COLLEGE of CENTRAL FLORIDA	**COLLEGE of CENTRAL FLORIDA** **ADMINISTRATIVE PROCEDURE**

Title: Auto Collision Safety Program	
Page 1 of 15	**Implementing Procedure for Policy 8.05**
Date Approved: 11/26/03	**Division: Instruction**

1.1 PURPOSE:

The purpose of this policy is to establish guidelines and provide information for the establishment of a safe working environment for students in vocational and technical training classes. Consult the CF Safety Management Manual for further information.

1.2 PROCEDURE:

Safety Training

Safety Training should be conducted at the beginning of each semester or prior to the individual using a specific piece of equipment. The training should be documented on the enclosed Training Record. These records should be maintained for a period of 3 years and are subject to inspection and audit by the CF Public Safety Department or State of Florida Department of Education or other agencies.

It is reasonable and prudent for an instructor to provide all students with adequate safety training. This could include, but it not limited to:

- Safety demonstrations – attentively watched by all
- Safety videos
- The proper and adequate wearing of personal protective equipment (PPE) appropriate to the industry or program area.
- Safety quizzes and tests, etc.
- Students demonstrate proficiency in facility, tool, and equipment safety to the instructor, who uses his or her professional assessment in allowing the student to utilize shop facilities.

GENERAL SAFETY PRACTICES

BODY MECHANICS

1. Use proper muscle groups and distribute any weight.
2. Both hands should be used to pick up heavier objects.
3. Lifting heavy objects alone is avoided. Help should be requested.
4. Pushing should be preferred to pulling.
5. Leg muscles should be used to lift heavy objects rather than back muscles.
6. Bending and unnecessary twisting of the body for any length of time is avoided.
7. Work should be done at the proper level.
8. Two people carry long pieces of materials.
9. Do not lift heavy loads above shoulder level.

PERSONAL PROTECTION

1. Confine long hair so that it is not exposed to machinery and does not interfere with vision.
2. Require the wearing of safety goggles, glasses, or other eye protection when there is a danger of eye injury.
3. Provide respirators for use where harmful dusts or fumes exist (see WISHA rules). ** Respirator use requires appropriate certification, fit testing, and supervision to insure that there is proper fit, training, and inspection should be all taking place.
4. Determine the physical defects and limitations of all students so that they will not be assigned tasks detrimental to their health or physical condition.
5. Prohibit the wearing of loose clothing in the laboratory and shop areas.
6. Require students to remove rings and other jewelry while working in the laboratory and shop areas.
7. Where noise levels should be excessive over long periods of time, ear protection should be worn.
8. Protective apparel, including safety shoes, aprons, shields, and gloves, should be worn properly as required by the nature of the task.
9. Provisions should be made for cleaning and sterilizing respirators, masks, and goggles.
10. Head protection is worn in all areas where there is danger of falling and/or flying objects.

FACILITY CONDITION

1. Aisles, machines, benches, and other equipment should be arranged to conform to good safety practices.
2. Stairways, aisles, and floors should be maintained, clean, dry, and unobstructed with no protruding objects.
3. Walls, windows, and ceilings should be clean, maintained in good repair, and free of protrusions.
4. Illumination should be safe, sufficient, and well placed.
5. Ventilation and temperature controls should be proper for conditions.
6. Fire extinguishers and other necessary fire equipment should be properly selected, adequately supplied, properly located, inspected, and periodically recharged as required.
7. Exits should be properly identified and illuminated.
8. Lockers and drawers should be clean, free of hazards, and doors kept closed.
9. Personnel should know the procedures for notification of fire and evaluation of premises.
10. Laboratories and workplaces should be free from excessive dust, smoke, and airborne toxic materials.
11. Utility lines and shutoffs should be properly identified.
12. Stairways, floor openings, and overhead storage areas should be properly guarded with rails and toe boards and have the proper clearances.

HOUSEKEEPING PRACTICES

1. Provide for the storage and daily removal of all sawdust, metal cuttings, rags, and other waste materials.
2. Provide properly marked boxes, bins, or containers for various kinds of scrap stock and rags.
3. Utilize sturdy racks and bins for material storage, arranged to keep material from falling on students and to avoid injuries from protruding objects.
4. Employ a standard procedure to keep floors free of oil, water, and foreign material.
5. Provide for the cleaning of equipment and facilities after each use.
6. Provide regular custodial service in addition to end of class cleanup.
7. Prohibit the use of compressed air to clean clothing, equipment, and work areas.
8. Keep walkways and work areas free of all obstructions.
9. Floor surfaces must be maintained in a “nonskid” condition.
10. Tools and materials should be stored orderly and safely.
11. File cabinets and other tall cabinets should be required to be anchored.

EQUIPMENT

1. All equipment should be operated in accordance with specifications as stated in the owner’s manual.

2. Machines and apparatus should be arranged so that operators should be protected from hazards of other machines or passing individuals.
3. Point of operation zones should be properly identified and guarded.
4. Permanent enclosure guards properly protect pulleys, gears, and belts.
5. Guards should be removed only for repair purposes and then replaced immediately.
6. Equipment control switches for each machine should be easily available to the operator.
7. Machines should be turned off when the instructor is out of the room and/or if the machine is unattended.
8. Proper cleaning equipment is used (avoid air for cleaning purposes).
9. Nonskid areas should be maintained around dangerous equipment.
10. A preventive maintenance program is established for all equipment.
11. Machines should be guarded to comply with WISHA code.
12. Cutting tools should be kept sharp, clean, and in safe working order.
13. All hoisting devices should be maintained in a safe operating condition and specified load ratings should be easily identified.
14. Machines that should be defective or being repaired should be clearly marked and made inoperable by locking out the machine power switch.
15. Machines and apparatus should be marked with proper color code.
16. Equipment cords and adapters should be maintained in a safe working condition.
17. Adjustment and repair of any machine is restricted to experienced persons.
18. Ladders should be maintained and stored properly.
19. Machines designated for fixed location are securely anchored.

HAND TOOLS

1. Instruct students to select the right tools for each job.
2. Establish regular tool inspection procedures to ensure tools are maintained in safe condition.
3. Instruct students in the correct use of tools for each job.
4. Provide proper storage facilities.
5. Do not lay tools on operating machinery or equipment.

6. Keep tools out of aisles and working spaces where they may become tripping hazards.

7. Do not put sharp objects or tools in pockets. This could result in cuts or being stabbed.

GENERAL USE OF TOOLS

1. Keep cutting edges sharp and carry in a sheath or holster made for that purpose.

2. Report defective (worn, damaged and etc.) tools promptly to your supervisor for repair or replacement.

3. Keep tool handles free from splinters, burrs, etc. Handles must be tight on the head and free of cracks or splits.

4. Do not use impact tools such as hammers, chisels, punches or steel stakes that have burred heads. Dress heads to remove burrs or chipped edges.

5. When handing a tool to another person, direct sharp points and cutting edges away from both you and the other person.

6. Use only insulated tools when working around energized electrical circuits or equipment.

7. When using a knife, pliers, or other cutting tools, avoid directing the blade toward yourself. Cut away from your body and stand clear of others.

8. Do not carry hand tools in your pockets, such as screwdrivers, scribes, aviation snips, scrapers, chisels, files, etc.

Files/Rasps

1. Never use a file as a pry.

2. When using a file or rasp, grasp the handle of the file or rasp in one hand and the toe in the other.

Hammers

1. Do not use hammer with cracked, broken, splintered or loose handle. It must be securely set in the head. Replace loose or damaged wooden handles and discard hammers with damaged metal or fiberglass handles.

2. Do not use hammer with oily, greasy or wet hands.

3. Use the claw for pulling nails. Do not use as a pry or wedge, or for pulling spikes.

4. Never use a hammer with a hardened face on tempered, machined or hardened surfaces. Rawhide, plastic, rubber, lead, brass or copper hammers will prevent damage to parts and also eliminate the danger of flying chips of metal.

Knives

1. Do not place the hand or fingers over the back of a knife blade while it is in use.
2. Do not try to catch a falling knife. Move out of its path, allow it to fall, and then pick it up.
3. Always cut away from the body.
4. Keep knives sharp.
5. Replace knives with worn handles.
6. Use knives with retractable blades when available.

Pliers

1. Never cut through live wires; turn off the current first. Use insulated pliers for electrical work.
2. When using diagonal cutting pliers, place the free hand over the ends of cotter pin, safety wire or whatever is being cut; this will prevent the loose ends from flying and causing possible eye injury.

Saws/Hacksaw

1. Adjust blade (hacksaw) so that it is taut in the frame before using.
2. Keep saw blades sharp.

Screwdrivers

1. Select the correct size and type of screwdriver to fit the job.
2. Never use a screwdriver as a chisel or as a substitute for a pinch bar or pry bar. (Exceptions are dry point and impact screwdriver).
3. Do not put fingers near blade when tightening a screw.
4. For electrical work, use only screwdrivers that have insulated handles of nonflammable material.
5. Do not use screwdrivers to tighten/loosen screws on hand-held objects.

Wrenches

1. Do not use a makeshift wrench.
2. Do not use a wrench if the jaws are cracked or worn.
3. Always use box or socket wrenches on hexagon nuts and bolts as a first choice, and open end wrenches as a second choice.
4. When using an adjustable wrench, always place it on the nut so that the pulling force is applied to the stationary jaw side of the handle.
5. Never use a piece of pipe, tubing or another wrench to extend the handle of the wrench in order to secure additional leverage.
6. Do not use wrench with oily, greasy or wet hands.

Machines/Power Tools (General)

1. Operate a machine only after you have received thorough instructions and advised by your supervisor that you are qualified to operate that machine.

2. When working around machinery, do not wear loose clothing, torn sleeves, ties, key chains, rings, watches or any item that could become entangled in the machinery.

3. Use a hair net, rubber band, cap, clamp or other mechanism approved by your supervisor to contain long hair when working around machinery such as drills, grinders, power saws and other machinery with exposed rotating parts.

4. Make all adjustments with the power off.

5. Never attempt repair on live circuits, electrical appliances, power tools, cables or wiring unless you are licensed/certified and authorized by your supervisor.

6. Inspect all portable power tools before operating, including power cables, extension cords and adapters. Do not use if defective or damaged.

7. Use "ground fault circuit interrupter" (GFCI) protected circuits to operate all portable power tools.

Drills

1. Adjust the table or depth stop to avoid drilling into the table.

2. Securely lock drill bit or cutting tool into chuck.

3. Always wear eye protection (safety glasses or a face shield) when using drills.

4. Always keep finger on the portable drill switch so that power may be shut off instantly.

5. Do not use distorted or bent drill bit.

6. Disconnect extension cord before attempting to loosen a chuck on portable drills.

7. Discontinue using a drill, which overheats. (Hot to the touch or smells of burning wire.)

8. Secure work piece before drilling.

Grinders

1. Adjust tool rests to within 1/8" of the abrasive wheel and thoroughly tighten it in place.

2. Adjust movable tongue guard to within 1/4 inch of the abrasive wheel.

3. Inspect the wheels for chips, cracks or grooves on the face or side before turning on grinder. Do not use wheels if any of these problems are recognized.

4. Dress grinding wheels on the face only.

5. When grinding, use the face of the wheel only.

6. If the grinding wheel vibrates, do not use it. Tag it out of service and report it to your supervisor.

7. Do not touch ground portion of work piece until you are sure work piece has cooled.

8. When finished using the grinder, shut off the power and do not leave until the wheel has come to a complete stop and the work area is clean.

9. Do not operate grinders near flammable containers or where gasoline fumes are present.

Saws (Power)

1. Do not operate any power saw unless your supervisor or other qualified trainer has trained you.

2. Do not operate saws unless safety guards are in place and operational before use.

3. Always keep hands and fingers away from the saw blade.

4. Disconnect machine from power source when making adjustments.

5. Shut off power and clean the saw and work area before leaving.

6. When operating scroll saws, stop the machine before removing scrap pieces from the table.

7. Turn off the machine if the material is to be backed out of an uncompleted cut or jammed cut.

8. Clamp work when using hole saw or cutting tools larger than 1/2" diameter.

9. On band saws, adjust the upper blade guide about 1/8" above the material being cut.

10. On band saws, make adjustments for taut blade tension and centered blade tracking.

11. Hold work piece firmly against the table.

12. Use push sticks when operating power table saws.

AUTO BODY COLLISION REPAIR

Safety is one aspect of the automotive repair industry that cannot be overemphasized. A good mechanic is a safe mechanic. If there is a fast way or a safe way to do the job, take the safe way. Otherwise, you may not get the job done at all.

Listed below are some of the potential exposures and safety precautions that you will be confronted with.

GENERAL PRECAUTIONS

1. Oil or adjust moving parts only if authorized.
2. Use caution when working near the fan and belt.
3. Whenever possible, work with the engine switch in the “OFF” position.
4. The fan belt should be tightened only when the engine is stopped.
5. Always consider the engine and exhaust system to be “HOT”.
6. Do not pour gasoline from an open container into the carburetor.
7. Use extreme care when welding on vehicles—provide fire protection.
8. Do not work directly above another student.
9. Wait for the radiator to cool before removing the cap
10. Make sure that hoods are secured in an open position when working on the engine.
11. When “pulling engines,” be sure that ropes or slings are properly fastened.

PERSONAL HEALTH HAZARDS

1. Wear appropriate personal protective equipment while spray painting. THIS INCLUDES SPRAY PAINT CANS.
2. Do not clean hands in solvent or gasoline. These materials are explosive and also can cause a skin rash.
3. Avoid back strain when it is necessary to lift parts from the engine.
4. Never place hands in front of a high-pressure grease gun.
5. Keep open wounds properly dressed and covered.
6. Eliminate loose clothing and confine long hairs. (This includes chains and long earrings.)

JACKING AND HOISTING

1. Do not jack up the vehicle if anyone is under it.
2. Jack stands must be used when working under vehicles. When using a hoist, it must have air/hydraulic backup controls and/or locks.
3. Avoid excessive shaking of the vehicle when on jack stands.
4. Have the instructor inspect the jack stand supports before students work under any vehicle.
5. Long jack handles are a serious tripping hazard and they should be barricaded or raised out of position.
6. Do not use bumper jacks.
7. Do not run an engine when the car is on the hoist or on jack stands.
8. Caution should be observed when lowering a vehicle.

DRIVING AND LOCATING THE VEHICLE FOR WORK

1. Clean up all spills immediately and ventilate the area.
2. Use only approved solvents for cleaning parts. Do not use gasoline.
3. Be sure that there is proper ventilation before an engine is started.

4. Keep oil-soaked rags in approved rag waste containers.
5. Check fuel connections for leaks before starting an engine.
6. Keep flammable liquids in closed, approved containers.

AIR PRESSURE

1. Use an air gauge when inflating tires.
2. When inflating truck tires that have a snap ring, the tire should be confined within an approved cage.
3. Never aim an air hose at another student or at yourself.

WRENCHES AND TOOLS

1. Keep all tools clean and free of oil and grease.
2. Keep tools picked up from the floor.
3. Make certain that wrenches fit properly.
4. Hammers with loose handles should not be used.
5. Use tools only for the purpose for which they are designed—never use a file as a pry bar.
6. Creepers should be stood on end or stored in a rack when not in use.
7. Do not use chisels or punches with “mushroom” heads.
8. The palm of your hand is not a tool. Install wheel covers with a rubber mallet.

CARBON MONOXIDE

Carbon monoxide is a poisonous gas caused by incomplete burning of gasoline or other fuels. It is present in gaseous form when the engine is running. Even a small amount of carbon monoxide in your body can be fatal. That is why it is imperative that you never run an engine in a poorly ventilated area.

COMPRESSED GAS

The most commonly used gases for cutting and welling are oxygen and acetylene. However, you may also be using hydrogen, nitrogen, Maap gas, argon, helium, Freon, ammonia, propane (liquefied petroleum gas), carbon dioxide, or sulphur dioxide in some of your projects.

To use them safely you need to know their characteristics and be sure you are using the right bottle. There is an immense amount of power in each cylinder. Careless handling resulting in valve or cylinder damage can produce instant death for you or your friends. Use a cart or hand truck for moving cylinders.

FLAMMABLE GASES

Acetylene, hydrogen, propane, and Maap gas are highly flammable. They are normally handled in compressed gas cylinders or tanks. Acetylene is dissolved in acetone (Maap gas and propane are liquefied by pressure), so it is especially important that these cylinder be kept upright when in use.

They will all form violently explosive mixtures with air or oxygen, so valves, regulators, hoses and other equipment must be tight and in good repair. **Shut off valves and regulators when they are not in use!**

Store space flammable gas cylinders in a well-ventilated location, separated by a fire- resistant barrier—preferably outside.

All gas cylinders must be secured and stored erect at all times. When moving, **cylinder caps must be in place.** Students should not move cylinders unless secured to carts.

OXYGEN
For shop use, this gas is in a class by itself. It will combine with many common materials and under the right conditions will cause these materials to burn violently or to explode. Oxygen under high pressure can cause oils to explode. **NEVER USE OIL ON ANY OXYGEN VALVE OR REGULATOR EQUIPMENT!** If you change cylinders, always have the instructor check your work before opening the valve.

NONFLAMMABLE GASES
These include nitrogen, argon, helium, Freon, sulphur dioxide, and to some extent ammonia, which is flammable only in high concentrations. Some are odorless, and others (sulphur dioxide, ammonia) have extremely strong odors. None will support life so adequate ventilation of the use area is essential. Read up on the specific characteristics and detailed safety precautions for the gas you will use and discuss them with your instructor before proceeding.

DUSTS, FUMES, AND COMBUSTIBLE METALS
Dust or fumes (fine metal particles from burning) found in the industrial arts laboratory can be irritating to some people. Some can be highly flammable or explosive and possibly cause serious or permanent illness.

It is important to control classroom exposure by:
1. Using the ventilation equipment to remove dust from your work area.
2. Sweeping or vacuuming and properly disposing of dust produced.
3. Wear an appropriate respirator when working on dust producing operations.
4. Consulting your instructor before cutting, welding, or grinding on galvanized metals.
5. Asbestos dust is a particular hazard that requires extra precaution when cutting or drilling or machining. Appropriate respirators and protective clothing must be worn when working with this material.
6. Certain metals such as magnesium are flammable and unstable and should not be used in the industrial arts laboratory.
7. When working with lead or zinc, whether burning, welding, soldering, melting, or machining, good ventilation is essential.

FLAMMABLE AND COMBUSTIBLE LIQUIDS

1. Flammable and combustible liquids are essential in many industrial arts classes. They must be stored and used in a manner that will provide a high degree of safety.
2. Always read the label on the container before using any of these materials.

FLAMMABLE AND COMBUSTIBLE LIQUIDS ARE POTENTIALLY DANGEROUS

BECAUSE:

1. Many produce vapors that are heavier than air and can accumulate along floors or other low points, lying in wait for a stray spark.
2. Many are readily oxidized or release heat in curing so that rags or waste coated with them will catch fire spontaneously.
3. Vapors from some have harmful effects and can cause damage to nervous and/or waste elimination systems of the body.
4. All are poisonous if taken internally.

5. Most will remove protective oils from the skin, and repeated exposure can cause dermatitis (skin rash).
6. Nearly all will burn violently. Such fires are difficult to extinguish without proper extinguishing agents.
7. When burning, most flammable liquids will produce dense black smoke that may drive you from the room before the fire can be put out.

STORE AND HANDLE FLAMMABLE AND COMBUSTIBLE LIQUIDS SAFELY:

1. Be sure the exhaust fan or vents are operating in the flammable liquids storeroom.
2. Draw out only as much as you need for your class period or particular operation.
3. Dump waste or excess materials only in covered metal containers as directed by the instructor.
4. Use a funnel when pouring into a small container.
5. Clean up spills and drips immediately, disposing of the rags and waste material as instructed.
6. Read and follow instructions for handling and mixing catalysts with resins or finishes.
7. Never pour catalysts back into the bottle.
8. Always add catalyst to resin, **not** resin to catalyst.
9. Never apply resin, paint or other finishing material near areas used for cutting, welding, grinding, or other hot work.
10. Be sure that the working area is well ventilated.
11. Store thinners and solvents only in original purchase containers or approved cans.
12. Use rubber gloves to minimize chances of skin irritation when working with epoxy and polyester resins.
13. Wash hands and other exposed skin areas before leaving the shop.

Some of the more hazardous flammable liquids that you may encounter in your shop activities are (listed in approximate order of hazard):

Starting fluid
**Aerosol cans
Gasoline
*Catalysts M.E.K. Peroxide
Carburetor cleaner
Acetone
Lacquer and lacquer thinner
Adhering liquid (for silk-screen process)
Paint thinner
Alcohol
Shellac
*Japan dryer
Kerosene
Paint
Resin (polyester)
Stain and varnish
Danish oil

*These materials could accelerate spontaneous combustion or could react violently when mixed with organic material.
**The hazard could vary greatly depending upon the propellant used in the can.

RECORDKEEPING

1. Always keep an adequate record of accidents and report it through proper channels.
2. An analysis of accidents should be made for the purpose of corrective action.

1.3 RESPONSIBILITY

It is the responsibility of each instructor to insure that a safe environment is maintained in their area and that this policy is adhered to.

_____ _____
Vice President of Instructional Affairs Date

_____ _____
Approved By:
President Date

SAFETY TRAINING RECORD

THIS TRAINING IS BEING CONDUCTED IN COMPLIANCE WITH THE STATE OF FLORIDA STATUTES TITLE XLVIII 1006.65, AND APPLICABLE FEDERAL REGULATIONS.

DATE: _____ INSTRUCTOR: _____ PROGRAM: _____

NAME	SIGNATURE	NAME	SIGNATURE