(3) 2-Stroke Engine Operation Overview Engines are classified into 2-stroke and 4-stroke engines, and their operating states differ significantly. In a 2-stroke engine, the operations of compression and expansion are repeated, and fuel explosion and expansion occur with each stroke of the piston. The power stroke occurs with each revolution of the crankshaft, and force is transmitted. As shown in Figure 2-5, the structure does not include intake or exhaust valves. Instead, intake and exhaust ports are located in the lower part of the cylinder (near the bottom dead center of the piston stroke). The piston acts as a valve to perform intake and exhaust functions. The operational overview is as follows:

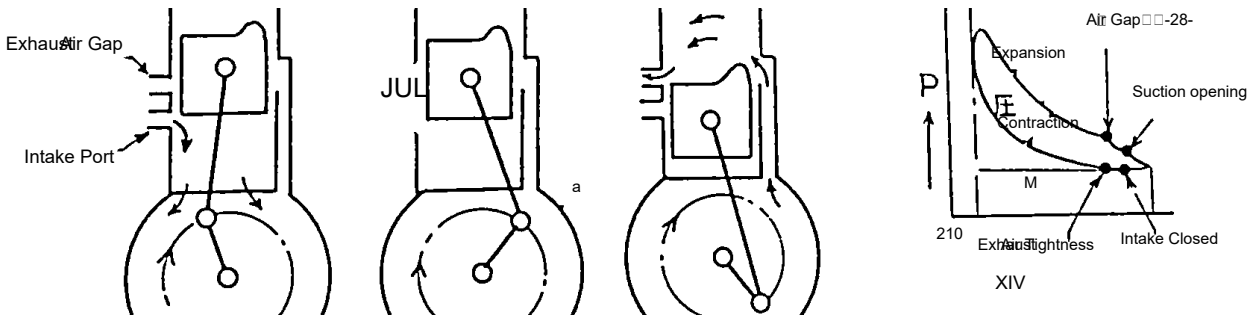
(A) When cylinder compression (piston upward stroke) is complete, fuel is injected and ignited simultaneously, causing combustion and pushing the piston down. (Combustion stroke or power stroke)

(B) As the piston descends, the exhaust port on the lower side of the cylinder opens, and the combustion gas escapes.

(C) As the piston descends further due to the rotation of the crank, it opens the intake port, and air, which is separately pumped in, enters the cylinder. This completely discharges the remaining exhaust gas, scavenging the cylinder, and the compression of air begins in the next upward stroke. In this way, because the explosion stroke occurs twice as often in a 2-stroke engine compared to a 4-stroke engine, the output should theoretically be twice as high, but in reality, it is about 1.5 times higher.

[Diagram] Exhaust Port Intake Port (D) Exhaust Open Expansion Compression Intake Open 210 M Exhaust Closed Intake Closed XIV ANTO Indicator Diagram Crank Circle α (Exhaust/Intake) 8.3

Figure 2-5: 2-Stroke Engine Operation AMC 0.SI TI HMᑐ 4. Internal Combustion Engine Terminology a.st ACSAᑐ18 29881 2.8 OF (1) Compression Ratio S.T 08 The compression ratio indicates the extent to which the air or air-fuel mixture drawn into the cylinder has been compressed. The swept volume when the piston moves from bottom dead center to top dead center is represented by A, and the piston head



圧縮比とは、シリンダ内に吸入された空気
(No content to translate)
Ratio
Show Material
Piston
Below Point
Dead Point
(No text provided)
Moved
the point.
TIME
Process Time
(No translation Needed)
Representation
Piston
Point
Reached
Piston
Head