

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Instructor: \_\_\_\_\_ Period: \_\_\_\_\_

# 9 Fasteners, Gaskets, Seals, & Sealants



**Objective:** After studying this chapter, you will be able to select and use automotive fasteners properly.

## Fasteners

1. Bolt size is determined by measuring the outside diameter of the \_\_\_\_\_.
2. Bolt \_\_\_\_\_ is determined by measuring the length of the bolt, minus the head.
3. List the three (3) primary thread classifications:  
A. \_\_\_\_\_ B. \_\_\_\_\_ C. \_\_\_\_\_
4. When tightening a \_\_\_\_\_ - \_\_\_\_\_ thread, you must turn it counter-clockwise.
5. Tensile strength is a measure of how \_\_\_\_\_ a bolt can withstand before breaking.
6. A faster's **Grade** is a rating of it's \_\_\_\_\_.
7. Identify the Nut Types shown:



A



B



C



D



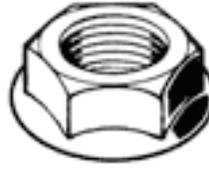
E



F



G



H

- A. \_\_\_\_\_ B. \_\_\_\_\_ C. \_\_\_\_\_ D. \_\_\_\_\_  
E. \_\_\_\_\_ F. \_\_\_\_\_ G. \_\_\_\_\_ H. \_\_\_\_\_

8. A flat \_\_\_\_\_ prevent the faster from digging into the part.
9. A \_\_\_\_\_ washer prevent the fastener from loosening under vibration an twisting.
10. Machine \_\_\_\_\_ are similar to regular bolts but are usually smaller in diameter, are threaded all the way up to the head, and the head is often slotted.
11. Self-tapping screws are used on soft materials or thin materials like \_\_\_\_\_ and \_\_\_\_\_.

12. Most automotive fasteners have tightening requirements called the \_\_\_\_\_ .
13. When tightening a series of fasteners on the same part, a specific sequence and amount of tightening called a \_\_\_\_\_ is used.
14. Why is it important to follow the **bolt tightening sequence**? \_\_\_\_\_ .
15. Why should using a swivel-joint be avoided? \_\_\_\_\_ .
16. List three (3) common ways to remove broken or damaged fasteners:
- A. \_\_\_\_\_
- B. \_\_\_\_\_
- C. \_\_\_\_\_
- setting.

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## **Gaskets Seals**

17. Gaskets are best used on \_\_\_\_\_, and seals are best for \_\_\_\_\_.
18. A \_\_\_\_\_ sealer is used for permanent assembly, where a \_\_\_\_\_ is for semi-permanent assemblies.
19. A sealer that sets up without air is classified as an \_\_\_\_\_ sealer.
20. RTV stands for \_\_\_\_\_ .
21. **Form In Place** sealants are often used in place of \_\_\_\_\_ .