

U.S.C.G. Merchant Marine Exam

QMED

Q807 Machinist

(Sample Examination)

Choose the best answer to the following Multiple Choice Questions.

1. Which single illustrated lathe tool could be used to turn down the stock in figure II? Illustration GS-0009
- (A) A
 - (B) B
 - (C) C
 - (D) G

If choice B is selected set score to 1.

2. Which of the following methods is a convenient and effective system of examining the body of an injury victim?
- (A) Compare the corresponding parts of the body.
 - (B) Watch the patient's eyes as you probe parts of the body.
 - (C) Look for discoloration of the patient's skin.
 - (D) Look for uncontrolled vibration or twitching of parts of the body.

If choice A is selected set score to 1.

3. Which lathe tool shown in the illustration would best be used on a work piece to perform a right hand facing operation? Illustration GS-0090
- (A) P
 - (B) V
 - (C) Q
 - (D) R

If choice D is selected set score to 1.

4. In preparing the surface of a metal for application of primers and finish coats, which of the listed hand tools is a must for cleaning inside corners?
- (A) Hand scraper
 - (B) Wire brush
 - (C) Chipping hammer
 - (D) Sandpaper

If choice D is selected set score to 1.

5. Which of the following conditions represents a particular advantage of using a positive pressure type self-contained breathing apparatus in an atmosphere that is immediately dangerous to life or health?
- (A) The average operating time for most air cylinders is over an hour.
 - (B) The positive pressure in the face piece prevents contaminated air from entering the face piece.
 - (C) The equipment used is lightweight and easy to wear by reducing physical strain on the wearer.
 - (D) The equipment is compact and the wearer can work in confined spaces without difficulty.

If choice B is selected set score to 1.

6. Which of the following statements is true concerning the valve shown in the illustration? Illustration GS-0047
- (A) The valve only requires one turn of the hand wheel to fully open.
 - (B) The valve seats cannot be replaced or repaired.
 - (C) The valve is normally used to throttle the flow of liquid.
 - (D) The valve is a non-rising stem design.

If choice D is selected set score to 1.

7. An eroded globe valve disk can be repaired by _____.
- (A) taking a light cut in a lathe
 - (B) sandblasting with lightweight grit
 - (C) scraping with a bastard file
 - (D) dressing the seat with crocus cloth

If choice A is selected set score to 1.

8. Large size pipe can be easily rotated with a _____.
- (A) strong back
 - (B) chain pipe wrench
 - (C) basin wrench
 - (D) monkey wrench

If choice B is selected set score to 1.

9. The blade for a power hacksaw should be installed with the teeth _____.
- (A) pointing toward the motor if using a 4 or 6 tooth blade and away from the motor if using a 10 or 14 tooth blade
 - (B) pointing either toward or away from the motor end of the machine
 - (C) pointing away from the motor end of the machine
 - (D) pointing toward the motor end of the machine

If choice D is selected set score to 1.

10. A fire is considered "under control" when _____.

- (A) the fixed systems are activated
- (B) all firefighting equipment is at the scene
- (C) the fire is contained and no longer spreading
- (D) all hands are at their fire stations

If choice C is selected set score to 1.

11. Pushing the file endways (or with the axis), under pressure, against the work, is called _____.

- (A) standard form filing
- (B) cross filing
- (C) draw filing
- (D) stroke filing

If choice B is selected set score to 1.

12. What type of eye protection affords the best protection from dust and airborne abrasives?

- (A) Standard safety glasses
- (B) Side-shielded safety glasses
- (C) Eyecup safety goggles
- (D) Full-face shield

If choice C is selected set score to 1.

13. Ferrous metals are metals containing _____.

- (A) a large percentage of copper
- (B) no iron
- (C) a large percentage of aluminum
- (D) a large percentage of iron

If choice D is selected set score to 1.

14. Taps and dies used for threading pipe are _____.

- (A) not hardened
- (B) not fluted
- (C) straight
- (D) tapered

If choice D is selected set score to 1.

15. Under what conditions is a DANGER tag installed at equipment control stations in preparation for performing maintenance or repairs?

- (A) When operation of the equipment will endanger personnel OR harm the equipment.
- (B) When operation of the equipment requires unusual caution to be exercised.
- (C) When operation of the equipment will harm the equipment ONLY.
- (D) When operation of the equipment will endanger personnel ONLY.

If choice A is selected set score to 1.

16. When drilling blind holes with a standard drill press, the proper method of stopping the progress of the drill boring through the work is by _____.

- (A) adjusting the spindle return spring
- (B) moving the working table
- (C) gaging chuck motion
- (D) using a depth stop

If choice D is selected set score to 1.

17. The illustrated drawing shows a correct front "F" and top "T" view of an object. Of the views labeled "1", "2", "3", and "4", the one that correctly represents the right side view for a third angle projection is _____. Illustration GS-0132

- (A) 1
- (B) 2
- (C) 3
- (D) 4

If choice B is selected set score to 1.

18. When drilling holes larger than 1/2 inch, drilling a smaller hole first is a good practice. This is called a pilot hole, and the pilot drill should have a diameter _____.

- (A) small enough to ensure the maximum cut by the larger drill
- (B) equal to at least 1/2 the diameter of the larger drill
- (C) slightly larger than the web thickness of the larger drill
- (D) smaller than the dead center of chisel edge of the larger drill

If choice C is selected set score to 1.

19. The lathe tool shown as figure "U" in the illustration is commonly known as a _____.
Illustration GS-0090

- (A) left cut side-facing tool
- (B) right side end facing tool
- (C) cutting-off tool
- (D) universal turning tool

If choice C is selected set score to 1.

20. Basic emergency care for an electrical burn is to _____.

- (A) brush away the charred skin and wrap the burned area
- (B) flood the burn with water for two minutes
- (C) apply ointment or spray to the burned area and wrap with a clean cloth
- (D) cover the burned area with a clean cloth and transport the patient to a medical facility

If choice D is selected set score to 1.

21. Which figure shown in the illustration, is the nut lock improperly used? Illustration GS-0156

- (A) "A"
- (B) "B"
- (C) "C" and "D"
- (D) "C" and "E"

If choice D is selected set score to 1.

22. To measure the diameter of a piece of round stock, you should use a _____.

- (A) dial indicator
- (B) wire gauge
- (C) micrometer
- (D) circular slide rule

If choice C is selected set score to 1.

23. The minimum length of dimension "C" shown in the illustration is _____. Illustration GS-0014

- (A) $33/64$ inch
- (B) $21/32$ inch
- (C) $11/16$ inch
- (D) $27/32$ inch

If choice A is selected set score to 1.

24. The seat of a butterfly valve will most likely be constructed of _____.

- (A) admiralty metal
- (B) monel
- (C) stellite
- (D) a resilient material

If choice D is selected set score to 1.

25. When drilling a hole in a piece of work chucked in a lathe, you should mount the drill chuck in the _____.

- (A) compound rest
- (B) cross feed
- (C) tailstock
- (D) headstock

If choice C is selected set score to 1.

26. Flux is used when soldering, in order to _____.

- (A) ensure proper tinning
- (B) make the solder "flow"
- (C) decrease the melting point of the solder
- (D) clean the joint area

If choice D is selected set score to 1.

27. With respect to lubricating oil's viscosity and the bearing loading characteristics at the points of lubrication, what statement is true?

- (A) The viscosity should be low enough to withstand the greatest anticipated torque load and low enough to minimize power losses.
- (B) The viscosity should be high enough to withstand the greatest anticipated torque load and high enough to minimize power losses.
- (C) The viscosity should be high enough to withstand the greatest anticipated torque load, but the viscosity should be low enough to minimize power losses.
- (D) The viscosity should be low enough to withstand the greatest anticipated torque load, but the viscosity should be high enough to minimize power losses.

If choice C is selected set score to 1.

28. To check the thickness of a piece of thin shim stock before using it to make a bearing shim, you should use a _____.

- (A) machinist's rule
- (B) feeler gage
- (C) micrometer
- (D) depth gage

If choice C is selected set score to 1.

29. At a minimum threshold, how many milliamps of current through the body produces a painful sensation that most people would perceive as an electric shock?

- (A) 3 to 7 mA
- (B) 10 to 16 mA
- (C) 30 mA
- (D) 100 mA for 2.5 sec.

If choice A is selected set score to 1.

30. A roughened checkered surface is machined by a lathe on round stock using a _____.

- (A) threading tool
- (B) knurling tool
- (C) checkering tool
- (D) chamfering tool

If choice B is selected set score to 1.

31. The lathe tool shown as figure "N" in the illustration is commonly known as a _____.
Illustration GS-0090

- (A) curling tool
- (B) hurling tool
- (C) furling tool
- (D) knurling tool

If choice D is selected set score to 1.

32. Protective equipment to be used while carrying out oxyacetylene welding should always include _____.

- (A) goggles
- (B) ear plugs
- (C) steel toe safety shoes
- (D) non-sparking tools

If choice A is selected set score to 1.

33. If a micrometer were opened to a distance of 0.0001 inch, you would say the reading is _____.

- (A) one millionth of an inch
- (B) ten millionths of an inch
- (C) one ten thousandth of an inch
- (D) ten one thousandths of an inch

If choice C is selected set score to 1.

34. Span gas is used aboard liquefied natural gas carriers to _____.

- (A) inert the barrier spaces
- (B) calibrate the gas leak detectors
- (C) odorize the cargo
- (D) detect leaks in cargo piping

If choice B is selected set score to 1.

35. Which of the devices shown in the illustration is designed for both inside and outside measurements? Illustration GS-0073

- (A) A
- (B) B
- (C) C
- (D) D

If choice C is selected set score to 1.

36. The locking plates shown in the illustration are used in many marine applications. Which figure indicates the improper method for using these devices? Illustration GS-0156

- (A) "A"
- (B) "B"
- (C) "C"
- (D) "D"

If choice C is selected set score to 1.

37. (1.2.3.2-5) Which of the listed tools should be used to remove a tapered roller bearing from a shaft?

- (A) An acetylene torch and hammer
- (B) A tapered "come-a-long"
- (C) A steel drift pin and hammer
- (D) An arbor press

If choice D is selected set score to 1.

38. Which type of screwdriver listed would have a "Keystone" type vertical cross-sectional tip?

- (A) Torx
- (B) Standard
- (C) Phillips
- (D) Allen

If choice B is selected set score to 1.

39. For any piece of equipment requiring lubrication, what is the single most important lubricating oil property in meeting the operating conditions?

- (A) Total base number
- (B) Flash point
- (C) Pour point
- (D) Viscosity

If choice D is selected set score to 1.

40. To obtain a 1/2 inch per foot taper on an 18 inch work piece, the tailstock of the lathe must be set over _____.

- (A) 3/8 inch
- (B) 1/2 inch
- (C) 3/4 inch
- (D) 7/8 inch

If choice A is selected set score to 1.

41. Before disconnecting a joint in a pipeline, you should _____.

- (A) have a first aid kit on hand
- (B) determine the size of the gasket
- (C) hang a bucket under the joint
- (D) be sure no pressure exists in the line

If choice D is selected set score to 1.

42. A weld with triangular cross sections is used to join two surfaces at right angles to each other, and is called a _____.

- (A) seam weld
- (B) tack weld
- (C) plug weld
- (D) fillet weld

If choice D is selected set score to 1.

43. Generally speaking, when using a twist drill to bore a hole in metal, the harder the metal, the greater the drill's required _____.

- (A) included point angle
- (B) lip clearance
- (C) diameter
- (D) cutting speed

If choice A is selected set score to 1.

44. With regards to the American National Screw Thread nomenclature, "pitch" is the _____.

- (A) angle of taper formed by the centerline of the screw and the crests of the thread
- (B) angle formed by adjacent flanks of a thread
- (C) number of threads divided by the length of the threaded portion of the screw
- (D) distance between corresponding points on adjacent threads

If choice D is selected set score to 1.

45. To drill a hole in round stock, perpendicular to the axis of the piece, the stock should be mounted in a _____.

- (A) clamp
- (B) V-block
- (C) collet
- (D) morse sleeve

If choice B is selected set score to 1.

46. Which of the drill sets listed would commonly be referred to as a "Jobbers Set"?

- (A) A set of numbered size drills from 1 to 60.
- (B) A set of lettered size drills from A to Z.
- (C) A set of fractional size drills from 1/16" to 1/2"
- (D) A set of fractional size drills from 1/2" to 2"

If choice C is selected set score to 1.

47. If a bolt or stud were to break off flush at the surface, which of the listed actions would probably be the best first step to begin the process of its removal?

- (A) Use a tapered screw extractor only.
- (B) Heat the bolt with an oxyacetylene torch.
- (C) Drill a hole in the center of the broken stud.
- (D) Tap the bolt with a starting punch extractor.

If choice C is selected set score to 1.

48. To remove a hand-held right-handed straight cut reamer after it has gone all the way through a hole, you should _____.

- (A) work the reamer side to side to dislodge it
- (B) tap the reamer out with a soft faced hammer
- (C) turn the tap wrench counter-clockwise, simultaneously raising the reamer
- (D) turn the tap wrench clockwise, simultaneously raising the reamer

If choice D is selected set score to 1.

49. In which of the following heat related illnesses is it appropriate to reduce the individual's core temperature by immersion in a tub of cold water or repeatedly sponging with cold water?

- (A) Heat exhaustion
- (B) Heat stroke
- (C) Heat prostration
- (D) Heat cramps

If choice B is selected set score to 1.

50. When welding mild steel with a shielded metal-arc electrode, and getting only shallow penetration, you should _____.

- (A) increase the amperage
- (B) use a lower current
- (C) use larger electrodes
- (D) speed up your electrode travel

If choice A is selected set score to 1.

51. If a person gets alkali (such as potassium hydroxide) in their eye when servicing a NiCd battery, what would be the appropriate eye irrigation solution?

- (A) boric acid solution
- (B) ammonia
- (C) baking soda solution
- (D) water

If choice D is selected set score to 1.

52. The best tool to use when attempting to widen the opening of a flanged joint, in preparation for renewing the gasket, is a _____.

- (A) gasket cutter
- (B) scraper
- (C) flange spreader
- (D) spud wrench

If choice C is selected set score to 1.

53. Dimension "X" indicated on the architects scale, shown in the illustration, will be equal to _____ . Illustration GS-0023

- (A) 5 feet 3/4 inch
- (B) 5 feet 4 inches
- (C) 83 feet
- (D) 93 1/4 feet

If choice B is selected set score to 1.

54. If you are hand tapping holes in cast iron, you should _____ .

- (A) start tapping with a plug tap
- (B) chamfer the edges of the holes
- (C) flood the tap with mineral oil
- (D) tap the holes without cutting oil

If choice D is selected set score to 1.

55. What is meant by the term "boxing" paint?

- (A) Thoroughly mixing paint by pouring paint back and forth between two cans.
- (B) Thoroughly mixing paint by using a mechanical stirrer.
- (C) Removing the "skin" that has formed on the surface of the paint in the can.
- (D) Stacking paint cans within a suitable box.

If choice A is selected set score to 1.

56. What material is most commonly used as a sacrificial anode for the purposes of minimizing the galvanic corrosion of steel and cast iron?

- (A) Bronze
- (B) Platinum
- (C) Zinc
- (D) Brass

If choice C is selected set score to 1.

57. The temper is likely to be drawn out from a chisel edge when you _____ .

- (A) soak it in hot oil for lengthy periods
- (B) hold it next to a wet grinding wheel
- (C) grind the cutting angle too small
- (D) grind it for long periods of time with excessive pressure

If choice D is selected set score to 1.

58. Proper hacksaw cutting is accomplished when pressure is applied only on the _____.

- (A) front of the hacksaw frame
- (B) backward stroke
- (C) forward stroke
- (D) top of the hacksaw frame

If choice C is selected set score to 1.

59. (1.2.12-1) When installing DANGER tags when performing a tag-out and lock-out procedure in preparation for accomplishing maintenance, what is the color of these tags?

- (A) Orange
- (B) Red
- (C) Yellow
- (D) Green

If choice B is selected set score to 1.

60. Which of the listed numeric values represents the smallest size drill?

- (A) 0
- (B) 1
- (C) 60
- (D) 80

If choice D is selected set score to 1.

61. A good approach to personnel safety is to assume that all tanks and pump rooms are potentially dangerous. You should immediately leave an area whenever _____.

- (A) you experience an abnormal bodily sensation
- (B) you have irritation of the eyes, nose, or throat
- (C) you smell an unusual odor
- (D) any of the above conditions occur

If choice D is selected set score to 1.

62. What method of controlling severe bleeding is preferred and normally attempted first?

- (A) Use of a tourniquet
- (B) Direct pressure applied to wound with elevation
- (C) Direct pressure applied to wound
- (D) Pressure applied to pressure points

If choice C is selected set score to 1.

63. If you are machining work held between lathe centers, and the lathe centers begin to squeal, you should first _____.

- (A) run the lathe at a slower speed
- (B) stop the lathe
- (C) change the cutting bit
- (D) lubricate the centers

If choice B is selected set score to 1.

64. In an oxyacetylene welding outfit, the torch tip orifice size _____.

- (A) determines the amount of acetylene and oxygen fed to the flames
- (B) can be varied by rotating the tip
- (C) depends on the regulator flow rate
- (D) depends on the hose length

If choice A is selected set score to 1.

65. Which practices should be followed at all times when using an electric grinding machine?

- (A) Wear goggles or face shield.
- (B) Be properly trained in the use of this tool.
- (C) Be certain that the frame is properly grounded.
- (D) Each of the above practices.

If choice D is selected set score to 1.

66. If for any reason it is necessary to abandon ship while far at sea, it is important for the crew members to _____.

- (A) separate from each other as this will increase the chances of being rescued
- (B) get away from the area because sharks will be attracted to the vessel
- (C) immediately head for the nearest land
- (D) remain together in the area because rescuers will start searching at the vessel's last known position

If choice D is selected set score to 1.

67. Which of the following maintenance procedures would require a tag-out/lock-out to be performed?

- (A) Changing the oil of an air compressor.
- (B) Shifting and cleaning a duplex strainer.
- (C) Draining compressed air system moisture separators of condensation.
- (D) Adding makeup oil to a main engine while underway.

If choice A is selected set score to 1.

68. If you have to completely grind a new point on a high-speed drill, which of the following could happen if it is cooled in cold water immediately after grinding?

- (A) The cutting surface will become annealed by the cold water.
- (B) Cracks may appear in the metal.
- (C) The edges will be dulled.
- (D) The 59° angle will be lost due to metal contraction.

If choice B is selected set score to 1.

69. When welding or burning aboard a vessel, you must be certain that the space _____.

- (A) contains no explosive fumes
- (B) has no oil or flammable material in the area
- (C) is properly vented
- (D) all of the above

If choice D is selected set score to 1.

70. To measure the circumference of a piece of pipe, you should use a _____.

- (A) hook rule
- (B) flexible steel rule
- (C) folding rule
- (D) machinist's steel rule

If choice B is selected set score to 1.

GS-0009

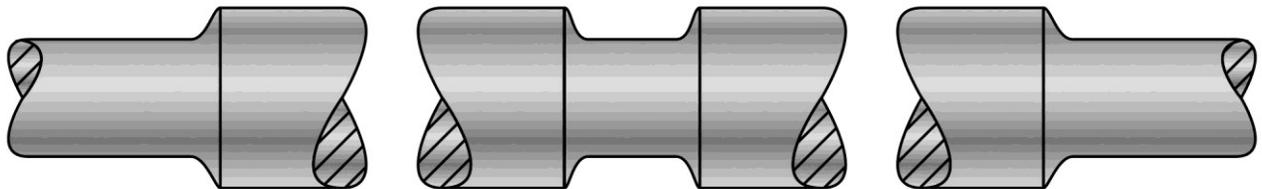
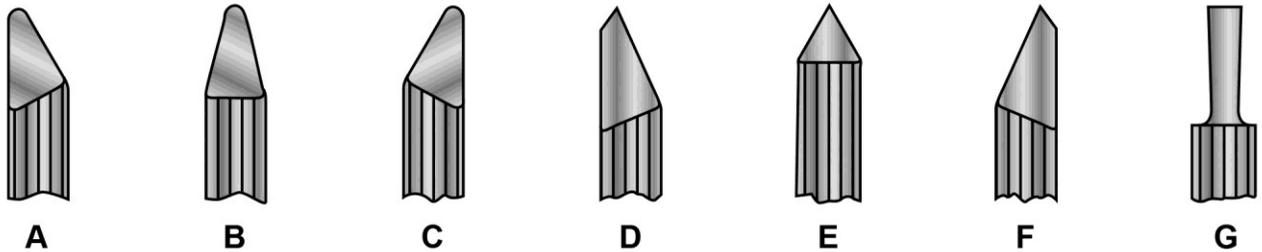


Fig. I

Fig. II

Fig. III

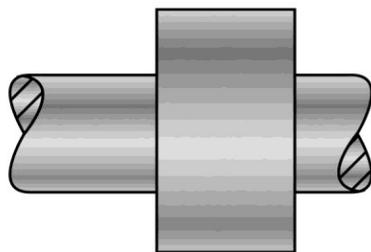


Fig. IV

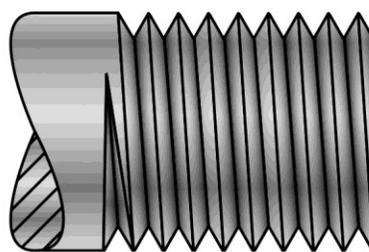


Fig. V

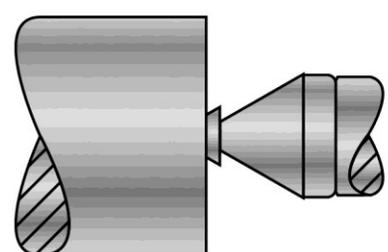


Fig. VI

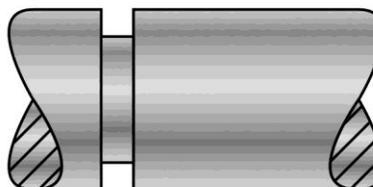
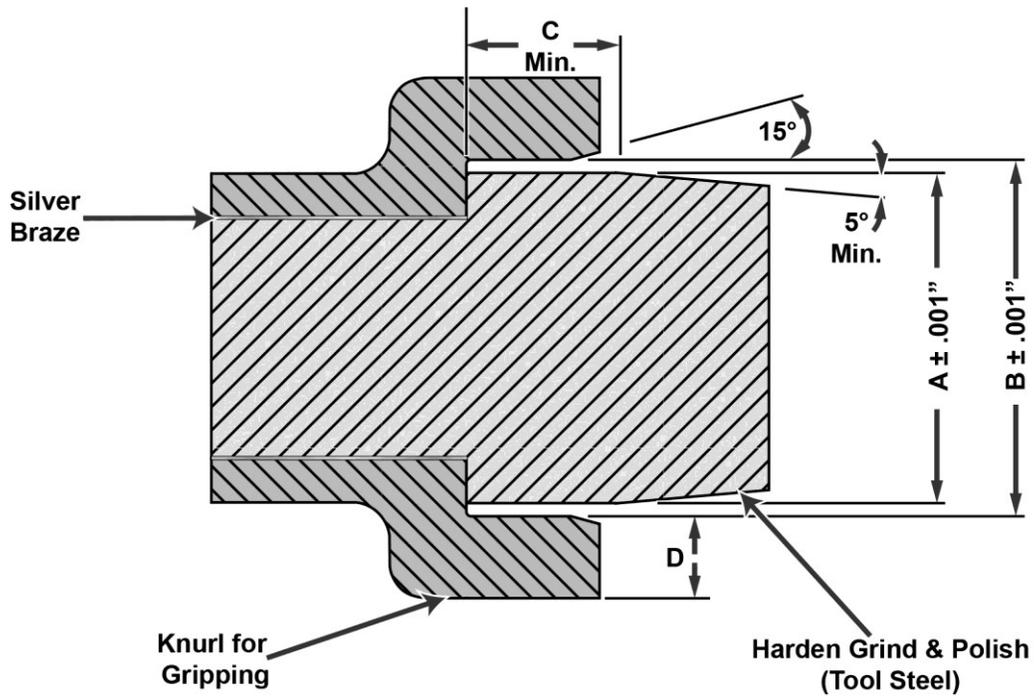


Fig. VII

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GS-0014

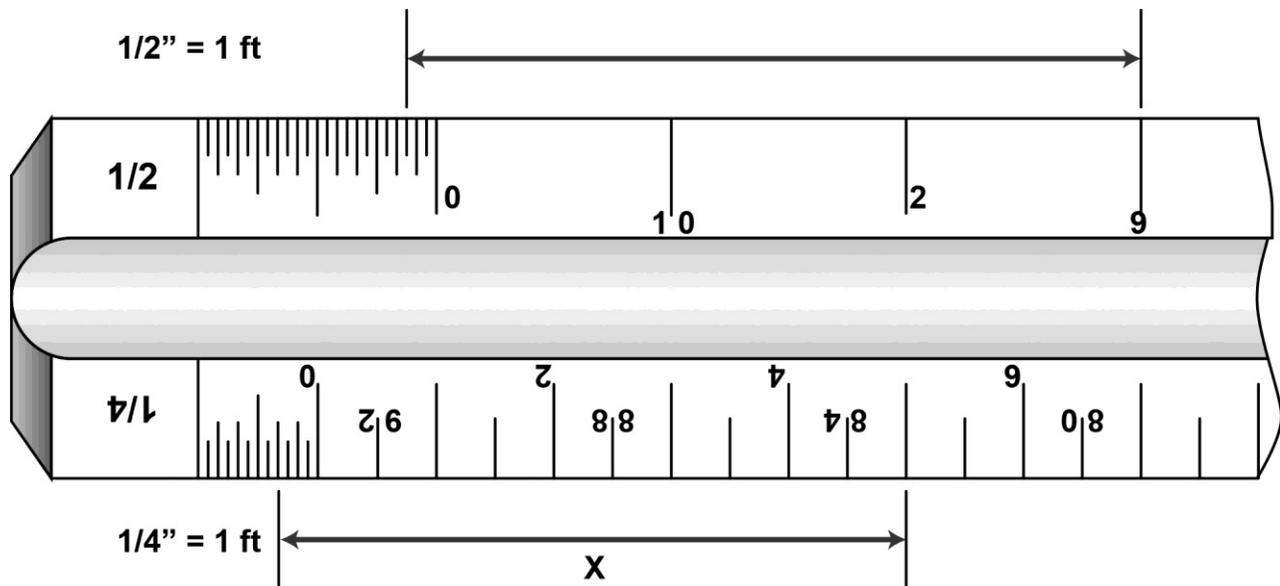


Fitting Size (Inch)	A	B	C	D
1/4	.400	.500	33/64	1/4
3/8	.535	.675	9/16	1/4
1/2	.700	.840	5/8	1/4
3/4	.910	1.050	21/32	1/4
1	1.175	1.315	11/16	3/8
1 1/4	1.520	1.660	3/4	3/8
1 1/2	1.760	1.900	7/8	7/16
2	2.235	2.375	27/32	1/2

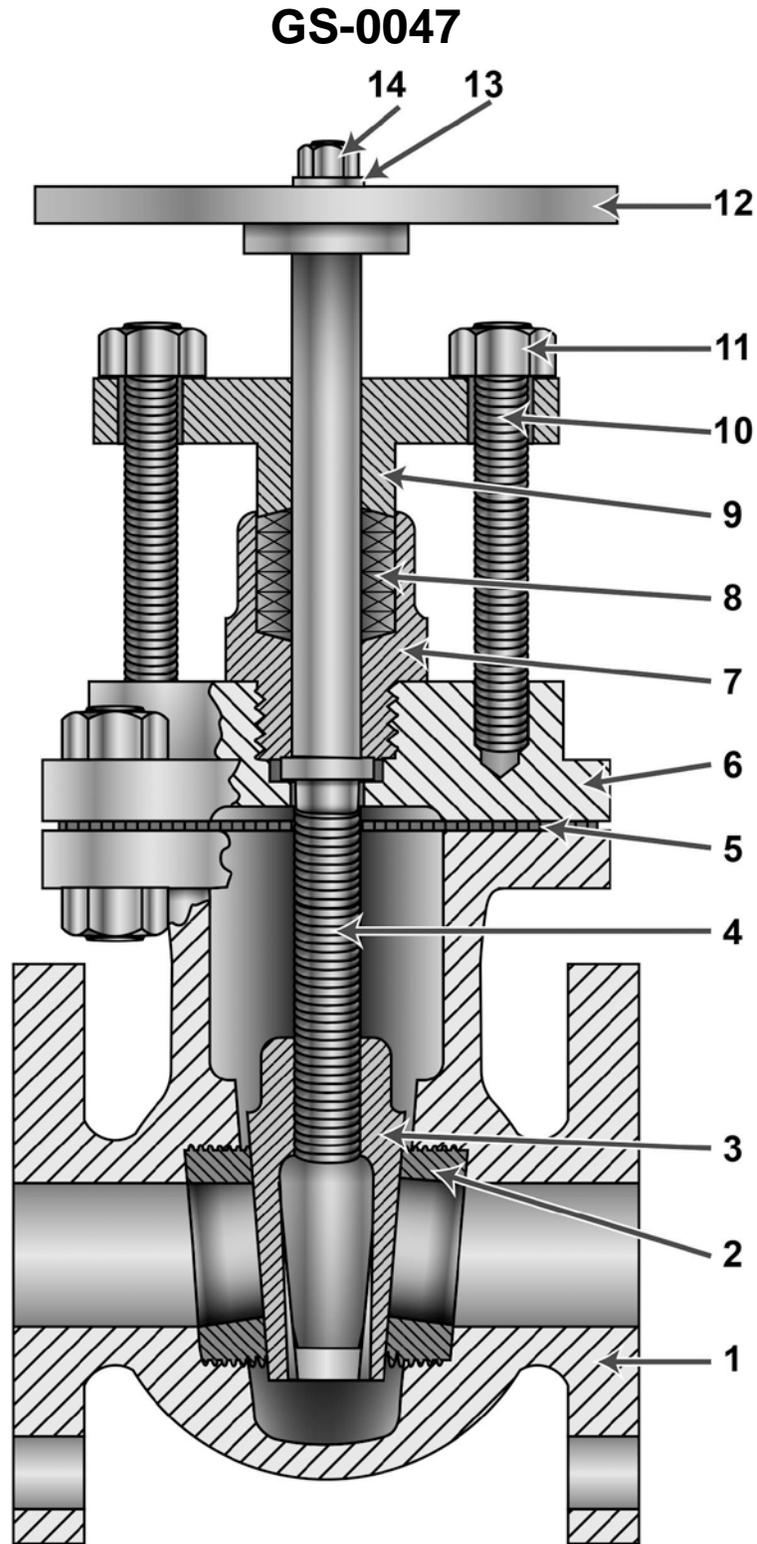
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GS-0023

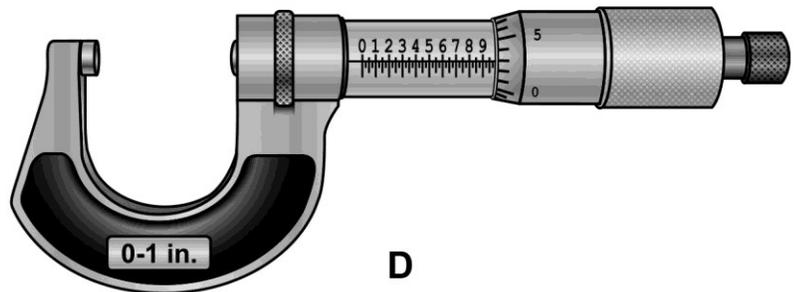
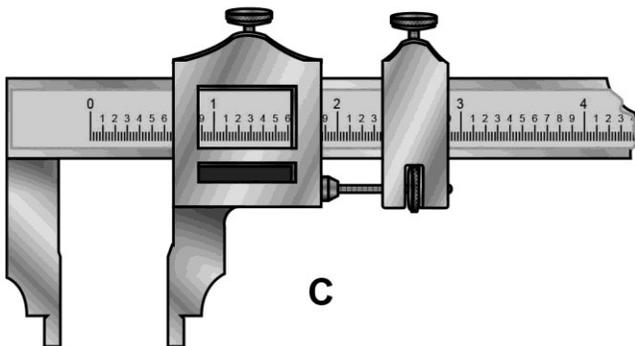
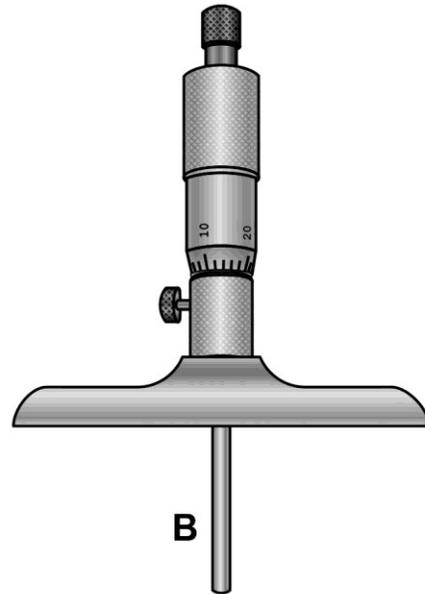
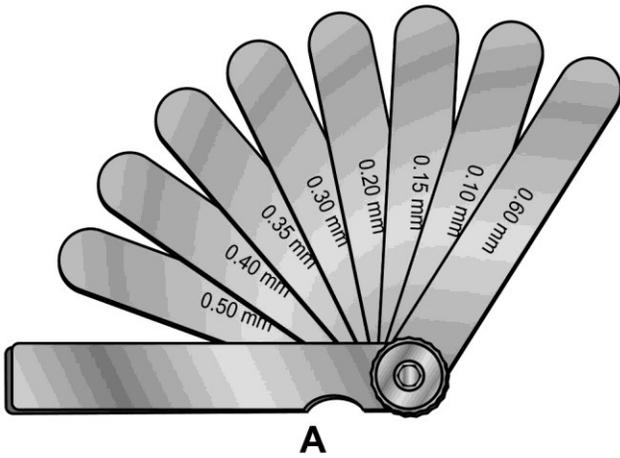


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GS-0073

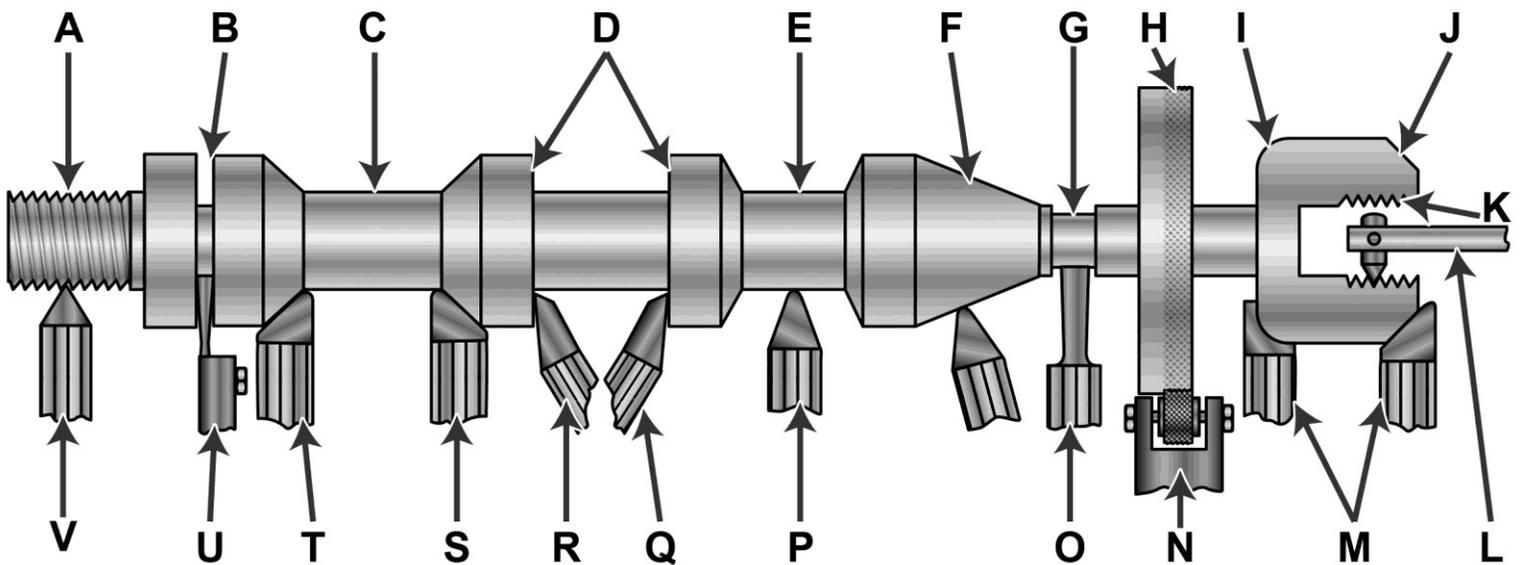


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GS-0090



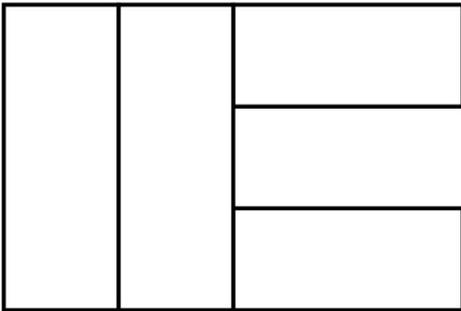
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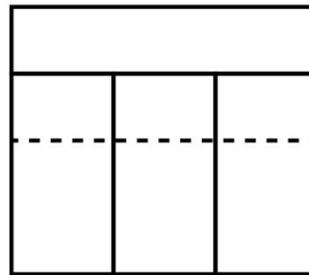
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GS-0132

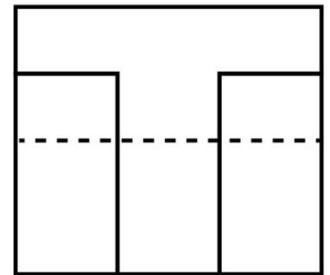
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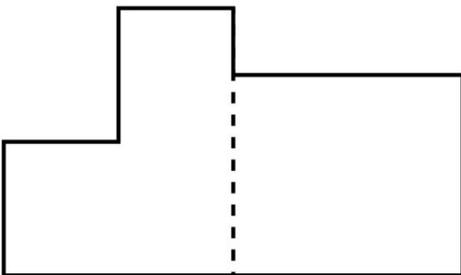
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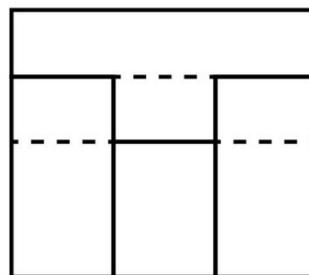
2



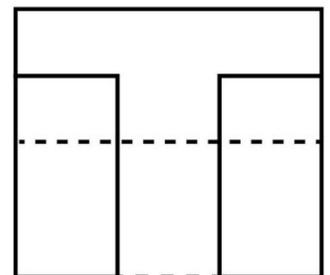
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3



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