

# Lifter-Free & Tune-Up

Nulon Lifter-Free & Tune-Up quietens lifters that are noisy during the first few minutes after start-up or during normal driving. The advanced cleaning formula safely softens and removes carbon and sludge deposits which are the major cause of noisy lifters.

Hydraulic lifter noise can be caused by several different factors

1. Carbon particles blocking lifters
2. Sludge, wax or varnish deposits causing sticky or noisy lifters
3. The use of incorrect engine oil viscosity
4. Mechanical damage to camshaft or lifter
5. Broken parts within the lifter, e.g. relief valve springs

Nulon Lifter Free & Tune-Up can be used to correct causes 1 and 2 above. It can also be used as a diagnostic tool. If a lifter is still noisy 14 days or 500 km after using this product, it can be assumed that previous mechanical damage has caused the lifter noise. The lifters should be removed and inspected or replaced.

Lifter noise is often caused by poor maintenance, i.e. not changing oil at the correct intervals. As the oil oxidises and forms hard carbon deposits, particles of the carbon break away and are carried into the lifter, where they accumulate and restrict oil flow. Poor servicing also contributes to the formation of varnish, which reduces tolerances and causes the lifter to stick. While Lifter-Free & Tune-Up will resolve these problems, the damage that these deposits cause elsewhere in the engine should not be ignored. Care should be exercised in establishing suitable oil change intervals. At the same time it is good practice to always flush the engine prior to oil and filter change to help rid the system of sludge and carbon. Nulon's Engine Oil Flush is formulated specifically for this purpose.

The use of high viscosity engine oils will contribute to lifter noise as it reduces the flow of oil through the lifter and takes longer to pump up initially. Reduced flow means more opportunity for particles to settle in the lifter. High viscosity oils generally oxidise more readily and produce more carbon. This is because the thicker oil takes longer to drain away from the top of the cylinder head (the hottest lubricated part of the engine). Generally speaking, high viscosity engine oils take longer to drain to the sump for cooling and longer to circulate; hence they do not carry away heat as quickly. This contributes to accelerated oxidation and carbon and sludge formation.

## Benefits:

- Quietens noisy hydraulic lifters / cam followers
- Suitable for all petrol, diesel & LPG engines
- Cleans oil galleries in hydraulic lifters
- Removes sludge and soft carbon
- Frees-up sticky lifters
- Will not affect oil viscosity

## Features:

- Simple to use
- Suitable for petrol, gas and diesel engines
- Safe to use in older engines
- Safe for use with all oil seals or gaskets
- Can be safely left in the engine until the following oil change
- Compatible with mineral and synthetic engine oils

## Directions for Use:

After changing the engine oil and filter, add one bottle per 5 litres of engine oil capacity. Leave it in the engine until the next oil change.

**Note:** It may take 14 days or 500 km to achieve the maximum benefit.

## Application Rates:

Add one 300 ml bottle per 5 litres of engine oil capacity.

## First Aid:

For advice, contact a Poisons Information Centre (Phone e.g. Australia 131 126; New Zealand 0800 764 766) or a doctor (at once).

## Packaging:

300 ml bottle (6 bottles per carton) \* Part No. LFTU

