



COLLISION INDUSTRY
C O N F E R E N C E



Technical Committee

Presented by:
Toby Chess & Kye Yeung, Co-Chairs



COLLISION INDUSTRY
C O N F E R E N C E



That Forgotten Word
Maintenance

Safety and Maintenance go hand in hand



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Maintenance and Safety Pictures in this presentation



All the pictures depicting various OSHA violations in this presentation were taken by Toby Chess for educational purposes only. The pictures of the various body shops are only referenced for the beginning of each section and none the OSHA violation pictures were taken at these shops.

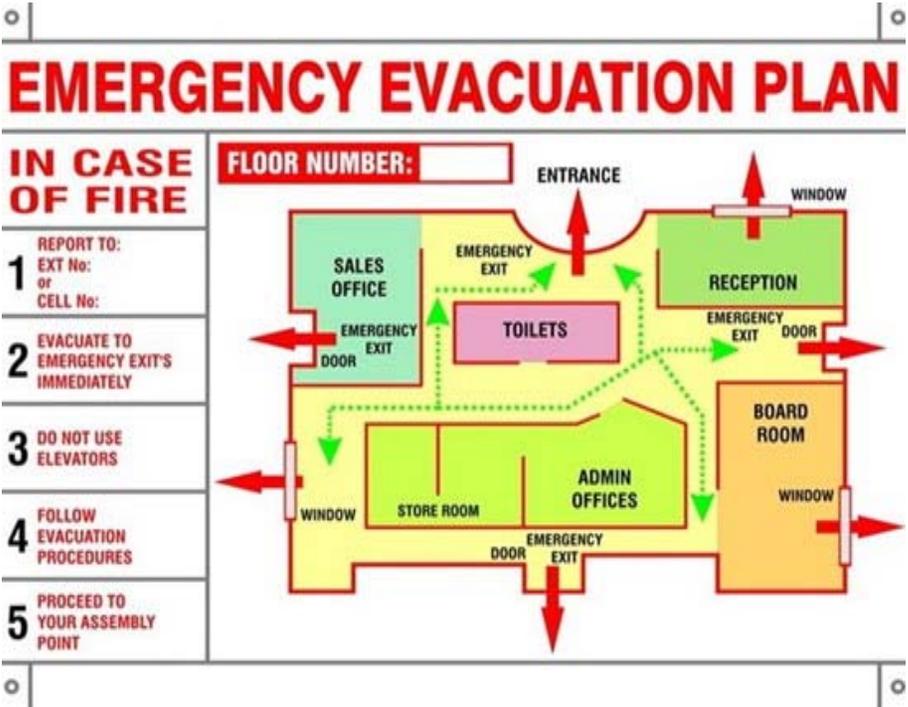


Maintenance for a Collision Repair Facility



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Does Your Facility have an Evacuation Map?



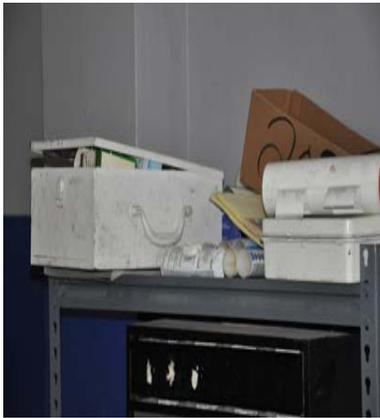
Facility Maintenance



- OSHA does not require facilities to have a printed map for evacuation in the case of an emergency; but other governmental agencies may. Check with your insurance carrier, fire marshal and state and local agencies that may require evacuation maps. But OSHA does have requirements for your Emergency Action Plan (EAP).
- An EAP is required for any facility with 11 more employees. OSHA allow facilities with 10 or fewer employees to communicate their EAP plan orally. Whether presented in writing or verbally, the EAP must have the following minimum elements as described in the OSHA standard 1910.39(c)(1)-(6).
- Procedures for reporting a fire or other emergency
- Procedures for emergency evacuation, including type of evacuation and exit route assignments
- Procedures for employees who remain to operate critical operations before they evacuate.
- Procedure to account for all employees after an evacuation.
- Procedures to be followed by employees performing rescue or medical duties.
- The name or job title of every employee who may be contacted by employees who need more information about the plan or an explanation of their duties under the plan
- Evacuation maps serve as a great visual tool to communicate important information from your EAP plan.



First Aid Kits



OSHA requires that First Aid Kits be inspected, proper size (for the facility), inventory maintained proper signage and accessible



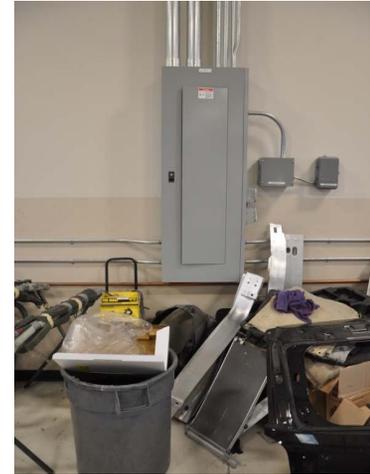
Blocked Electrical Panels



1910.303(f)(5)(i) Where circuit breakers or fuses are applied in compliance with the series combination ratings marked on the equipment by the manufacturer, the equipment enclosures shall be legibly marked in the field to indicate that the equipment has been applied with a series combination rating.

1910.303(h)(5)(iii)(B) Permanent and conspicuous warning signs shall be provided, reading substantially as follows:

"DANGER -- HIGH VOLTAGE



The recommended width of aisle markings varies from 2 inches to 6 inches; therefore, any width 2 inches or more is considered acceptable.

The recommended width of aisles is at least 3 feet wider than the largest equipment to be utilized, or a minimum of 4 feet



Fire Extinguisher Types



ABC Fire Extinguisher

- A—For Solids
- B—For Liquids
- C—For Electrical

| FIRE EXTINGUISHER RECHARGE & INSPECTION RECORD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|----|------|----|------|----|------|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <p>INSTRUCTIONS Attach this tag to fire extinguisher. Recharging and inspection records are to be entered by inspectors.</p> <p>Weigh & Inspect Monthly DRY CHEMICAL (Cartridge Type) Weigh Cartridge Monthly Check Chemical Every 6 Months</p> <p>DRY CHEMICAL (Stored Pressure Type) Check Gauge for Proper Pressure</p> <p>PRESSURIZED WATER Check Gauge Pressure Operating personnel should inspect extinguisher daily and report broken seals or defects immediately to Maintenance Dept.</p> <p>RECHARGE RECORD</p> <table border="1"> <thead> <tr> <th>DATE</th> <th>BY</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> | | | | DATE | BY | DATE | BY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <p>Inspect this extinguisher carefully before signing</p> <p>Do not break seal except in case of emergency or to recharge or inspect contents.</p> <p>INSPECTION RECORD</p> <table border="1"> <thead> <tr> <th>DATE</th> <th>BY</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> | | | | DATE | BY | DATE | BY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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Class D Fire Extinguisher

- D—For Aluminum & Magnesium



Inspections for Fire Extinguishers



- Portable fire extinguishers must be visually inspected monthly. The inspection should assure that:
- Fire extinguishers are in their assigned place;
- Fire extinguishers are not blocked or hidden;
- Fire extinguishers are mounted in accordance with NFPA Standard No. 10 (Portable Fire Extinguishers);
- Pressure gauges show adequate pressure (a CO₂ extinguisher must be weighed to determine whether leakage has occurred);
- Pin and seals are in place;
- Fire extinguishers show no visual sign of damage or abuse;
- Nozzles are free of blockage.
- Maintenance, inspection, and testing of an extinguisher are the responsibility of the employer. Maintenance should be done at least annually by a certified inspector. The employer shall record the annual maintenance date



Blocked Fire Extinguisher



OSHA & ANSI on Fire Extinguishers



- OSHA only requires extinguishers be “identified.” While an extinguisher mounted to a wall may be clearly visible from up close, they may be blocked from view if a person is standing a distance away. Materials stacked on pallets or shelving could prevent the extinguisher from being seen, as could open doorways or parked equipment like forklifts. Therefore, it is usually best to install a sign (or other means of identification) above a portable fire extinguisher so its location can be identified from a distance in case it is obstructed from view. How high? Depending on jobsite conditions, there are many cases where the fire extinguisher sign (or other means of identification) needs to be placed very high (near the ceiling) above fire extinguishers (as opposed to right on top of it) to enable them to be located when the previously mentioned obstacles are present.



Mounting a Fire Extinguisher Regulations



- The locations of fire extinguishers must be identified so they are readily available to employees without subjecting them to injury. Height requirements for mounting extinguishers depend on the weight of the unit. If the unit weighs less than 40 pounds, it should be installed so the top of the extinguisher is no more than 5 feet above the floor. If the unit weighs more than 40 pounds, it should be installed so the top of the extinguisher is no more than 3.5 feet above the floor. At no point should the extinguisher be less 4 inches from the floor.



No Product Label



1910.1200(f)(6)Workplace labeling. Except as provided in paragraphs (f)(7) and (f)(8) of this section, the employer shall ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with either: 1910.1200(f)(6)(i)The information specified under paragraphs (f)(1)(i) through (v) of this section for labels on shipped containers; or, 1910.1200(f)(6)(ii)Product identifier and words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under the hazard communication program, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical.



Labeling procedures for a Work Place Label

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Kent Acrysol

Product ID:

Signal Word: DANGER WARNING N/A

HEALTH FIRE INSTABILITY

SPECIFIC HAZARD

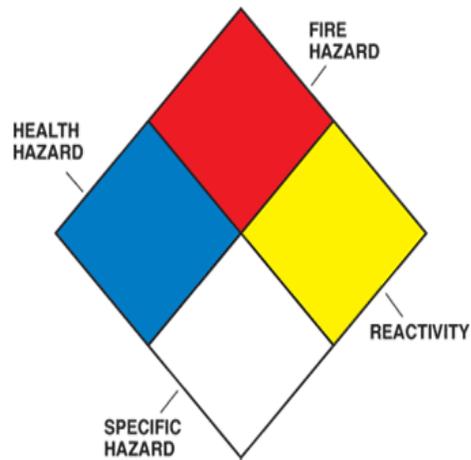
Hazard Statement:

Precautionary Statement:

Personal Protective Equipment:

Label supplied by Kent Automotive





HEALTH HAZARD
 4 Deadly
 3 Extreme danger
 2 Hazardous
 1 Slightly hazardous
 0 Normal material

FIRE HAZARD
 Flash Points
 4 Below 73° F
 3 Below 100° F
 2 Above 100° F not exceeding 200° F
 1 Above 200° F
 0 Will not burn

SPECIFIC HAZARD
 ACID Acid
 ALK Alkali
 COR Corrosive
 OXY Oxidizer
 P Polymerization
 ☸ Radioactive
 W Use No Water

INSTABILITY
 4 May detonate
 3 Shock & heat may detonate
 2 Violent chemical change
 1 Unstable if heated
 0 Stable

CHEMICAL NAME _____

| NFPA Rating Explanation Guide | | | | | |
|-------------------------------|---|---|---|---------------|--|
| RATING NUMBER | HEALTH HAZARD | FLAMMABILITY HAZARD | INSTABILITY HAZARD | RATING SYMBOL | SPECIAL HAZARD |
| 4 | Can be lethal | Will vaporize and readily burn at normal temperatures | May explode at normal temperatures and pressures | ALK | Alkaline |
| 3 | Can cause serious or permanent injury | Can be ignited under almost all ambient temperatures | May explode at high temperature or shock | ACID | Acidic |
| 2 | Can cause temporary incapacitation or residual injury | Must be heated or high ambient temperature to burn | Violent chemical change at high temperatures or pressures | COR | Corrosive |
| 1 | Can cause significant irritation | Must be preheated before ignition can occur | Normally stable. High temperatures make unstable | OX | Oxidizing |
| 0 | No hazard | Will not burn | Stable | ☸ | Radioactive |
| | | | | W | Reacts violently or explosively with water |
| | | | | W OX | Reacts violently or explosively with water and oxidizing |

NFPA-704-1 © 2009 Collision Industry Conference

This chart for reference only - For complete specifications consult the NFPA 704 Standard

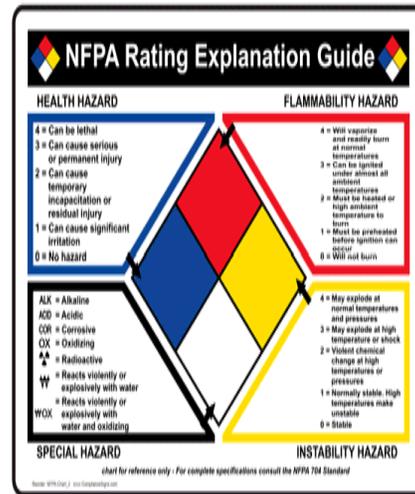


Paint Thinner

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Section 2 of product SDS

Flammable Liquids, Category 3
Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 2B
Toxic To Reproduction, Category 2
Specific Target Organ Toxicity (single exposure), Category 3
Specific Target Organ Toxicity (repeated exposure), Category 2
Aspiration Toxicity, Category 1



OSHA Pictograms Explained

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| GHS - Hazard Pictograms and Related Hazard Classes | | |
|--|--|--|
|  |  |  |
| Expanding Bomb <ul style="list-style-type: none"> • Explosives • Self-reactives • Organic Peroxides | Corrosion <ul style="list-style-type: none"> • Skin corrosion/burns • Eye damage • Corrosive to metals | Flame Over Circle <ul style="list-style-type: none"> • Oxidizing gases • Oxidizing liquids • Oxidizing solids |
|  |  |  |
| Gas Cylinder <ul style="list-style-type: none"> • Gases under pressure | Environment <ul style="list-style-type: none"> • Aquatic toxicity | Skull & Crossbones <ul style="list-style-type: none"> • Acute toxicity (fatal or toxic) |
|  |  |  |
| Exclamation Mark <ul style="list-style-type: none"> • Irritant (eye & skin) • Skin sensitizer • Acute toxicity • Narcotic effects • Respiratory tract irritant • Hazardous to ozone layer (non-mandatory) | Health Hazard <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive toxicity • Respiratory sensitizer • Target organ toxicity • Aspiration toxicity | Flame <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-heating • Emits flammable gas • Self-reactives • Organic peroxides |



Missing ground prongs on machines and extension cords is a \$1500.00 Citation.



Sometimes during use, the third prong, or the grounding pin, may become loose or fall out. No one should be allowed to bypass the grounding pin by bending it out of the way or removing it completely. If the grounding pin is missing, the cord must be removed from use, repaired and tested before it is put back into service. (Quote OSHA REG.



Maintenance in the Body Repair Area



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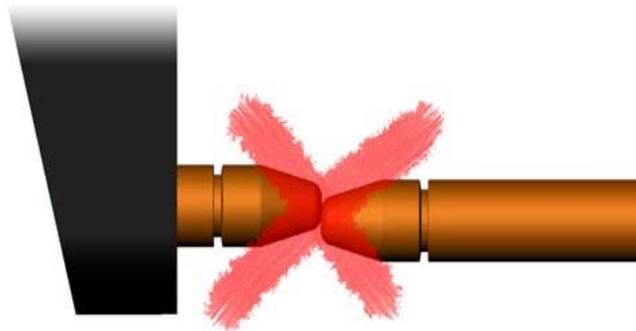
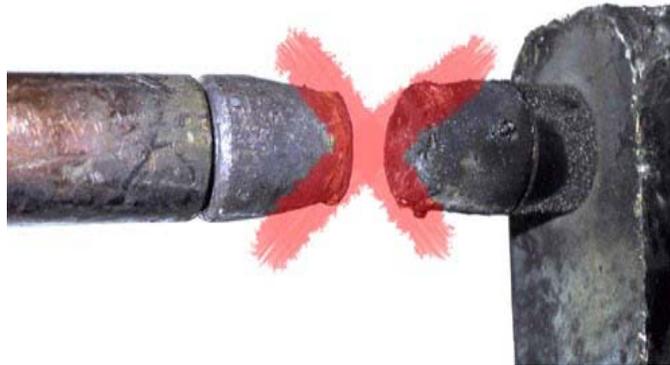
Maintenance on a Frame Bench



- Check frame bolts and replace if worn
- Check all hydraulics for leaks and fluid levels
- Clean pinch weld clamps
- Check for a safety chain
- Check bed for straightness (Manufacturer Rep)



Maintenance on a Spot Welder



Squeeze Type Resistance Spot Welder Problems



- Check the tip alignment on a regular basis
- Check the electrode/electrode tips for wear and imperfections
- Check water level monthly on water cooled machines
- Change coolant as per manufacturer's requirements
- Check electrical cable and plug on a regular basis
- Check computer upgrades



MIG Welder Problems



OSHA # 1926.350 (h)



Worn out Nozzle



Worn out defuser

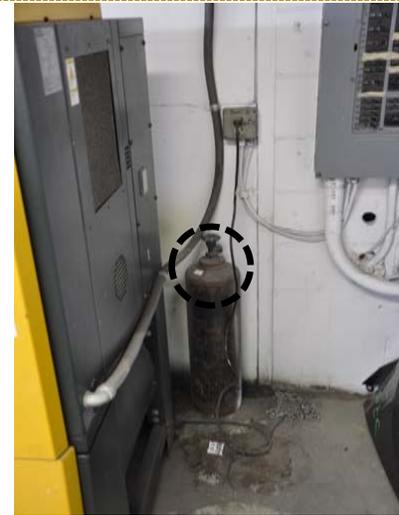


Maintenance on a MIG Welder



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Welding Gas Cylinders



OSHA Rules on Welding Tanks



- **1910.253(b)(2)(iv)** Valve protection caps, where cylinder is designed to accept a cap, shall always be in place, hand-tight, except when cylinders are in use or connected for use.
- **1910.253(b)(4)(i)** Oxygen cylinders shall not be stored near highly combustible material, especially oil and grease; or near reserve stocks of carbide and acetylene or other fuel-gas cylinders, or near any other substance likely to cause or accelerate fire.
- **1910.253(b)(5)(ii)(D) Unless cylinders are secured on a special truck, regulators shall be removed and valve-protection caps, when provided for, shall be put in place before cylinders are moved.** n ac
- **1910.253(b)(5)(iii)(C)** Before connecting a regulator to a cylinder valve, the valve shall be opened slightly and closed immediately. The valve shall be opened while standing to one side of the outlet; never in front of it. Never crack a fuel-gas cylinder valve near other welding work or near sparks, flame, or other possible sources of ignition source.



Maintenance on a Compressor



Oil in a rotary screw compressor is also used to cool, clean, and seal. Which means the compressor oil is that much more crucial to the compressor's operation

- Change oil on a regular basis
- Inspect any belts for wear
- Change air filter if one is installed
- Drain water from tank daily
- Change desiccant on a regular schedule
- rotary screw compressor has an oil filter, an air inlet filter, and an air/oil separator need to be replaced every 2000 hrs of use



Lifts and Jacks



In the face of impending OSHA inspections, dealers ask: “How can we be prepared?”

A place to start is to review the maintenance documents. A next sound step is to commission your own inspection. A qualified individual with extensive knowledge of all the various lifts should conduct these inspections.

Inspections should include the hydraulic system, valves, hoses, cables, chains, pins, spindles, the electrical system, ramps, runway stops, locks and safety features.

An unbiased third-party typically performs better inspections and identifies actual and potential areas of concern. These can be corrected and lifts can be in good working order should OSHA suddenly stop by.



Compressed Air



What OSHA says about use of compressed air?



Compressed air is used in the manufacturing industry to drive tools, create motion, lift, clean, move and cool materials.

There are various regulations that govern the use of compressed air. Occupational safety in the United States is governed by OSHA safety regulations. OSHA is an acronym for the Occupational Safety and Health Administration. Compressed air usage is governed by OSHA standard 1910.242(b). In Switzerland, SUVA – Schweizerische Unfallversicherungsanstalt – has issued regulations similar to OSHA's.

OSHA regulations state the following about compressed air:

Compressed air may only be used for cleaning if the pressure is lower than 30 psi (210 kPa). chip guards and personal safety equipment are used.

This means the downstream pressure of the air at the outlet of the air gun, nozzle, or pipe opening is not allowed to exceed 30 psi (210 kPa) for all static conditions. A higher static pressure could cause serious injury to the operator. Therefore, to minimize the risk of injury in the event of total blockage, the pressure at the blockage should be less than 30 psi (210kPa). An air pressure gauge is the easiest way to check air pressure.

Chip guards are used to protect the operator and people working in the vicinity from flying chips and particles. They can either be screens or other solutions to prevent eye and body injuries. It is important to keep in mind that some safety equipment only protects the operator and these may need to be supplemented in order to protect people nearby. Furthermore, personal safety equipment such as hearing protection and full-cover goggles must be used



Air Blowers



Compliant OSHA air blower



Non compliant (no way to regulate the air pressure) air blower & huge OSHA fine air blower.



Respirator with various types of filters.

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Particulate Respirator



Organic Vapor Respirator



Particulate & Vapor Respirator



OSHA Regulations on Respirators



- Employers must provide a medical evaluation to determine employees' ability to use a respirator before fit testing and use. The employer must use a physician or other licensed health care professional (LHCP) to perform medical evaluations using a medical questionnaire or by conducting a medical examination.
- Failure to conduct fit testing prior to respirator use, and at least annually, was the fourth most-cited respiratory protection violation (failing to provide information to voluntary users was number three), according to the BLS study. All employees using a negative or positive-pressure tight-fitting facepiece respirator must pass an appropriate qualitative fit test or quantitative fit test. Fit testing is required prior to initial use, whenever a different respirator facepiece is used, and at least annually thereafter. Proper respirator size is determined through a fit test



A respirator fit test is now required for the person who polishes a vehicle with rubbing compound. Now Body Technicians & their helpers, Paint Technicians and & their helpers and Polishers will need a yearly fit test..

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Did you know that it is an OSHA violation if the respirator is not stored in an enclosed container when not in use?

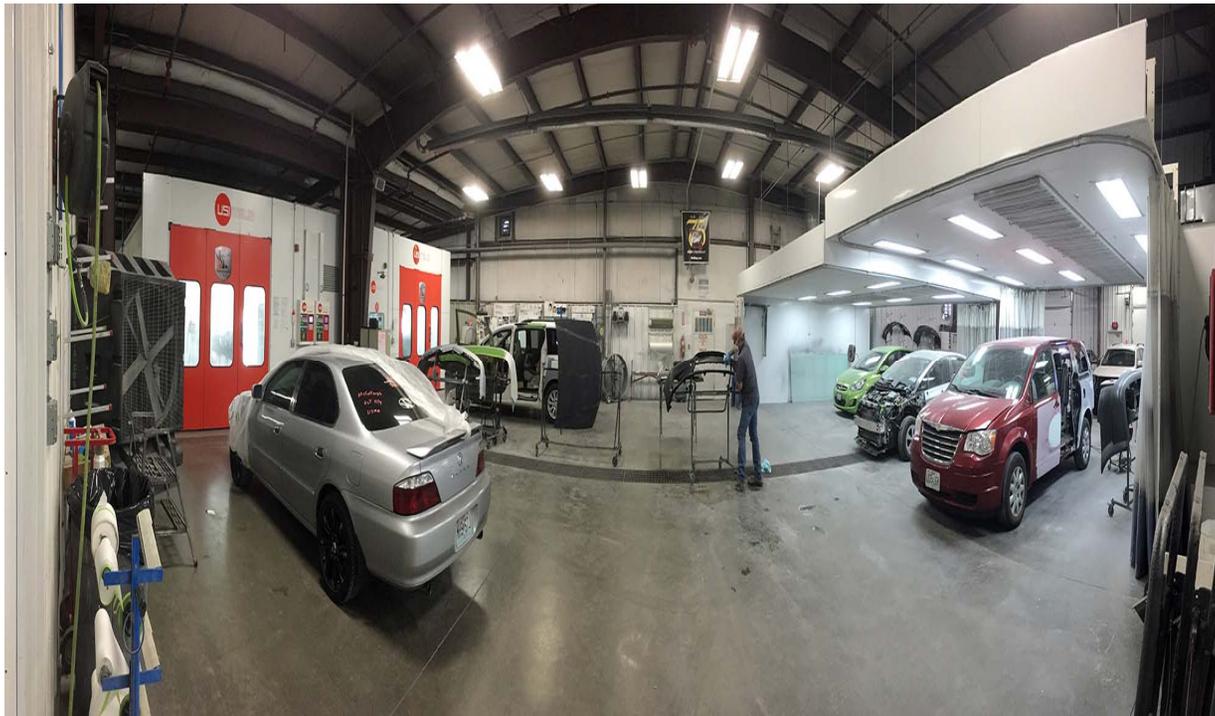
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Open Containers



Maintenance in the Paint Department



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Preventive Maintenance

Preventive maintenance can be defined as a program in which wear, tear and change are anticipated, and continuous actions are taken to ensure peak performance and efficiency to minimize premature deterioration. Minimize downtime by correcting minor problems before they become major repairs. A detailed service record is instrumental tracking booth performance, a service report baseline of booth performance can be established as all of the critical set points and readings are recorded.

Preventive maintenance involves a planned and controlled program of systematic inspections, adjustments, lubrication and replacement of components, as well as performance testing and analysis.



Spray Booth



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A Spray Booth Check List from ABRN

Booth Maintenance Checklist

Here are the basic considerations for solid paint booth maintenance. Work with your manufacturer to build a specific plan that meets the needs of your booth.

Daily Routine

- Spray booth maintenance consists of far more than changing filters and checking fan motors, of course. On a daily basis, you should sweep the floor while the booth is in operation, unless it's a completely grated floor. The floor may be mopped with a thoroughly rung-out mop.
- Check booth pressure and adjust it for each vehicle, if necessary.
- Check exhaust filters. Change them if necessary—usually at 50- to 100-hour intervals. *Note: When these filters are changed, the cabin floor grates must be thoroughly cleaned.*

At 1000-Hour Intervals

- Replace fans belts on motors and adjust for proper tension. Note that a squealing belt on start-up is normal. In fact, if they don't squeal, the belts are too tight.
- Check fan blade surfaces and clean them if necessary. Oil the blade surfaces after cleaning. Do not use silicone-based oil—it can cause fish-eye. Also, oil the changeover damper hinges.
- Examine all door seals and replace them only with approved seals. Change the ceiling filters. Check exhaust filters and

replace if necessary. Remove the door hinge pins and grease with a high-quality lubricant.

- On the control panel, review the indicator lamp operation, timer settings and temperature settings.
- Run the booth for a complete cycle of operation and observe all functions.

Semi Annually

- The motors on most modern spray booths are self-lubricating. If not, the motor will have Zerk grease fittings. If so, lubricate the motor with high-quality grease.
- The heating plant, if it is gas-fired, should require little or no maintenance. A qualified service technician should inspect oil burners.

General Cleaning

- To clean internal and external surfaces of your booth, use a soft, dry cloth. If the surfaces are extremely dirty, use a soft cloth dipped in soap and water solution or a weak detergent solution. Wring out the cloth before wiping the surface. Wipe it again with a soft, dry cloth.
- Never use alcohol, paint thinner, benzene or a chemically treated cloth to clean the



booth. Such chemicals may damage the finish or your unit.

- Never pressure-wash or hose down the interior or exterior of the booth. Electrical shorts or shocks may result, and water can collect in light fixtures and various components of the booth cabin, causing rust. Pressure washing voids the guarantee on some booths.

Filter Maintenance

- Never get ceiling filters wet with a hose. The pressure disturbs the fibers and allows the filter to pass fine dust.
- Never operate an extraction unit without filters in place. Missing filters allow the fan to collect all the over spray. This will eventually diminish the airflow.
- Never blow off the filter surface to try to gain extended filter life. Instead, change the filters regularly.
- When replacing ceiling filters, it's a good idea to blow off the ceiling surfaces using light pressure parallel to the filter surface to remove any stray loose particles.



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Changing Paint booth filters



If the spray booth intake or exhaust filters become clogged with dust or oversprayed particles, the air may not flow properly through the chamber. Instead of sweeping over the coated surface and exiting, small pockets of dust and overspray may re-circulate within the booth and affect the quality of the finish. In addition, flammable or explosive conditions may be created if volatile solvents collect within the closed space. Clogged filters also cause the booth fans to work harder, decreasing their efficiency and life.



EPA and Spray Booth Filters



- Proper maintenance of your filters not only ensures a quality finish and efficient operation of your spray booth, it is a vital step in ensuring that your spray painting operation meets health and safety standards required by OSHA and NFPA regulations.
- See OSHA 1910.107 and NFPA 33 for more information about spray booth safety requirements.



PPG Discusses Filter Disposal Guide



- **Determining if Your Paint Booth Filters Are Considered Hazardous Waste**
- Prior to disposing of filters as general waste you have to verify that your filters have not been exposed to a variety of compounds that are frequently found in paint as well as a variety of compounds. Additionally your paint booth filters could be considered hazardous if they contain certain solvents or if they have ignitable material on them, we will cover each of the three factors so you can know if your paint booth filters will be considered hazardous waste. The list of frequent compounds is below



PPG Discusses Filter Disposal Guide



- If your paints have any of the compounds below mentioned which are RCRA listed compounds in the Safety Data Sheets (which you can get from your paint supplier or through their website) your paint booth filters could be considered hazardous waste. Sometimes the compounds can be combined in which case they could still classify your paint booth filters as hazardous for example Lead Chromate would be composed of lead and chromium.
arsenic, Barium, barium, cadmium, chromium, lead, mercury, selenium and silver
- If your paint has these compounds in them you will then have to perform a test to determine the amount of these compounds in your filters. The test that is required is called Toxicity Characteristic leaching Program and determines if excessive volumes of the hazardous compounds are present in your paint booth filter. To determine if additional testing is needed you can start with the totals method which will provide a quick estimate of whether additional testing is required. For the filter test to be valid the lab performing the test must have the Department of Health National Environmental Laboratory Accreditation Program (NELAP) certification. You can [visit this site to search for labs that have the proper certification](#) or [visit this site for a listing](#).
-
- If you do not have any of the 8 compounds mentioned above the next potential reason your filters could be deemed hazardous waste is due to the solvents that your paint booth filters contacted. Certain solvents are classified as F listed hazardous waste. You can usually determine if F listed solvents were present by referring to the SDS sheet to of your solvents and looking for references under F001, F002, F004, F005. You can also [check this document](#) which lists the common solvent compounds that are considered F listed. If you spray solvent toward your filters during clean up you can then cause your filters to be considered hazardous waste. However, if you are diligent in only spraying solvent into waste containers, not spraying toward the filters when cleaning, and preventing solvent from being sprayed into your filters, you can usually reduce the likelihood of your paint booth filters being labeled as hazardous.
- A final reason your paint booth filters may be labeled as hazardous is due to them being considered flammable. If your paint booth filters have any wet flammable materials on them they will be considered hazardous waste do to being considered as ignitable. This issue can typically be addressed by allowing the material to dry thereby removing issues with ignitability



Eye Wash Stations need to have proper signage, an inspection tag and cleaned on a regular basis.

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The **OSHA requirements** for emergency **eyewashes** and showers, found at 29 CFR 1910.151(c), specify that "where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.



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Eye Wash Station Facts



- **Installation**

- Located in an area that requires no more than 10 seconds to reach (consult a medical professional to determine the appropriate distance for harsh acids and caustics; high hazard=closer distance)
- Located in a well-lit area and identified with a sign
- Located on the same level as the hazard
- Path of travel must be free of obstructions
- If shut-off valves are installed in the supply line for maintenance purposes, provisions must be made to prevent unauthorized shut off

- **Maintenance and Training**

- A plumbed eye/face wash station must be activated weekly to verify proper operation
- Gravity-fed units must be inspected weekly and maintained according to the manufacturer's instructions
- All employees who might be exposed to a chemical splash must be trained in the use of the equipment
- All eye/face wash stations must be inspected annually to make sure they meet ANSI Z358.1 requirements



What does ANSI state about Eye wash stations?



- While not having the force of a regulation under the OSH Act, the current ANSI standard addressing emergency eyewash and shower equipment (ANSI [Z]358.1-2004) provides for eyewash and shower equipment in appropriate situations when employees are exposed to hazardous materials. ANSI's definition of "hazardous material" would include caustics, as well as additional substances and compounds that have the capability of producing adverse effects on the health and safety of humans. ANSI's standard also provides detail with respect to the location, installation, nature, and maintenance of eyewash and shower equipment. You also may wish to consult additional recognized references such as W. Morton Grant's *Toxicology of the Eye* (Charles C Thomas Pub. Ltd., 4th edition, August 1993) when considering potential chemical exposures to the eye and the appropriateness of installing eyewash facilities to protect employees against hazards associated with particular chemicals and substances.



How can improperly maintained eyewash stations cause infections?



- Water found in improperly maintained eyewash stations is more likely to contain organisms (e.g., *Acanthamoeba*, *Pseudomonas*, *Legionella*) that thrive in stagnant or untreated water and are known to cause infections. When a worker uses an eyewash station that is not maintained, organisms in the water may come into contact with the eye, skin, or may be inhaled. Workers using eyewash stations after exposure to a hazardous chemical or material may have eye injuries that make the eye more susceptible to infection. Also, workers with skin damage or compromised immune systems (e.g., transplant recovery, cancer, lupus) are at increased risk for developing illnesses from contaminated water. Early diagnosis is important to prevent infections from causing serious health effects, including permanent vision loss and severe lung diseases (e.g., pneumonia).



Paint Suits



- Breathable
- Comfortable
- Elastic waist, arm, and leg bands
- Protects from harmful over spray of solvents, resin and pigments
- Pro Series has sewn in Carbon Fiber thread to dissipate electro-static charges



Carbon Monoxide Monitors



Compressors are available in oil-lubricated and oil-free types. An oil-lubricated compressor must have heat and/or carbon monoxide monitoring according to OSHA regulations 29 CFR 1910.134 (i) (7). The statute was written over concern that carbon monoxide would be generated in oil-lubricated high-pressure compressors. But any compressor, whether oil-lubricated or oil-less, could inhale dangerous levels of carbon monoxide. Regulations apply to any compressor used as the source of breathing air. Periodic maintenance and performance checks are recommended at 12-month intervals. The operating life is one year and that can be extended by replacement of the battery and sensor.

Cool White VS Daylight Lighting



Switch to LED Lights for your Spray Booth



- **The Importance of Lighting in Your Paint Booth**
- Did you know that incandescent lighting and filament bulbs produce a dingier light than LED bulbs? The difference in the way a car finish looks under yellow light is way different than the way it looks under direct white light or natural light. You can't get that kind of light using old bulbs. Only LED lighting allows you to see the finish the way it looks naturally in sunlight.
- **The Pros and Cons of LED Lighting**
- For paint booth operators, the lighting is just as important to producing [high-quality finishes](#) as the type of equipment you use. However, the cost to run a high volume shop is greatly affected by the type of lighting. Using LED lights ends up saving thousands in the long run because LED lights are exceptionally long lasting. That's just one advantage, but there are others:
 - **Pros of LED Lighting for Your Paint Booth**
- **Reduced Energy Costs**
- The reduction in energy costs is nothing to sneeze at when you consider that even incandescent bulbs lose a full 20% of the energy they emit. LEDs only use 20% of the energy that incandescent bulbs use at the most. Add to that their longevity and you could run your LED lights in your paint booth for years without having to replace them!
- **More Natural Light**
- Energy efficient lights have a minimum CRI rating of 80. A rating of 0 is poor, unnatural light. A 100 CRI rating is considered exactly natural light and true color reflection. Incandescent lights are the standard paint booth option and rank on the low end of the CRI scale.
- On the Kelvin scale (the measure for LED lights) the typical incandescent bulb maxes out at around 2,700K. That's nearly half of the white light produced by LEDs at 5,000K. If you switch to LED lighting in your paint booth, as you work, you are seeing the true color of the vehicle in natural daylight resulting in an even higher quality finish.



Spray Booth manometer



Most paint booths come with a manometer mounted on a rear side near the filter bank. It measures in inches of water the pressure differential between the front and back of the filters. As build-up occurs, pressure increases. The manometer can help determine when it is time to change the filters, which can increase the effectiveness of a paint booth.

Unfortunately, many painters don't use and maintain them or don't even know their purpose.



Manometer



- **How is a Manometer Calibrated and Used?**
- Replace all filters in the paint spray booth and make sure there are no gaps between the filters and the holding frames.
- Read the manometer while the blower is turned off. It should read zero. If not, recalibrate to zero by turning fluid adjust knob. Put red dye in the water so it is easier to see.
- Close the doors of the spray booth and start the blower. Wait until the level in the manometer stabilizes and mark this “starting” level.
- As a general rule, most filters should be replaced when the manometer level is 1” above the starting level. Mark this spot and exactly 1” higher than the starting mark. For example, if the starting mark is at 0.25” place the final mark at 1.25



Hazardous Stored materials need to have some sort of spill containment product. Also, if the storage material is a metal containment vessel, it needs to be grounded.

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OSHA requirements for grounding flammable liquid storage containers



- OSHA's requirements for bonding and grounding in general industry are referenced in the Flammable Liquids Standard, 29 Code of Federal Regulation (CFR) 1910.106(e)(6)(ii). The regulation states, "Category 1 or 2 flammable liquids, or Category 3 flammable liquids with a flashpoint below 100°F (37.8°C), shall not be dispensed into containers unless the nozzle and container are electrically interconnected. Where the metallic floorplate on which the container stands while filling is electrically connected to the stem or where the fill stem is bonded to the container during filling operations by means of a bond wire, the provisions of this section shall be deemed to have been complied with."
- This means all containers of Category 1, 2 or 3 liquids (liquids with a flashpoint lower than 100°F) need to be bonded and grounded during dispensing. This includes non-metallic containers, even though the construction material may not be recognized as conductive (for example, polyethylene). If the containers are not properly bonded and grounded, the resulting static spark could be capable of raising the vapor temperature above the flashpoint, causing an explosion.
- If you store hazardous materials and/or hazardous wastes in your facility, you are likely to need secondary containment systems to meet one or more regulations. OSHA and EPA have very broad definitions of what constitutes a hazardous material. You probably already know if you have hazardous materials onsite, but basically, if it has a Safety Data Sheet (SDS) or it is a liquid that could harm a person or the environment, chances are good that there is a regulation that considers it to be hazardous.





Asset Name: _____
S/N: _____

Service Tech: _____
Today's Date: _____
Last Maintenance Visit: _____
Account Name: _____
Address: _____
City, St, Zip: _____

CHECKED OK
NEEDS FUTURE ATTENTION
REQUIRES IMMEDIATE ATTENTION
SCHEDULED MAINTENANCE

| BENCHRACK CHECKLIST | COMMENTS | | | |
|--|--------------------------------|----|----|----------|
| Machine Anchoring Bolts (tighten if necessary) | | | | |
| Drawalghter Height (Adjust if necessary) | | | | |
| Tilt Function (Service & Adjust if necessary) | | | | |
| Check Jam Nuts on Legs (Tighten if necessary) | | | | |
| Clamp Bolts (lubricate) | | | | |
| Clamp Jaws Missing or Broken? (clean) | | | | |
| Quantity & Condition of Camlocks (lubricate) | | | | |
| Hydraulic Line Condition | | | | |
| Air Safety Function Operational | | | | |
| Rollers & Axle Condition | | | | |
| Snap Rings Present? | | | | |
| Lift Safety Area Debris? (clean if necessary) | | | | |
| Ramps Condition (Clean Tracks) | | | | |
| Power Unit Operation & Condition | | | | |
| Pendant Condition | | | | |
| Pendant Cord Condition | | | | |
| Emergency Stop Operational | | | | |
| Hydraulic Fluid Level (Add if necessary) | | | | |
| Add Landing Pads if desired (Additional Cost) | | | | |
| DRAWALIGHTER CHECKLIST | #1 | #2 | #3 | COMMENTS |
| Hydraulic Cylinder Condition | | | | |
| Hydraulic Lines & Connection | | | | |
| Pump Condition (lubricate) | | | | |
| Air Inlet Tightness | | | | |
| Gasket OK? | | | | |
| Pedal | | | | |
| Reservoir | | | | |
| Fluid Level (Add if necessary) | | | | |
| Bleed Air from Hydraulic System | | | | |
| Check Output Pressure | | | | |
| Wheels Condition | | | | |
| Condition & Quality of Chains | | | | |
| Pin Wear | | | | |
| ACCESSORIES, EVO, B720, TRUCK SYS | COMMENTS | | | |
| Missing Parts? | | | | |
| Necessary Updated Parts? | | | | |
| Quantity & Condition of Camlocks (lubricate) | | | | |
| Service Tech: _____ | Customer Representative: _____ | | | |



Inspection Sheet from Car-O-Liner





RELIABLE AUTOMOTIVE EQUIPMENT, INC.

EQUIPMENT INSPECTION REPORT

Date: _____

Customer Name: _____
Street Address: _____
City / State: _____
Phone #: _____

Equipment Inspected: _____

S/N: _____

inspect bench surface

inspect bench for XYZ square

inspect measuring components

inspect puller, attachments, hydraulics

Comments: _____

Inspector Initials: _____



Inspection Sheet from Reliable Automotive Equipment



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Report Summary

Report Name: Team Safety Virtual Compliance Inspection - Maaco
Completed for: Team Safety, LLC
Inspection Date: May 14, 2018
Location:
Contact: Toby Chess

Findings:

Eye Wash/First Aid

Issue Identified Eyewash station available/accessible when required? 1910.151(c)

Recommendation Provide suitable facilities for quick flushing of the eyes for immediate emergency use (i.e. access must be unobstructed) wherever employees may be exposed to injurious corrosive materials (reference 1910.151(c)). [Kent Automotive](#)

Photo(s)



Corrective Action Taken/Planned:

Completed by: _____ Date: _____

Personal Protective Equipment

Issue Identified Appropriate hand protection used during chemical exposure? 1910.138(a)

Recommendation Require employees to use appropriate hand protection when exposed to hazards such as those caused from skin absorption, wear chemical resistant gloves. (Nitrile) (reference 1910.138(a)). [Purchase Here](#)

Safety Checklist from Team Safety

| Dorn's Equipment Maintenance Schedule | Filters Replaced | Needed Repairs | Lubrication | Oil Changed | Lights | Notes |
|---------------------------------------|------------------|----------------|-------------|-------------|--------|-------|
| Paint Booth Number One | | | | | | |
| Paint Booth Number Two | | | | | | |
| Mixing Room | | | | | | |
| Prep Station 1 | | | | | | |
| Prep Station 2 | | | | | | |
| Shop/Building Lights | | | | | | |
| Prep Station Lower | | | | | | |
| Challenger Lift(s) | | | | | | |
| Car Bench (Steel) | | | | | | |
| Car Bench (Aluminum) | | | | | | |
| Cellete Pull Arm | | | | | | |
| Cellete JIG Set | | | | | | |
| Aluminum Area Tools | | | | | | |
| Carliner X3 Measuring | | | | | | |
| Carliner 6300 Bench | | | | | | |
| Carliner 5500 Bench | | | | | | |
| Fronuis TPS 2700 Welder Red Version | | | | | | |
| Fronuis TPS 2700 Welder VAS Version | | | | | | |



Excel Maintenance Spreadsheet utilized by the staff of Dorn's Body & Paint

