REFINISHING MOTOR VEHICLES

1. GENERAL

1.01 This section outlines recommended fire prevention practices in connection with refinishing motor vehicles in company garages.

1.02 The various processes required in connection with refinishing motor vehicles involve the use of materials which under certain conditions of temperature give off highly flammable vapors or gases and also when discharged from a spray gun in finely atomized form may be more or less readily ignited. As these factors represent a definite fire hazard, it is essential that rigid fire protection precautions be followed.

1.03 All state or local legislation, codes or regulations should be conformed to and any necessary permits secured.

2. REFINISHING MOTOR VEHICLES

Room Construction

2.01 When motor vehicles are refinished in company garages, the work should be performed in a separate room.

2.02 This room should be located on an outside wall and separated from the remainder of the building by fire resistive partitions constructed of either 4-inch brick walls, 3 inches of reinforced concrete, 4-inch hollow tile walls, or the equivalent.

2.03 Doors in these partitions should be equal in fire resistance to the partitions and should be of the self-closing type. Preferably two exits with doors opening outward should be provided and located as far apart as practicable. The entrance for vehicles may be considered as one exit if it has hinged doors opening outward.

Refinishing Procedures

2.04 The details for painting schedules, recommended materials, etc., are covered in sections of Bell System Practices, Motor Vehicles and Construction Apparatus, Series "J." The various operations involved in the finishing may include paint removing, cleaning and sanding with solvents, mixing paints, painting vehicles by spray guns or brushes and the storage of materials.

2.05 Gasoline should not be used for cleaning and sanding operations due to the danger of lead poisoning in case it contains tetraethyl of lead and also because of its low flash point. For these operations, solvents with flash points over 100° F. should be used.

2.06 Spray paint operations should be performed in accordance with the recommendations of the National Fire Protection Association, entitled "The Spray Application of Flammable Finishing Materials," which are based on the regulations of the National Board of Fire Underwriters covering "Paint Spraying and Spray Booths."

2.07 Containers of a total capacity not exceeding two gallons can be opened and their contents mixed in the refinishing room provided that the ventilation is in operation. All other mixing operations should be carried on outside of the building or in proper storage or mixing rooms.

3. VENTILATION

3.01 For cleaning, paint removing and brush painting operations, the air circulation in refinishing rooms should be sufficient to maintain a continuous removal of vapors. This may involve the provision of mechanical ventilation.

3.02 For spraying operations the air in the room should be changed at least once every three minutes by means of a mechanical ventilating system.

3.03 Fans and exhaust outlets should be located near the floor. If a direct motor driven fan is used, the motor should be of the non-sparking induction type and should be so located as to prevent vapors and dust coming into direct contact with it. If a belt-driven fan is used, the motor should either be located outside of the refinishing room or at the ceiling.

3.04 The supply of air entering the room should be at least equivalent to the exhaust capacity provided.

3.05 Ducts, pipes and stacks, where provided, should be of substantial construction with joints riveted and soldered or otherwise made tight. They should extend as directly as possible to the outside air, through either the side of the building or the roof, and preferably not through other rooms. They should not be connected to other ventilating or collecting systems.

3.06 Ducts, pipes and stacks should be properly supported and should have at least a six-inch clearance where passing through wood floors, roofs, partitions or in close proximity to them or other combus-

tible material. Inspection openings and clean-out holes of sufficient size should be provided at elbows and other places where accumulations may be expected if not otherwise easily accessible.

4. LIGHTING AND ELECTRIC INSTALLATIONS

4.01 Artificial lighting should be restricted to electricity. All electrical equipment and installations should be in accordance with Article 500 of the National Electrical Code. All wiring should be in conduit and the electric lights in the refinishing room should be protected by explosion-proof globes and be so located and arranged as to prevent spray from coming into contact with them. Portable lamps should not be used unless they are of the explosion-proof type.

4.02 Switches and fuses or other electrical controlling devices should be located outside of the room. If outlets are located inside the room, they should be of the explosion-proof, arc-breaking plug type.

4.03 All conduit, motors, shafts, belts, etc., should be electrically grounded in an effective manner.

5. HOUSEKEEPING

5.01 The refinishing room should be kept free from all unnecessary combustible materials and refuse.

5.02 The floors should be thoroughly cleaned at least once a day and in case the room is not in use daily, it should be cleaned at the end of the refinishing operations. All fans, ducts, side walls and ceilings should be kept as clean as practicable at all times.

5.03 When cleaning, care should be taken to use implements that will not create sparks. Wherever practicable, surfaces to be cleaned should be sprayed or otherwise wet down with water before cleaning. Sweepings or deposits from rooms, ducts and stacks should be placed in covered metal receptacles and disposed of as promptly as possible.

5.04 Metal waste cans with self-closing covers should be provided for all waste and rags which have come in contact with priming and surfacing coats, paints, varnishes and other finishing compounds.

6. FIRE PROTECTION

6.01 No open flame or spark producing device of any kind should be permitted in the refinishing room or in close proximity to the same.

6.02 For heating purposes indirect systems such as steam or hot water should be used.

6.03 The room should be protected by a standard wet pipe automatic sprinkler system. The sprinklers should be kept free of paint residue. In buildings not sprinkler equipped, the system in the refinishing room can be connected to the domestic water supply line.

6.04 Exhaust pipes and stacks unless very short or small should be equipped with one or more approved sprinklers so located that the entire interior will be protected.

6.05 Fire protective apparatus of the foam or soda acid type should be provided.

6.06 Smoking should be prohibited in any room used for the refinishing of motor vehicles or the storage of flammable finishes. Suitable signs containing the words "No Smoking" should be prominently displayed at each entrance and in the room.

7. REFERENCES

7.01 Reference may be made to the following publications issued by the National Board of Fire Underwriters and the National Fire Protection Association.

(a) Paint Spraying and Spray Booths.

(b) Containers for Storing and Handling Flammable Liquids.

(c) The Spray Application of Flammable Finishing Materials.

(d) National Electrical Code.

7.02 Bell System Practices, Motor Vehicles and Construction Apparatus, Series "J."