Name: _____ Score: _____

Refrigerant Recovery and Recycling Quiz - Part 3

Essay Questions

1. How does new A/C machine for R-1234yf and R-744 Systems meets SAE Standard J2845 to promote safe and responsible refrigerant management practices during recovery, recycling, and recharging? List at least four (4) requirements on p.22–23

A. _____
B. _____
C. _____
D. _____

2. True / False Questions (Key R-744 Safety Points) p.23

____ A. CO2 gas from R-744 can cause asphyxiation by displacing air
____ B. Recovery of CO2 refrigerant is necessary to ensure harmless depressurization for technicians
____ C. Overcharging CO2 systems is dangerous - CO2 gas can leak into passenger compartment and cause asphyxiation
____ D. It is acceptable to use salvaged parts like an evaporator if it meets SAE Standards

3. How does SAE Standard J2843 prevent cross-contamination of R-1234yf and R-744 refrigerants when using New A/C Machines? p. 24 List at least three (3):

A. _____
B. _____
C. _____

4. How do you get rid of contaminated R-1234yf and R-744 refrigerants? p.24 – 2nd column. List at least two (2) ways:

A. _____
B. _____

5. True / False Questions p.24

____ A. Technicians under Section 609 can be fined for "topping-off" an A/C system that is low on refrigerant
____ B. Customer are required to have leaks repaired to MVAC systems under Federal 609 legislation
____ C. Unknown refrigerants should be recovered in DOT-approved (gray with yellow top) recovery tanks
____ D. Manufacturers must label the level of accuracy of ALL refrigerant identifiers for R-12 and R-134a
____ E. SAE Standard J2927 give specific requirement for R-1234yf machines with built-in refrigerant identifiers

Multiple Choice Questions

____ 6. Two primary tools for performing leak detection is: 1) Electronic leak detectors and 2) Florescent dye detectors…

A. True
B. False

____ 7. Technician A says that Standard 2791 covering Electronic Leak Detectors for R-134a requires a minimum of three (3) leak detection scales that can be manually selected. Technician B says the scale selection on leak detectors for R-134a is 4g / year, 7g / year, and 14g / year. Who is correct?
A. Technician A only
B. Technician B only
C. Both Technician A and B
D. Neither Technician A or B

____ 8. When searching for leaks on R-1234yf systems, the technician must be extremely careful because the refrigerant is flammable. ALL of the following procedures must be followed when using an Electronic Leak Detector EXCEPT:
A. Maintain a distance of 3/8 inches between the probe and surface, and move the probe no faster than 3 inches per second
B. Perform a leak test when the system is not operating
C. Insert the leak detector into the blower motor resistor block or evaporator drain hole
D. Use an older R-12 Electronic Leak Detector with approved modifications to meet SAE J1628

____ 9. If florescent dye leak detection is used with UV black light kit and tool to inject dye, suppliers are required to provide an under-hood label to identify the dye and manufacturer, and the label must say, "System to be Serviced by Qualified Personnel."

A. True
B. False

____ 10. When using UV light for leak detection, you should:
A. Protect your eyes and skin for exposure
B. Wear UV block eyewear
C. Direct the light source away from your body and bare skin
D. All of the above

Short Answer Questions

11. List four (4) Best Practices for Leak-Finding Dyes p.26
A. _____
B. _____
C. _____
D. _____

12. After a leak is repaired when using florescent dye, how should you remove florescent dye residue?
_____

13. When injecting dye into an AC system, how long should the system operate to ensure the dye is fully circulated?

A. 2 minutes C. 30 minutes
B. 15 minutes D. 45 minutes
* Note – After locating an A/C system leak, the final step in repairing the leak is to check the system again for leaks after you recharge the system.

14. Why should refrigerant never be added to the high side of the A/C system when operating the engine (p.27 warning)…

_____

_____

15. List four (4) precautions when storing refrigerant in cylinders (p.27)…

A. _____

B. _____

C. _____

D. _____

16. Use the chart below to answer the following questions…

Refrigerant Cylinder Identification and Fitting Size		
Refrigerants *	**Color**	**Fitting**
R-12	White	7/16 in. x 20
R-134a	Light blue (PMS color 2975)	RH Thread, ½ in. 16 ACME
R-1234yf	White with red band	LH Thread, ½ in. 16 ACME
R-744	Gray (PMS color 352)	TBD

A. What color is R-12 refrigerant cylinder? _____

B. What color is R-134a refrigerant cylinder? _____

C. Describe the color for R-1234yf refrigerant cylinder _____

D. What color is R-744 refrigerant cylinder? _____

E. What refrigerant cylinder has Right Hand Thread? _____ Left Hand Thread? _____

7/16" X 20 Fitting? _____

17. What affect will overcharging have on today's MVAC systems? p.28

_____

_____

18. What affect will low refrigerant have on today's MVAC systems?

_____

_____

19. List two (2) methods to ensure that refrigerant charge methods and amounts are accurate (p.28)…

A. _____

B. _____

20. Use section 609 Refrigerant Charge Calculation Sheet on p.29 to convert the following math problems…

A. Convert 26 ounces of refrigerant to pounds (Ex. 26 oz. Divided by 16 =)
26 oz. = _____ lbs.

B. Convert 1.25 pounds of refrigerant to ounces (Ex. 1.25 lbs. x 16 =)
1.25 lbs. = _____ oz.

C. Convert 1 pound and 5 ounces of refrigerant to Total ounces (Ex 1 lbs. x 16) + 5 oz. =
1 lbs 5 oz. = _____ oz. (Total)

D. . Convert 0.6 pound of refrigerant to ounces (Ex. 6/10 lbs. into oz.) and (Ex. 0.6 lbs. x 16 =)
0.6 lbs. = _____ oz. (Total)

E. Convert 14 ounces of refrigerant to tenths of a pound (Ex.14 oz. Divided by 16 = tenths of a pound)
14 oz. = _____ tenths of a pound

F. Convert 500 grams of refrigerant to ounces (Ex.500 g x .0353 =)
500 g = _____ oz.

F. Convert 1.3 kilograms of refrigerant to pounds (Ex.1.3 kg. x 2.205 =)
1.3 kg = _____ lbs.

CONGRATULATIONS – YOU ARE FINISHED WITH SECTION 609 PRE-TEST TRAINING!

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