



# \*Urgent notice\*

## Service warning: BT-50 /Ford Ranger new generation 5cyl diesel models UP0YF1-

Field reports indicate that there may be an issue with the variable flow oil pump fitted to Mazda's new generation BT50 5 cylinder common rail diesel engine.

Reports to Autodata are that if the engine oil and filter are changed in service and the oil is left to drain longer than 10 minutes, the oil pump may fail to prime and leave the engine in a critical no lubrication situation. Attempts to prime the pump by increasing the rpm fails to solve the problem, and will lead to component failure from lack of lubrication.

### Variable-Flow Oil Pump design



A new feature in the BT50's engine is the variable-flow oil pump (similar in design pictured... left) that helps maximize fuel efficiency.

Rather than the conventional fixed-flow gear drive oil pump, it is accomplished with a chain driven oil pump located in the sump that matches the oil supply to the engine load. The variable-flow pump changes its capacity based on the engine's demand for oil, by rotating the eccentric outer ring. This prevents wasting energy to pump oil that is not required to maintain engine operation.

These variable flow pumps are much like power steering pumps, using vane elements in their design with the added ability to control flow rates at varied engine speeds. When the vehicle has the oil drained for an extended amount of time, the oil drains not only from the sump, but internally from the pump assembly. The vane type design appears to be less tolerable to being allowed to drain out and recover from that state thereafter.

**When draining the oil ensure that the total drain time does not exceed 10 minutes.**

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