

SWEDISH INSTITUTE OF AGRICULTURE ENGINEERING



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The latest independent test results, published by the Swedish government and made available to all agricultural concerns throughout Sweden, should enhance our reputation further. When the Swedes tested BOP (while under another private label) Engine Treatment and BOP Gear Treatment in two tractors, the result was a 2-7% decrease in fuel consumption and a 4% increase in traction.

During Feb - July 1988, tow tractors were tested to determine the effects of BOP Engine Treatment and Gear Treatment on performance. The type of tractor used, a BMW350 without a sliding clutch, quick gear or brakes in an oil bath, made the detailed examination possible. The engine was in good condition and had a total running time of 3000 hours before treatment.

The test started with a 125 hour run on the machine testing drum brakes, followed by measurements of the tractor's power take off (PTO) and tow bar capacity. BOP Engine Treatment was then added to the engine, gear-box, and hydraulic system, and the tractor was run for 165 hours. After this treatment period, the lubricating oil was changed, the tractor was run for another 85 hours with untreated oil and the measurements were repeated. The results were as follows:

% CHANGE AFTER BOP TREATMENT			
	PATIO.. EFFECT	MOTOR SPEED	FUEL CONSUMPTION
AT FULL LOAD	1.9	---	-4.8
	1.7	---	-3.4
	2.2	---	-1.9
	5.1	---	-5.0
AT PARTIAL LOAD	4.5	-0.8	-5.4
	4.3	-0.8	-4.9
	5.1	-0.7	-6.2
	5.1	-0.9	-6.7

The slightly lower RPM with partial loads may explain part of the reduced fuel consumption.

The maximum traction effect and corresponding traction power, speed and fuel consumption when using the tractor's three gears were also measured before and after treatment. The maximum traction effect increased 4% after treatment with equivalent RPM. When the engine was operated at the same traction power and speed as before the treatment, specific fuel consumption decreased 3%.

Additional tests included measurement of oil temperature in the gear box, amount of carbon dust in the exhaust and amount of metal particles in the lubricant. The oil temperature was measured after a ten-hour run; before treatment it was 185°F and after treatment, 179°F, even though outside temperature remained constant. carbon dust in the exhaust decreased 5-10% after the treatment. Due to the short duration of the test, no firm conclusion could be reached on the amount of metal particles in the oil; however, the test did show a tendency toward decreasing amount of metal particles after the treatment.

