

### Question block created by wizard

1. A right-handed propeller rotates, viewed in the flight direction;
- (a) The rotation depends on the position before or after the cockpit
  - (b) Clock-wise
  - (c) Anti clock-wise

*If choice b is selected set score to 1.*

2. A fixed pitch propeller is:
- (a) Normally used for low speed piston engine aircraft.
  - (b) Only used for engines with anti-clockwise rotation.
  - (c) Only used for high speed dual engine aircraft.

*If choice a is selected set score to 1.*

3. The propeller blade trailing edge is:
- (a) The rear part of the blade in the rotation direction.
  - (b) The front part of the blade in the rotation direction.
  - (c) the lower part of the blade near the propeller hub.

*If choice a is selected set score to 1.*

4. A left handed propeller rotates:
- (a) Clockwise or anti-clockwise, depending on the engine rotation.
  - (b) Always anti-clockwise, viewed in the flight direction.
  - (c) Always clock wise.

*If choice b is selected set score to 1.*

5. The propeller hub is:
- (a) The center of the blade between the tip and the shank.
  - (b) The center which the blades are attached on.
  - (c) The widest part of the blade.

*If choice b is selected set score to 1.*

**6.** The propeller blade shank is....

- (a) the inner part of the blade, near the hub.
- o (b) the thinnest part of the blade.
- o (c) the outer part of the blade, near the tip.

*If choice a is selected set score to 1.*

**7.** The propeller blade angle is:

- (a) The angle between the plane of rotation and the blade chord line.
- o (b) The angle between the blades in the plane of the rotation.
- o (c) The angle between the blade chord line and the relative air flow.

*If choice a is selected set score to 1.*

**8.** The propeller blade angle of attack is:

- o (a) The angle between the blade chord line and the propeller axis.
- o (b) The angle between the blades in the plane of rotation.
- (c) The angle between the blade chord line and the relative airflow.

*If choice c is selected set score to 1.*

**9.** The optimum angle of attack along the full length of a propeller blade is obtained by:

- o (a) A constant rotation speed.
- o (b) A flat shaped blade tip.
- (c) Blade twist.

*If choice c is selected set score to 1.*

**10.** The angle of advance or helix angle is measured between:

- o (a) The relative airflow and the propeller axis.
- (b) The relative airflow and the plane of rotation.
- o (c) The relative airflow and the blade chord line.

*If choice b is selected set score to 1.*

**11.** What is the geometric pitch of a propeller blade?

- o (a) The slip plus the angle of attack.
- o (b) Measured between the propeller axis and the plane of rotation.

- (c) The effective pitch plus the angle of attack / slip.

*If choice c is selected set score to 1.*

**12.** The propeller plane of rotation,..

- o (a) is the direction of rotation viewed in the flight direction.
- (b) is at a right angle to the propeller axis.
- o (c) depends on the number of propeller blades.

*If choice b is selected set score to 1.*

**13.** The force that tries to pull the blade out of the blade hub is called:

- o (a) Thrust bending force.
- (b) Centrifugal force.
- o (c) Aerodynamic drag.

*If choice b is selected set score to 1.*

**14.** Thrust force on a propeller blade appears:

- o (a) Only on the ground.
- o (b) Only during flight.
- (c) At 90 degrees to the plane of rotation.

*If choice c is selected set score to 1.*

**15.** The resistance to the propeller rotation caused by the aerodynamic drag forces on the blades is called:

- o (a) Centrifugal force.
- (b) Propeller torque.
- o (c) Thrust bending force.

*If choice b is selected set score to 1.*

**16.** Aerodynamic vibrational force on a blade is caused by:

- o (a) Power pulses of a piston engine.
- o (b) Propeller centrifugal force.
- (c) Transonic speeds at the blade tip.

*If choice c is selected set score to 1.*

**17.** Mechanical vibrations on a moving blade appears because of:

- (a) Centrifugal forces.
- (b) Power pulses of a piston engine.
- (c) Propeller torque.

*If choice b is selected set score to 1.*

**18.** The most critical location to find mechanical stress is:

- (a) At the blade hub.
- (b) About 2.5cm from the blade tip.
- (c) At the blade leading edge.

*If choice b is selected set score to 1.*

**19.** 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 relative wind.
- (c) The plane of rotation.

*If choice c is selected set score to 1.*

**20.** What is the major force acting on a turning propeller?

- (a) Bend
- (b) Aerodynamic
- (c) Centrifugal

*If choice c is selected set score to 1.*

**21.** What could be the result when the blade tip speed of a propeller blade is too fast?

- (a) The forward speed of the aircraft slows down.
- (b) Propeller starts to go in the feather position.
- (c) Poor blade efficiency, but also fluttering and vibration.

*If choice c is selected set score to 1.*

**22.** A constant-speed propeller provides maximum efficiency by

- (a) increase blade pitch as the aircraft speed decreases.
- (b) adjust blade angle for most conditions encountered in flight.
- (c) increasing the lift coefficient of the blade.

*If choice b is selected set score to 1.*

**23.** Blade angle is an angle formed by a line perpendicular to the crankshaft and a line formed by the

- (a) chord of the blade.
- (b) blade face.
- (c) relative wind.

*If choice a is selected set score to 1.*

**24.** How can work be calculated?

- (a)  $\text{Work} = \text{thrust} \times \text{slip}$
- (b)  $\text{Work} = \text{velocity} \times \text{distance}$
- (c)  $\text{Work} = \text{thrust} \times \text{distance}$

*If choice c is selected set score to 1.*

**25.** What is geometric pitch?

The distance a propeller....

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

*If choice c is selected set score to 1.*

**26.** Geometric pitch of a propeller is defined as the

- (a) angle between the blade angle and the blade chord.
- (b) effective pitch minus slippage.
- (c) effective pitch plus slippage.

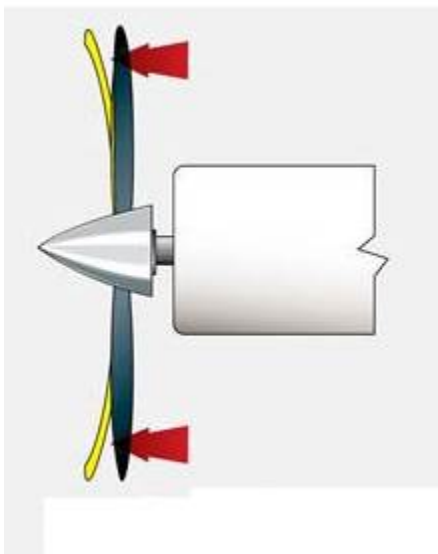
*If choice c is selected set score to 1.*

**27.** The actual distance a propeller moves forward through the air during one revolution is known as the?

- (a) Geometric pitch.
- (b) Relative pitch.
- (c) Effective pitch.

*If choice c is selected set score to 1.*

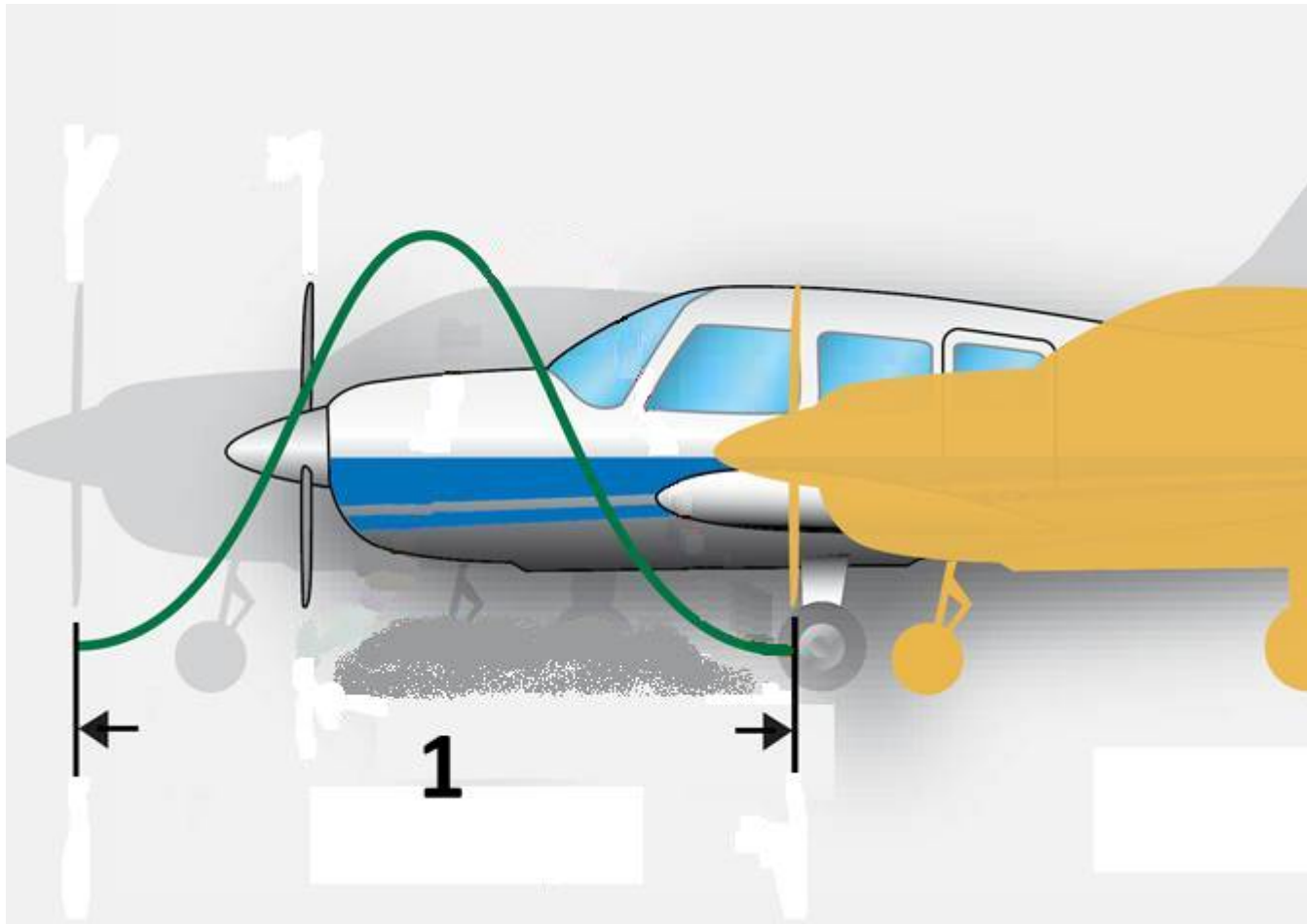
**28.** In the figure below is a propeller shown with full engine power and no forward speed. What is the effect of the bending of the blades.



- (a) The bending of the blades increases the propeller slip.
- (b) The bending of the blades has no effect on the propeller slip.
- (c) The bending of the blade decreases the propeller slip

*If choice b is selected set score to 1.*

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



- (a) The propeller slip
- (b) The propeller geometric pitch
- (c) The propeller effective pitch

*If choice b is selected set score to 1.*

30. What operational force causes the greatest stress on a propeller?

- (a) Centrifugal force.
- (b) Aerodynamic twisting force.
- (c) Thrust bending force.

*If choice a is selected set score to 1.*

31. What operational force tends to increase propeller blade angle?

- (a) Aerodynamic Twisting force

- (b) Centrifugal twisting force
- (c) Thrust bending force

*If choice a is selected set score to 1.*

**32.** What is the most dominant force that is acting on a propeller blade?

- (a) Aerodynamic twisting force.
- (b) Centrifugal twisting force.
- (c) Torque bending force.

*If choice b is selected set score to 1.*

**33.** The centrifugal twisting force is used to force the propeller blade to....

- (a) high pitch.
- (b) feather.
- (c) low pitch.

*If choice c is selected set score to 1.*

**34.** The centrifugal twisting moment of an operating propeller tends to...

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

*If choice a is selected set score to 1.*

**35.** The aerodynamic forces acting on a rotating propeller blade operating at a normal pitch angle tends to

- (a) increase the pitch angle
- (b) bends the blade forward
- (c) reduce the pitch angle

*If choice a is selected set score to 1.*

**36.** How does the aerodynamic twisting force affect operating the propeller blades?

- (a) It tends to turn the blades to a high blade angle.
- (b) It tends to turn the blades to a low blade angle.
- (c) It tends to bend the blades forward.

*If choice a is selected set score to 1.*

**37.** The primary use of a cuff on a propeller is to

- (a) distribute anti-icing fluid.
- (b) increase the flow of cooling air to the engine nacelle.
- (c) strengthen the propeller.

*If choice b is selected set score to 1.*

**38.** The primary purpose of a propeller is to

- (a) create lift on the fixed airfoils of an aircraft.
- (b) change engine power to thrust.
- (c) provide static and dynamic stability of an aircraft in flight.

*If choice b is selected set score to 1.*

**39.** The propeller designed for one rotation and forward speed is a...

- (a) ground adjustable propeller.
- (b) fixed pitch propeller.
- (c) fixed pitch and ground adjustable propeller.

*If choice c is selected set score to 1.*

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

- (a) medium pitch.
- (b) coarse pitch.
- (c) fine pitch.

*If choice c is selected set score to 1.*

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

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

*If choice b is selected set score to 1.*

**42.** What operational force tends to bend the propeller blades forward at the tip?

- (a) Centrifugal-twisting force.
- (b) Torque-bending force.
- (c) Thrust bending force.

*If choice c is selected set score to 1.*

**43.** If a vibration occurs only at one particular rpm or within a limited rpm range (e.g. 2200 - 2350 rpm), this vibration is not a normal problem. What most probably causes this problem?

- (a) The vibration is a poor engine-propeller match.
- (b) The vibration is caused by a propeller which has not been balanced.
- (c) The vibration is caused by blade shake.

*If choice a is selected set score to 1.*

**44.** The most widely used kind of wood for propeller construction is:

- (a) Birch
- (b) Chestnut
- (c) Oak

*If choice a is selected set score to 1.*

**45.** Metal propellers are made of:

- (a) Forged stainless steel.
- (b) High-strength anodized aluminum alloy
- (c) High-strength titanium.

*If choice b is selected set score to 1.*

**46.** To protect a composite propeller blade for erosion:

- (a) The blade is painted with anti-erosion paint.
- (b) A nickel shield is bonded on the blade leading edge.
- (c) A brass cover is used on the blade tip.

*If choice b is selected set score to 1.*

**47.** Propeller blade stations are measured and defined from:

- (a) The blade tip to the shank.

- o (b) The blade leading edge to the trailing edge.
- (c) The hub centre line to the blade tip.

*If choice c is selected set score to 1.*

**48.** The blade back is recognized by:

- (a) The cambered side of the blade.
- o (b) The area which is about 6 inches from the tip.
- o (c) The flat side of the blade.

*If choice a is selected set score to 1.*

**49.** A two piece (split) steel hub is used on:

- o (a) A fixed pitch propeller
- o (b) A constant speed propeller.
- (c) A ground-adjustable propeller.

*If choice c is selected set score to 1.*

**50.** A fixed-pitch propeller blade angle can:

- o (a) Be changed only on the ground.
- o (b) Be changed depending for the type of aircraft.
- (c) Never be changed.

*If choice c is selected set score to 1.*

**51.** A universal propeller protractor is used for....

- o (a) removing a propeller from the engine.
- o (b) removing a blade from the hub.
- (c) measuring the blade angle at a specific blade station.

*If choice c is selected set score to 1.*

**52.** A constant speed propeller system means:

- o (a) The propeller blade angle is constant during flight.
- o (b) The aircraft maintains a constant airspeed.
- (c) The engine/propeller combination can hold a constant rotation speed.

*If choice c is selected set score to 1.*

**53.** The propeller blade shank is:

- (a) The inner part of the blade near the hub.
- o (b) The outer part of the blade near the tip.
- o (c) The thinnest part of the blade.

*If choice a is selected set score to 1.*

**54.** On most radial engines, the method to attach the propeller to the engine is:

- (a) By a splined shaft.
- o (b) By a tapered shaft.
- o (c) By a flanged shaft.

*If choice a is selected set score to 1.*

**55.** Safety-ing a splined shaft mounted propeller is done by:

- (a) A clevis pin with a cotter pin.
- o (b) Castellated nuts and bolts with a cotter pin.
- o (c) Bolts and 1mm stainless steel safety wire.

*If choice a is selected set score to 1.*

**56.** The function of a propeller spinner is:

- o (a) Hold the propeller blades in a fixed position.
- (b) Give streamline to the propeller hub.
- o (c) Count the propeller revolutions.

*If choice b is selected set score to 1.*

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

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

*If choice c is selected set score to 1.*

**58.** What is the primary purpose of the metal tipping which covers the blade tips and extends along the leading edge of each wood propeller blade.

- (a) To prevent impact damage to the tip and leading edge of the blade.

- (b) To increase the lateral strength of the blade.
- (c) To increase the longitudinal strength of the blade.

*If choice a is selected set score to 1.*

**59.** The angle-of-attack of a rotating propeller blade is measured between the blade chord or face and which of the following?

- (a) Plane of blade rotation.
- (b) Relative airstream.
- (c) Full low-pitch blade angle.

*If choice b is selected set score to 1.*

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

- (a) Measuring blade angle.
- (b) Indexing blades.
- (c) Propeller balancing.

*If choice a is selected set score to 1.*

**61.** The numbers of the blade station start at

- (a) The blade tip.
- (b) The hub center.
- (c) The blade butt.

*If choice b is selected set score to 1.*

**62.** Propeller blade stations are measured from the

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

*If choice c is selected set score to 1.*

**63.** The propeller blade face can best be described as?

- (a) The side of the propeller which is similar to the wing under side.
- (b) The side of the propeller which is similar to the wing upper side.
- (c) The back side of the propeller.

*If choice a is selected set score to 1.*

**64.** What is a primary function of the blade cuff?

Increasing the....

- (a) bleed air pressure for the de-icing system.
- (b) air flow to the engine bleed system.
- (c) cooling flow to the engine nacelle.

*If choice c is selected set score to 1.*

**65.** Which propeller is designed for best efficiency at one rotational and forward speed?

- (a) Test club propeller.
- (b) Ground adjustable propeller.
- (c) Fixed pitch propeller.

*If choice c is selected set score to 1.*

**66.** For what kind of engines is a test club propeller used?

- (a) Turbo shaft engines.
- (b) Reciprocating engines on a test facility.
- (c) Free turbine engines on a test facility.

*If choice b is selected set score to 1.*

**67.** On which purpose is a test club propeller used?

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

*If choice b is selected set score to 1.*

**68.** The design of a fixed-pitch propeller for best efficiency. What is the best efficiency?

- (a) With best efficiency is referred to the optimum speed.
- (b) With best efficiency is referred to the optimum RPM.
- (c) With best efficiency is referred to a combination of optimum RPM and speed.

*If choice c is selected set score to 1.*

69. In the figure is a 3 blade controllable pitch propeller shown. What type of propeller is shown?



- (a) The propeller shown is a constant speed propeller.
- (b) The propeller shown is a ground adjustable propeller.
- (c) The propeller shown is a two position controllable pitch propeller.

*If choice c is selected set score to 1.*

70. Is it necessary that the spinner is installed during propeller dynamic balancing?

- (a) It is not necessary for composite spinners to be installed during propeller dynamic balancing.
- (b) The spinner has always to be installed during propeller dynamic balancing.
- (c) The spinner should not be installed during propeller dynamic balancing.

*If choice b is selected set score to 1.*

**71.** The primary purpose of the front and rear cones for propellers that are installed on splined shafts is to:

- (a) position the propeller hub on the splined shaft.
- o (b) reduce stresses between the splines of the propeller and the splines of the shaft.
- o (c) prevent metal-to-metal contact between the propeller and the splined shaft.

*If choice a is selected set score to 1.*

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

- (a) engine rpm.
- o (b) governor.
- o (c) the pilot.

*If choice a is selected set score to 1.*

**73.** What force stops the minimum wind milling, when the propeller is in feather position?

- (a) Aerodynamic force.
- o (b) Centrifugal force.
- o (c) Thrust force.

*If choice a is selected set score to 1.*

**74.** When is it possible to move the propeller blades in a negative pitch?

- o (a) During landing short before touch down.
- (b) When the landing gear is in contact with the runway.
- o (c) In all flight conditions.

*If choice b is selected set score to 1.*

**75.** To install a propeller on this engine shaft, what is so special to this shaft?



- (a) The master spline.
- o (b) The coloured markings on the shaft.
- o (c) The stamped markings on the shaft.

*If choice a is selected set score to 1.*

**76.** A governor in an hydraulic constant-speed propeller system is sensitive for rotational speed and is connected to the....

- (a) pitch change mechanism.
- o (b) counterweight.
- o (c) propeller hub.

*If choice a is selected set score to 1.*

**77.** Engine rotation speed can be controlled by the prop blade angle. If the blade angle decreases;

- (a) The engine rotation speeds up.
- o (b) The engine rotation remains steady.
- o (c) The engine rotation slows down.

*If choice a is selected set score to 1.*

**78.** Decreasing the blade angle in a counterweight constant speed propeller system is controlled by;

- o (a) A counterweight.
- o (b) Internal spring.
- (c) Oil pressure.

*If choice c is selected set score to 1.*

**79.** Decreasing the blade angle in a non-counterweight constant speed propeller system is controlled by;

- (a) An internal spring.
- o (b) Hand, only on the ground.
- o (c) Oil pressure.

*If choice a is selected set score to 1.*

**80.** The purpose of a governor in a constant-speed propeller system is;

- o (a) To keep the prop blade angle constant.
- o (b) To keep the aircraft forward speed constant.
- (c) To keep the engine rotation speed constant.

*If choice c is selected set score to 1.*

**81.** What is the Beta Mode?

- (a) This is the moment when a governor goes in an overspeed condition.
- (b) This is normally called the feather position.
- (c) The range of operation for the power lever from flight idle to reverse.

*If choice c is selected set score to 1.*

**82.** The counterweight of a constant-speed propeller is used for;

- (a) Avoiding excessive vibration.
- (b) Measuring the aircraft forward speed.
- (c) Helping to move the propeller blades to a high pitch position.

*If choice c is selected set score to 1.*

**83.** The motor brake in an electric variable pitch propeller system is active when....

- (a) the aircraft is in the landing phase.
- (b) the propeller blade pitch is changed.
- (c) in case of propeller overrun.

*If choice c is selected set score to 1.*

**84.** During an aircraft dive, the governor of a controllable-pitch propeller;

- (a) Increasing the prop blade angle.
- (b) Decreasing the prop blade angle.
- (c) Increasing the engine rotation speed.

*If choice a is selected set score to 1.*

**85.** During a reverse pitch blade angle, the propeller;

- (a) Stops to rotate.
- (b) Slows down the aircraft.
- (c) Accelerating the aircraft.

*If choice b is selected set score to 1.*

**86.** A full feathering propeller system is used;

- (a) Only during the landing phase.

- (b) To prevent high drag during an engine failure.
- o (c) On a single engine aircraft.

*If choice b is selected set score to 1.*

**87.** Gradual wearing away on a propeller due to air contamination like sand and dust is called:

- (a) Erosion.
- o (b) Corrosion.
- o (c) Distorsion.

*If choice a is selected set score to 1.*

**88.** Propeller blades in feathered position means;

- o (a) The blade angle is at 45 degrees with the hub centre line.
- (b) The blade angle is almost parallel with the hub centre line.
- o (c) The blade angle is across the hub centre line.

*If choice b is selected set score to 1.*

**89.** To protect the propeller for overspeed, the propeller system uses;

- o (a) A high pressure hydraulic pump.
- o (b) The feathered blade position.
- (c) A governor with fly weights.

*If choice c is selected set score to 1.*

**90.** To protect the propeller/engine combination for an overspeed condition, the propeller blade angle must be;

- (a) Increasing
- o (b) Negative
- o (c) Decreasing

*If choice a is selected set score to 1.*

**91.** When the centrifugal force acting on the propeller governor flyweights overcomes the tension on the speeder spring, a propeller is in what condition?

- o (a) On speed
- (b) Overspeed

- (c) Underspeed

*If choice b is selected set score to 1.*

**92.** How is the speed (RPM) of a constant-speed propeller changed in flight?

- (a) By advancing or retarding the throttle.
- (b) By changing the load tension against the flyweights in the governor.
- (c) By varying the output of the governor booster pump.

*If choice b is selected set score to 1.*

**93.** How is a propeller controlled in a large aircraft with a turboprop installation?

- (a) Independently of the engine.
- (b) By the propeller control lever.
- (c) By varying the engine RPM except for feathering and reversing.

*If choice b is selected set score to 1.*

**94.** During the on-speed condition of a propeller, the..

- (a) tension on the speeder spring is less than the centrifugal force acting on the governor flyweights.
- (b) centrifugal force of the governor flyweights is equal to the speeder spring force.
- (c) centrifugal force acting on the governor flyweights is greater than the tension of the speeder spring.

*If choice b is selected set score to 1.*

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

- (a) Governor pump oil pressure
- (b) Engine oil pressure
- (c) Governor flyweights

*If choice c is selected set score to 1.*

**96.** What action takes place when the cockpit control lever for a hydromatic, constant-speed propeller is actuate?

- (a) The governor bypass valve is positioned to direct oil pressure to the propellerdome.
- (b) Compression of the speeder spring is changed.

- (c) The governor booster pump pressure is varied.

*If choice b is selected set score to 1.*

**97.** On an underspeed condition the blades are turned to....

- (a) fine.
- (b) feather.
- (c) coarse.

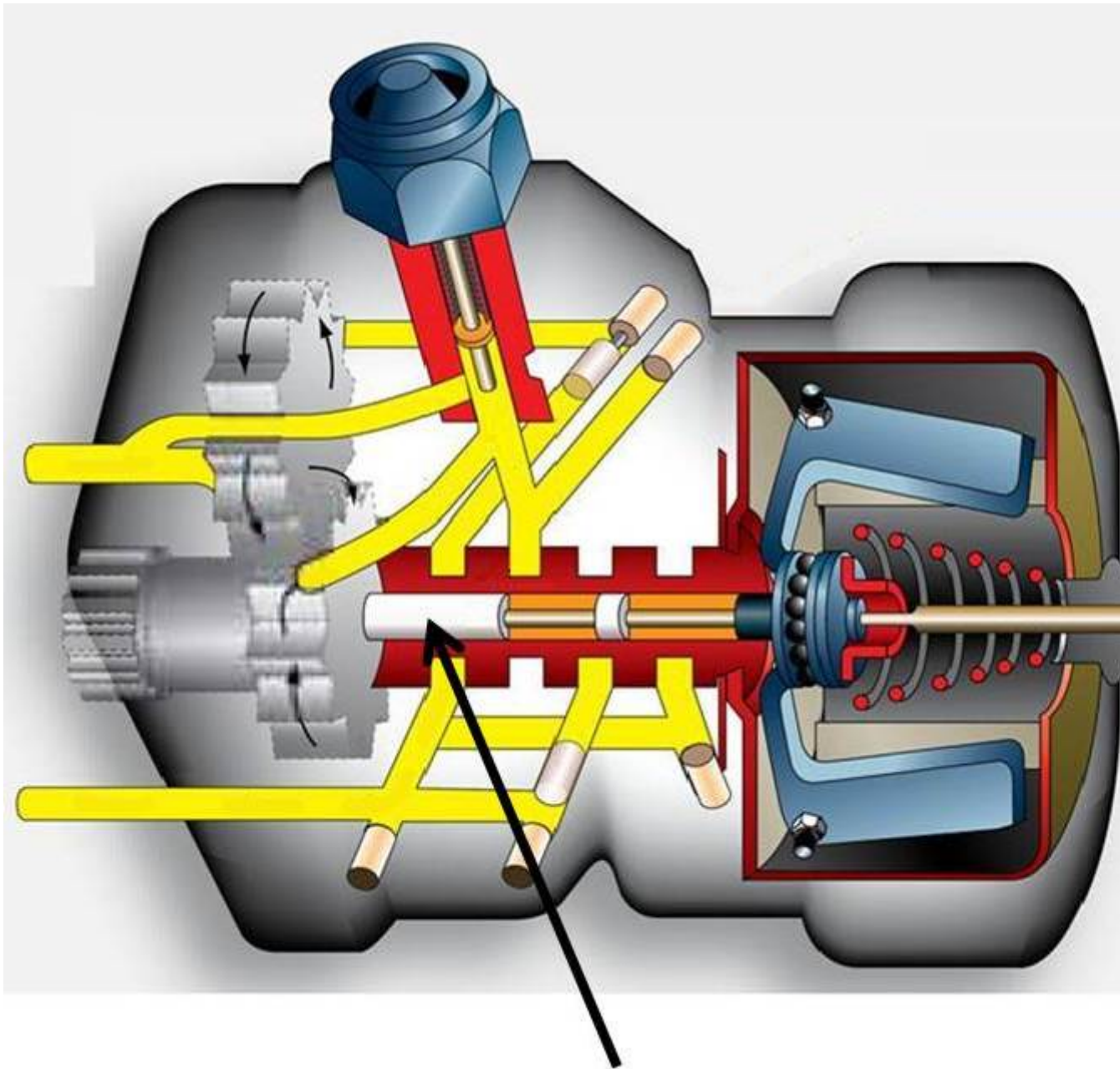
*If choice a is selected set score to 1.*

**98.** 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.

*If choice a is selected set score to 1.*

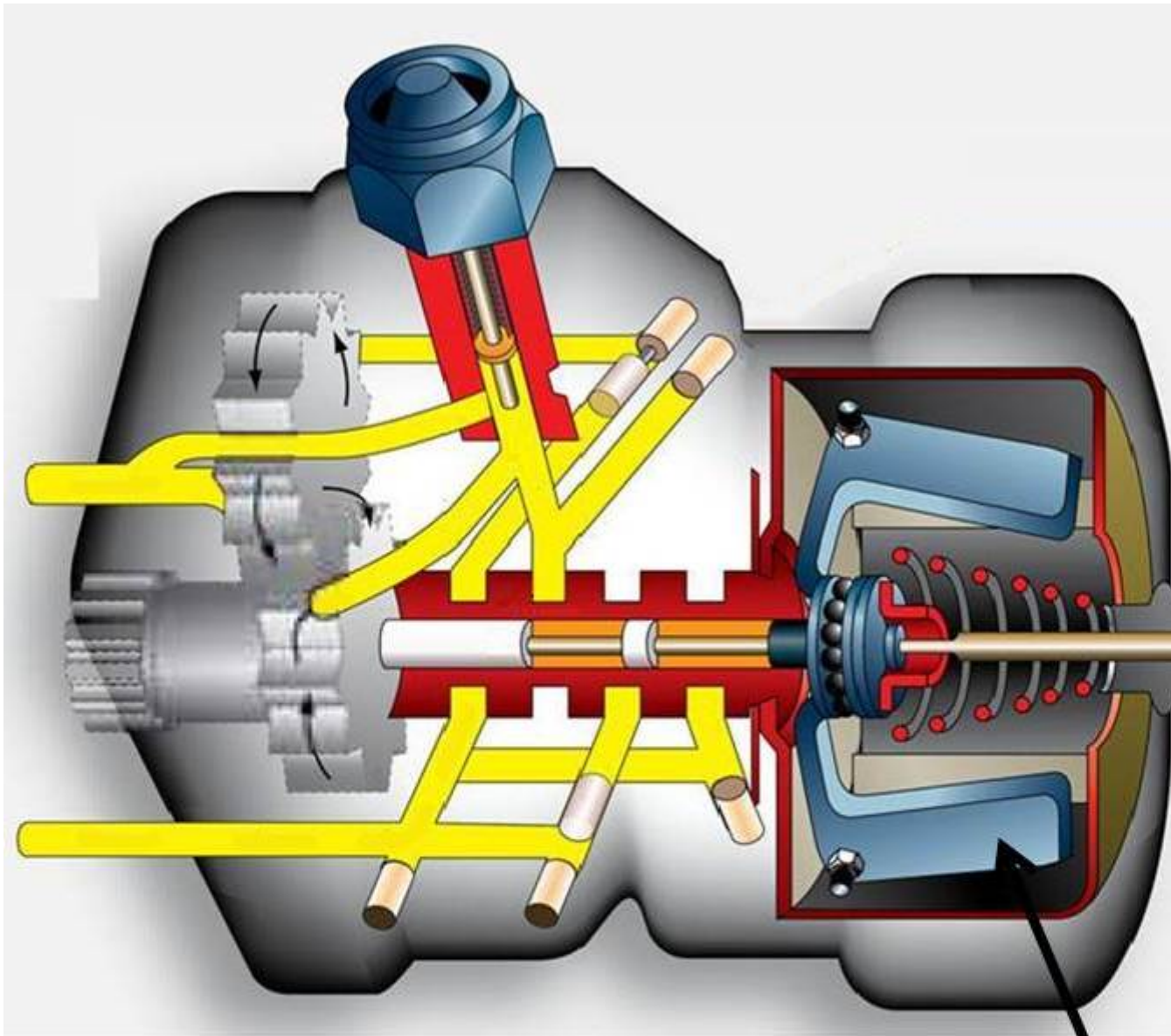
99. The arrow in the figure shows a component. What is this component called?



- (a) This component is called: oil distributor.
- (b) This component is called: pilot valve plunger
- (c) This component is called: propeller selector.

*If choice b is selected set score to 1.*

100. In the figure below the flyweights of this propeller governor are not at rest. What is their position?



- (a) The position of the flyweights in the figure is "onspeed".
- (b) The position of the flyweights in the figure is "underspeed."
- (c) The position of the flyweights in the figure is "overspeed".

*If choice b is selected set score to 1.*

**101.** Feathering is accomplished by?

- (a) Changing the rpm of the engine.
- (b) Using a mechanical linkage.
- (c) Releasing the governor oil pressure to the engine sump.

*If choice c is selected set score to 1.*

**102.** A constant speed propeller provides maximum efficiency by...

- (a) adjusting blade angle for most conditions encountered during flight.
- (b) increasing blade pitch as the aircraft speed increases.
- (c) increasing the lift coefficient of the blades.

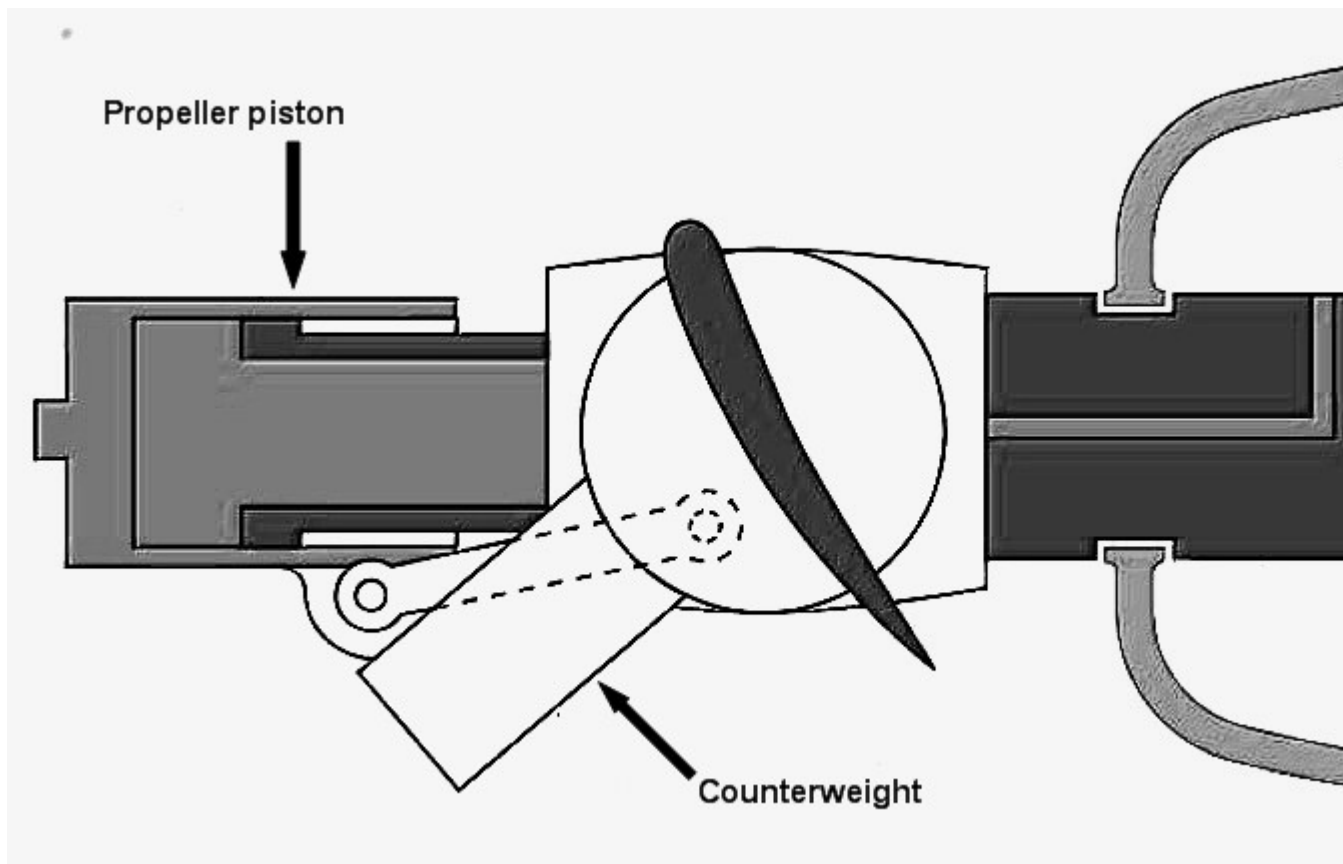
*If choice a is selected set score to 1.*

**103.** On a reversing propeller, moving to the maximum reversing angle, the propeller goes...

- (a) from fine pitch through plane of rotation, course reverse then fine reverse.
- (b) from fine pitch through plane of rotation, fine reverse then course reverse.
- (c) from course pitch through plane of rotation, course reverse then fine reverse.

*If choice b is selected set score to 1.*

104. Which of the following forces or combination of forces operates to move the blades on a constant speed couterweight-type propeller to the coarse pitch position?



- (a) Propeller governor oil pressure acting on the propeller piston-cylinder arrangement.
- (b) Engine oil pressure acting on the propeller piston-cylinder arrangement and the centrifugal forces acting on the counter weights.
- (c) Centrifugal forces acting on the counter weight.

*If choice c is selected set score to 1.*

- 105.** 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-cylinder arrangement.
- (b) Engine oil pressure acting on the propeller piston-cylinder arrangement and the centrifugal force acting on the counterweights.
- (c) Centrifugal force acting on the counter weights.

*If choice c is selected set score to 1.*

- 106.** Which of the following best describes the blade movement of a propeller that is in the high RPM position when reversing action is begun?

- (a) From low pitch through high pitch to reverse pitch.
- (b) From low pitch through feather position to reverse pitch.
- (c) From low pitch directly to reverse pitch.

*If choice c is selected set score to 1.*

- 107.** Which of the following best describes the blade movement of a full-feathering, constant-speed propeller that is in the LOW RPM position when the feathering action is begun?

- (a) From low pitch through high pitch feathering.
- (b) From high pitch directly to feathering position.
- (c) From high pitch through low pitch to feathering position.

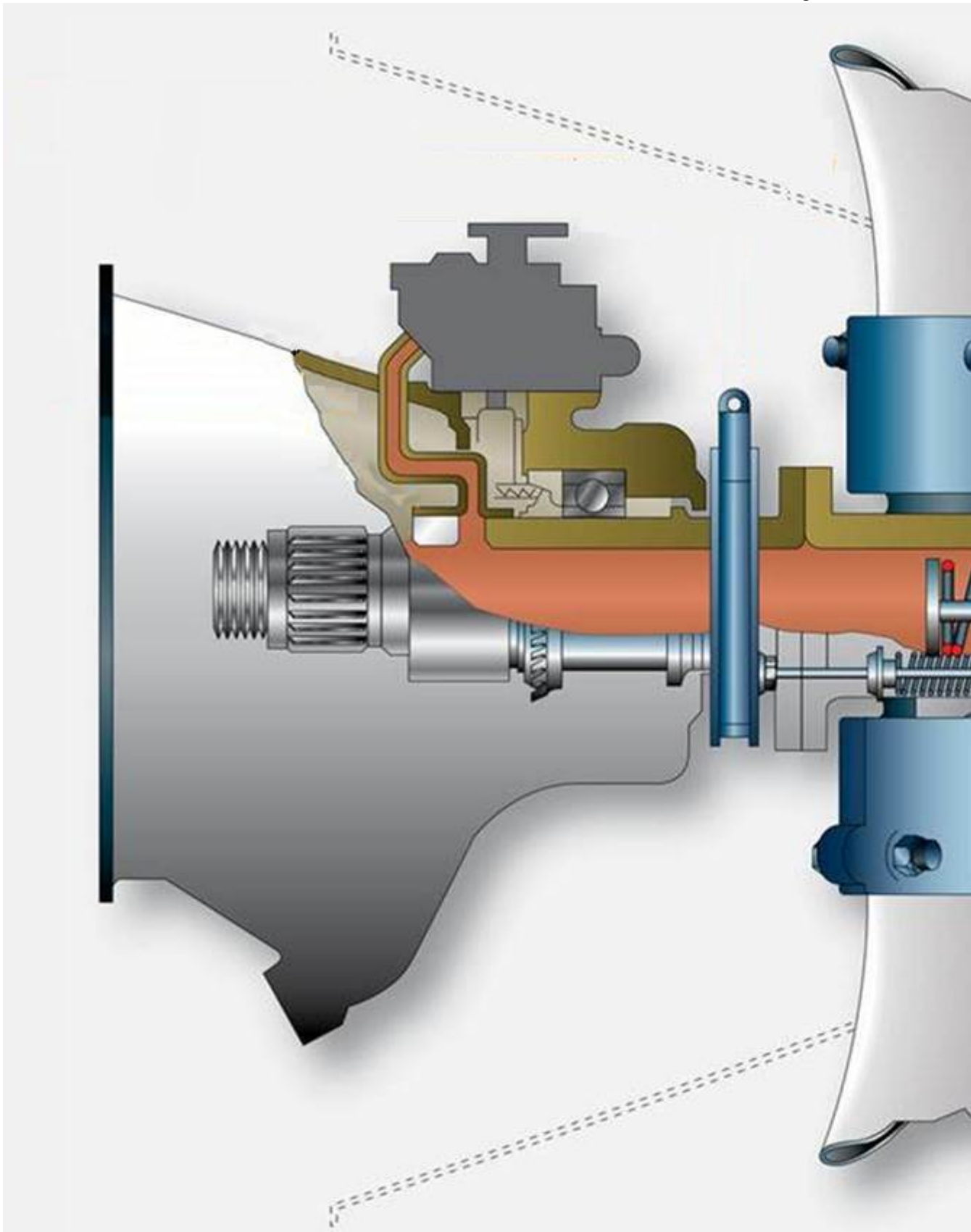
*If choice b is selected set score to 1.*

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

- (a) feathering position.
- o (b) high angle position.
- o (c) low angle position.

*If choice a is selected set score to 1.*

**109.** In which position are the propeller blades, when the spring is in the position depicted in the figure?



- (a) Cruise position
- (b) Full fine pitch position

- (c) Full feathered position

*If choice c is selected set score to 1.*

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

- o (a) Centrifugal twisting force.
- o (b) Aerodynamic twisting force.
- (c) The governor oil pressure.

*If choice c is selected set score to 1.*

**111.** The pitch changing mechanism of the propeller operates by....

- o (a) the accumulator in the propeller system.
- o (b) the lubricating system from the engine
- (c) the governor gear pump.

*If choice c is selected set score to 1.*

**112.** Which of the following best describes the blade movement of a propeller that is in the high RPM position when reversing action is begun?

- o (a) From low pitch through high pitch to reverse pitch.
- o (b) From low pitch through feather position to reverse pitch.
- (c) From low pitch directly to reverse pitch.

*If choice c is selected set score to 1.*

**113.** Which of the following best describes the blade movement of a full-feathering, constant-speed propeller that is in the LOW RPM position when the feathering action is begun?

- (a) From high pitch directly to feathering position.
- o (b) From high pitch through low pitch to feathering position.
- o (c) From low pitch through high pitch feathering.

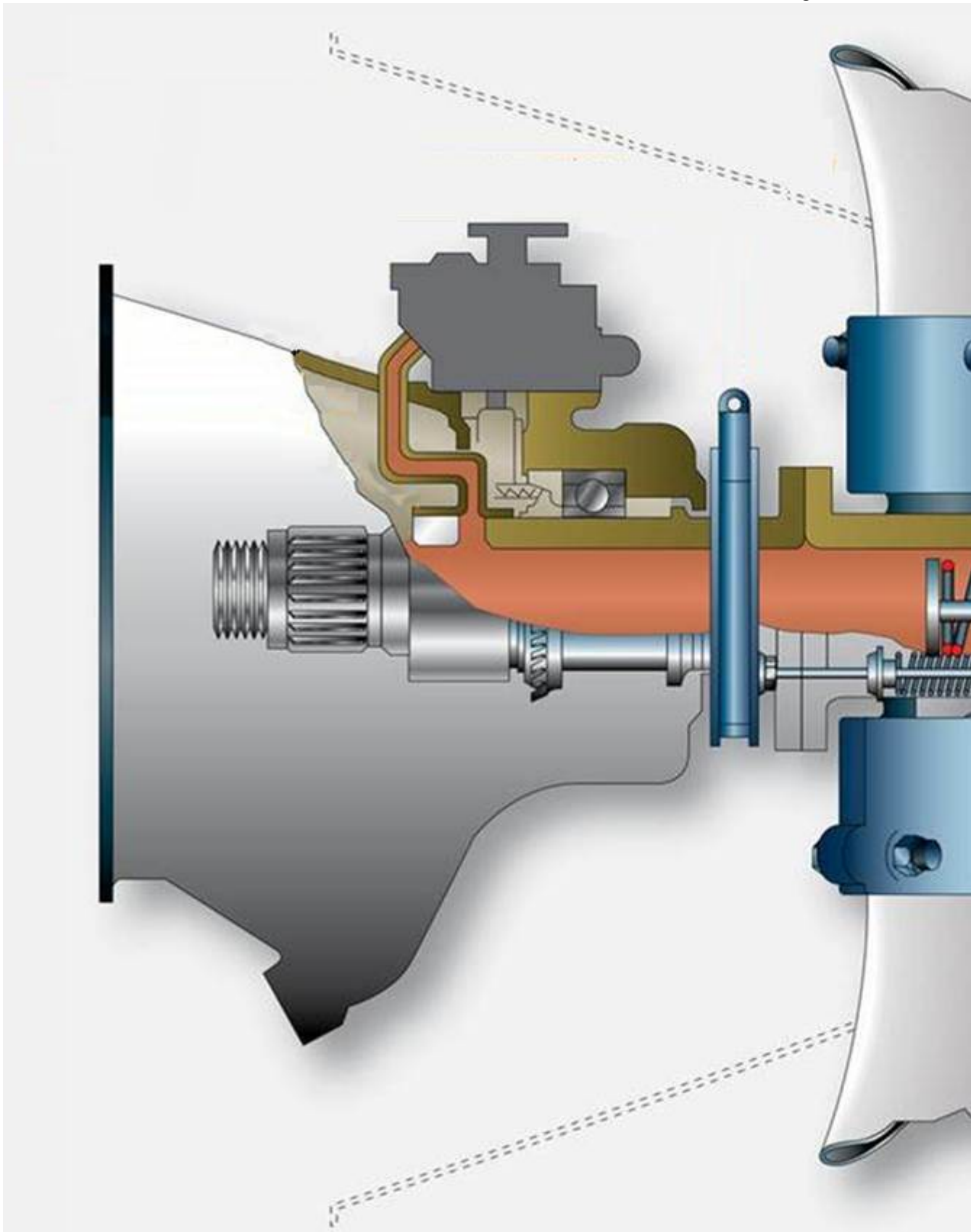
*If choice a is selected set score to 1.*

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

- o (a) low angle position.
- o (b) high angle position.
- (c) feathering position.

*If choice c is selected set score to 1.*

**115.** In which position are the propeller blades, when the spring is in the position depicted in the figure?



- (a) Full feathered position

- (b) Full fine pitch position
- (c) Cruise position

*If choice a is selected set score to 1.*

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

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

*If choice a is selected set score to 1.*

**117.** The pitch changing mechanism of the propeller operates by....

- (a) the governor gear pump.
- (b) the accumulator in the propeller system.
- (c) the lubricating system from the engine

*If choice a is selected set score to 1.*

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

How is this check done?

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

*If choice b is selected set score to 1.*

**119.** For safety purposes, the governor control lever is spring-loaded by a return springing in case the control cable brakes.

In which setting will this return spring set the propeller?

The propeller will be set to....

- (a) low pitch low RPM
- (b) high pitch high RPM
- (c) low pitch high RPM

*If choice c is selected set score to 1.*

**120.** 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.
- o (b) This check takes place before ground run-up procedures.
- o (c) This check takes place during flight.

*If choice a is selected set score to 1.*

**121.** When the oil pressure flows away from the propeller piston, the blade angle will....

- o (a) will be the same due to the force acting on the propeller blade.
- (b) coarse.
- o (c) fine.

*If choice b is selected set score to 1.*

**122.** What happens if the control cable of the propeller system breaks down?

The return spring sets the governor control lever to....

- o (a) low rpm.
- (b) high rpm.
- o (c) the preset value rpm.

*If choice b is selected set score to 1.*

**123.** A propeller synchrophasing system allows a pilot to reduce noise and vibration by

- o (a) setting the pitch angle of all propellers exactly the same.
- o (b) adjusting the plane of rotation of all propellers.
- (c) adjusting the phase angle between the propellers of the aircraft engines.

*If choice c is selected set score to 1.*

**124.** Synchronizing systems control engine RPM and reduce vibration. What else will be done to reduce the vibration?

- (a) Setting the propellers at exactly the same RPM
- o (b) Setting the pitch of the propellers at a lower angle.
- o (c) Setting the pitch of the propellers at a higher angle.

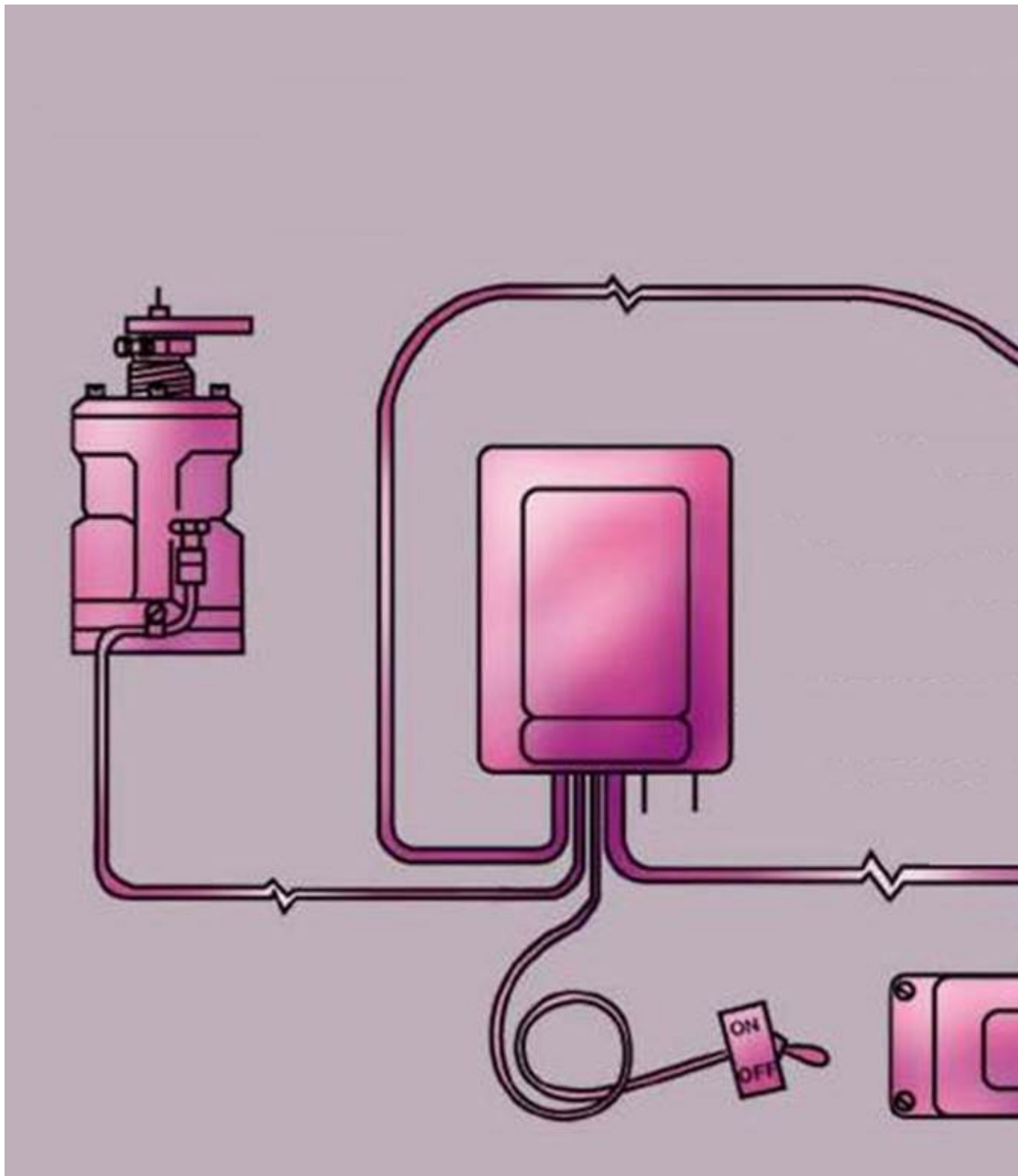
*If choice a is selected set score to 1.*

**125.** What is the function of the automatic propeller synchronizing system on the multi-engine aircraft?

- (a) To control engine RPM and reduce vibration.
- o (b) To control the tip speed of the propellers.
- o (c) To control the power output of all engines.

*If choice a is selected set score to 1.*

126. 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.

*If choice c is selected set score to 1.*

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

- (a) propeller governors.
- o (b) throttle levers.
- o (c) propeller control levers.

*If choice a is selected set score to 1.*

**128.** Synchronising of the propeller is carried out to....

- o (a) match blade phase angle difference.
- (b) match engine rpm.
- o (c) match propeller tip speed.

*If choice b is selected set score to 1.*

**129.** Where is normally the master governor installed?

- o (a) Right hand engine.
- o (b) Both engines is possible.
- (c) Left hand engine.

*If choice c is selected set score to 1.*

**130.** The synchrophasing system....

- (a) changes the phase angle of the propeller.
- o (b) changes the rpm of the propeller.
- o (c) changes the blade angle of the propeller.

*If choice a is selected set score to 1.*

**131.** What is the synchrophasing system?

- o (a) A different system to synchronize the propeller rpm.
- o (b) A rough adjustment of the synchronisation system.
- (c) The refinement of the synchronisation system.

*If choice c is selected set score to 1.*

**132.** Synchronization is used....

- (a) in flight.
- (b) on the ground.
- (c) in flight except landing and take-off.

*If choice c is selected set score to 1.*

**133.** The most important effect of propeller icing is:

- (a) Too high weight.
- (b) Destructive vibration and loss of propeller efficiency.
- (c) Too high drag.

*If choice b is selected set score to 1.*

**134.** The most widely used fluid for propeller anti-icing is:

- (a) Engine fuel stored in a separate tank.
- (b) Hot water.
- (c) Isopropyl alcohol.

*If choice c is selected set score to 1.*

**135.** To prevent electrical element overheating, the electrical de-icing system:

- (a) Apply power intermittent to the heating elements.
- (b) Is generally used during propeller rotation.
- (c) Uses only AC power.

*If choice b is selected set score to 1.*

**136.** The electrical heating elements are mounted:

- (a) Internal in the propeller reduction gear casing.
- (b) Internal or external on the spinner and propeller blades.
- (c) Behind the propeller on the engine axis.

*If choice b is selected set score to 1.*

**137.** Cycling timers in the electrical de-icing system are used for:

- (a) Heating only on the ground.
- (b) Preventing overheating.
- (c) Removing ice after formation but before excessive accumulation.

*If choice c is selected set score to 1.*

**138.** 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.

*If choice c is selected set score to 1.*

**139.** How is anti-icing fluid ejected from the slinger-ring on the propeller?

- (a) By centrifugal force.
- (b) By pump pressure.
- (c) By gravity.

*If choice a is selected set score to 1.*

**140.** 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 segment plates.
- (c) By slip rings and brushes.

*If choice c is selected set score to 1.*

**141.** Proper operation of electric de-icing boots on individual propeller blades may best be determined by:

- (a) observe the ammeter or loadmeter for current flow.
- (b) feeling the sequence of boot heating and have an assistant observe the loadmeter indication.
- (c) feeling the boots to see if they are heating.

*If choice b is selected set score to 1.*

**142.** Propeller fluid anti-icing systems generally use which of the following?

- (a) Ethyl alcohol
- (b) Ethylene glycol.
- (c) Isopropyl alcohol.

*If choice c is selected set score to 1.*

**143.** What unit in the propeller anti-icing system controls the output of the pump?

- (a) Rheostat.
- (b) Cycling timer.
- (c) Pressure relief valve.

*If choice a is selected set score to 1.*

**144.** The brush block assembly as shown in the figure below is normally mounted on?



- (a) The propeller spinner bulhead.
- (b) The engine case.
- (c) The engine cowling.

*If choice b is selected set score to 1.*

**145.** During dynamic balancing, a vibration transducer is used and mounted;

- (a) On the engine gearbox, close to the propeller.

- o (b) On one of the propeller blades.
- o (c) On the ground in front of the propeller.

*If choice a is selected set score to 1.*

**146.** During static balancing on a knife-edge test stand, a two blade propeller must be checked;

- o (a) Only in a horizontal position.
- (b) First in a vertical position.
- o (c) First in a horizontal position.

*If choice b is selected set score to 1.*

**147.** Propeller blade tracking is defined as;

- o (a) The path of each blade tip during flight.
- o (b) The distance between each blade tip.
- (c) The path of the blade tips when the propeller is rotating by hand.

*If choice c is selected set score to 1.*

**148.** A darkened area at the erosion shield near the blade tip of a composite propeller is a sign of;

- o (a) A birdhit.
- o (b) A crack.
- (c) A lightning strike.

*If choice c is selected set score to 1.*

**149.** Gradual wearing away on a propeller due to air contamination like sand and dust is called....

- (a) erosion.
- o (b) corrosion.
- o (c) distorsion.

*If choice a is selected set score to 1.*

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

- o (a) approximately the same at all speeds.
- o (b) greater at low RPM.
- (c) greater at high RPM.

*If choice c is selected set score to 1.*

**151.** What is the purpose of an arbor used in balancing propeller?

- (a) To level the balance stand.
- (b) To mark the propeller blades where weights are to be attached.
- (c) To support the propeller on the balance knives.

*If choice c is selected set score to 1.*

**152.** In the figure the balancing is in progress. What kind of balancing is this?



- o (a) The balancing in progress is dynamic balancing.
- (b) The balancing in progress is a static balancing
- o (c) The balancing in progress is a vertical balancing.

*If choice b is selected set score to 1.*

**153.** The best point to check the propeller track is:

- (a) On the blade tip.
- o (b) On the blade shank.
- o (c) The blade position on 3/4 of the blade.

*If choice a is selected set score to 1.*

**154.** Propeller blade tracking is the process of determining:

- o (a) that the blades angles are within the specified tolerance of each other.
- o (b) the plane of rotation of the propeller with respect to the aircraft longitudinal axis.
- (c) the positions of the tips of the propeller blades relative to each other.

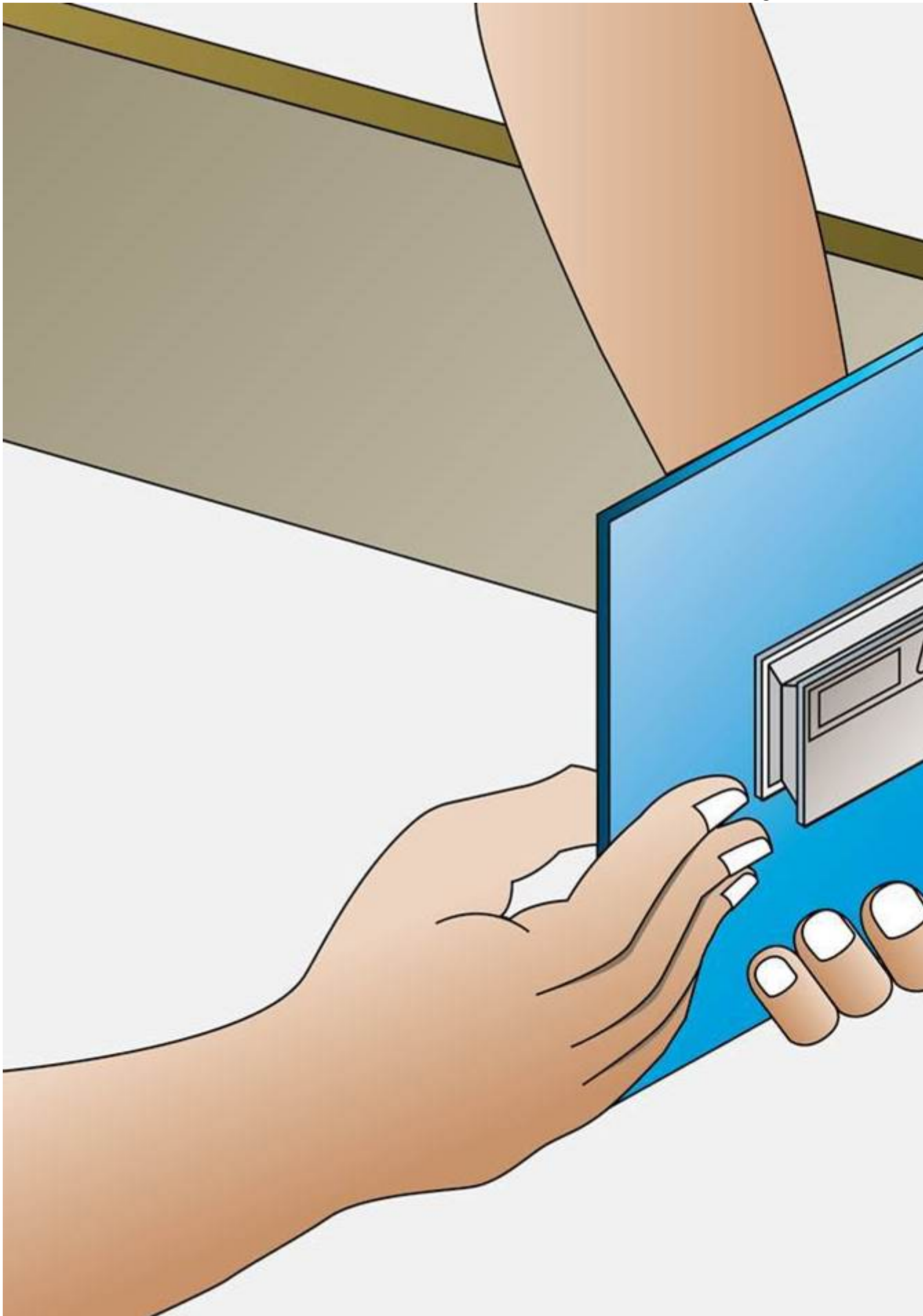
*If choice c is selected set score to 1.*

**155.** Cold straightening a bent aluminum propeller blade may be accomplished by

- o (a) the holder of a mechanic certificate with power plant rating.
- o (b) a person working under the supervision of the holder of a mechanic certificate with both airframe and powerplant ratings.
- (c) an Approved Maintenance Organisation.

*If choice c is selected set score to 1.*

**156.** The device used in the figure is?



- (a) A propeller blade gauge indicator.
- (b) A propeller blade face indicator.
- (c) A propeller blade protractor.

*If choice c is selected set score to 1.*

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

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

*If choice c is selected set score to 1.*

**158.** Which of the following defects is cause for rejection of wood propellers?

- (a) No protective coating on propeller.
- (b) Solder missing from screw heads securing metal flipping.
- (c) An oversize hub or bolt hole, or elongated boltholes.

*If choice c is selected set score to 1.*

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

- (a) By magnetic particle inspection.
- (b) By anodizing
- (c) By etching.

*If choice a is selected set score to 1.*

**160.** Repairs to propellers by line maintenance certifying technicians are often limited to :

- (a) overhaul.
- (b) major repairs.
- (c) minor repairs.

*If choice c is selected set score to 1.*

**161.** Major repairs on propeller blades are accomplished in :

- (a) A base maintenance Approved Maintenance Organisation.
- (b) A line maintenance Approved Maintenance Organisaton.
- (c) A component Approved Maintenance Organisation.

*If choice c is selected set score to 1.*

**162.** A detailed inspection on a composite propeller is ?

- (a) Ultrasonic inspection.
- o (b) Eddy current inspection.
- o (c) Coin tapping.

*If choice a is selected set score to 1.*

**163.** A transverse crack or flaw of any size in an aluminum propeller blade is that the propeller blade has to be?

- (a) rejected.
- o (b) reworked.
- o (c) a NDT inspection is required.

*If choice a is selected set score to 1.*

**164.** Propellers exposed to salt spray should be flushed with

- (a) Fresh water.
- o (b) Stoddard solvent.
- o (c) Oil.

*If choice a is selected set score to 1.*

**165.** The use (on an aluminum propeller blade) of steel wool and steel brushes is :

- o (a) only to be used when the propeller is dirty.
- o (b) only to be used for inspection of the propeller blade.
- (c) forbidden.

*If choice c is selected set score to 1.*

**166.** Which of the following determines oil and grease specifications for lubrication of propellers?

- o (a) Engine manufacturers.
- o (b) Airframe manufacturers.
- (c) Propeller manufacturers.

*If choice c is selected set score to 1.*

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

- (a) Clean engine oil.

- (b) Stoddart solvent.
- (c) Grease.

*If choice a is selected set score to 1.*

**168.** An out of track propeller could be a result of?

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

*If choice c is selected set score to 1.*

**169.** The kind of propeller preservation depends on:

- (a) The aircraft type only.
- (b) The aircraft type and weather conditions.
- (c) The aircraft type, weather conditions and parking period length.

*If choice c is selected set score to 1.*

**170.** To store a wooden 2 blade propeller, the propeller should be stored....

- (a) in a 45 degrees position.
- (b) in a horizontal position.
- (c) in a vertical position.

*If choice b is selected set score to 1.*

**171.** Restraining bridles are used for:

- (a) Preventing propeller movement by windmilling.
- (b) Propeller conservation with special oil.
- (c) Collecting dripping oil by during a long aircraft parking period.

*If choice a is selected set score to 1.*

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

- (a) operator.
- (b) maintenance facility.
- (c) propeller manufacturer.

*If choice c is selected set score to 1.*

**173.** Often arbor materials are used for storing propellers, and other packing materials.

What is the disadvantage for this?

- (a) They are not stable.
- (b) They can collect moistures.
- (c) They are very expensive.

*If choice b is selected set score to 1.*

**174.** What should you do if you see any red oil on a propeller hub during storage preparation?

- (a) Do nothing to the oil and continue with the preparation.
- (b) Clean the oil so the propeller can be stored clean.
- (c) Stop preparation and diagnose the hub for cracks.

*If choice c is selected set score to 1.*

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

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

*If choice a is selected set score to 1.*

***If assessment score is 0% to 100% Feedback***