

35. TESTING THE GENERATOR.

a. *Testing for Grounds in Armature.* The armature circuits can be tested for grounds with the brush holder bracket removed, or with the entire generator assembled.

(1) If brush holder bracket has been removed, test the rings and then the commutator (each is insulated from the other). One ground will show trouble on both rings.

(2) To test for grounds in armature with generator completely assembled, isolate the commutator from the rings by placing a strip of paper under the brushes on the rings and commutator. Use a magneto ringer, field phone, or other test device.

b. *Testing for Grounds in Field Coils.* Field coils can be tested either after removing the entire generator frame from the engine flywheel housing, or after removing the armature from the generator frame. To test coils, remove all wiring from coil terminals and ground one end of a test wire equipped with battery and bell, light, or voltmeter in the circuit. Attach the other lead of the test circuit to one of the coils. If current flows, one or more of the coils is grounded. To determine which one, disconnect the coils from each other and test separately.

NOTE: When coils are hot they will often show grounds which will not show after the coils have cooled.

c. *Testing for Open Circuits in Coils.* Each field coil consists of two insulated coils rapped as a single coil. Before testing coils, place a strip of paper under each brush, in the same manner as for testing the armature with the generator completely assembled (subparagraph a above). Remove cable S-1 from the terminal at the back of the voltage regulating relay, and remove cable F from its terminal. Attach one wire of the test circuit to cable S-1 terminal. Test for a complete circuit from a positive d-c brush to the S-1 terminal, using the same test as previously described for locating grounds (subparagraph b above). Test the d-c stator field circuit by attaching one test wire to a positive d-c brush stud, and touching the other to the cable F terminal. Absence of current flow indicates an open. To locate an open in the alternator field, disconnect one of the field leads from either of the two a-c brush studs, and test the circuit (fig. 17).

36. REMOVING FLYWHEEL.

a. *General.* After the armature has been removed, (paragraph 35b), the flywheel can be removed as shown in figure 38.

b. Procedure for Removal.

(1) Remove Woodruff key from armature shaft. In removing this key, do not burr or cut edges of grooves that the key fits.

(2) Remove armature spacer.

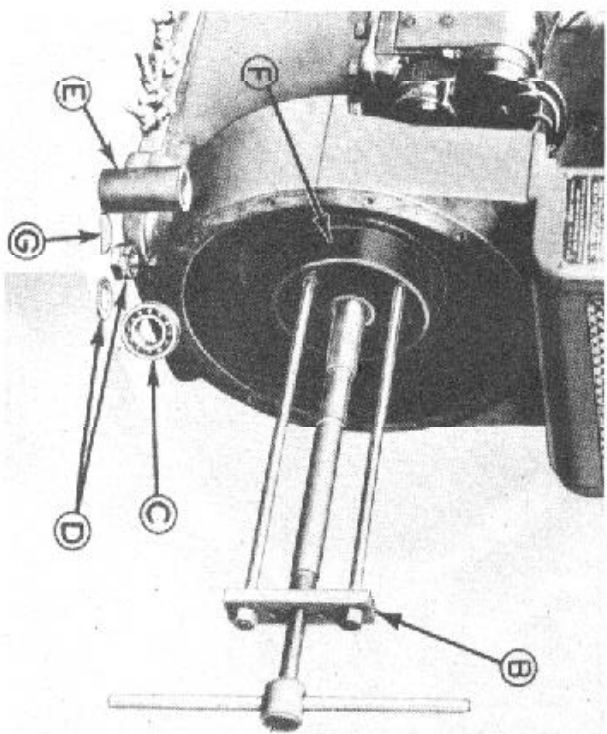
(3) Remove generator fan.

(4) Remove engine fan belt. To do so, loosen engine fan holding nut and drop fan in housing to permit lifting belt over fan.

(5) Clean the two holes specially drilled for the flywheel puller.

(6) Attach flywheel puller and remove flywheel.

c. *Split Covers (oil retainers).* The split covers, which hold oil in engine oil base, are visible after flywheel has been removed (fig. 39). The split covers are held in place by six cap screws, and are fitted with copper asbestos packing washers. Clearance between crankshaft and



TL-94738

- B. Flywheel puller.
- C. Generator bearing nut and washer.
- D. Generator bearing nut and washer.
- E. Armature spacer.
- F. Flywheel.
- G. Woodruff key.

Figure 38. Removing flywheel.