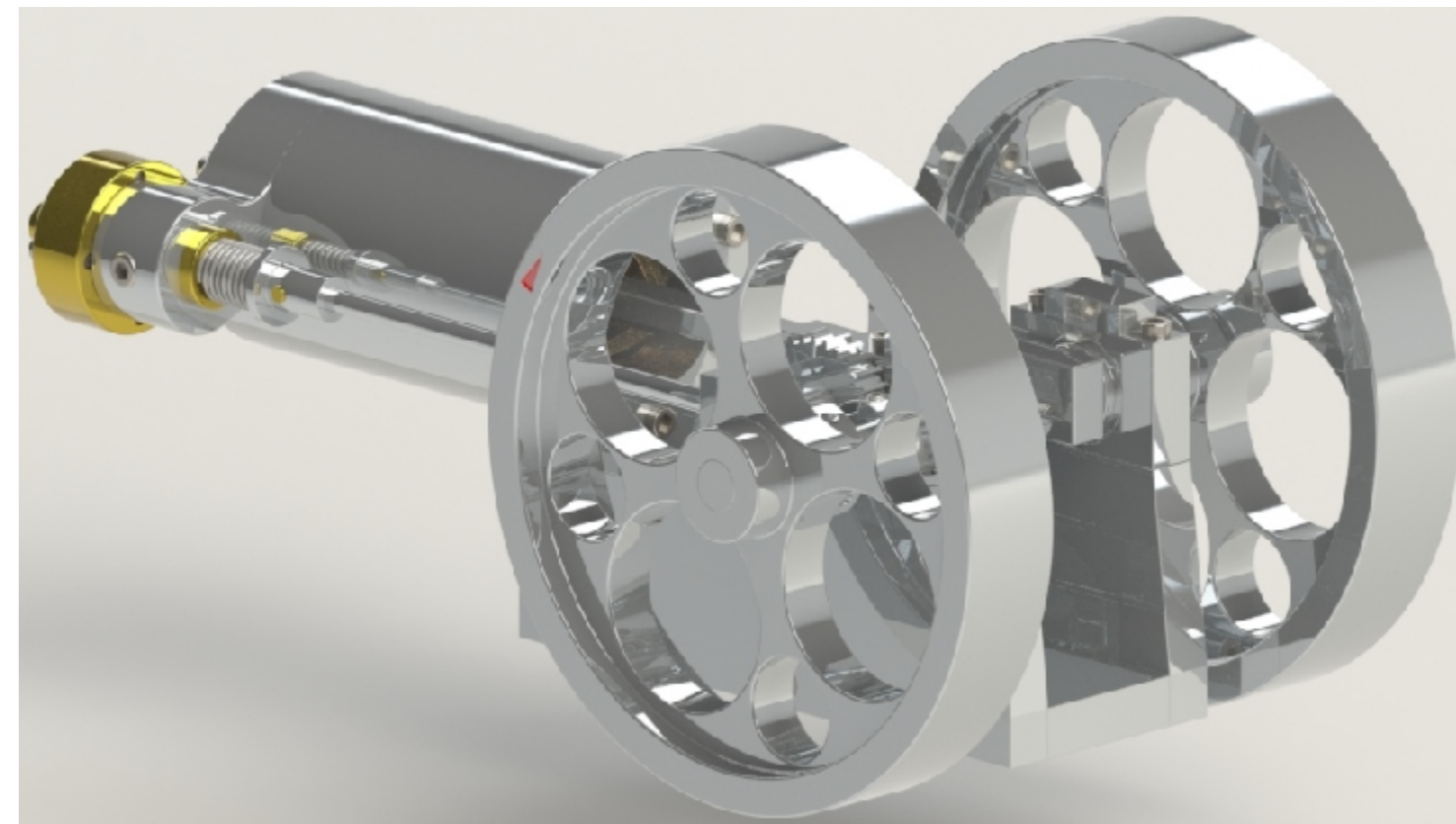
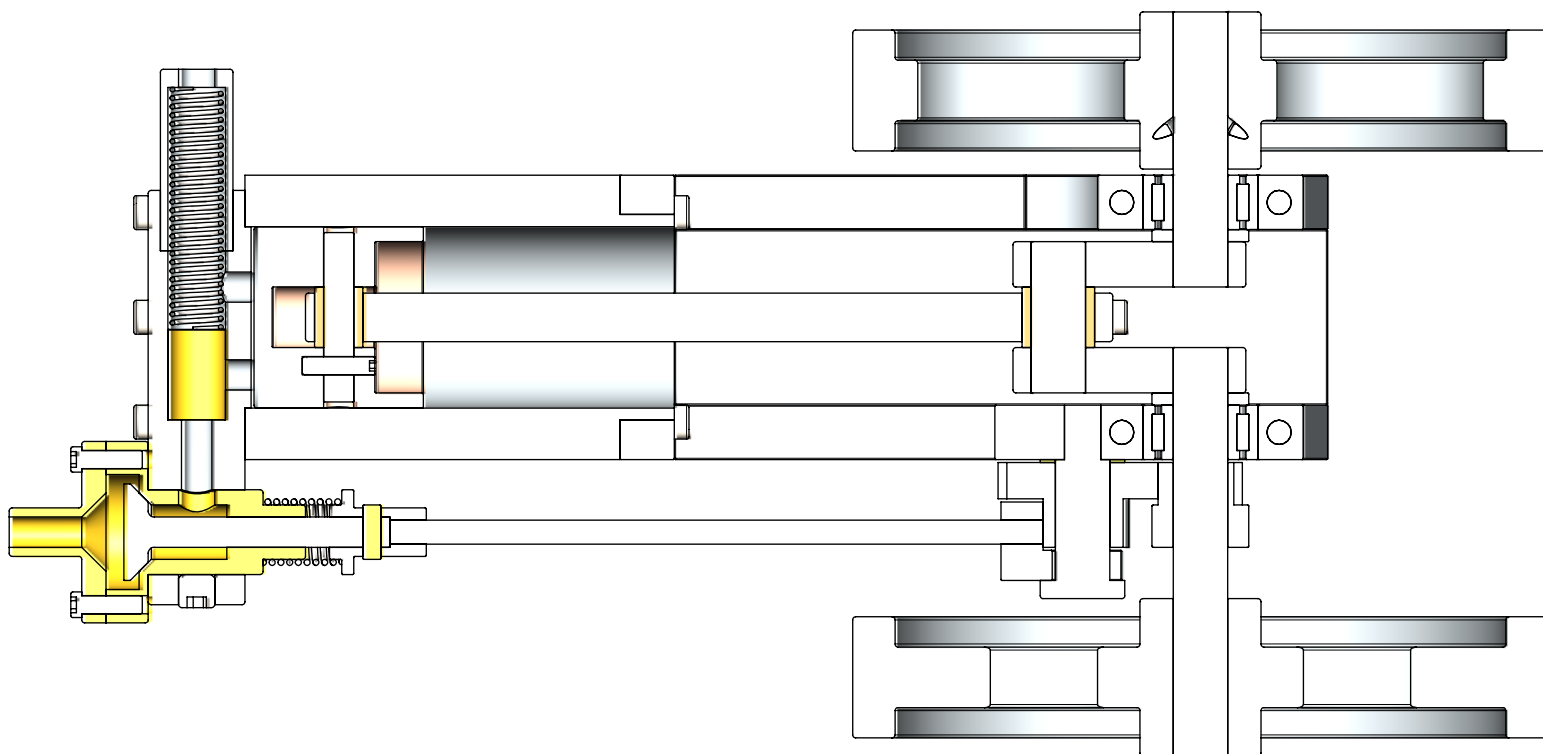
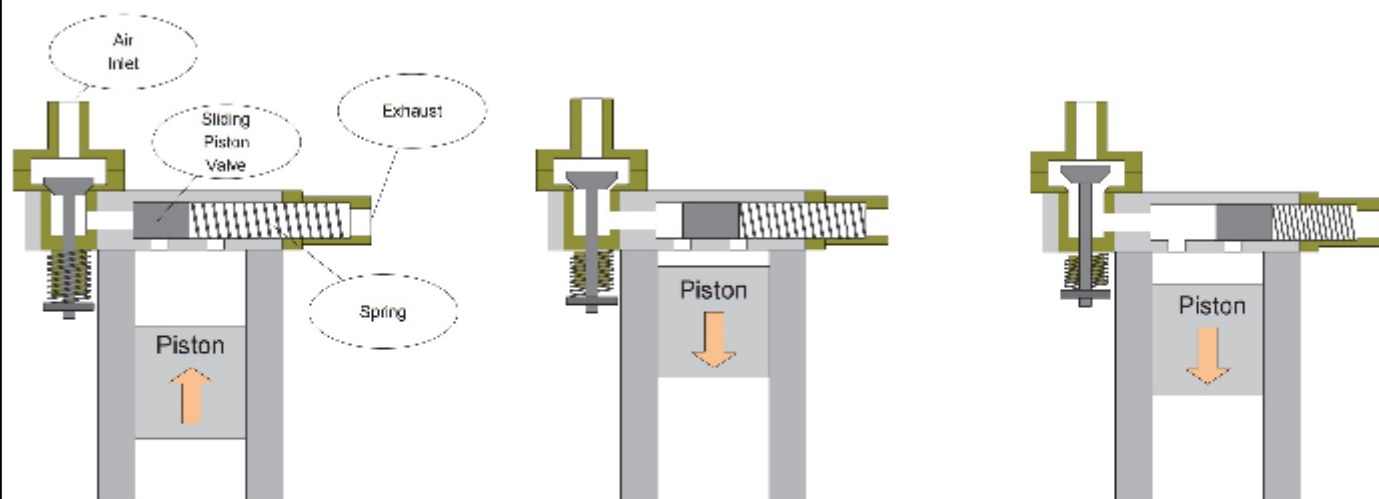




How the valves work

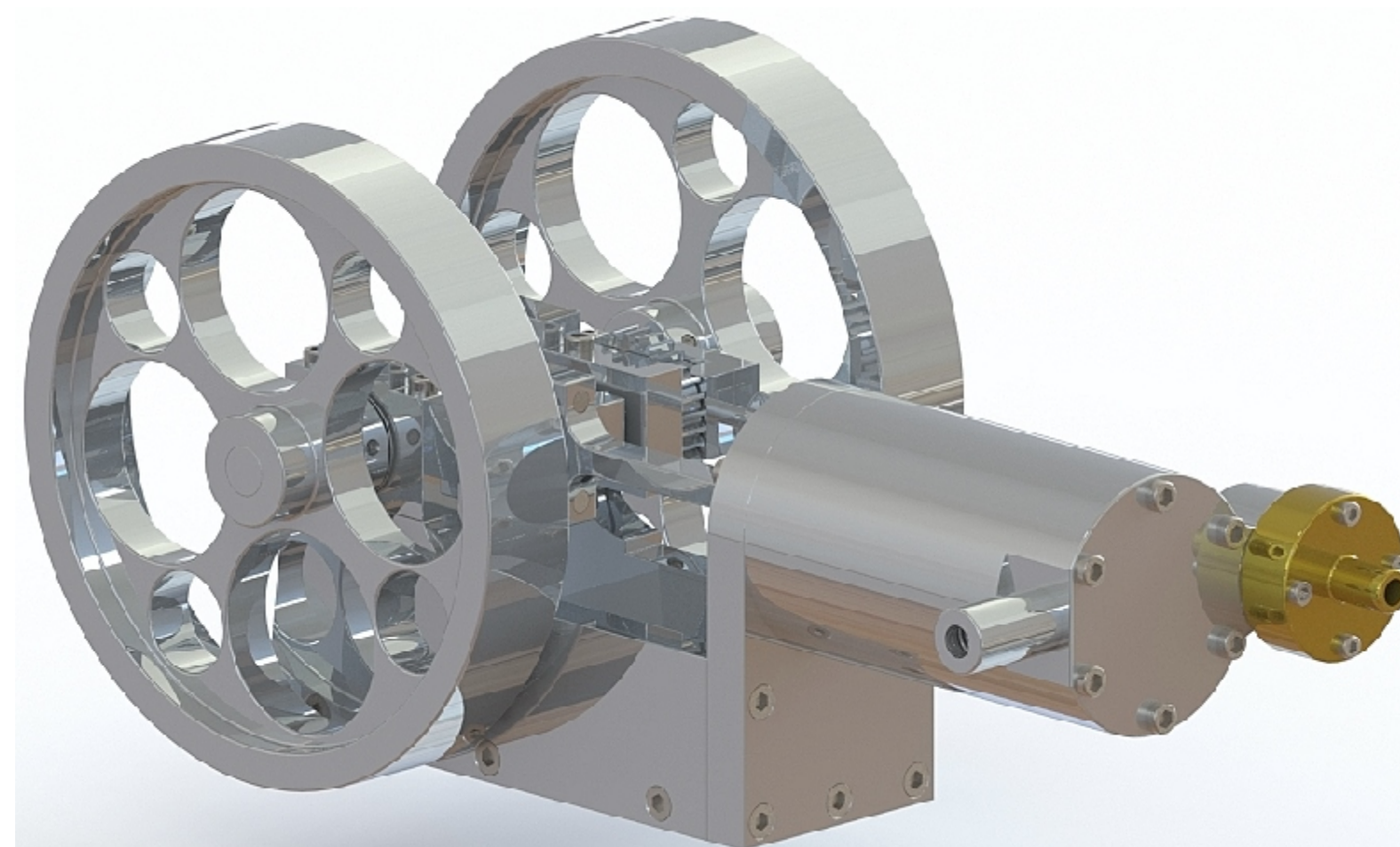
This engine uses a unique slave exhaust valve. It is a spring loaded, sliding piston which is activated by the pressure of incoming compressed air when the inlet valve is opened by the cam operated push rod. This design lends itself to compressed air engines of any number of cycles. It's particularly useful on hit n miss operated engines, since the exhaust valve will remain open as long as the inlet valve is closed. This allows the engine to turn over multiple times with no back pressure due to compression.



Here, the inlet valve is closed. The spring keeps the slave exhaust valve pushed to the left, exposing the cylinder to the exhaust port. This allows the free passage of air into and out of the cylinder with no back pressure.

As the inlet valve begins to open, high pressure air enters the head and begins pushing the slave exhaust valve to the right. This opens the input port and lets the high pressure air into the cylinder. The exhaust port is still partially open, which allows some of the high pressure air to go directly to the exhaust, giving the engine its distinctive pop when it "fires".

As the inlet valve continues to open, the slave exhaust valve is pushed all the way to the right, completely closing off the exhaust port and forcing all the high pressure air into the cylinder. This is the power stroke and will continue to push the piston down until the inlet valve is closed. At that time, the spring again pushes the slave exhaust valve to the left, letting the high pressure air in the cylinder exhaust to the outside.



NOTES: THIS STEAM ENGINE IS BASED ON DRAWINGS GIVEN TO ME. THE AUTHOR OF THE ORIGINAL DESIGN/DRAWINGS IS CHUCK FELLOWS. DATE UNKNOWN. ORIGINAL DRAWINGS WERE INCOMPLETE.

TITLE
1 CYLINDER HORIZONTAL COMPRESSED AIR
"HIT AND MISS" ENGINE

DRAWING CONTENTS
RENDERED PICTURES AND
OPERATION EXPLANATIONS

PROJECT No 01-25-00

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PROJECTION

DATE

NOVEMBER-2017

SHEET: 03 OF 03

JDWDS

MODEL SCALE: 1:1

DWG SCALE: 1:1 @A3 OR AS SHOWN

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A3 No: 1CHCPAE-03