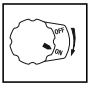
General Troubleshooting

Engine will not start:

1. Check oil level- Do you have the correct amount of oil? (Ref: Engine Oil Service, pg. 10)
   Remedy: Oil should be visible and to the top 2 threads of the LOWEST oil fill spout.

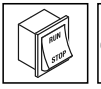
---

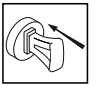
2. Is on/off switch on?
   Remedy: Turn to the on position per engine specification.



---

3. Snow Only:
   a) Is the Run/Stop switch in the Run Position?
      Remedy: Push switch to the Run Position.
   b) Is the snow safety key inserted into slot?
      Remedy: Push key into slot to fully engage.





---

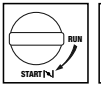
4. Do you have fuel in the fuel tank?
   Remedy: Add fuel.

---

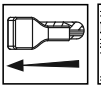
5. Is the fuel petcock turned to the on position?
   Remedy: Turn to the on position.

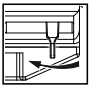
---

6. Was the engine choked?
   Remedy: When starting the engine the choke lever should be pushed left to the on position and after starting pushed right to the off position. If engine is equipped with twist type choke, the knob should be turned to the start position and after starting turned to the run position. If engine still does not start move to half choke and pull twice.



Twist Choke


Snow


Summer

---

7. Is the spark plug boot securely fastened to the spark plug?
   Remedy: Slide over spark plug and fit securely.

---

8. Has the fuel being used been purchased within the last three months and was it stored in a plastic container?
   Remedy: Replace old fuel with new fuel.

---

9. Is the engine flooded?
   Remedy: Remove spark plug and replace with any of the spark plugs listed under Spark Plug Service, pg. 9.

• NOTICE
Using an incorrect spark plug may cause engine damage.

General Troubleshooting

Engine stops running:

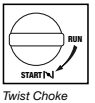
1. Has the fuel being used been purchased within the last three months and was it stored in a plastic container?
   Remedy: Replace old fuel with new fuel.

---

2. Is the air filter dirty?
   Remedy: Replace air filter element if dirty. Clean prefilter of any dirt or dust per engine specification.

---

3. Was the engine choked?
   Remedy: When starting the engine the choke lever should be pushed left to the on position and after starting pushed right to the off position. If engine is equipped with twist type choke, the knob should be turned to the start position and after starting turned to the run position. If engine still does not start move to half choke and pull twice.



Twist Choke


Snow


Summer

---

4. Is the spark plug corroded?
   Remedy: Remove spark plug and replace with any of the plugs listed under Spark Plug Service, pg.9.

• NOTICE
Using an incorrect spark plug may cause engine damage.

---

5. Has the engine run out of fuel?
   Remedy: Refuel engine.

---

6. Is the fuel petcock turned to the on position?
   Remedy: Turn to the on position.

---

7. Is the throttle set too low (variable speed models only)?
   Remedy: Increase the throttle per engine specification.

Advanced Troubleshooting – For Authorized LCT Technicians

ENGINE		
Complaint	**Symptom and possible causes**	**Remedy**
Engine will not start, or is hard to start	**Compression too low**	
	1. Valves out of adjustment	Adjust
	2. Worn valve guides or poor seating of valves	Repair or Replace
	3. Mistiming valves	Adjust
	4. Excessively worn piston rings	Replace
	5. Worn-down cylinder bore	Replace
	6. Poor seating of spark plug	Retighten
	7. Failed head gasket	Replace
	Plug not sparking	
	1. Fouled spark plug	Replace
	2. Wet spark plug	Dry off
	3. Defective ignition coil	Replace
	4. Spark plug wire damaged	Replace
	5. Kill switch in “OFF” position	Switch to “On”
	6. Ignition coil air gap is too wide	Reset
	7. Ignition coil failure	Replace
	No fuel reaching the intake manifold	
	1. Clogged fuel filter or fuel line	Replace
	2. Dirty/gummed up carburetor	Clean
	3. Fuel petcock is turned off	Turn on
	4. Fuel tank is empty	Fill
Engine idles poorly	1. Out of adjustment tappet clearance	Adjust
	2. Poor seating of valves	Replace or Repair
	3. Defective valve guides	Replace
	4. Worn down camshaft	Replace
	5. Too wide spark plug gap	Adjust or replace
	6. Defective ignition coil	Replace
	7. Ignition coil air gap too wide	Adjust
	8. Dirty/gummed up carburetor	Clean
	9. Stale fuel	Replace
Engine stalls easily	1. Dirty/gummed up carburetor	Clean
	2. Fouled spark plug	Replace
	3. Clogged fuel line	Replace
	4. Valves out of adjustment	Adjust

Noisy Engine	**Excessive Valve Chatter**	
	1. Too large valve clearance	Adjust
	2. Weakened or broken valve spring	Replace
	3. Worn tappet or cam lobe	Replace
	4. Worn and burnt camshaft journal	Replace
	Noise seems to come from piston	
	1. Worn down piston or cylinder	Replace
	2. Fouled with carbon combustion chamber	Clean
	3. Worn piston pin or piston pin bore	Replace
	4. Worn piston rings or ring grooves	Replace
	Noise seems to come from crankshaft	
	1. Rattling bearings due to wear	Replace
	2. Worn and burnt main bearings	Replace
	3. Worn and burnt pin bearing	Replace
	4. Too large endplay	Adjust
	Noise seems to come from outside of engine	
	1. Loose trim item	Tighten
Engine runs poorly in high speed range	**Defective engine internal/electrical parts**	
	1. Weakened valve springs	Replace
	2. Worn camshaft	Replace
	3. Valve timing out of adjustment	Adjust
	4. Too narrow spark plug gaps	Adjust
	5. Defective ignition coil	Replace
	6. Clogged air cleaner element	Replace
	7. Clogged fuel line, resulting in inadequate fuel supply to carburetor	Replace
	8. Worn bearings	Replace
	9. Blown head gasket	Replace
	10. Ignition coil air gap too wide	Adjust
	11. Dirty/gummed up carburetor	Clean
	12. Stale fuel	Replace
	Defective air flow system	
	1. Carburetor gasket leak - sucking air causing engine to run lean	Replace
Engine lacks power	**Defective engine internal/electrical parts**	
	1. Loss of valve clearance	Adjust
	2. Weakened valve springs	Replace
	3. Out of adjustment valve timing	Adjust
	4. Worn piston ring or cylinder	Replace
	5. Poor seating of valves	Replace
	6. Fouled spark plug	Replace
	7. Incorrect spark plug	Replace
	8. Clogged air filter element	Replace
	9. Carburetor gasket leak - sucking air causing engine to run lean	Replace
	10. Too much engine oil	Adjust
	11. Air fins clogged on engine causing to overheat	Remove debris
	12. Not enough oil in engine	Adjust

Dirty or heavy exhaust smoke	1. Too much engine oil in the engine	Adjust
	2. Worn piston rings or cylinder	Replace
	3. Worn valve guides	Replace
	4. Scored or scuffed cylinder wall	Replace
	5. Worn valve stems	Replace
	6. Defective stem seal	Replace
	7. Worn oil ring side rails	Replace
No spark or poor spark	1. Defective ignition coil	Replace
	2. Defective spark plug	Replace
	3. Open-circuit wiring connection	Check and repair
Spark plug fouled with carbon	1. Incorrect gasoline	Replace
	2. Dirty air cleaner element	Replace
	3. Too cold spark plug	Use hotter plug
Spark plug becomes fouled too soon	1. Worn piston rings	Replace
	2. Worn piston or cylinder	Replace
	3. Excessive clearance of valve stems in valve guides	Replace
	4. Worn valve stem oil seal	Replace
Spark plug electrode over-heated or burnt	1. Too hot spark plug	Use colder plug
	2. Overheated the engine	Tune up
	3. Loose spark plug	Tighten
	4. Too lean fuel mixture	Check for air leak

Spark Plug Service

Recommended spark plugs: Torch Plug: F6RTP (Platinum) and F6RTC

Cross References

- **Champing plug cross reference is: RN9YC (some tables show RN9YCC)**
- **NGK plug cross reference is: BPR6ES**
- **BOSCH plug cross reference is: WR6DC**

- **NOTICE**

  Using an incorrect spark plug may cause engine damage.

1. When engine is cool, disconnect the spark plug cap and remove any debris from the spark plug area with high pressure air.
2. Remove the spark plug with a 13/16-inch (21mm) spark plug wrench.
3. Inspect the spark plug. Replace it if the electrodes are worn or if the insulator is cracked or chipped. Spark plug gap should be set to 0.027 - 0.030 inches (0.7 - 0.8mm).
4. Install the spark plug carefully to avoid cross threading. Screw in spark plug by hand until it stops turning.
5. Tighten the spark plug with a 13/16-inch (21mm) spark plug wrench. Tighten 1/4 turn after the spark plug seats.

   - **NOTICE**

     A loose spark plug can overheat and damage the engine. Over-tightening the spark plug can damage the threads in the cylinder head.

6. Attach the spark plug cap. Ensure spark plug cap snaps into place securely.