

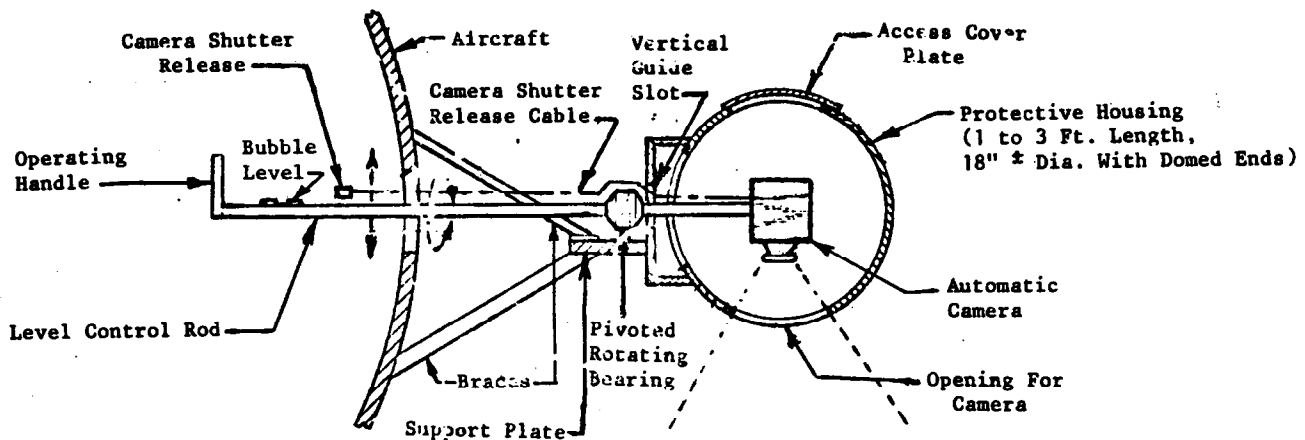
# Coastal Engineering Technical Note

## USE OF A 35MM CAMERA FOR VERTICAL AERIAL PHOTOGRAPHY

PURPOSE: To present an inexpensive method for acquiring aerial photography by using a 35mm camera.

BACKGROUND: Making rapid assessments of land feature changes, especially along the coast where changes can occur suddenly is sometimes necessary, and one method which can be used to document these changes is vertical aerial photography. A typical 35mm camera can often provide adequate data. The trade-offs of the 35mm camera versus the conventional 9 inch mapping camera are the smaller camera's reduced coverage per frame and distortion due to lens effects. If unscaled documentation is the primary need, the 35mm camera will usually suffice.

PROCEDURE: The 35mm camera can be mounted to a helicopter or small fixed-winged aircraft. Corps field offices have successfully mounted cameras on both type aircraft. They attached the camera to the outside of the aircraft by means of pipes and clamps. The Baltimore District developed a U.S. Government patent (4,174,162) for an aerial camera mount which is shown below. The patent grants free use to any Federal agency.



CAMERA MOUNT CROSS SECTION

A motorized camera remotely advances the film. Bulk film loaded motorized attachments, which can hold up to 33 feet of film or 250 frames, reduces the number of times the aircraft will have to land to change film.

Omaha District modified a 260 Piper Cheyenne to provide a 4 inch opening in the rear of the plane to accommodate a vertical camera mount and removed the rear seats to allow the camera operator room to lie down for easy viewing. Closed circuit television was used to keep on target. The video camera was mounted next to the 35mm camera and the 12 inch console was placed so that both the pilot and the cameraman could see the same picture.

ADDITIONAL INFORMATION: For additional and more detailed operating instruction for the 35mm camera used for aerial coverage and for the proper scale, overlap, altitudes of flight, film type and general aerial photography procedures, see the "Remote Sensing Applications Guide", Engineering Pamphlet 70-1-1, October 1979

For information on the Omaha method, contact the Regulatory Functions Branch, Omaha District, Bud Nelson or Don Hintz (402) 221-4128 or FTS 864-4128.