

Animation Worksheet: Atkinson Cycle Engine

Name: _____ Date: _____

1. The Atkinson cycle combustion engine is named after its inventor, _____, who sought to improve upon the Otto four-stroke engine.
2. The primary advantage of an Atkinson cycle engine is _____ when compared to an Otto cycle engine.
3. However, this efficiency comes at the expense of _____ output losses.
4. During the _____, the intake valve opens, and the air-fuel mixture enters the combustion chamber.
5. In the Atkinson cycle, the closing of the _____ is delayed until the piston has completed about _____ to _____ percent of its upward stroke.
6. This delay causes some of the intake charge to be driven back into the _____.
7. Because of this, the cylinder is never fully _____, leading to a reduction in low-speed power.
8. During the compression stroke, both the _____ and _____ valves are closed, and the air-fuel mixture is compressed.
9. In an Otto cycle engine, the four strokes (intake, compression, power, and exhaust) are completed in _____ crankshaft rotations.
10. Modern Atkinson cycle engines are often used in combination with a _____ to achieve optimal efficiency.