

Application Bulletin

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Leak Detection in Automotive Applications

Tracing oil leaks to origin in seconds.

Where is the leak emanating from the crankcase or automatic/manual transmission and exactly where? This costly; time consuming problem can now be solved quickly and confidently with UVP's Blak-Ray® high intensity hand lamps. (B-100 series) These high intensity hand and lamps can trace and identify an oil leak to its source in moments. User has instant positive results with identifiable bright fluorescence, no guesswork. The B-100 series hand lamp can re-coop its investment costs in a short period due to less time spent investigating unknown sources of leaks. The Blak-Ray lamp is also ideal for distinguishing and tracing all types of engine oil leaks as well as differential, wheel bearing, driver compartment water ingress, air conditioning system and brake fluid leaks.

Under the Blak-Ray lamp, engine and transmission oils glow with different easy to distinguish fluorescent colours. To determine which is the fresh leak, merely place the oil coated dipstick from the transmission or crankcase alongside the leaking area under the ultraviolet rays of the lamp. The dipstick that is made to fluoresce the same glowing colour as the leaking oil, identifies the leaking unit.

When leakage is slight and the oil pan-transmission area is very dirty, leaks are particularly difficult to trace. In these cases, use one of the two positive methods shown on the following page.

Spot test 1.

- To tell whether leak is from crankcase or transmission, put a drop of the leaking oil on a blotter and compare with drops from the dipsticks of transmission and crankcase.
- Under the ultraviolet rays of the users Blak-Ray hand lamp, transmission and crankcase oils glow brilliantly with different, easy to distinguish patterns. Merely compare the three spots on the blotter under the lamp. The leak spot will match on the dipstick spots; saving time and costs.



Tracing a Leak 2.

- Add one half ounce of additive to the crankcase and run motor. (Additive is harmless to engines. Colourless leaves no stain on drive way/forecourt/garage floor. It fluoresces golden-yellow under ultraviolet light.)
- After the crankcase oil has circulated for a few minutes, shine the hand lamp under the car at the expected area. Then watch for leaking oil; if it does fluoresces a brilliant golden-yellow under the ultraviolet light, then the leak is from the crankcase.

Radiator and Water Pump Leaks

As everyone knows, leaks in vehicle radiators can be both troublesome and costly. Fluorescence detection, using a Blak-Ray lamp, is a quick and easy method for detecting water leaks. Also water pumps can leak and the user just can not determine where the leak is coming from. By adding a UVP additive the water will fluoresce under ultraviolet light and the exact location of the leak can easily be determined.

Invisible Colouring of Gasoline

Another major automotive problem is leaking gasoline. Visible dyes and tracers have proven unsatisfactory. But, an invisible dye (A-680+) which fluoresces under ultraviolet light has resulted in a quick method of detection. This tracer invisibly colours the gasoline so that the leaking fuel can be easily identified with the aid of a Blak-Ray long wave hand lamp.

UVP's additive (A-680+) is applied at the rate of one-quarter ounce to 20 gallons of gasoline, giving the dilution of 0.01%. This solution can be diluted still further to 0.001% and still be visible under ultraviolet light. (B-100AP or B-100SP recommended) After the tracer has been added, examine the fuel line, tank, etc. If there is a leak, the fluorescence can be quickly and easily seen when viewed under the ultraviolet rays of the Blak-Ray hand lamp in a darkened area.

Blak-Ray Lamps

Black light hand lamps used in the automotive leak detection include the following small *EL hand held units:

Model	Watts	Part Numbers	
		115V	230V
*UVL-18	Eight Watt	95-0198-01	95-0198-02
*UVL-16	Six Watt	95-0272-01	95-0272-02
ML-49	6V Battery Powered	95-0011-01	
B-100AP	100 Watt	95-0127-01	95-0127-02
B-100SP	160 Watt	95-0128-01	
BL-15	15 Watt	95-0130-01	

Additives are available in 22 oz or 1 oz bottles. For further details on Blak-Ray® hand lamps and additives, technical and methodology, please contact your local UVP dealer or UVP direct or go to UVP's web site at uvp.com.

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