



PRODUCT BULLETIN

▪ LIFTER-FREE AND TUNE-UP

Nulon Lifter-Free & Tune-Up is formulated to harmlessly dissolve and dislodge harmful varnish and carbon deposits that accumulate within and around hydraulic lifters and cam followers.

Hydraulic lifter noise can be caused by several different factors:

1. Mechanical damage to camshaft lobe and/or lifter
2. Broken parts within the lifter e.g. relief valve spring
3. Hard carbon particles blocking relief or delivery ports
4. Sludge, wax or varnish deposits causing a sticky lifter

Nulon Lifter-Free & Tune-Up can be used to remedy causes 3 & 4. Replacement of components is the only remedy for causes 1 & 2.

Nulon Lifter-Free & Tune-Up can be used as an inexpensive method of diagnosing the cause of lifter noise. Simply add a bottle of product to the engine oil. If the noise has not disappeared after 14 days or 500 km, it can be assumed that previous mechanical damage has caused the lifter noise, or the problem could be due to low oil pressure, or insufficient oil volume. If it is established that the oil supply and pressure are adequate, the lifters should then be removed, inspected and replaced accordingly. Inspection of the camshaft lobes should be carried out at the same time.

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, one should not ignore the damage that these deposits cause elsewhere in the engine. 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
- Removes sludge and soft carbon
- Cleans oil galleries in hydraulic lifters
- 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
- Will not harm oil seals or gaskets
- Can be safely left in the engine until the following oil change
- Safe to use in all types of engine oil

Directions for Use:

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

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

Application Rates:

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

Packaging:

300 ml bottle (12 bottles per carton) * Part No.LFTU