



### FFG-7 GEAR, MAIN REDUCTION MOCKUP, DEVICE 19E36

#### TRAINING CATEGORY:

PROPULSION ENGINEERING (Equipment Maintenance)

#### ORIGINATING AGENCY:

CNET

#### SECURITY CLASSIFICATION:

Device 19E36 is unclassified.

#### INTENDED USE:

The device will permit demonstration of the device mechanism from the free turbine shafts through the reduction gear mechanism to the propeller shaft. The device will be used to demonstrate how different input speeds of the high and low pressure turbine are combined by means of different reduction pinions to yield a common output speed.

#### FUNCTIONAL DESCRIPTION:

The device will be a one-fourth (1/4) scale, three (3) dimensional, hand operable mockup of the main reduction gear.

The reduction gear mockup will include the shafts, gearing, pump drives, tachometer generator, engine and shaft brake panels, clutch and inspection covers of the operational equipment. The inputs of the first stage reduction will be operable through a hand cranking mechanism. The rotation will be in a clockwise direction only when viewed from the output shaft end. All flexible shaft coupling connecting the free turbine output shafts to the reduction pinions will be shown.

A transparent plastic enclosure representing the main gear housing will be provided. It will be stylized, provided with controls necessary for operation of the mockup extended outside the enclosure and removable from the mockup for maintenance purposes. The mockup will consist of a manually operable train of plastic gears duplicating reduction and pinion gears meshed to a bull gear. Flexible couplings will connect portions of both free turbine output shafts to the reduction pinions.

The mockup will be designed and constructed to be clearly visible in a normal size classroom, (600 Sq. Ft). The gears will be labeled and color coded. The various colors utilized should show contrast and be distinguishable.

**PHYSICAL INFORMATION:**

Main reduction gear mockup will be approximately 60" long and 24" wide. It will be light weight to allow inter-class movement between floors and will be covered with a suitable protection cover.

**ENVIRONMENTAL CHARACTERISTICS:**

The device shall be able to withstand classroom use and shall not be adversely affected in any manner during storage and transportation when under ambient temperatures ranging from -5° to 125° F and relative humidity ranging up to 95%.

**INSTALLATION AREA:**

Mockup will be mounted on a table type, caster supported stand at approximately eye level viewing height of a seated class.

**PUBLICATIONS FURNISHED:**

An instructor's guide in the form of a two-sided, laminated sheet for maintenance and operation of the device will be provided.

**PERSONNEL:**

Instructor - One (1)  
Trainees - Classroom

**LOCAL STOCK NUMBER:**

6910-LL-C00-4997