

# Trouble Shooting Guide

for **Inline Type** Fuel Pumps

It is assumed that the engine is in good working order and properly tuned, and that the electrical system has been checked and repaired if necessary



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SYMPTOM												CAUSE	REMEDY	
Starting Problem	Engine surges at idle	Rough idle when engine is warm	Engine misses under load	Low Power	Excessive Fuel Consumption	Engine cannot be shut off	Poor performance	Fog-like exhaust	Incorrect idle in full-load range	Engine does not rev up	Injection pump runs hot			
•	•		•	•					•				Tank empty <b>or</b> tank vent blocked	Fill tank/bleed system. check tank vent
•	•	•	•						•	•			Air in fuel system	Bleed fuel system, eliminate air leaks
•								•					Shut off/start device defective	Repair or replace
•			•	•								•	Fuel filter blocked	Replace fuel filter
•			•	•					•	•			Injection lines blocked/restricted	Drill to nominal I.D. or replace
•			•	•					•			•	Fuel-supply lines blocked-restricted	Test all fuel supply lines - flush or replace
•			•	•	•								Loose connections, injection lines leak or broken	Tighten the connection, eliminate the leak
•			•									•	Paraffin deposit in fuel filter	Replace filter, use winter fuel
•			•	•	•				•	•			Pump-to-engine timing incorrect	Readjust timing
			•	•	•				•	•			Injection nozzle defective	Repair or replace
				•	•				•				Engine air filter blocked	Replace air filter element
•													Pre-heating system defective	Test the glow plugs, replace as necessary
•		•		•	•				•				Injection sequence does not correspond to firing order	Install fuel injection lines in the correct order
	•				•				•	•			Low idle misadjusted	Readjust idle stop screw
				•							•		Maximum speed misadjusted	Readjust maximum speed screw
			•	•								•	Overflow valve defective or blocked	Clean the orifice or replace fitting
		•											Delivery valve leakage	Replace delivery valve (max. of 1 on 4 cyl., 2 on 6 cyl.)
	•										•		Bumper spring misadjusted (RS...governors)	Readjust bumper spring
				•	•				•	•		•	Timing device defective	Repair or replace timing device
•		•		•					•			•	Low or uneven engine compression	Repair as necessary
	•			•	•	•			•	•			Governor misadjusted or defective	Readjust or repair
•	•	•	•	•	•	•	•	•					Fuel injection pump defective or cannot be adjusted	Remove pump and service

# Trouble Shooting Guide

for **Distributor Type** Fuel Pumps

It is assumed that the engine is in good working order and properly tuned, and that the electrical system has been checked and repaired if necessary



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SYMPTOM	Starting Problem	Engine surges at idle	Rough idle when engine is warm	Engine misses under load	Low Power	Excessive Fuel Consumption	Engine cannot be shut off	Poor performance or black smoke	Fog-like exhaust in full-load range (white or blue)	Incorrect idle or maximum speed	Injection pump runs hot
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											CAUSE	REMEDY	
•		•	•	•			•	•		•		Improper fuel (gasoline) in tank	Drain tank, flush system, fill with proper fuel
•	•		•	•				•		•		Tank empty or tank vent blocked	Fill tank/bleed system, check tank vent
•	•	•	•				•	•		•		Air in the fuel system	Bleed fuel system, eliminate air leaks
	•	•										Pump rear support bracket loose	Replace as necessary
•						•						Voltage supply malfunction/stop solenoid defective	Correct electrical faults/replace stop solenoid
•			•	•				•		•		Fuel filter blocked	Replace fuel filter
•			•	•			•	•				Injection lines blocked/restricted	Drill to nominal I.D. or replace
•			•	•				•		•		Fuel-supply lines blocked/restricted	Test all fuel supply lines - flush or replace
•			•	•								Loose connections, injection lines leak or broken	Tighten the connection, eliminate the leak
•			•					•		•		Paraffin deposit in fuel filter	Replace filter, use Diesel Fuel no. 1
•			•	•	•		•	•		•		Pump-to-engine timing incorrect	Readjust timing
		•	•	•	•		•					Injection nozzle defective	Replace or repair
				•	•		•					Engine air filter blocked	Replace air filter element
•												Pre-heating system defective	Test the glow plugs, replace as necessary
•		•		•	•		•					Injection sequence does not correspond to firing order	Install fuel injection lines in the correct order
					•					•		Low idle misadjusted	Readjust idle stop screw
				•						•		Maximum speed misadjusted	Readjust maximum speed screw
	•		•	•				•	•	•		Overflow fitting interchanged with inlet fitting	Install fittings in their proper positions
											•	Overflow blocked	Clean the orifice or replace fitting
•	•				•		•		•	•		Cold-start device malfunction	Check cold-start mechanism
•		•		•			•			•		Low or uneven engine compression	Repair as necessary
•	•	•	•	•	•		•	•	•	•		Fuel injection pump defective or cannot be adjusted	Replace

THANK YOU TO **ROBERT BOSCH CORPORATION** FOR SUPPLYING THIS GUIDE