

Air Trails

Model Annual ~ for 1943

Gas Engine Trouble Shooting

Courtesy Academy of Model Aeronautics

Motor Refuses to Start

FAULTY IGNITION (weak or no spark):

1. Wiring:
 - (a) High tension lead shorting out. The high tension lead to the spark plug should be isolated from all other wires.
 - (b) Poor or loose connections, especially to ground, contact points, or booster batteries.
 - (c) Leakage of high tension lead to other metal parts. Bad position of coil causing leakage especially on small models.
2. Spark Plug:
 - (a) Spark plug fouled with oil.
 - (b) Dirt, soot, or carbon between spark plug body and porcelain.
 - (c) Porcelain broken or carbonized.
 - (d) Points out of adjustment (.010 to .015 inch gap).
3. Batteries:
 - (a) Batteries weak, check for low voltage.
4. Contact Points:
 - (a) Points burned, dirty, or out of adjustment.
5. Condenser:
 - (a) Broken leads or condenser failed.
6. Coil:
 - (a) Shorted or broken wire in coil.

NO GAS IN CRANK CASE OR CYLINDER:

1. Needle Valve Closed:
 - (a) Check needle valve position.
2. Motor Improperly Primed:
 - (a) Give motor additional priming.
3. Gas Tank Empty:
 - (a) Check gas supply.
4. Gas Line Clogged:
 - (a) Check to see if line is stopped up.

MOTOR FLOODED:

1. Excessive Priming.
2. Needle Valve Open Too Far.
3. Excess Gas Drawn in Through Frequent Turning of Propeller Without Motor Firing.

Motor Stops

AFTER A SHORT FAST RUN:

1. Gas Mixture Too Lean:
 - (a) Motor was operating on excess supply of gas in crank case.
2. Loose Connections:
 - (a) Check wiring.
3. Weak Spark:
 - (a) Batteries weak.
 - (b) Spark plug dirty.
 - (c) Condenser bad.
4. Gas Supply Low.

AFTER AN EXTENDED RUN:

1. Fuel Exhausted.
2. Loose Wire:
 - (a) Loose connection or wire broken due to vibration.
3. Dirt in Gas Line.
4. Weak Spark:
 - (a) Batteries weak or run down.
5. Motor Running Hot (freezes up or loses power and stops):
 - (a) Improper lubrication: Wrong gas-oil mixture or oil too light.

Miscellaneous Troubles

FOUR-CYCLE RUNNING:

1. Gas Mixture Too Rich.
2. Weak Spark:
 - (a) Check tension on contact points.
 - (b) Check spark plug gap (possibly too wide).
 - (c) Check contact point gap (possibly too wide).
 - (d) Weak batteries.
 - (e) Spark plug loose or leaking gasket.

MOTOR MISSES AT HIGH SPEEDS:

1. Weak Spark:
 - (a) Spark plug fouled or shorted.
 - (b) Batteries weak or contacts loose due to vibration at high speed.
 - (c) Insufficient tension on contact points, or points dirty, excess point clearance.
2. Spark Advanced Too Far.
3. Improper Needle Valve Setting:
 - (a) Mixture slightly too rich or slightly too lean.