OS FS 20 Engine

Exhaust Closed

Intake Duration: 290°
Exhaust Duration: 260°

Clockwise rotation

Intake Open: 55° BTDC
Intake Closed: 55° ABDC

Exhaust Open: 55° BBDC
Exhaust closed: 25° ATDC
OS FS 20 Engine

Exhaust Closed

Intake Opens

Intake Duration: 290°
Exhaust Duration: 260°

Clockwise rotation

Exhaust Opens

Intake Closed
OS FS 20 Engine

Exhaust Closed

Intake Duration: 290°
Exhaust Duration: 260°

Clockwise rotation

Intake Opens
Intake Closed
Exhaust Opens
OS FS 20 Engine

- Exhaust Closed
- Intake Open at 290°
- Exhaust Duration: 260°
- Valve Overlap: 80°

Clockwise rotation
OS FS 20 Engine

Intake Duration: 290°
Exhaust Duration: 260°
Power Stroke: 125°
OS FS 20 Engine

Clockwise rotation

- Intake Duration: 290°
- Compression: 125°
- Power Stroke: 125°
- Exhaust Duration: 260°
Valve Overlap - Stroke 4 to 1

This is called 'Valve Overlap'.

Both the inlet and exhaust valves are partially open.

Inlet valve opens
Ignition

TDC
Exhaust valve closes

Inlet valve closes
Exhaust valve opens

Operating Cycle

Therefore the induction stroke starts 45 degrees before the end of the Exhaust stroke.
Proper alignment (green) is with the pushrod tubes, not 90° to the crankcase web (TF)