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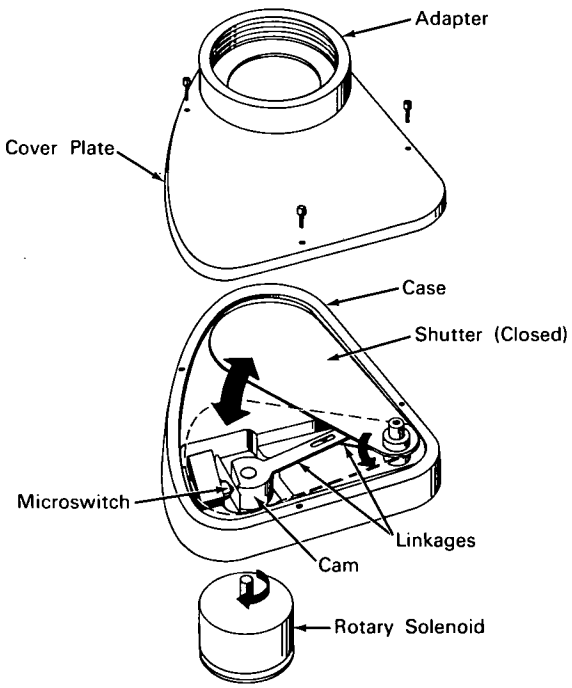
Brief 63-10560

NASA TECH BRIEF

This NASA Tech Brief is issued by the Technology Utilization Division to acquaint industry with the technical content of an innovation derived from the space program.

Camera Shutter is Actuated by Electric Signal



The problem: To design a camera shutter that can be actuated by an electric signal from a remote source.

The solution: A shutter that is opened by a rotary solenoid on receipt of an electric signal and closed by a spring when the signal is interrupted.

How it's done: A covered lightproof case with a threaded adapter for attaching it to the camera houses the shutter and linkages connecting the shutter to the solenoid shaft. The rotary solenoid is mounted on the outside of the case and engages with the cam at the end of one of the linkages. When the solenoid is energized by an electric signal the shaft rotates to open the shutter. A spring returns the shutter to the closed position when the solenoid is de-energized. By installing a microswitch in the case, as shown in the illustration, the shutter can be made to open and close in one continuous, rapid operation when an actuating signal is applied to the solenoid. Shutter assemblies of this type, adapted to standard cameras in use at Ames Research Center, have performed satisfactorily at speeds of up to 0.01 second.

Notes:

1. The microswitch can also be used to trigger a spark discharge (or other luminous source) which will provide light for taking a photograph.

(continued overleaf)

2. The light aperture in the bottom of the case can be fitted with an adjustable iris for regulating the amount of light entering the camera.
3. A related invention is described in NASA Tech Brief B63-10227, March 1964. Inquiries may also be directed to:

   Technology Utilization Officer
   Ames Research Center
   Moffett Field, California, 94035
   Reference: B63-10560

Patent status: NASA encourages the immediate commercial use of this invention. It was invented by a NASA employee and a patent application has been filed. Inquiries concerning license rights may be made directly to the inventor, Mr. J. E. Neff, Ames Research Center, Moffett Field, California, 94035.

Source: J. E. Neff
(ARC-20)