

Possible Cause	Check	Remedy
(3) Improper mixture.	Check clearness and position of compensating jet in carburetor.	Clean out jet. Correct position. (Should be in center of venturi tube).
(4) Leaky, or improperly adjusted valves.	See subparagraph e(7)(a) above.	
(5) Improper timing	See subparagraph a(10) above.	
(6) Defective choke.	Check choke rod operation.	Replace choke rod.
(7) Float level too low.	Check position of float level.	Adjust position.

*e. Engine Knocks.*

Possible Cause	Check	Remedy
(1) Improper fuel.	Check grade of fuel.	Replace with correct fuel.
(2) Carbon in cylinders.	Remove plugs and check for carbon.	Clean out carbon.
(3) Loose piston pins or flushings.	Remove and examine pistons.	Replace defective parts.
(4) Lack of oil.	Check oil level.	Add oil if necessary.
(5) Magneto timing advanced too far.	Check magneto timing to engine.	Correct timing.
(6) Loose main bearing.	Check for oil leaks.	Fit new bearing.
(7) Worn rod bearing.	Short plug to see if noise disappears.	Replace bearing.
(8) Loose generator bearing.	Check alignment and fit in housing.	Replace defective bearing. Correct alignment.
(9) Broken piston ring.	Check compression, remove piston.	Replace broken ring.
(10) Weak or broken valve, springs.	Remove cylinder head cover and inspect.	Replace faulty springs.
(11) Engine overheated.	See subparagraph g below.	

*f. Engine Lacks Power.*

Possible Cause	Check	Remedy
(1) Cold motor.	Check engine temperature with thermometer.	Remove load and allow engine to warm up.
(2) Mixture too rich.	See subparagraph e(9) above.	
(3) Mixture too lean.	See subparagraph e(8) above.	
(4) Improper fuel.	See subparagraph e(1) above.	
(5) Poor compression.	See subparagraph e(7) above.	
(6) Excessive carbon.	See subparagraph e(2) above.	
(7) Obstruction in exhaust or muffler.	See subparagraph g(11) below.	
(8) Lack of lubrication.	Check oil supply, lines oil pressure.	Add oil, repair oil pump.
(9) Defective magneto.	See subparagraph a(12) above.	
(10) Defective spark plugs.	See subparagraph e(2) above.	
(11) Improper valve adjustment.	See subparagraph a(11) above.	
(12) Valve tappets sticking.	Turn engine with crank to check operation.	Clean carbon from tappets or replace springs, if weak.
(13) Tight bearings.	Turn engine over with crank. Observe striking.	Replace bearing.
(14) Improper governor adjustment.	Check engine rpm with tachometer.	Adjust governor fork weight to increase speed.

*g. Engine Overheats.*

Possible Cause	Check	Remedy
(1) Radiator empty.	Check radiator.	Add water.
(2) Radiator clogged.	Check amount of scale in radiator.	Flush out radiator.
(3) Lack of lubrication.	Check oil level.	Add oil.