FRAM® Technical Information

Oil Pressure Warning Light Problems

Most present day cars use a warning light mounted on the instrument panel to provide the driver with a visual signal of low oil pressure. Low oil pressure is **serious,** since oil under pressure is necessary to properly separate the highly loaded parts of the engine and prevent excessive wear.

The warning light is wired in series with an oil pressure switch as shown in Figure 1. The pressure switch contains electrical contacts which are in the closed position when the oil pressure is below 5 PSI.

When the engine is not running and the ignition switch is turned on, the warning light comes on. When the engine is started, oil pressure will compress the diaphragm in the pressure switch, opening the contacts and causing the light to go out.

If the warning light remains on for more than one or two seconds after the engine has been started, **shut it down immediately.** Then the oil level should be checked and brought up to normal. If the warning light remains on when the oil level is normal, there are a number of possible problems:

1. The pressure switch could be faulty.
2. The wiring between the pressure switch and the warning light could be grounded.
3. The pump could have lost its prime due to either a faulty pump or a clogged suction strainer.
4. A faulty pressure regulating valve could be dumping all the oil back into the crankcase.

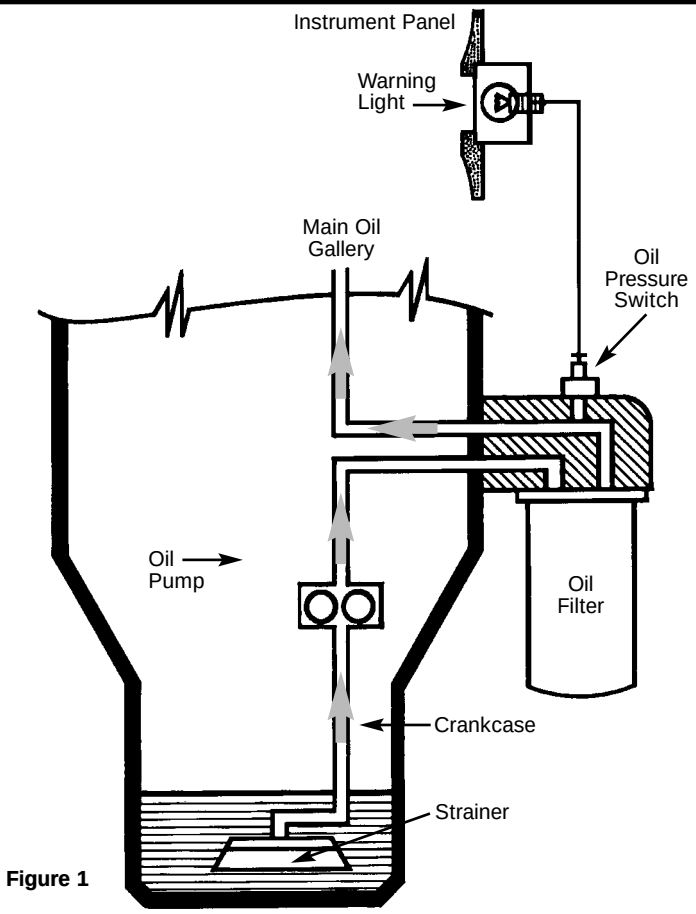

Figure 1

On some engines the filter is mounted in a position which allows the oil in the filter to drain back to the crankcase when the engine is stopped. This would be the case for the filter mounting shown in Figure 2 where the filter is horizontal and is above the level of the oil in the crankcase. Since a filter holds up to a quart of oil, it takes about 5 seconds for the pump to fill the filter after the engine has been started during which time the warning light will remain on.

To prevent the engine from operating without oil pressure for this period of time after startup, the filters designed for these special mounting positions contain an anti-drain back valve. This valve is usually in the form of a rubber gasket which allows the free flow of oil through the filter in the normal direction, but when the engine is shut down it prevents the oil in the filter from draining back to the crankcase. If the warning light remains on for longer periods after the filter has been on the car for some time, replacing the filter is recommended.

Under some conditions the warning light may flicker when the engine is running. This usually happens when the car is going around a corner or is on a relatively steep hill. If flickering occurs under these conditions, it is because the oil level is low and the pump strainer is no longer fully submerged in the oil. The oil level should be immediately brought up to normal.

In summary, the oil pressure warning light provides vital information to the driver. If the light remains on or even flickers when the engine is running, it should be shut off immediately and the cause investigated.

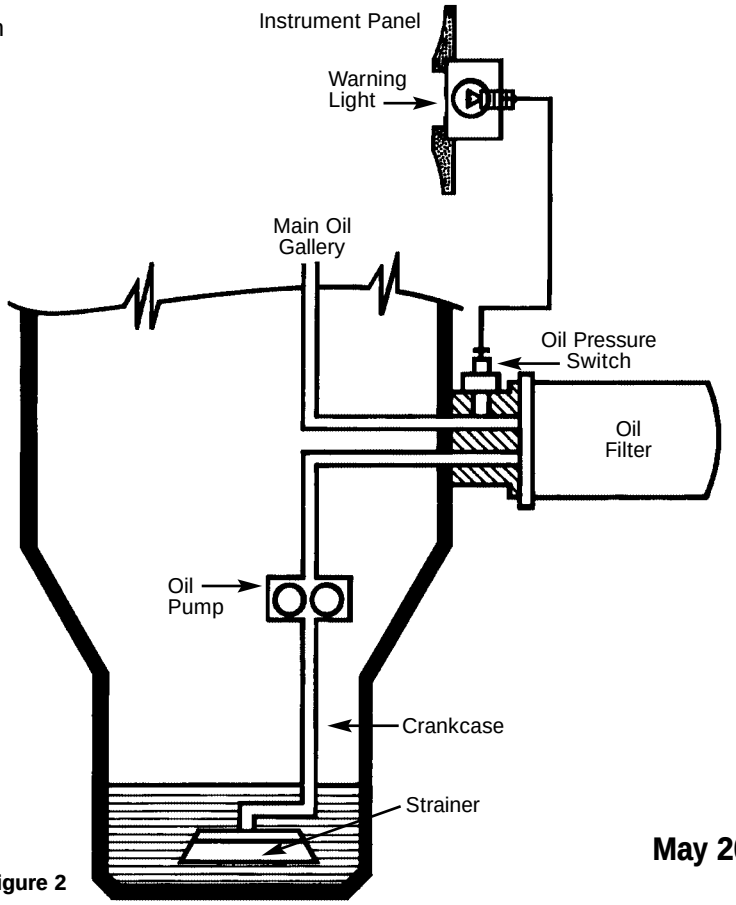

Figure 2

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