

## Team Member 1

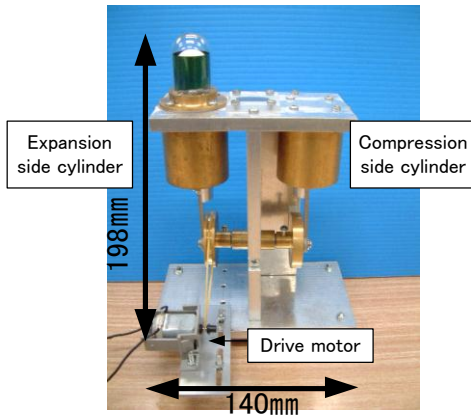
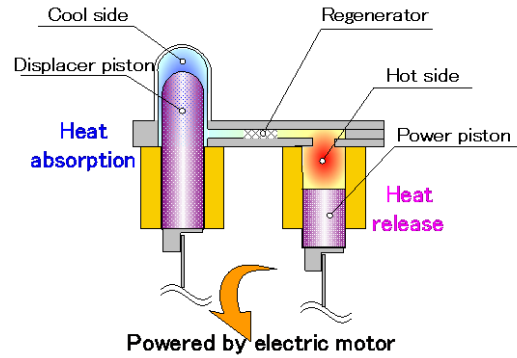


Fig. 1 The Stirling Cooler



Material: Steel wool, Cotton, or Nothing

Fig. 2 Schematic diagram

Table 1. Cooling capacity according to cylinder and heat exchanger (Regenerator)

Case	Cylinder material	Material of Heat exchanger (Regenerator)	Temperature (°C)			
			Start	After 200 secs	After 400 secs	After 600 secs
A	Glass	Steel wool	23	13	9	7
B	Aluminum	Steel wool	25	14	10	8

## Team Member 2

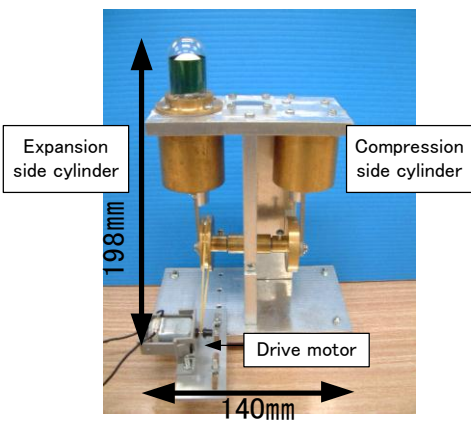
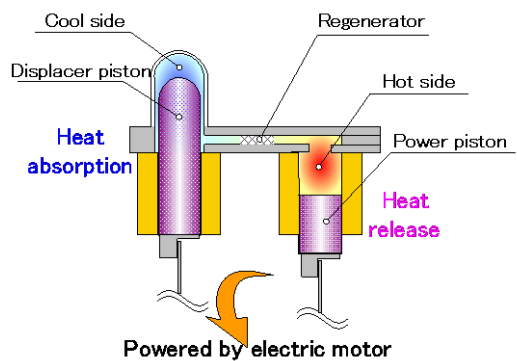


Fig. 1 The Stirling Cooler



Material: Steel wool, Cotton, or Nothing

Fig. 2 Schematic diagram

Table 1. Cooling capacity according to cylinder and heat exchanger (Regenerator)

Case	Cylinder material	Material of Heat exchanger (Regenerator)	Temperature (°C)			
			Start	After 200 secs	After 400 secs	After 600 secs
A	Aluminum	Cotton	25	15	11	8
B	Aluminum	Nothing	24	14	9	8

### Team Member 3

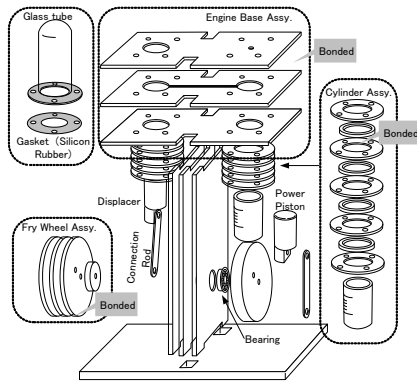


Fig. 1 Stirling Engine made by laminated Acrylic plates

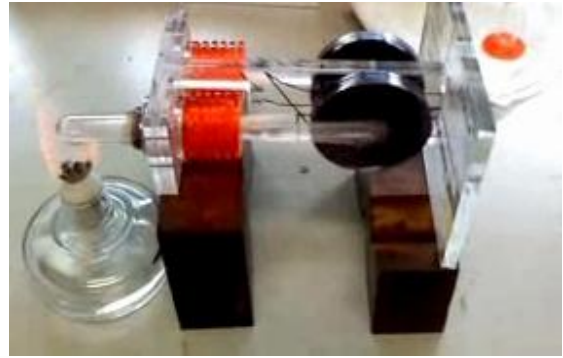
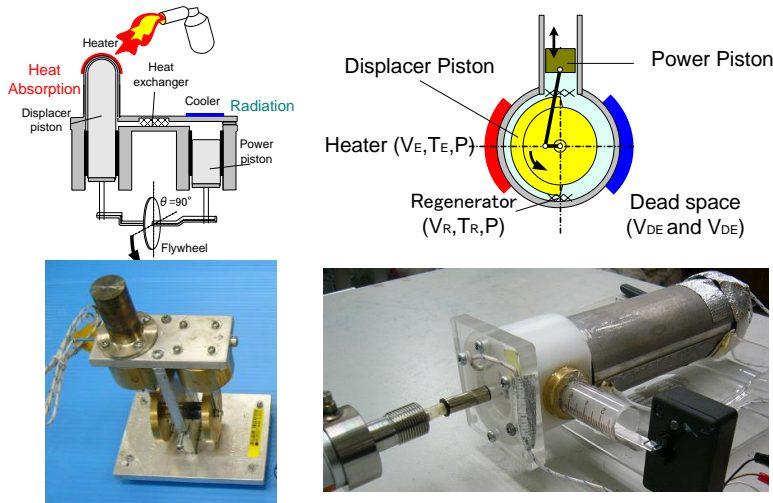


Fig. 2 Driving scene by an alcohol lamp

Table 1. Rotation speeds of the end products

Assembly operator	Rotation speed (rpm)					
	Student A	Student B	Student C	Student D	Teacher A	Teacher B
Performance	1600	1450	2700	2200	1800	Not work

### Team Member 4



(a) Alpha type engine (b) Gamma type engine with Rotary piston

Fig. 1 The robot

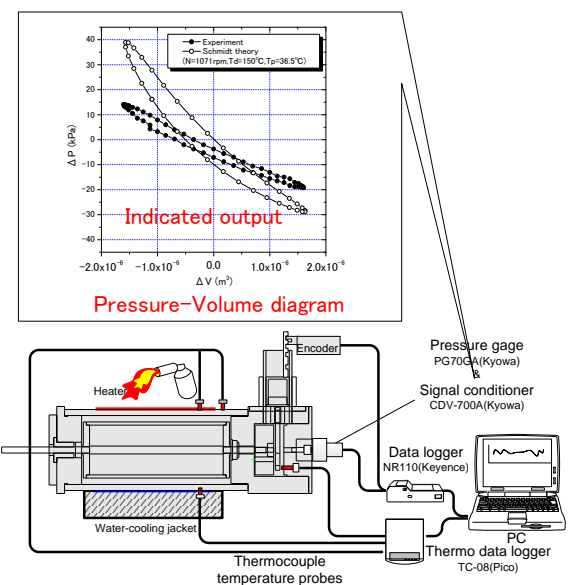


Fig. 2 Experimental apparatus

Table 1. Indicated output

Engine type	Indicated output (mW)			
	150 rpm	200 rpm	250 rpm	300 rpm
Alpha type	65	90	120	150
Gamma type (with Rotary piston)	50	100	150	200