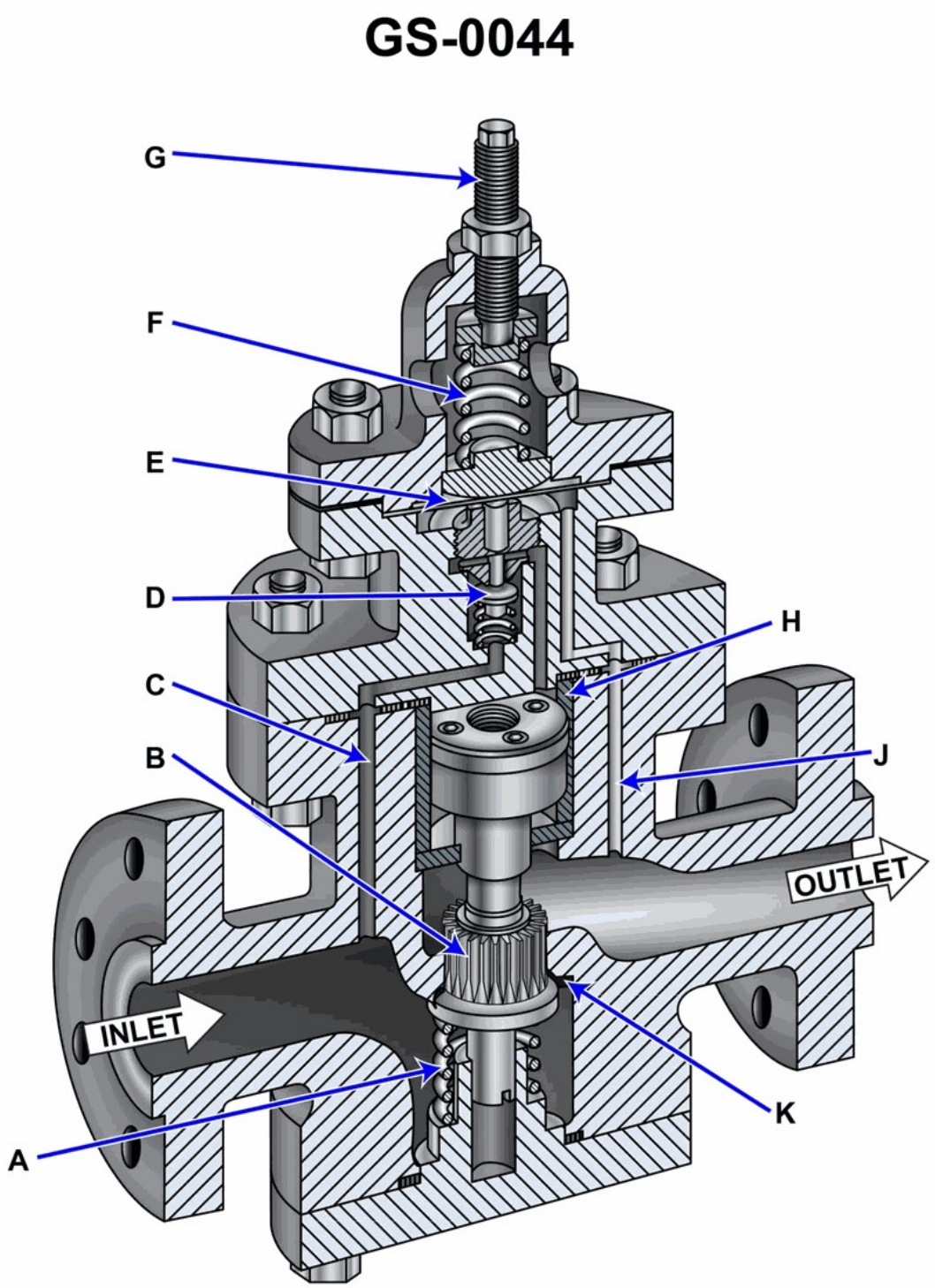

Q652 - General Subjects

1. In the illustrated self-contained, internal-pilot, piston-operated steam pressure-reducing valve, what statement is true concerning the pilot and main valves



- The pilot valve is downward seating and the main valve is upward seating.
- The pilot valve is downward seating and the main valve is downward seating.
- **The pilot valve is upward seating and the main valve is upward seating.**
- The pilot valve is upward seating and the main valve is downward seating.

Note:
Both the pilot and main valves are upward seating because inlet steam acts on the underside of their discs.

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2. For the various sizes of tubing and wall thickness used in a hydraulic system, the inside diameter can be determined if it is remembered that the inside diameter equals the outside diameter less _____.

- the wall thickness
- 1.5 times the wall thickness
- **2 times the wall thickness**
- 2.5 times the wall thickness

Note:
The inside diameter is calculated by subtracting twice the wall thickness from the outside diameter, accounting for the material on both sides of the tubing.

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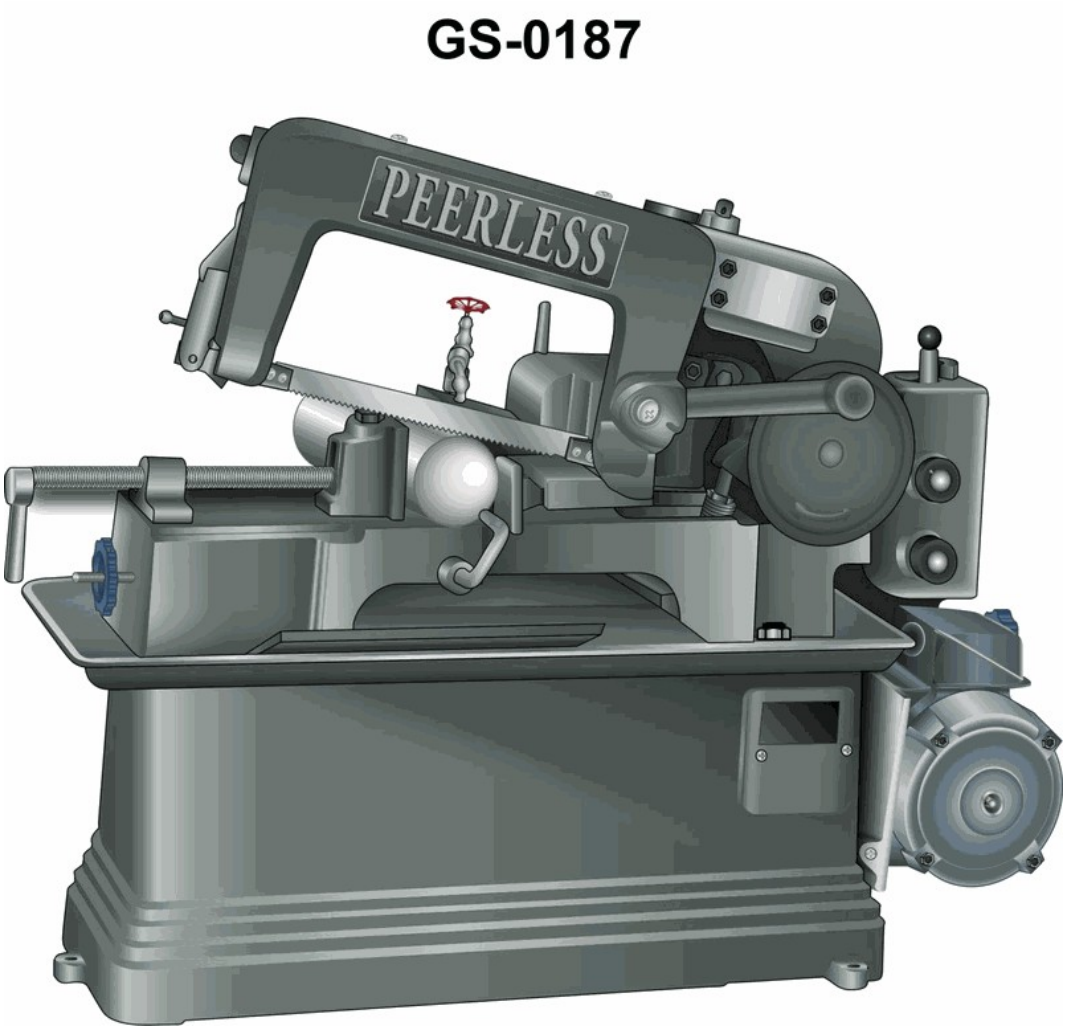
3. For the power hacksaw shown in the illustration, how should the teeth point for the blade being installed



- pointing either toward or away from the motor end of the machine
- **pointing toward the motor end of the machine**
- 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
- pointing away from the motor end of the machine

Note:
The blade teeth must point toward the motor end because the power stroke moves in that direction. Incorrect installation prevents cutting on the powered stroke and can damage the blade.

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4. Which of the drill sizes listed represents the largest size drill?

- A
- X
- **Z**
- XX

Note:
Drill sizes increase in diameter alphabetically from A to Z. Therefore, Z represents the largest drill size.

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5. Which of the drill sets listed would commonly be referred to as a “Jobbers Set”?

- A set of numbered size drills from 1 to 60.
- **A set of fractional size drills from 1/16" to 1/2".**
- A set of fractional size drills from 1/2" to 2".
- A set of lettered size drills from A to Z.

Note:
A Jobbers Set is a standard set of fractional-size drill bits, typically ranging from 1/16" to 1/2". This designation refers to the common size range for jobber-length twist drill bits used in general-purpose drilling.

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6. No two drills from differing drill sets are of the exact same size, with the exception of the drills measured as 0.25 inch. These two drills are the 1/4 inch and the _____.

- "A" drill
- **"E" drill**
- No.1 drill
- No.80 drill

Note:
The 1/4 inch and “E” drill are the only drills from different sets with the same size of 0.25 inch.

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7. If the speed of a drill is too great, the drill will _____.

- not cut
- **rapidly dull**
- cut slower
- cut faster

Note:
Excessive drill speed generates heat, which reduces the drill's hardness and causes rapid dulling.

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8. Before boring a blind tapered hole, a good shop practice to follow is to _____.

- **drill to the small diameter of the taper**
- bore a straight hole
- drill to the large diameter of the taper
- use a tapered reamer

Note:
To ensure accurate taper formation and prevent over-cutting, a blind tapered hole should first be drilled to the small diameter.

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9. If the cutting edges of a drill are ground at different angles, the _____.

- drill will not cut
- **hole will be oversized**
- drill will seize immediately
- hole will be undersized

Note:
Unequal cutting angles cause one lip to remove more material, displacing the drill and resulting in an oversized hole.

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10. A grinding wheel is trued with a _____.

- lathe tool
- garnet stone
- round file
- **dressing tool**

Note:
A dressing tool is the correct choice because it is specifically designed to restore a grinding wheel's shape and cutting surface. Truing and dressing are essential for safe and efficient operation, and only approved dressing tools should be used. Other options are unsuitable and unsafe for reshaping a rotating grinding wheel.
