FRAME REPAIR

25.1. Vocabulary

Ex. 1. *Match the words to their definitions.*

1. manufacturer specifications	a. a traditional method of taking measurements using mechanical tools such as rulers, calipers, and gauges.
2. frame rack	b. a storage unit designed to organize and store various tools and equipment.
3. wheel aligner	c. the process of adjusting and positioning parts or components to be in a straight line or correct position.
4. alignment lift	d. a high-tech measuring tool that uses laser technology to take precise measurements.
5. power puller	e. a specialized lifting device used for aligning and leveling vehicles during repairs.
6. alignment	f. a sophisticated electronic device that accurately measures and records data for precise calculations.
7. clamp	g. the structural framework of a vehicle or machine.
8. laser measurement system	h. a curved or bent piece of metal used for attaching, pulling, or hanging objects.
9. hook	i. a heavy-duty tool used for pulling

	or removing stubborn parts or components.
10. electronic measurement system	j. a type of frame repair equipment used to straighten damaged frames on vehicles.
11. frame	k. detailed instructions and guidelines provided by the manufacturer for proper use and maintenance of a product.
12. tool board	l. a device used to measure and adjust the angles of the wheels on a vehicle for optimal performance and safety.
13. mechanical measurement system	m. a tool used to hold objects tightly together, often with adjustable pressure.

Ex. 2. *Complete the sentences with the given words:*

clamp, measurement, system, alignment (2), electronic, specifications, tool, wheel, frame

The _____(1) repair technician checked the alignment of the damaged car with a laser measurement system.

After assessing the damage to the vehicle, the mechanic used an _____(2) lift to properly adjust the frame.

The _____(3) held the frame securely in place as the power puller was used to pull out the dents.

According to manufacturer _____(4), the frame rack should be used for all major frame repairs.

The _____(5) measurement system ensured that the frame was precisely aligned to restore the car's stability.

The frame repair shop had a well-organized _____(6) board with various types of clamps and hooks for different types of repairs.

The _____(7) aligner was used to accurately set the camber, caster, and toe angles of the wheels within the specified tolerances.

The mechanic also used a mechanical _____(8) system to double-check the accuracy of the electronic measurements.

It took several hours of careful _____(9) and adjustments, but the car's frame was finally repaired to its original condition.

The frame repair process requires advanced equipment such as a laser measurement _____(10) and a power puller.

25.2. Reading

Ex. 1. *Read the text.*

Frame Repair

A frame repair technician is responsible for the alignment and repair of damaged vehicle frames. They use a variety of tools and equipment to ensure that the frame is restored to its original condition, including an alignment lift, clamps, power pullers, and more. In this article, we'll explore some of the key tasks of a frame repair technician and the tools they use.

Step 1: Frame Assessment

The first step in any frame repair job is to assess the extent of the damage. The technician will carefully inspect the frame for any signs of bending, twisting, or misalignment. This is typically done using an electronic measurement system or a laser measurement system. These advanced tools allow the technician to compare the current measurements of the frame to the manufacturer specifications and determine the exact areas that need to be repaired.

Step 2: Frame Straightening

Once the assessment is complete, the technician will move the vehicle onto a frame rack. A frame rack is a large, heavy-duty platform that allows the technician to secure the vehicle in place during the repair process. The technician will attach chains and hooks to specific points on the frame and use a power puller to apply force and straighten the damaged areas. The power puller is essentially a hydraulic device that can exert a tremendous amount of force, allowing the technician to gradually and precisely straighten the frame.

Step 3: Welding and Reinforcement

In some cases, the frame may be too severely damaged to be straightened. In these situations, the technician will need to cut out the damaged section of the frame and replace it with a new one. This requires advanced welding skills, as well as a variety of specialized tools, such as a plasma cutter and an arc welder. Once the new section is welded into place, the technician may also reinforce the frame using additional metal plates or braces to ensure its strength and stability.

Step 4: Final Checks and Wheel Alignment

After the frame has been straightened and repaired, the technician will perform a series of final checks to ensure that everything is in order. This includes measuring the frame once again to verify that it meets the manufacturer specifications and checking for any signs of stress or weakness. Finally, the technician will use a wheel aligner, which is a sophisticated device that measures and adjusts the angles of the vehicle's wheels. This is necessary to ensure that the vehicle drives smoothly and safely after the frame repair.

In addition to these tasks, a frame repair technician is also responsible for maintaining their tools and equipment, as well as keeping their work area clean and organized. They may also need to communicate with customers and provide them with updates on the progress of their vehicle's repair.

Ex. 2. *Answer the questions.*

1. What are the key tasks of a frame repair technician?

2. How does a frame repair technician assess the extent of damage to a vehicle's frame?

3. What is a frame rack and how is it used in the repair process?

4. When is welding and reinforcement necessary during frame repair?

5. What tools are required for cutting out damaged sections of the frame and welding in new ones?

6. What final checks does a frame repair technician perform after straightening and repairing the frame?

7. Why is wheel alignment important after a frame repair?

25.3. Communication

Ex. 1. *Make sentences using the following words:*

1. cost/repair/broken

2. frame/painting/repair

3. recommend/reliable/frame

4. glasses/bent/repair

5. bike/cracked/repair

6. insurance/covered/frame

7. antique/mirror/damaged

8. accidentally/stepped/bent

9. usual/turnaround/time

10. tips/preventing/future