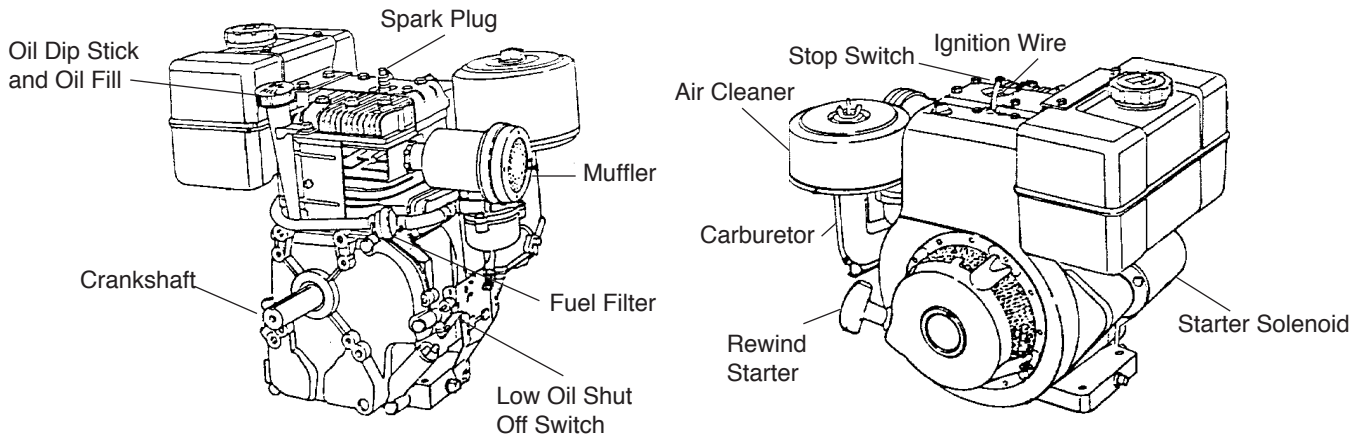


GASOLINE POWERED EQUIPMENT

Pumps, generators, concrete saws, welders and other small gasoline powered equipment basically use the same power plant. Understanding how these small engines operate and how to trouble shoot basic engine problems can make the difference between a minor irritation and lot of unnecessary and expensive down time.

ENGINE NOMENCLATURE



TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
Engine will not start.	No gas. Low oil. Spark plug wire is loose. Spark plug is fouled. Carburetor butterfly flap is stuck. Air cleaner is dirty. No spark.	Check the tank. Check oil level and add oil if necessary. Check spark plug wire insuring that it has a good connection. Remove and inspect plug. Replace if it appears blackened, oily or wet. Remove air cleaner and check to see if butterfly flap in mouth of carburator is opening and closing properly. Inspect and clean air filter if necessary. Check for spark by removing plug from block and with plug connected and approximately 1/8" from block pull starter cord and look for a spark. If no spark have a qualified mechanic inspect unit.
Engine runs for a while then dies.	Dirty air filter. Loose spark plug wire. Dirty fuel filter. Low oil.	Inspect and clean air filter if necessary. Tighten all ignition wires. Check fuel filter and clean or replace. Check oil level and add oil if necessary.

PUMPS

CENTRIFUGAL PUMP - Used for pumping large volumes of fairly clean water. The flow of water is at a relatively low pressure. This pump will normally lift water approximately 25' (water source to the center of the pump) and will discharge at between 75 to 100 feet horizontally. Most will pass a spherical solid 1/4 the size of the suction opening and will handle up to 10% by volume of sand, silt and mud.

CENTRIFUGAL TRASH PUMP - Essentially the same as a centrifugal pump but designed to pass solids up to 1/2 the size of the suction opening. These pumps will also pass a greater volume of solids - up to 25%.

DIAPHRAGM PUMP - Generally used for slow running, seeping muddy water. Though it has a much smaller capacity than a centrifugal pump it will handle large volumes of air and not lose its prime as would a centrifugal pump in similiar applications.

SUBMERSIBLE PUMP - A centrifugal pump close coupled to a water tight electric motor. This pump has no suction lift limitations since it operates directly in the water. Available in both standard and trash configurations.

