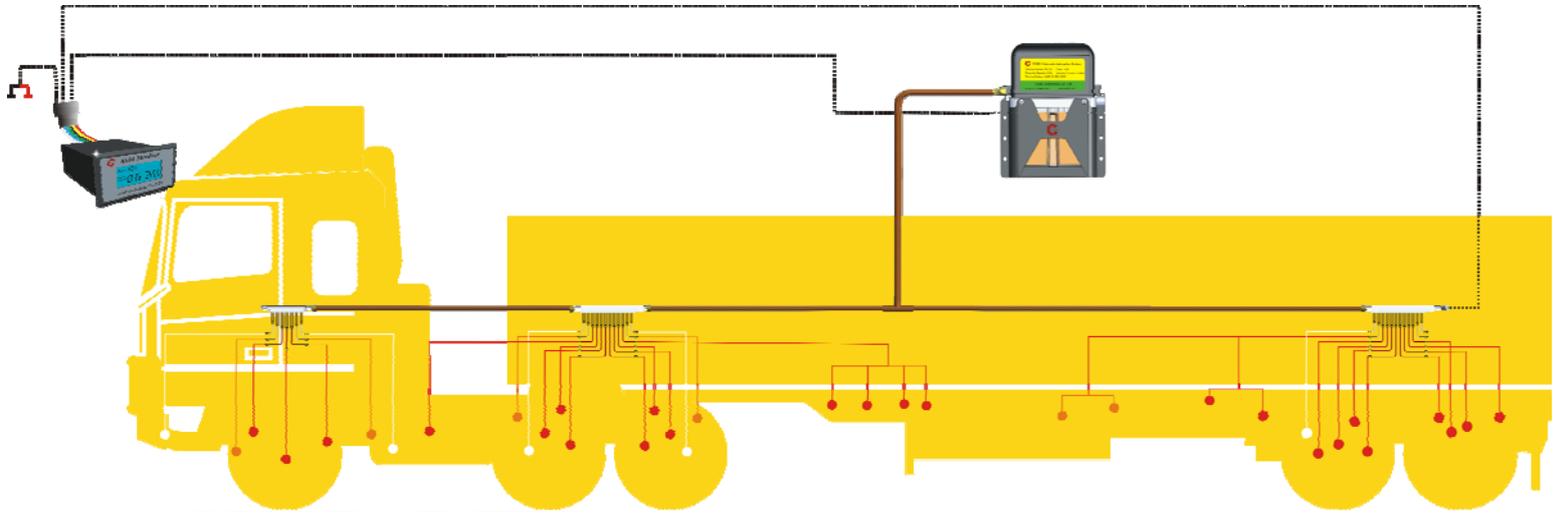
- The advanced Autol gear pump uses the latest technology and pumps EP 0 grease year round.
- The upgraded design of the grease distributors with a higher pressure discharge of grease gives a better lubricating effect.
- Our patented waterproofing technology guarantees the equipment will still function properly when submerged in water.

System Application

The AR60 automatic lubrication systems for Commercial Vehicles have been researched and designed to provide the optimum lubrication for vehicles such as Trucks, Buses, Coaches, Waste vehicles, Sweepers, Agricultural machines, Special vehicles etc.



System Schematic and Component



Monitor—

It is the brain of the system. Its function is to monitor and dynamically display the real-time data from the system.



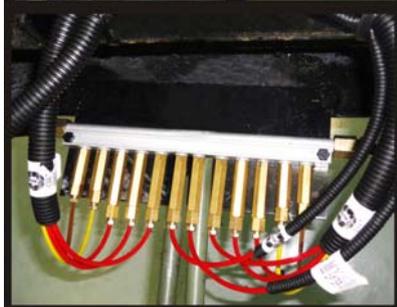
Pump—

It's the heart of the system and delivers the grease from the reservoir to the grease distributors at high pressure.



Lube Points—

Each vehicle has different numbers of lube points, which need to be lubricated regularly.



Distributor—

They deliver grease to the lube points in the quantities required.



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