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This exam contains 32 questions.

1. The propeller blade angle is defined as the acute angle between the airfoil section chord line (at the blade reference station) and which of the following?

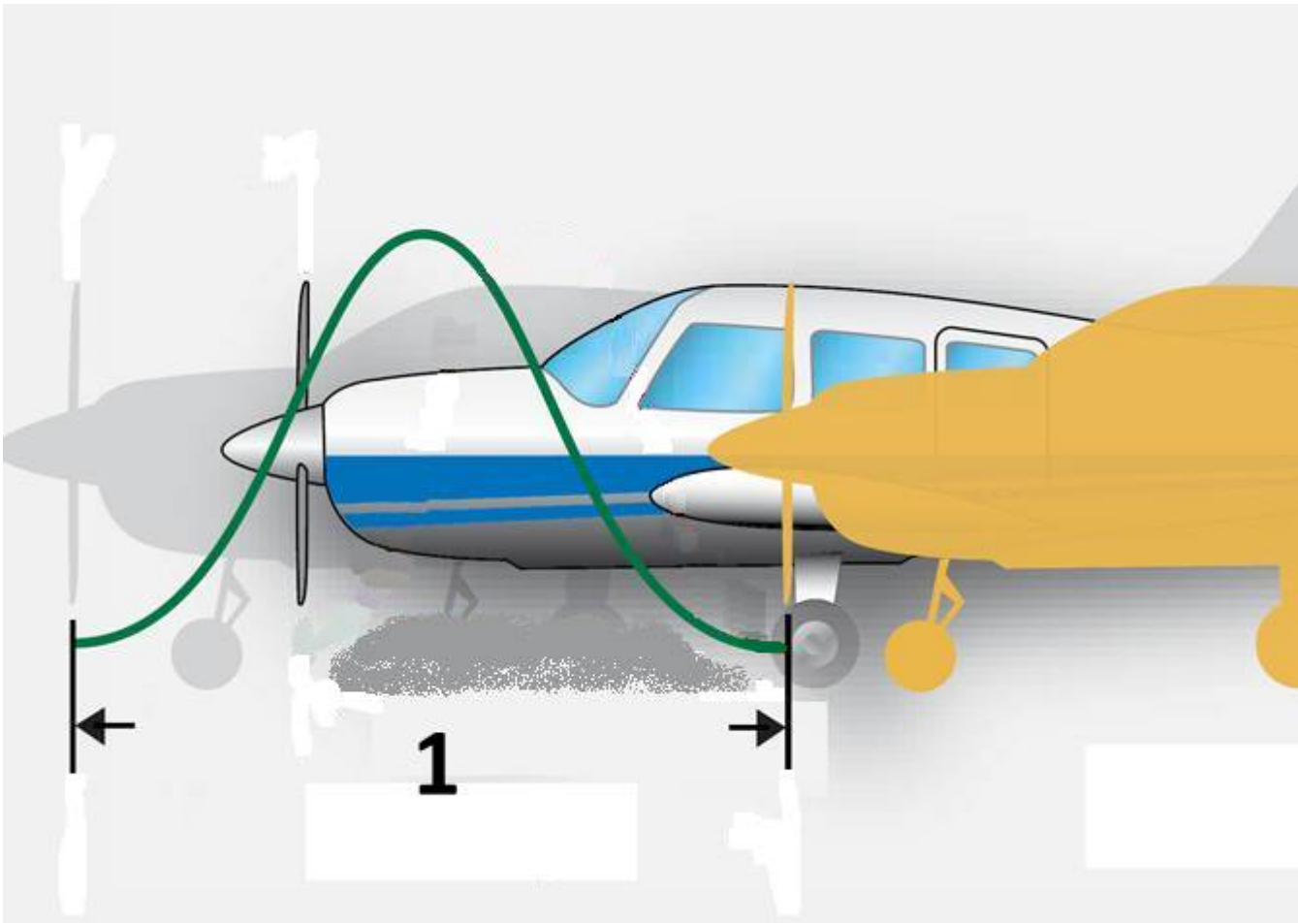
a. The axis of blade rotation during pitch change.
b. The plane of rotation.
c. The relative wind.

2. What is geometric pitch?

The distance a propeller....

a. advance in normal wheater conditions
b. is actually advanced.
c. should advance in one revolution.

3. In the figure is a propeller shown in forward motion. What is depicted in the figure?



a. The propeller geometric pitch
b. The propeller slip
c. The propeller effective pitch

4. The centrifugal twisting force is used to force the propeller blad to....

a. feather.
b. low pitch.
c. high pitch.

5. The centrifugal twisting moment of an operating propeller tends to...

a. bend the blades in the direction of rotation
b. increase the pitch angle
c. the low pitch angle.

6. During take off and maximum power, the constant speed propeller is in the....

a. coarse pitch.
b. fine pitch.
c. medium pitch.

7. What operational force causes propeller blade tips to lag in the opposite direction of rotation?

a. Aero-dynamic twisting force.
b. Thrust bending force.
c. Torque-bending force.

8. What is the basic purpose of the small holes in the tip of a propellers made from wood?

a. To allow the moisture which may collect between the tipping and the wood to escape (vent the tipping).
b. To provide a means for inserting balancing shot when necessary.
c. To provide a means for periodically impregnating the blade with preservation material.

9. Which of the following functions requires the use of a propeller blade station?

a. Measuring blade angle.
b. Indexing blades.
c. Propeller balancing.

10. Propeller blade stations are measured from the

a. index mark on the blade shank.
b. blade base.
c. hub centerline.

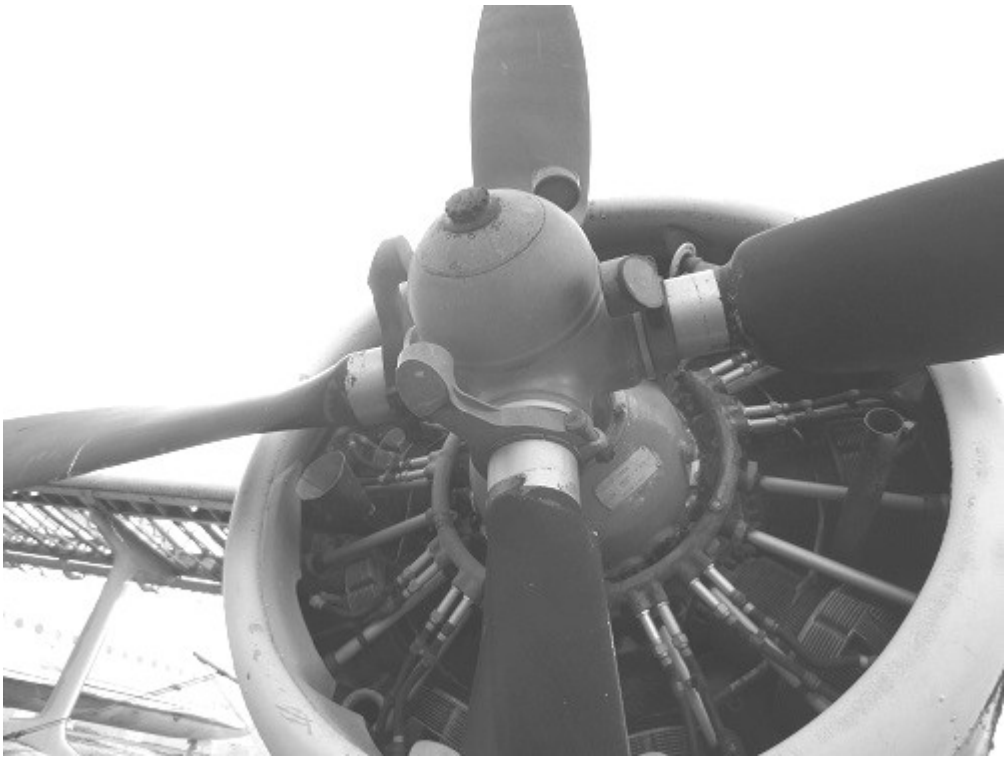
11. On which purpose is a test club propeller used?

a. The test club propeller is used to test and break in reciprocating engines.
b. The test club propeller is used to test and break in on both types of engines.
c. The test club propeller is used to test and break in turboprop engines.

12. The change in pitch of a controlable two pitch propeller is done by....

a. engine rpm.
b. governor.
c. the pilot.

13. Which of the following forces or combination of forces operates to move the blades on a constant speed counterweight-type propeller to the COARSE PITCH position?



a. Propeller governor oil pressure acting on the propeller piston-cilinder arrangement.
b. Centrifugal force acting on the counter weights.
c. Engine oil pressure acting on the propeller piston-cilinder arrangement and the centrifugal force acting on the counterweights.

14. What actuates the pilot valve in the governor of the constant-speed propeller?

a. Governor pump oil pressure
b. Governor flyweights
c. Engine oil pressure

15. The propeller governor controls the?

a. oil to and from the pitch changing mechanism.
b. spring tension on the boost pump speeder spring.
c. linkage and counterweights from moving in and out.

16. When the oil pressure in a hydromatic propeller on both sides of the piston drops to zero, the propeller remains in the?

a. low angle position.
b. feathering position.

c. high angle position.

17. What is the most powerful force on a constant speed propeller?

a. Aerodynamic twisting force.
b. The governor oil pressure.
c. Centrifugal twisting force.

18. For safety purpose it is necessary to check the over speed governors operation.

How is this check done?

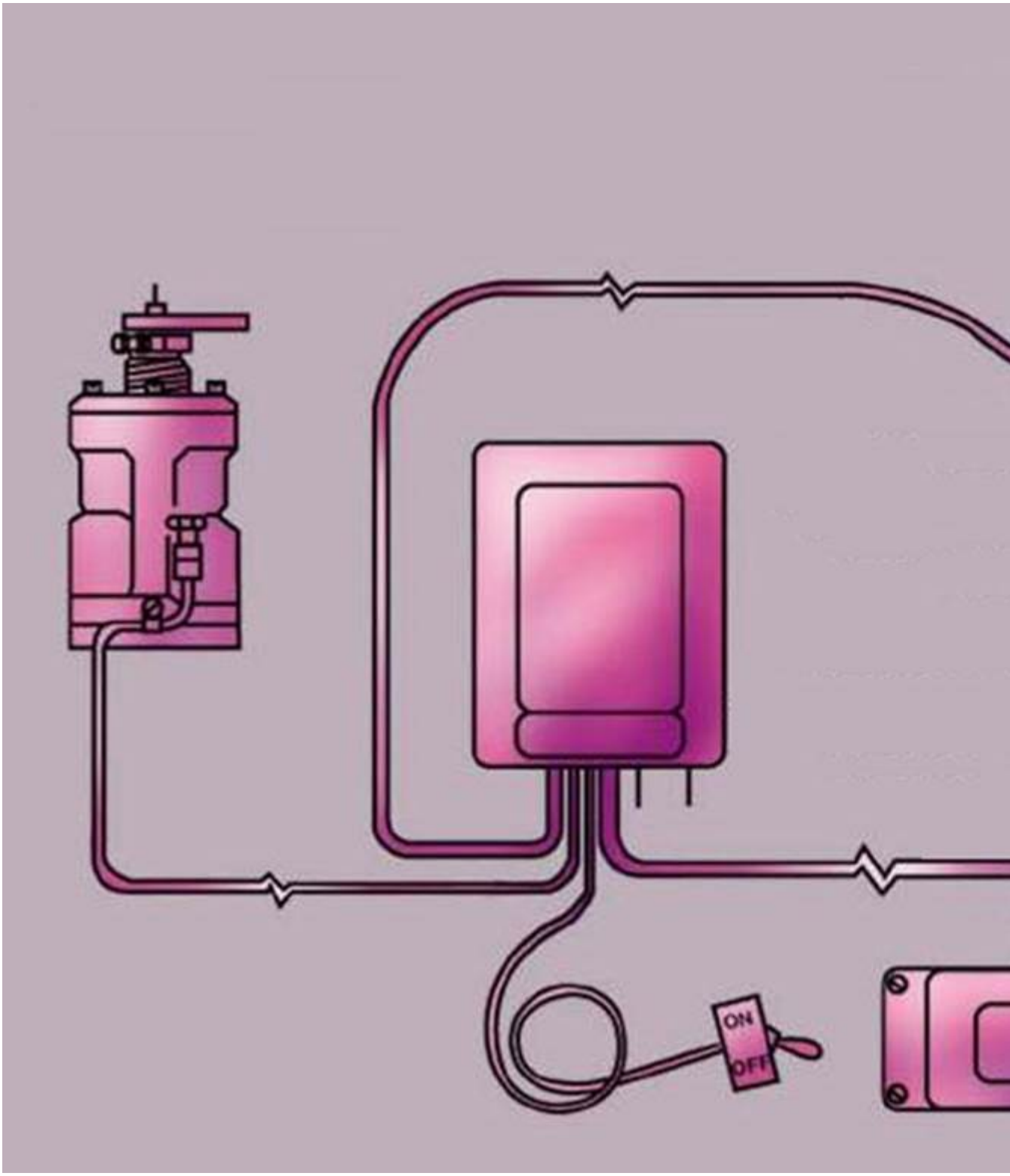
a. Manually by a hydraulic valve which is typically incorporated in the governor.
b. By an electrical test solenoid which is typically incorporated in the propeller.
c. By an electrical test solenoid which is typically incorporated in the governor.

19. For safety purpose it is necessary to check the overspeed governors operation.

When does this check take place?

a. This check takes place during ground run-up procedures.
b. This check takes place before ground run-up procedures.
c. This check takes place during flight.

20. In the figure below you can see a propeller control system. The component which is encircled is a propeller governor. What is the function of this governor?



a. The function of this governor is to protect the propeller over speed.
b. The function of this governor is to control the aircraft speed.
c. The function of this governor is to control the propeller synchronization speed.

21. On most multi-engine aircraft, automatic propeller synchronizing is accomplished through the actuation of the....

a. propeller governors.
b. propeller control levers.
c. throttle levers.

22. The synchrophasing system....

a. changes the rpm of the propeller.
b. changes the phase angle of the propeller.
c. changes the blade angle of the propeller.

23. Ice formation on propellers, when an aircraft is in flight, will

a. increase aircraft stall speed and increase noise.
b. decrease available engine power.
c. decrease thrust and cause excessive vibration.

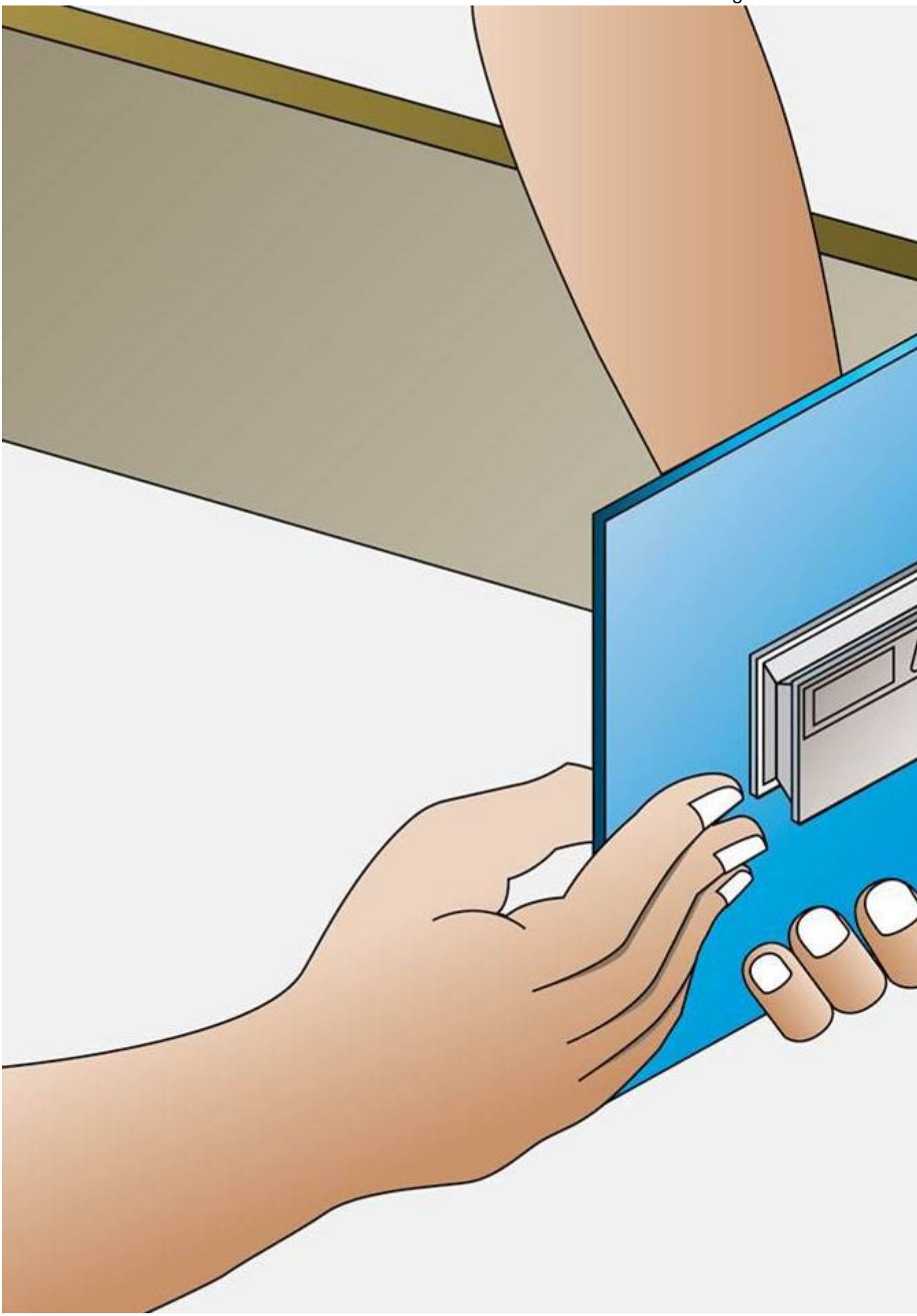
24. How is aircraft electrical power for propeller de-icer systems transferred from the engine to the propeller hub assembly?

a. By flexible electrical connectors.
b. By slip rings and brushes.
c. By slip rings and segment plates.

25. Apparent engine roughness is often a result of propeller unbalance. The effect of a unbalanced propeller will usually be:

a. approximately the same at all speeds.
b. greater at high RPM.
c. greater at low RPM.

26. The device used in the figure is?



a. A propeller blade protractor.
b. A propeller blade gauge indicator.
c. A propeller blade face indicator.

27. Inspection of propeller blades by dye penetrant inspection is accomplished to detect

a. corrosion on the blade tip.
b. cracks or other defects.
c. torsional stress.

28. How can a steel propeller hub be tested for cracks?

a. By anodizing
b. By magnetic particle inspection.
c. By etching.

29. After flushing and drying the propeller, the blades must be coated with?

a. Clean engine oil.
b. Stoddart solvent.
c. Grease.

30. An out of track propeller could be a result of?

a. Mounting bolts that are under- or over torqued.
b. A bent propeller flange.
c. Both answers are correct.

31. When a propeller is cleaned for inspection after long time storage, the propeller must ....

a. covered with lint free cloth after inspection.
b. sprayed with oil after inspection.
c. covered with corrosion preventative compound after inspection.

32. The storage period in relation with conditions are defined by the :

a. operator.
b. propeller manufacturer.
c. maintenance facility.