Background: Vehicle repair and servicing shops involve a number of safety and waste disposal problems. Waste oil, batteries and wash solutions must be disposed of in accordance with Municipality requirements.

These work places involve a large number of safety and occupational risks. The adoption of safe work practices and the use of the appropriate personal protective equipment can reduce these risks.

These guidelines have been prepared in accordance with the provisions of Dubai Local Order 61/1991.

Guidelines:

1. Tyre Repair and Fitting:
   i. Rubber cement and flammable solvents used for patching inner tubes and casing compound for fitting tyre cuts should be kept in safety cans.
   ii. Electrical heating elements used for vulcanizing should be inspected regularly. Defective wiring should be replaced.
   iii. Tyres must be inflated in steel tyre cages or using pressure cut off equipment.

2. Washing Operations
   i. Workers should never point high velocity steam/water equipment at another person because injury may result.
   ii. Workers should direct the hose particularly under the vehicle in such a way as to avoid being struck by a back lashing stream of water or dirt.
   iii. Workers should never clean their clothes or part of body with compressed air line equipment.
   iv. A periodic scheduled clean-up of the entire wash area and associated equipment is recommended.

3. Greasing Operations
   i. Floors should be kept free of grease and oil to prevent slips and falls.
ii. Spills which occur during the working day should be immediately cleaned up or covered with sand or some oil absorbent material.

iii. Workers should not put their hands in front of the grease gun nozzle when the handle is pulled. This may result in quantities of grease forced under the skin of the workers by high pressure grease guns.

iv. While lubricating springs and other parts by spray guns, there is potential hazard of inhaling sprayed or atomized oil.

The workers should:

a. Stand clear of the lubricant spray.
b. Not direct the spray at other employees.
c. Wear Respirators.

4. Battery Charging

i. The principal hazards of battery charging operations are acid burns during filling, back strains from lifting, electric shocks, slips, falls and explosion.

ii. Employees should wear safety equipment suitable for battery shop that includes splash-proof goggles and acid proof gloves, aprons and boots.

iii. The manufacturer’s recommendation as to the charging rate for batteries of various sizes should be closely followed in order to prevent rapid generation of hydrogen. Potentially explosive quantities of hydrogen are developed in cells of batteries.

iv. Care should be taken to prevent arcing while batteries are being charged, tested or handled.

Tools and loose materials should not be in such a position that they may fall on batteries and cause a short circuit which in turn can result in serious burns or an explosion.

v. Acid carboys should be handled with care to prevent breakage and possible injury due to splashing of acid.

vi. Siphoning arrangement shall be provided for transferring acid from large container/carboy to smaller containers for use.

vii. In case of an acid splash, it must be washed off immediately with large quantities of running water.

5. Gasoline / Fuel Handling
i. Use of gasoline is prohibited for all cleaning of metal parts. Grease, oil or dirt may be removed from metal parts or equipment by non-flammable solutions or industrial grade detergents.

ii. Use of gasoline to remove oil and grease from garage floors is prohibited.

iii. Gasoline should not be used for removing oil and grease from hands. Soaps shall be provided to effectively remove greasy dirt from the skin without danger of injury. The practice of using gasoline to clean work clothing is prohibited.

iv. If gasoline is spilled, it should be cleaned up immediately.

6. Mechanical Work

i. The belt drives and gear wheels of machine tools in use shall be provided with guards.

ii. Grinding wheels shall be provided with sheet metal guards except the frontal portion of the wheel.

While grinding brake linings, the employees shall wear dust respirators and the dust shall be vacuum cleaned immediately.

iii. Gas cutting/welding

The oxygen/acetylene gas cylinders shall be provided with flash back arrestors.

iv. The cylinders shall be kept in upright position and shall be chained. If mobile, it shall be placed in custom built gas cylinder trolley.

v. Compressors

The air receivers in compressors shall be provided with safety valve, drain valve, pressure gauge and shall be maintained in good condition.

The air receiver shall be tested annually by a competent person and certificate obtained.

vi. Lifting Appliances

The mobile hoist or any other lifting appliances including chains, ropes, hooks used to hoist the engine from its mounting, shall be tested for its safe working load and certificate obtained.
| vii. | No work should be done near the fan or other exposed moving parts until the engine has been stopped. If the engine must be run to inspect or check, keep a safe distance away. Close-fitting work clothing is essential for repairmen. |
| viii. | Repairing Radiators |
| Where radiators are boiled out or tested for leaks, operators should be provided with both goggles and a face shield of clear plastic. The entire face needs protection. |
| ix. | Cleaning Spark Plugs |
| All mechanics using sand blasting spark plug cleaners should wear goggles or face shield. |
| x. | Brake Shoes /Linings |
| When cleaning around brake drums, the use of air pressure can release asbestos fibers from the brake area into breathable air and cause respiratory problems. |
| xi. | Open Inspection Pits |
| When the inspection pits are open without vehicles, it shall be covered or barricaded with railings/chains. |

7. **Painting Operations**

i. Spray painting of vehicles shall be done in a separate room with spray collection arrangements and proper ventilation. In small garages where the spray painting is done in the same shop floor, the painting area shall be at least separated by a plastic curtain and ventilated via a vertical exhaust stack and suitable particle filter.

ii. Paints and solvents shall be kept in closed containers in a separate room or cabinet.

iii. “No Smoking” shall be enforced.

iv. Painters shall be provided with proper respiratory protection.
8. **Fire Protection**

i. The repair shop should have dry chemical powder/BCF fire extinguishers.

ii. If cutting, burning or welding must be done near fuel tanks, an extinguisher should be at hand. A tarpaulin should be used to cover fuel, oil tanks or combustible material to protect against sparks or excessive heat.

iii. Hot work should not be performed on a fuel tank or other container until it has been drained, thoroughly purged, washed and dried.

iv. While fuelling, the engine should be stopped and smoking should be prohibited.

v. When tank is being filled, the metal spout of the hose should firmly contact the tank to ensure grounding and to neutralize static charge sufficient to ignite fuel vapors and cause an explosion or fire.

vi. Fires occur in repair shop frequently because gasoline is used for cleaning parts. Safe, non-toxic cleaning liquids that are non-flammable and do not injure the skin should be used.

vii. Oily waste and similar materials shall be disposed of in sealed 200 liter drums.

9. **General Safety Practices**

i. Employees who works under vehicles should be safe guarded from danger when their legs protrude into passage ways.

ii. Employees who work under vehicles should wear eye protection goggles to prevent against dirt and metal chips falling into the eyes.

iii. Removing exhaust gases

Local exhaust and ventilating facilities should be provided to prevent accumulation of vehicle exhaust gases within the shop.

10. **Waste Disposal**

i. **Metal Scraps**

The burr and other metal scrap from the mechanical works shall be collected in separate containers and disposed of as domestic waste or to waste recyclers.
ii. Other solid wastes

The solid wastes and other combustible materials such as paper, cloth, etc. shall be collected, disposed off and not left to accumulate in the workshop.

iii. Waste Oil

The waste oil such as engine, gear box, brake/clutch fluid shall be collected and recycled. They shall not be disposed of to land or drains. Assistance can be obtained from Public Health and Safety Department for the recycling/disposal of waste oil.

iv. Washing - liquid wastes

The vehicle washing containing grease, oil and other cleaning agents shall be collected in separate tanks made of impervious material and disposed off in Municipal approves sites as per the procedures laid down by the Public Health and Safety Department. For assistance, contact the Public Health and Safety Department.

v. Brake Dust

Brake dust must be sealed in bags or containers and disposed of in Municipality disposal skips.

FURTHER INFORMATION IS AVAILABLE FROM PUBLIC HEALTH AND SAFETY DEPARTMENT
Tel: 2064244/2064282 FAX: 2270160