

# Lovejoy Junior Lab Off-Site Learning Packet Day 8

Instructor Michael Lovejoy

Date 2019-2020

Program/Class\_.....;J,;;,R,;;,;A=S-=T\_\_\_\_\_

Period 1-4

## Activities:

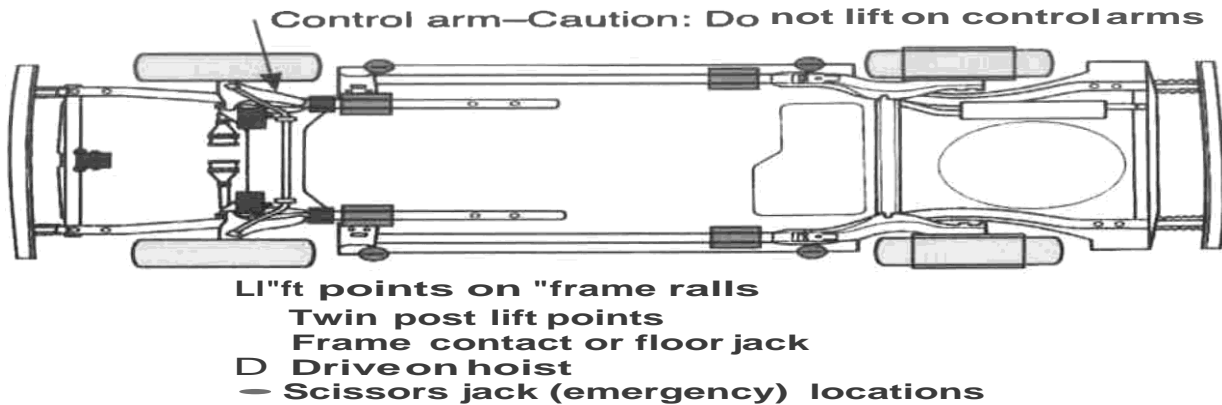
1. Students will be able to list 3 basic areas of an auto shop with 100% accuracy.

1. Repair area
2. Tool room
3. Classroom
4. Any location in shop where repairs are performed
  1. Shop stall
    1. Small, sometimes marked *off* or numbered
  2. Outside work area
    1. Adjacent to shop overhead doors
  3. Lift
    1. Raises vehicle into air
  4. Alignment rack
    1. Use for working on steering and suspension systems

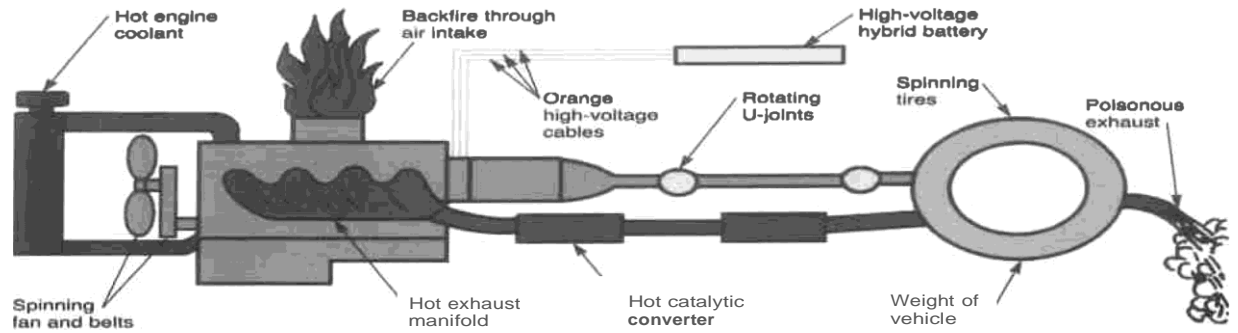
2. Students will be able to list 4 out of 5 basic lift safety rules.

1. Ask instructor for demonstration
2. Get permission
3. Position vehicle's center of gravity
  1. Point of perfect balance
  2. Follow service manual
4. Raise vehicle slowly
  1. Keep fingers clear of moving parts
  2. Double-check lift points

3. Make sure vehicle is level
5. Verify lift safety catch is engaged
  1. Do not walk under lift without catch in fully locked position



3. Students will be able to identify the purpose of the tool room with 100% accuracy.
  1. Shop storage area for larger pieces of repair equipment
    1. Shop tools
    2. Small equipment
    3. Supplies
  2. All tools must be accounted for at end of class period
  3. Follow instructor's policies and procedures
4. Student will be able to identify the uses of the classroom in an automotive shop with 100% accuracy.
  1. Office-like area in school or large repair facility
    - Increase knowledge of auto service and repair
  2. Used for seminars, demonstrations, and training activities
5. Students will be able to identify 11 potential dangers in a shop with 100% accuracy.
  1. Every year, thousands of auto technicians are injured or killed
    1. Broken safety rules
  2. Constantly think of safety
  3. Emergency exits
    1. Designated escape routes



There is 11 points on the picture that show potential hazards.

6. Students will be able to list 6 accidents with 100% accuracy.

1. Fires
2. Explosions
3. Asphyxiation (airborne poisons)
4. Chemical burns
5. Electric shock
6. Physical injuries

7. Students will be able to list 10 common fire hazards in a shop with 100% accuracy.

1. Store gasoline and other flammables in approved containers
2. Never use gasoline as cleaning solvent
3. When disconnecting fuel line, cover it with rag to prevent squirting or leaking
4. Gasoline is the most dangerous flammable substance in the shop.
5. Wipe up gasoline spills immediately
6. Do not use oil absorbent (oil-dry)
6. Keep heat sources away from exposed fuel system parts
7. Disconnect batteries before working on fuel system parts
  - Keep batteries disconnected during repairs
8. Properly store oily rags
9. Store combustibles in fire cabinet
10. Fire extinguishers

Know locations

- How to properly use  
Always use correct type

8. Students will be able to list the 4 types of fire classifications with 100% accuracy.

- Classified by burning material
  - Type A
    - Wood, paper, plastic, or cloth
  - Type B
    - Burning liquids
  - Type C
    - Electrical equipment
  - Type D
    - Burning metals
- Soda-acid
  - Type A fire *only*
- Pressurized water
  - Type A fire only
- Carbon dioxide
  - Type B or C fire *only*
- Foam
  - Type A or B fire *only*
- Dry chemical
  - Multipurpose type (Type A, B, or C fire only)
  - Ordinary BC type (Type B or C fire only)
- Dry chemical (granular-type material)
  - Type D fire only

Dry chemical extinguishers are the most common type

9. Students will be able to list 5 sources for explosions with 100% accuracy.

1. Rapid, almost instant, combustion of material that causes powerful shock wave

2. Sources

1. Hydrogen gas around car batteries
2. Fuel tanks
3. Special sodium-filled engine valves
4. Welding tanks
5. Propane-filled bottles



10. Students will be able to list 4 symptoms of Asphyxiation with 100% accuracy.

1. Caused by breathing in toxic or poisonous substances

2. Symptoms

Dizziness

Headaches

Vomiting

Death

3. Exhaust gases are poison

Proper ventilation



Assessment:

# Chapter 5

## Auto Shop Safety



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

Instructor ----- Score \_\_\_\_\_

**Objective:** After studying this chapter, you will be able to list the important safety rules for the auto shop.

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### Auto Shop Layout

1. What does an auto shop's repair area normally include?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. A(n) \_\_\_\_\_ is a small work area where a car can be parked for repairs.

3. List the rules that should be followed when using a lift.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Describe how a vehicle should be pulled onto an alignment rack.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. The \_\_\_\_\_ is part of the shop area used to store shop tools, small equipment, and supplies.

6. The \_\_\_\_\_ is used for seminars, demonstrations, and other technician training activities.

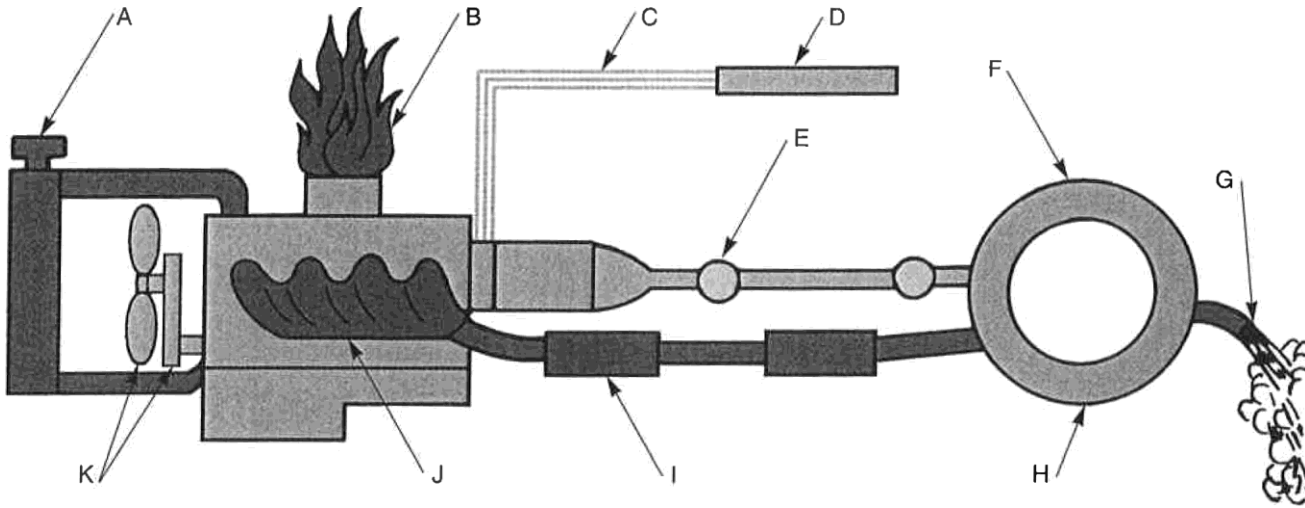
## Shop Safety

7. Most accidents that occur in the auto shop are the \_\_\_\_\_  
 result of broken \_\_\_\_\_

8. What should you look for when thinking of safety in the auto shop?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

9. Why is it important from a safety point of view to remember that you are surrounded by other technicians in the shop?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

10. Identify the potential dangers present around an automobile.



- |           |           |
|-----------|-----------|
| (A) _____ | (G) _____ |
| (B) _____ | (H) _____ |
| (C) _____ | (I) _____ |
| (D) _____ | (K) _____ |
| (E) _____ |           |
| (F) _____ |           |

## Types of Accidents

11. List six types of accidents that can occur in the auto shop.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Name \_\_\_\_\_

12. What should you do if an accident or injury occurs in the auto shop?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

13. \_\_\_\_\_ is the most dangerous and underestimated flammable substance in an auto shop.

\_\_\_\_\_

14. The most common type of multipurpose extinguisher is an A, B, C \_\_\_\_\_ fire extinguisher.

\_\_\_\_\_

15. Describe how you should carry an air bag.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

16. A(n) \_\_\_\_\_ should be worn when working around any airborne impurities.

\_\_\_\_\_

17. The \_\_\_\_\_ on an electric power tool prevents current from accidentally passing through your body.

\_\_\_\_\_

18. Always wear thick \_\_\_\_\_ gloves (rated for 1000 volts) when working on high-voltage hybrid drive systems.

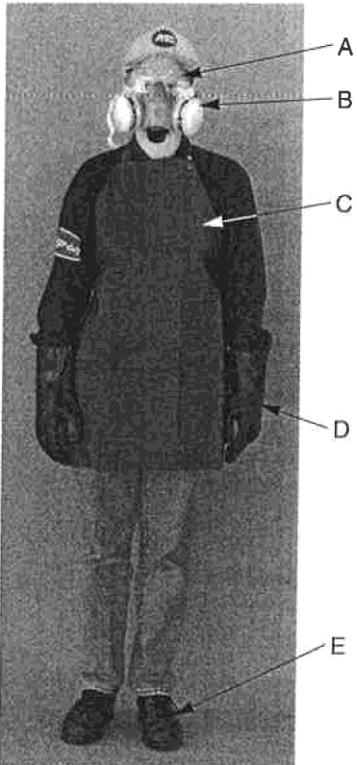
\_\_\_\_\_

19. When lifting heavy objects in the shop, you should lift with your \_\_\_\_\_ and *not* your \_\_\_\_\_.

\_\_\_\_\_

\_\_\_\_\_

20. Label the names of the protective gear you should wear when handling solvents and other caustic materials.



(A) \_\_\_\_\_

(B) \_\_\_\_\_

(C) \_\_\_\_\_

(D) \_\_\_\_\_

(E) \_\_\_\_\_

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## General Safety Rules

21. When should eye protection be worn in the auto shop?

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22. When should the shop ventilation fan be turned on?

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23. \_\_\_\_\_ dust is a cancer-causing agent found in brake  
and clutch dust.

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24. The \_\_\_\_\_ on an automobile can turn on even with the  
ignition key off.

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25. Why must you respect running engines?

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