

## 4 CYCLE ENGINE TRANSPARENCY ELECTRICALLY OPERATED

N98-OSK14794

By turning on the motor, this transparency will rotate the crankshaft. Students will see how the intake, compression, and exhaust processes make the engine work. On average, the engine rotates one thousand times each minute, generating a tremendous amount of heat and friction. Oil pumped through the engine coats the moving parts, reducing friction. At the same time, oil cools, cleans, and helps to seal the combustion chambers. Use the relief valve and bypass valve to understand the cooling device.

### 1. Intake Process:

The intake valve opens, and fuel-air mixture is pulled into the cylinder.

### 2. Compression Process:

The intake valve closes and the piston rises, compressing the mixture in the cylinder.

### 3. Combustion Process:

The compressed mixture is ignited by the spark plug and burns. Sudden rises in temperature and pressure cause the expanded gas to push the piston down and rotate the crankshaft.

### 4. Exhaust Process:

The exhaust valve opens before the piston reaches the bottom. The piston rises, and the combustion gas is discharged.

### OPERATION OF BYPASS VALVE:

When the oil filter element is clogged, the bypass valve opens and oil is sent through the engine, bypassing the element.

- Operate the bypass valve using the pointer.

### OPERATION OF THERMOSTAT:

When the coolant reaches the specified temperature, the thermostat is actuated. The synthetic rubber and wax in the pellet act to open and close the valve.

- Operate the valve using the pointer

### Manual of Operations

**IMPORTANT!****Read the following before using this equipment:***Carefully follow all instructions and observe all precautions given in this manual*

## PREPARATION:

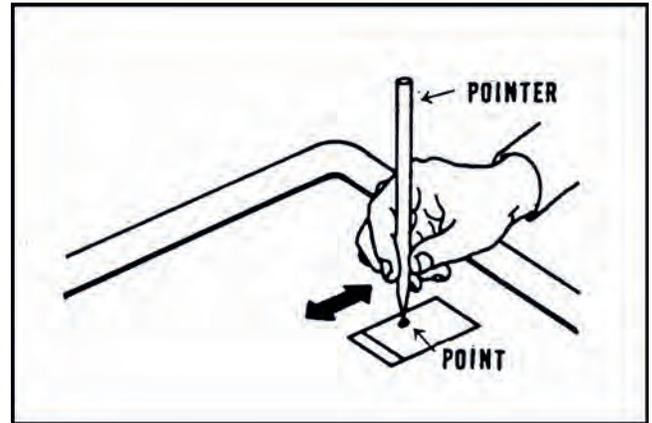
1. Put the transparency on an Overhead Projector and position it so that the entire area can be projected on screen. Adjust focus.
2. Turn the Overhead Projector light OFF and set all parts in neutral position.

## OPERATION:

1. To operate the moving parts, such as the valves that move in parallel, use the TRANSPARENT POINTER provided.

## CAUTION!

Do not try to operate the crankshaft manually!  
It may cause damage to the unit!



## CLEANING:

Wipe with a soft cloth dipped in alcohol or water when needed.

