



SERVICE BULLETIN

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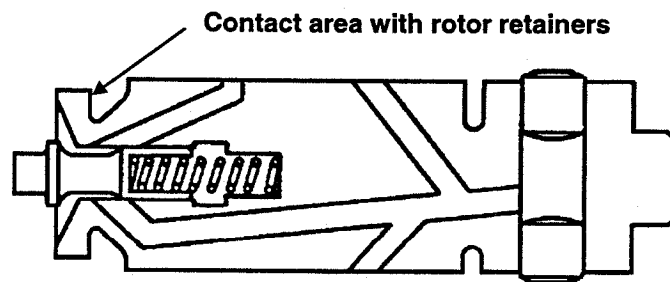
DATE: April 3, 1998

LIMITED DISTRIBUTION - GENERAL MOTORS

SUBJECT: ENGINE SURGE/HIGH FUEL DELIVERY/ROTOR WEAR — GM 6.5L APPLICATIONS WITH THE MODEL DS PUMP

General Motors has received a small number of complaints of engine surge on their 6.5L diesel engine equipped with the Model DS pump. These engine surge complaints may be associated with distributor rotor wear in the area where the rotor contacts the rotor retainers as shown in the below illustration. *Note: Other customer complaints associated with rotor wear may include one or more of the following: Black smoke, bucking, rough idle, harsh shifting, and engine over-speed. Also, when rotor wear is the root cause of an engine surge complaint, an "Idle Fuel Rate" of 0-3 mm³/stroke is displayed when checked with a Tech 1 or Tech 2 Diagnostic scan tool.*

Excessive wear in this area of the rotor increases the poppet valve stroke, which subsequently causes fuel delivery to increase beyond specification. Fuel output that exceeds 3.0 mm³/stroke above the specified range at the 3400 ERPM checkpoint (Step 5a of TAR, all DS models) may cause the engine surge condition.



DS Distributor Rotor

The following guidelines have been established to address DS pumps that are received for service with an engine surge complaint.

1. Perform the "Test as Received" calibration checks.
2. If fuel delivery is less than 3.0 mm³/stroke over the high end of the specified range at the 3400 ERPM checkpoint (step 5a on all DS models) the pump should be considered "no trouble found" and the pump returned to the customer as is.

If fuel delivery is greater than 3.0 mm³/stroke above the high end of the specification at the 3400 ERPM checkpoint, remove the head and rotor assembly and measure the poppet valve stroke using fixture 31204.

3. If the poppet valve stroke is .008" or greater, replace the head and rotor assembly, reassemble the pump and perform the "Test Following Service" calibration.

If the poppet valve stroke is less than .008", reset the poppet valve stroke, reassemble the pump and perform the "Test Following Service" calibration. **Do not replace the head and rotor assembly when the poppet valve stroke is between .005 - .008".**

Warranty

If a DS pump is received for service with a complaint of engine surge and the pump is within the Stanadyne warranty period of 3 years/50,000 miles and meets the criteria as outlined above, then a warranty claim may be submitted as follows:

For pumps where the measured poppet valve stroke is .008" or greater and the fuel delivery exceeds 3.0 mm³/stroke over the high limit at step 5a of the TAR calibration, a claim may be submitted for head and rotor assembly replacement (P/N 30921) and associated hardware. You may also claim for a maximum of 3.4 hours labor (reference Service Letter 303A) to perform this repair.

For pumps where the poppet valve stroke is found to be less than .008" and the fuel delivery exceeds 3.0 mm³/stroke over the specified range at step 5a of the TAR calibration, you may submit a claim for a maximum of 3.2 hours labor to perform this repair. The time allowance breakdown for this repair is as follows:

Operation No.	Description of Operation	Time Allowance
00	Administrative Time	0.5
01	Perform Test as Received (TAR)	0.7
37	Reset Poppet Valve Stroke	1.0
51	Pump Calibration	<u>1.0</u>
	Total	3.2 Hour

Please circle class code "3" and reference this Service Bulletin on your claim. As with all warranty repairs, the replaced parts (except gaskets and seals) must be returned to the factory with the goldenrod copy of the claim.

**Technical Support Group
Product Support Department**