

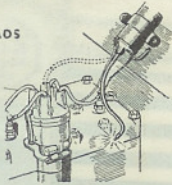
## SUDDEN FAILURE

Sometimes preceded by misfiring or an occasional cut-out with return to operation before finally stopping altogether.

### IGNITION FAILURE

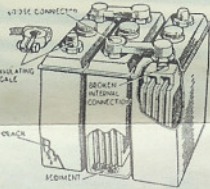
#### BROKEN LEADS

Broken or disconnected leads from the distributor head to coil, from coil to switch or from the switch to the battery.



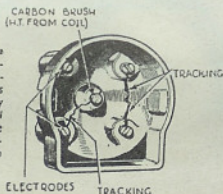
#### BATTERY TROUBLES

A battery, after a period of use, may suffer from internal shorts. Current failure can follow broken connections and dirty terminals, as indicated here.



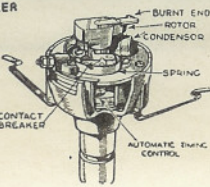
#### DISTRIBUTOR HEAD

Where to look for troubles in the distributor head. Tracking between the points may be caused by carbon dust. Central brush may not make good contact. Examine also for crack in distributor head.



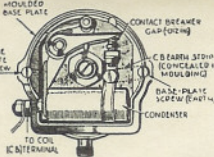
#### CONTACT BREAKER

Look for a broken contact-breaker spring and incorrect adjustment of contact breaker (should be .012 in.); or oil on the points. A faulty condenser causes points to burn quickly.



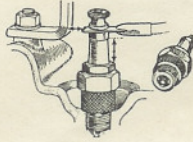
#### GAPS; CONNECTIONS

Plan view of contact breaker showing connections, gap clearance and screws which have to be removed to facilitate examination of automatic timing.



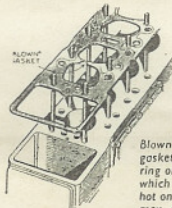
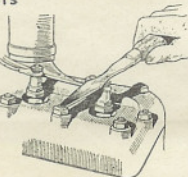
#### SPARKING PLUGS

Dirty sparking plugs, inside and out; clean and re-set gaps, remove any deposit of oil from insulator. Shorting might take place between terminal and adjacent metal parts.

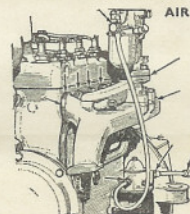
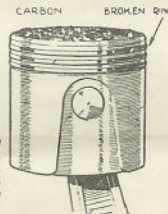


#### TROUBLE TESTS

To locate faulty plug, short it by means of a screw driver, as shown in this sketch. Shorting a good plug will accentuate erratic running; shorting faulty plug will make no difference.



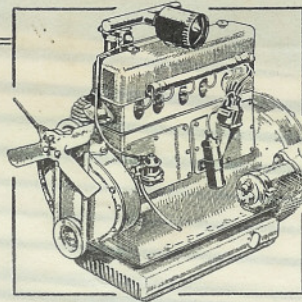
Blown cylinder-head gasket, broken piston ring or spots of carbon which become white hot on the piston head may cause misfiring.



Bad running and difficult starting will follow air leaks at the various points indicated here. Loose connections should be tightened and, where necessary, new gaskets fitted such as at the inlet manifold.

**DIFFICULT STARTING.** No petrol, contact breaker stuck or contact-breaker spring broken; broken connection (for these test for spark as shown in top left-hand sketch). Choke stuck open, choked jet; air leaks caused by valves not seating properly or loose connection on air line to ignition control or suction-operated windscreen wiper. Obstructed fuel supply: mixture too weak caused by choked pilot jet or too rich (through excessive use of choke—to correct open choke and spin engine with throttle full open, ignition off—or float level too high). Dirty plugs, ignition too advanced; coil at fault (clean away oil and dust at terminals).

**CONSUMPTION INCREASES.** Caused by any of the faults outlined above; erratic running always leads to higher fuel consumption.  
**OVERHEATING.** Air leaks, valves not seating properly, wrong grade of oil in sump, cooling system choked or insufficient water. Fan slip caused by loose belt. Engine knock follows overheating, wrong type of plug, too much spark advance, need for decarbonizing, low grade fuel.  
**LOSS OF POWER.** Need for decarbonizing and valve grinding; ignition retarded; partially choked jets, poor fuel supply. Impression of loss of power can also follow brakes binding.



## GRADUAL FADE-OUT

Intermittent gasps, jerky running sometimes accompanied by carburetter blow-back or misfiring and finally stoppage.

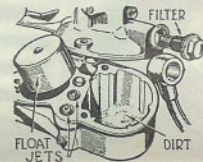
### CARBURATION FAULTS



#### NO PETROL

Faulty gauge may easily cause one to run out of fuel.

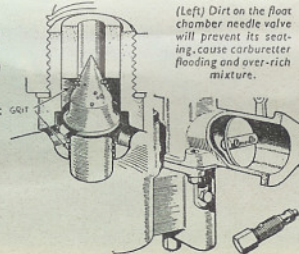
#### DIRT



Dirt may be drawn through from the tank, ultimately choking the inlet filter or jets. This shows the various parts of a modern carburetter.

#### PETROL FLOODING

(Left) Dirt on the float chamber needle valve will prevent its seating, cause carburetter flooding and over-rich mixture.

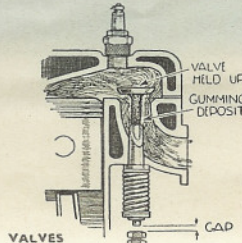


#### STRANGLER SHUT

Broken strangler control may cause excessively strong mixture. This shows also another type of jet assembly, removed for cleaning.

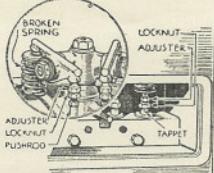
### MISFIRING

(Caused by valve troubles below or any of the faults outlined left and right.)



#### VALVES

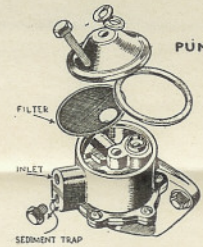
Incorrect tappet clearance, badly seating valves and those held up by gummy deposits. Inject petrol-paraffin mixture into air intake while engine is running to free gummed-up valves.



Broken valve spring is another source of trouble. Inlet valve troubles cause blow-back through the carburetter; exhaust valve troubles cause erratic firing and possibly explosions in silencer.

#### PUMP TROUBLE

Erratic fuel supply will follow dirt drawn into the petrol pump. This shows assembly and filter of a mechanical pump; note the sediment trap for releasing collected dirt. See that the gasket and washers are good.



#### ELECTRIC PUMP

The main parts of an electric fuel pump, the filter position and plug, also the contacts which may need cleaning in the future of time.

