



PRODUCT DATA SHEET
ENGINE FLUSHING AGENT & CLEANER

UNOCAL 76 TRIPLE CLEAN is a pre-oil change engine flush that internally cleans vital engine parts, removing harmful deposits, sludge and varnish that impede oil flow.

Unocal's Engine Flush is specially designed to gently dissolve and remove internal engine contaminants by suspending them in a high level of dispersants. Unocal's Engine Flush formula provides a high degree of protection to the engine components, seals and gaskets. This is unique as most of the chemicals in the market for flushing engines contain harsh solvents which attack seals, gaskets and metal parts. These damaging effects are hidden and are not noticeable by the car owner immediately. Unocal's formulas are proven in the market as the safest and most effective means to flush contaminants out of the engine lubrication system.

Introduction

Oil breaks down from chemical changes and mechanical stress that occur as mileage is put on a vehicle. Additives present in all motor oils are depleted in service. The oil oxidises. Varnish and sludge deposits accumulate on vital engine parts and can interfere with smooth operation.

Typical engine flushes are mostly solvent-types that dilute engine oil so it will drain out faster. If a vehicle is driven before changing the oil or the flush is left in too long, the oil's lubrication ability can be reduced. This same type of solvent may not affect varnish and sludge that has accumulated on engine surfaces. The new oil may be contaminated by the deposits left behind.

The Need For Clean Engines

Today, high speed, high compression engines and especially those with emission control, run hotter. To offset this, motor oils have been compounded to have increased dirt removing properties. Motor oils with good detergent properties, collect dirt from all parts of the engine and dust that enters the breather, and this dirt is held in suspension in the oil.

As this dirt accumulates and detergent failure occurs, little lumps become big lumps and gooey sludge which is called engine mayonnaise, forms. This sludge combines with the resins, gums and lacquers (which result from the oxidation of lubricants) and the acids which are formed as the by-products of fuel combustion.

Under conditions of high temperatures, all of this foreign material becomes baked on to the moving parts of the engine, and only part of it is removed when the oil is drained. When the oil is changed, the new oil is already dirty before the motor drives

out of the service station

Unless all dirt is completely removed from the engine, the volume which can accumulate after months or years of driving becomes almost unbelievable. Although some auto manufacturers are recommending extended drain intervals, the fact is that motor oils alone are unable to remove the amount of dirt that can accumulate in 8,000-10,000kms. There is now a great need for an engine on a prolonged drain schedule to be flushed at the time of each change.

Advantages

Unocal's Engine Flush is a premium professional formula that safely cleans and prepares the crankcase for the addition of clean oil.

Unocal's Engine Flush contains no harsh solvents or alcohols as do many engine flushes. This special professional formula helps suspend and remove sludge and varnish deposits from vital engine parts.

But Unocal's Engine Flush is more than a flush! It provides protection, too.

Unocal's Engine Flush is professionally formulated with detergents, dispersants and anti-wear additives, so the engine still has lubrication protection during cleansing.

It's even safe to drive before draining.

Unocal's Engine Flush is professionally formulated to provide the following advantages:

- Provides controlled dissolving and removal of crankcase deposits from the top down, and helps provide optimum engine lubrication and performance by removing soft deposits from critical areas.
- Dissolves and thins highly oxidised oil, allowing a more complete removal of the used oil, thereby reducing the contamination of the new oil.
- Helps reduce oil consumption problems resulting from blocked or restricted cylinder head oil drain return holes.
- Assists in removing crankcase contaminants and holds them in suspension so that they can be drained with the used oil.
- Helps assure optimum engine life by reducing the accumulation of deposits which can block oil lines and screens and restrict proper lubrication of engine components.
- Assures proper valve train and oil pump operation by removing deposits in these areas, thereby helping to ensure engine efficiency.
- Removes and suspends low temperature sludge deposits.
- Conditions the metal surfaces to provide additional anti-wear protection from metal-to-metal contact during the cleaning operation and in

preparation for the new oil.

Benefits

Unocal's Engine Flush is a pre-oil change preparation that is professionally formulated to provide the following benefits:

- Contains effective cleaners that remove sludge and varnish.
- Restores engine compression and performance.
- Suspends and removes deposits for improved lubrication.
- Protects metal parts from harmful contaminants between oil changes.
- Contains no harmful solvents, acids or alcohols.
- Cleans build-up from oil lines.
- Maintains oil protection.
- Promotes a more complete draining of used oil.
- Assures engine efficiency.
- Reduces oil consumption resulting from blocked oil drain return holes.
- Dissolves old highly oxidised oil.
- Reduces new oil contamination.
- Cleans in one application.

Applications

Unocal's Engine Flush is suitable for all petrol, LPG and diesel engines in cars and trucks. Use before each oil change to improve engine performance.

Drain out the entire used oil allow sufficient time removal of used oil as much as possible. With engine off, add entire contents of Unocal's Engine Flush to the in the crankcase.

Let engine idle for at least five minutes, but preferably between 20 to 30 minutes to ensure extremely sludgy engine is cleaned up.

With the engine off, drain the crankcase while the oil is still hot.

Replace the sump plug, install a new oil filter and re-fill the engine with new oil. Run and test the engine, paying particular attention to the oil pressure.

WARNING: If the engine has not been flushed for a long time, it is vital to watch the oil pressure gauge (if fitted) or the oil pressure alarm after the flush. If the oil pressure is low, there is a possibility that there are sludge still remains in the oil sump blocking the oil pick up. If this happens, the sump pan has to be removed to clean the oil pick up manually.

Typical Characteristics

Appearance	Clear Thin Liquid
Colour (Visual)	Amber
Colour	1.5
Density @ 15°C	0.878
Viscosity @ 40°C (cSt)	5.0
Flash Point (°C) PMCC	135
Freeze Point (°C)	-12