

Carburetor Troubleshooting Guide.

Problem	CONDITION	POSSIBLE CAUSE	CORRECTION
Cold Starting	Engine cranks but will not start.	1) Choke not closing.	1) Inspect choke adjustment and for something binding. Adjust if necessary.
		2) Choke linkage binding.	2) Lube with WD-40 and check for something bent. Adjust if necessary.
		3) No gas in carb.	3) Check fuel delivery. Look for plugged filter or clogged lines, bad pump, stuck needle & seat, and fuel pressure.
		4) Accelerator pump defective or blown out.	4) Replace the pump. Problem is usually caused by bad gas, dirt in gas, or vacuum leak or ignition problems causing engine spitback.
		5) No spark or engine problems such as bad compression.	5) Diagnose & correct the problem.
	Engine starts, then dies within a few seconds.	1) Choke not closing properly.	1) See notes above. Adjust choke if necessary.
		2) Big vacuum leak on engine somewhere.	2) Use vacuum gauge to check. Fix the leak. You may have put the base gasket on wrong or it is the wrong one for this carb & engine combination.
		3) Choke pull off setting incorrect.	3) Adjust to factory specs. Carb can get bumped in shipping or transportation and can accidentally change the setting.
		4) Fast idle RPM set too slow.	4) Adjust to recommended RPM.
		5) Low fuel delivery.	5) Correct delivery to carb. Usually it is a plugged up filter.
		6) Electrical or compression problems on the engine.	6) Do complete tune up & diagnosis. Fix the problem.
		7) Float level set very low.	7) Check & adjust the float level to factory specs.
		8) No voltage/ground to the idle solenoid.	8) Check for power & ground. Repair the problem.
		9) Defective idle solenoid.	Replace/repair problem.
	Engine normally starts OK but then dies backing out the driveway or at the first stop sign. After that it runs OK.	1) Choke not set tight enough.	1) Set choke a little tighter and retry.
2) Choke pull-off opening too much.		2) The setting varies depending upon the exact application. One carb may fit several applications. Set the pull-off so the choke is a little tighter.	
Engine starts OK, increases RPM then gets too slow with lots of black smoke.	1) Choke set too tight.	1) Adjust a little (1/8") looser.	
	2) Pull-off set too tight.	2) Adjust so it is open a little more.	
	3) Slow flooding.	3) Fix cause of flooding.	
	4) Float level very high.	4) (Rare) Set to factory specs.	

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		5) Ford & Holley Only. Power valve blown.	5) Replace the power valve. Possibly damaged by a backfire condition.
		6) Pull-off diaphragm blown.	6) Caused by installer allowing engine to spit-back up through carb. Replace the pull off.
		7) Carter Only. Pump blown out.	7) Caused by installer allowing engine to spit-back up through carb. Replace the pump.
		8) Crushed float.	8) Caused by installer allowing engine to spit-back up through carb. Replace the float.
		9) Choke spring may be backwards and is getting tight when heating up instead of loose.	9) Remove choke cover, cool off choke, reverse spring, reinstall cover and set tension to factory specs.
	Engine starts, then races for a few seconds and then dies every time.	1) Big vacuum leak somewhere.	1) Correct the vacuum leak. Make sure you haven't forgotten to hook up a hose somewhere. Base gasket may be wrong one or on wrong.
Warm Starting	Engine cranks but will not start.	1) Carburetor flooding.	1) Fix cause of flooding.
		2) Choke is closed when engine is hot.	2) Find & fix cause for choke staying closed. Look for no heat source, spring in backwards, or something jammed or bent.
		3) No spark.	3) Do complete tune up.
		4) No compression.	4) Diagnose cause of no compression & fix.
		5) No fuel	5) Check fuel delivery volume and pressure. Look for clogged lines, filter, or pump. Check for kinked or swollen fuel lines.
		6) No air.	6) Check for clogged air filter, especially after driving through muddy or dusty area.
		7) Too much air.	7) Look for big vacuum leak, such as broken hose, blown gasket, bad power brake diaphragm, bad PCV valve (Rough Idle).
	Engine starts, then dies within a few seconds.	1) Choke is staying closed	1) Diagnose and fix choke problem.
		2) Carburetor flooding.	2) Fix cause of flooding.
		3) Ford & Holley Only. Power valve blown.	3) Replace the power valve. Possibly damaged by a backfire condition.
		4) Venting system failure.	4) Check out entire fuel system venting system, including the vent valve on the carb, the charcoal canister, all hoses & check valves in the system, and any solenoids that trigger the vent system to operate.
		5) Idle jet plugged up with dirt.	5) Clean out the idle jet and any other dirt in the carb.
		6) Idle air bleed plugged up or missing.	6) Check idle air bleed. Clean or replace as necessary.

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		7) Idle cut-off solenoid not working.	7) Check idle solenoid, especially for power/ground, replace solenoid if necessary.
	Engine starts, then races for a few seconds and then dies.	1) Big vacuum leak somewhere.	1) Find the vacuum leak & fix it. Also look for wrong base gasket or one that is installed wrong. If engine has been spitting back, it may have blown out the base gasket or a gasket in the carb.
	Engine starts OK, but then gets real rough. Lots of black smoke.	1) Ford & Holley Only. Power valve blown out by spitback up through carb.	1) Replace the power valve. Possibly damaged by a backfire condition.
		2) Slow flooding.	2) Fix cause of flooding.
		3) Crushed float. 4) Venting system problem.	3) Caused by installer allowing engine to spit-back up through carb. Replace the float. 4) Check entire venting system & repair.
Cold Engine Driveability Condition.	Engine stalls when transmission is put into gear.	1) Incorrect choke pull-off adjustment.	1) Readjust the pull-off or replace if necessary.
		2) Fast idle RPM incorrect (too slow)	2) Speed up the fast idle to factory specs.
		3) Engine running too lean because of vacuum leak or dirty jet.	3) Check for vacuum leak. Flow test carb to check jetting.
	Hesitation, stalling, stumbling, flatspot, or deadspot during acceleration: Backfiring or spitback through carb.	1) Vacuum leak.	1) Check for vacuum leak & repair.
		2) Ignition timing retarded too far.	2) Reset timing.
		3) Accelerator pump nozzle has dirt in it.	3) Clean out the nozzle tip.
		4) Accelerator pump cup swollen up from contact with bad gas or chemicals.	4) Replace the pump cup.
		5) Economizer jet too small or partially blocked.	5) Clean out economizer jet & check the size.
		6) Choke pull-off open too far.	6) Adjust the pull-off tighter.
		7) Secondary throttle plates not closing all the way.	7) Check for binding or bent linkage. Repair.
		8) Vacuum hoses hooked up wrong.	8) Connect up right. Be especially careful of the EGR & Dist. connections: sometimes the pipe locations are reversed on Rochesters.
		9) Idle jet partly blocked with dirt.	9) Clean out the jet & any other dirt that is in there.

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Problem	CONDITION	POSSIBLE CAUSE	CORRECTION	
Problem		10) Distributor timing not advancing properly (worn breaker plate, worn shaft, pin hole in distributor diaphragm, cracked hose, etc.)	10) Check distributor and all related systems carefully. Replace defective parts.	
		Hesitation, deadspot or stalling after first warmup.	1) Defective electric assist choke.	1) Replace it.
			2) Defective accelerator pump (low output).	2) Replace it.
			3) Float level setting very low.	3) Adjust to factory specs.
			4) Bad ignition condensor.	4) Replace it.
		Periodic backfiring with black exhaust smoke: Deadspot, flatspot, hesitation, stumbling, backfiring.	1) Plugged heat crossover system in manifold.	1)) Inspect and clean passages in intake manifold and heads. Test heat riser valve, replace if defective.
2) Defective source of hot air up to the carburetor.	Check and replace as necessary: heat shroud duct, temperature sensor, vacuum door motor, manifold vacuum supply.			
Warm Engine Driveability Condition.	Hesitation under light throttle: Deadspot & stumble.	1) Vacuum leak somewhere, or hose off or hooked to wrong vacuum port.	1) Inspect hoses. Route and lead the hoses correctly. Look for leaks caused by the wrong base gasket or if it was installed upside down.	
		2) Accelerator pump problems.	2) Inspect and adjust pump stroke, pump plunder, discharge nozzles and check valves. Inspect the accelerator pump, look for swollen pump cup.	
		3) Float level set very low.	3) Set float to factory specs.	
		4) Ignition timing retarded.	4) Set to factory specs. Make sure advancing correctly.	
		5) Dirty idle jet or economizer jet.	5) Inspect idle jets. Clean as necessary.	
		6) Idle speed set too fast & mixture is too lean (common)	6) Richen up the idle mixture, reset the idle speed to factory specs., then reset the mixture using the lean drop method.	
		7) Idle cut-off solenoid not working.	7) Check idle cut-off solenoid, especially for power/ground, replace solenoid if necessary.	
		8) Frozen or binding heated air inlet (stuck in full hot or full cold position).	8) Inspect and repair, as necessary.	
		9) EGR valve stuck on or coming on too early (hose on wrong?)	9) Inspect hose routing to EGR valve & inspect valve. Replace as necessary.	
		Doggy, runs rough, lots of black smoke at idle.	1) Choke staying closed or partly closed.	1) Fix choke or heat source.
2) Slow flooding.	2) Fix cause of flooding.			

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Hesitation under heavy throttle: Deadspot & stumble. May backfire or spitback.		3) Ford & Holley Only. Power valve blown out by spitback up through carb.	3) Replace the power valve. Possibly damaged by a backfire condition.	
		4) No power or heat source to choke.	4) Repair as necessary.	
			1) Defective accelerator pump.	1) Look for dirt in pump nozzles, swollen cup from bad gas, or check ball missing or stuck.
			2) Metering rods or power valve sticking or binding.	2) Repair as necessary.
			3) Vacuum leak.	3) Locate leak and repair.
			4) Float level setting very low.	4) Reset to factory specs.
			5) Plugged up fuel filter, defective fuel pump, or swollen or kinked lines.	5) Inspect and repair as necessary.
			6) Secondary air valve set wrong.	6) Check & adjust the secondary air valve spring.
			7) Ignition timing retarded.	7) Set to factory specs. Make sure advancing correctly.
	Dies coming up to a stop sign, but idles OK.		1) Bad or misadjusted BCDD (if equipped).	1) Adjust to specs or replace as necessary.
2) Bad throttle positioner or bad vacuum source to it.			2) Check throttle positioner with a vacuum pump. Replace if defective. Replace cracked hoses. Check vacuum hose connected to the correct pipe on carburetor or thermal switch.	
3) Idle speed and mixture incorrectly adjusted.			3) Reset to specs. See the adjustment instructions.	
4) Loose or defective float pin.			4) Fix or replace the pin.	
Poor Performance or Gas Mileage.	No power or bad gas mileage.	1) Plugged exhaust.	1) Check exhaust. Look for plugged catalytic converter, bad muffler baffle, kinked or crimped pipe, dirt or other foreign matter in pipe.	
		2) Clogged gas tank vent, or fuel venting system.	2) Remove gas cap & see if performance improves. If so clean or replace the gas cap. Check the charcoal cannister, hoses to it & any check valves. Check the electric vent valve on the carb if there is one, & make sure it is getting power at the right time.	
		3) Ignition timing retarded	3) Check timing at idle and also for full advance when revved up. Look for bad or loose hose, hose hooked up to wrong pipe on distributor, bad thermal switch, leaking vacuum advance can on the distributor, a worn breaker plate, worn distributor shaft, sticky weights, point gap closed up, etc.	

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		4) Clogged air filter	4) Replace air filter.		
		5) Choke not opening	5) Fix choke or heat source problem.		
		6) Secondary not opening.	6) Check the lockout: secondaries won't open unless choke is coming off all the way. Check for sticky or bent shaft or linkage. If air valve type (Rochester), check the spring tension, the plastic cam, & metering rods for dragging or sticking.		
		7) Wrong main jets or rods.	7) Check and replace, as necessary.		
		8) Dragging brakes.	8) Fix brake problem.		
		9) Low tire pressure.	9) Increase tire pressure to factory specs.		
		10) Automatic Transmission malfunction.	10) Diagnose & fix automatic transmission.		
		11) Wrong or malfunctioning thermostat in cooling system.	11) Replace thermostat.		
		12) Blocked or leaking exhaust heat passage in intake manifold.	12) Remove manifold & fix it.		
		13) Defective accessory (power steering pump, air conditioning compressor, etc.) causing drag on engine.	13) Diagnose & repair or replace the accessory unit.		
		14) Wheels out of alignment.	14) Have wheels professionally aligned.		
		15) Poor driving habits.	15) Reduce speed, quick acceleration, screeching around corners etc.		
		16) Float level much too high, or float partly sunk.	16) Set to factory recommendations, & check float weight, replace if necessary.		
		17) Ignition problems or needs a tune up.	17) Do complete tune up & physically inspect the cap, rotor, wires, coil, plugs, points, etc. in addition to checking on the scope.		
		Flooding	Gas pours out when engine turned off.	1) Charcoal cannister is saturated with gas.	1) Replace the charcoal cannister.
				2) Vent valve is not functioning properly.	2) Replace the defective valve or fix other cause of it's malfunctioning (like loose connection, etc).
				3) Kinked hoses in venting system.	3) Replace the kinked hoses with correct kind.
4) Stuck or blocked check valves in the vent hoses or elsewhere in the system.	4) Replace the check valves.				
5) Gas tank vent is blocked.	5) Fix it or replace the gas cap if vent is in the cap.				

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		6) Gas line located too close to a heat source (such as a radiator hose or exhaust manifold).	6) This causes the fuel to expand & be forced past the needle & seat. Also, fuel can boil in the carb if there are improper or missing gaskets or spacers between the carb & manifold. A heat riser stuck in the closed position will also cause boiling and flooding.
	<p>Gas pours out when the engine is running. Note 1: often removing the carb from the manifold & shaking it hard a couple of times will effect a cure.</p> <p>Note 2: if procedure in note 1 doesn't cure it, the problems is almost always dirt or bad gas getting into the carb. Carb will then need to be disassembled to fix it.</p>	1) Dirt stuck on tip of the needle & seat.	1) Clean the tip off carefully or replace the needle & seat and clean the entire fuel system out. Check for defect cannister, causing debris or fuel contamination.
		2) Idle speed is set too fast.	2) Reduce the idle speed to factory specs. If it will not idle slowly, the mixture is set too lean, or the idle solenoid is not functioning right, or there is a vacuum leak somewhere (usually not in the carb).
		3) Idle solenoid is not functioning.	3) Check for power/ground up to the solenoid. Look for dirt stuck in the solenoid or blocking the passageways.
		4) Fuel pump pressure too high.	4) Check pressure. Use a regulator to control the pressure or put on a new pump (don't use high pressure type).
		5) Fuel pressure is fluctuating or "pulsing"(common on Colts, Mitsubishi & other Chrysler imports).	5) Control pulsing with a regulator.
		6) Float is heavy, crushed or sunk.	6) Replace float. Is often caused by spit-back up through carb.
		7) Gas is very gummy, old, or has too much alcohol or other chemicals in it.	7) Clean bad gas out of carb. Clean out of fuel system. Use only good quality gas.
		8) Choke not working.	8) Check cause of choke failure, choke pull-off failure, or loss of heat to the choke.
		9) Needle not seated properly during initial fill.	9) Try tapping the fuel inlet or needle & seat area with the handle of a screwdriver. If this doesn't work, unbolt carb from manifold and shake it hard a couple of times.
		10) On Mikuni carb, the overturn ball fell out of place	10) This is caused by the carb being overturned or turned on its side. Remove top and reinstall the ball.
11) On carbs with externally adjustable float levels.	11) Excessive adjustments have caused the seal to break. Replace the seals.		
Hesitation During Acceleration	Engine stalls when transmission is put into gear.	1) Incorrect choke pull-off adjustment.	1) Readjust the pull-off or replace if necessary.

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		2) Fast idle RPM incorrect (too slow)	2) Speed up the fast idle to factory specs.	
		3) Engine running too lean because of vacuum leak or dirty jet.	3) Check for vacuum leak. Flow test carb to check jetting. 3) Check for vacuum leak.	
	Hesitation, stalling, stumbling, flatspot, or deadspot during acceleration: Backfiring or spitback up through carb.		1) Vacuum leak.	1) Check for vacuum leak & fix it.
			2) Ignition timing retarded too far.	2) Reset timing.
			3) Accelerator pump nozzle has dirt in it.	3) Clean out the nozzle tip.
			4) Accelerator pump cup swollen up from contact with bad gas or chemicals.	4) Replace the pump cup.
			5) Economizer jet too small or partly blocked.	5) Clean out economizer jet & check the size.
			6) Choke pull-off open too far.	6) Adjust the pull-off tighter.
			7) Secondary throttle plates not closing all the way.	7) Fix it.
			8) Vacuum hoses hooked up wrong.	8) Connect up right. Be especially careful of the EGR & Dist. connections: sometimes the pipe locations are reversed on Rochesters.
			9) Idle jet partly blocked with dirt.	9) Clean out the jet & any other dirt that is in there.
			10) Distributor timing not advancing properly. (worn breaker plate, worn shaft, pin hole in diaphragm, crack in hose, etc.)	10) Check distributor and all related systems carefully. Replace defective parts.
	Hesitation, deadspot or stalling that only seems to occur after the first mile of warmup. pot		1) Defective electric assist on choke	1) Replace it.
			2) Defective accelerator pump (low output).	2) Replace it.
			3) Float level setting very low.	3) Adjust to factory specs.
			4) Bad ignition condenser.	4) Replace it.
			5) Plugged heat crossover system in manifold.	5) Inspect and clean passages in the intake manifold and heads. Test heat riser valve, replace if defective.
6) Defective source of hot air up to the carburetor.			6) Check and replace as necessary: heat shroud duct, temperature sensor, vacuum door motor, manifold vacuum supply.	

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		7) Defective thermal switch.	7) Check all thermal switches, especially those connected with the distributor, EGR, & vacuum motors in the air cleaner housing.

Compression or Misfiring	1) Run a compression check. 2) Check dwell variations.	1) This will isolate bad rings, or valves, worn cylinder walls, defective cylinder head or gaskets and excessive carbon deposits. 2) Check at variable speeds for excessive distributor shaft wear, faulty
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