A note on the deflection of the engine mount in No. 4 test cell

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SUBJECT A NOTE ON THE DEFLECTION OF THE ENGINE MOUNT IN NO. 4 TEST CELL.

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A NOTE ON THE DEFLECTION OF THE ENGINE MOUNT IN NO. 4 TEST CELL.

As a preliminary to installing a pure jet engine of large thrust in No. 4 Test Cell, it was necessary to check the deflection of the supporting bridge and engine mount when a large load was applied. The contention was that with a thrust of 10,000 lb., the structure would distort, so that a small component of engine weight would be applied to the thrust measuring apparatus and give an enormously high thrust indication.

The Python turbo-prop engine was mounted as shown in Figure 1. A small horizontal and vertical scale was mounted on the engine cowling just aft of the propeller spinner. This was observed through a surveyor's transit which was set up in the Observation Room and adjusted so that statically the cross bars coincided with the scales on the engine.

The engine was started and operated at approximately 3500 SHP so that the thrust on the mounting plate and bridge was approximately 10,000 lb. Under this condition the nose of the engine moved forward 3/16 in. and down 1/16 in.

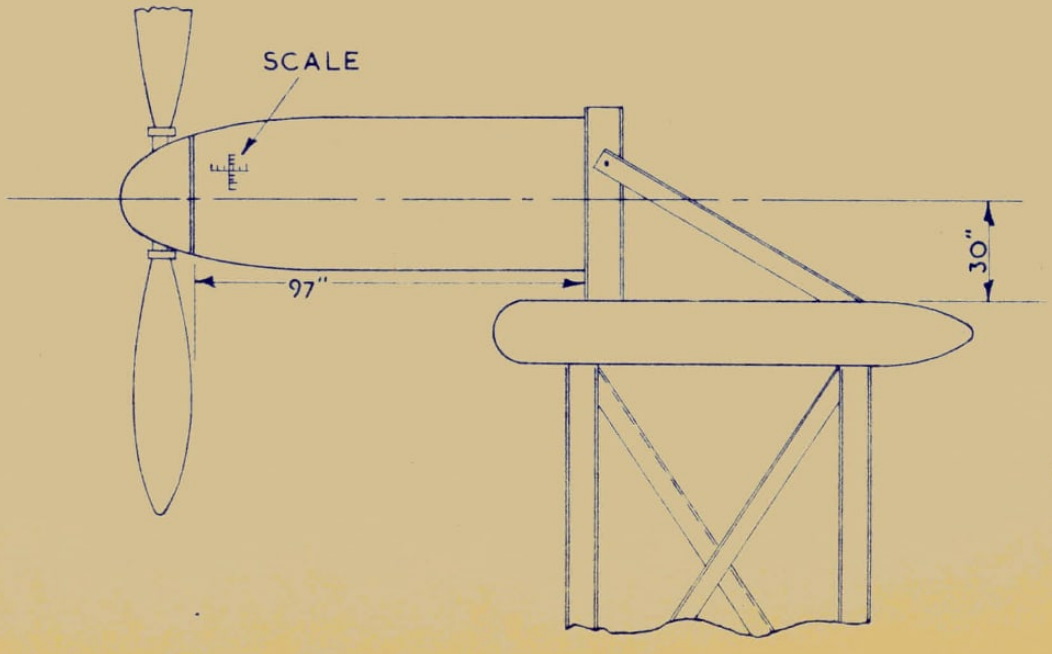

FIG. 1