

# GREASE IS GOOD

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Grease is an essential automotive lubricant. However, little attention is generally paid to this important product. Grease is grease, right? Wrong! There are many different grades of grease and different types are specified by automotive manufacturers depending upon application. Selecting the right grease is important to lubricate, seal properly, and remain in place in or on the component being lubricated. Some lubricants may be of the high-temperature type, with a higher dropping point (melting point), while others may have extreme pressure (EP) properties to increase load carrying capability.

## What is Grease?

SAE International (Society of Automotive Engineers) defines lubricating grease as

“... a solid to semi-fluid mixture of a liquid lubricant and a thickening agent. Additives to impart special properties or performance characteristics can be incorporated. The liquid component may be a mineral (petroleum) or synthetic liquid; the thickener can be a metallic soap or soaps or a non-soap substance such as an organophilic clay, a urea compound, carbon black, or other material.”

In general, greases consist of three materials, oil, additives, and a thickener base. The base holds the oil and

additives in place, slowly releasing them, to provide proper lubrication. Many automotive manufacturers recommend lithium-based greases as they have high dropping points and are relatively resistant to moisture.

The dropping point of grease refers to the temperature at which grease melts or changes from its normal state to a liquid. For high temperature and heavy load applications it is important for the grease to include extreme pressure (EP) additives to enhance grease performance.

## NGLI Grading

The National Lubricating Grease Institute (NGLI) provides a rating system to define the hardness or softness of grease and a classification system that prescribes performance standards. NGLI classifications, first applied in 1989, are prepared in coordination with SAE and the ASTM (American Society for Testing and Materials) to ensure relevance to the automotive industry.

To rate the consistency of grease, NGLI has a nine-grade system ranging from 000 (fluid in appearance) to 6 (very hard). In other words, the higher the number, the harder the grease. Most automotive greases are 1, 2, or 3. However, 00 is appropriate for manual steering gear box use and 4 is appropriate for water pump use.

The NGLI classification system has two grades appropriate to most automotive

needs – “L” is for chassis lubricants and “G” is for wheel bearing use. The standards have evolved over the years indicated by “A”, “B” or “C” applied to either grade. The current standard for lubricating grease is “LB” and for wheel bearing grease it is “GC”. Multi-purpose greases, capable of being used for lubricating and wheel bearings, abound. A list of greases by manufacturer and their grade can be found on NGLI website – [www.ngli.org](http://www.ngli.org) and greases which have been certified will bear the NGLI logo with the certified grade prominently included someplace on the product package (See Figure 1).

**Figure 1**



Figure 1 - NGLI Grease Certification Logo, multi-purpose grease indicated

## Getting the Right Grease

Chassis lubricating and wheel bearing grease is readily available and supplied by many manufacturers. Most automotive manufacturers recommend against mixing greases because of compatibility issues. Mixing of greases may result in excessive softening which reduces their lubricating ability.

Older collector cars have unique needs which may not be served by modern greases. However, Restoration Supply Company, 15182B Highland Valley Road, Escondido, California, 92025; (800)306-7008; [www.RestorationStuff.com](http://www.RestorationStuff.com) offers a complete line of lubricants for all types of cars from the brass era to modern day race cars. Another source for 00 grade steering gear grease is companies which maintain lawn power equipment.