
TITLE 4 - CHAPTER 34 – EMPLOYEE SAFETY

Sections:

4.3401 Safety practices.

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All ASPA employees should be familiar with and observe the safety rules of ASPA as set forth in Appendix A which appears at the end of this chapter.

History: Rule 11-84. eff 19 Dec 84. (part).

FOREWARD

The safety rules herein set forth are designed to provide the maximum amount of protection to life and property without unduly hampering the progress of work. They are designed primarily for your protection-the protection of your life and your job. As such they deserve your wholehearted support and observance. It is truly said that the best safety device is a safe man. Let us all try to be safe men and this goes equally for the Division and its supervisors as well as our physical workers. Every representative of the Division should be fully aware of his responsibility in carrying out the Division's share of this safety partnership.

These rules have been developed from our experience and the experience of others. They are intended to cover all of your various occupations but cannot be expected to cover every act committed in your daily work. But your thorough knowledge and every day practice of the rules will prepare you to meet more safely any new hazard that may arise. We expect to add to and to alter the rules from time to time as we find ways to improve.

Superintendents, foremen, sub-foremen, and others permanently or temporarily in charge, are required to maintain a strict observance of all safety rules. If a difference of view arises with regard to the meaning or application of these rules, or as to the means necessary to carry them out, the decision of the supervisory employee in authority on the job shall be

taken and acted upon immediately. Subsequent appeal may be made through established channels.

All employees must be familiar with these rules and observe them. Under no circumstances will ignorance thereof excuse any violation. Employees who violate any rule, or knowingly permit such violations, shall be subjected to discipline or immediate dismissal, as the circumstances may warrant. Employment by the Division constitutes acceptance of the above conditions. Every employee engaged in the construction, maintenance, or operation of the Division's facilities must be furnished with a copy of these Safety Rules, and shall be able at all times to prove his possession of same and his familiarity with the rules applicable to his work.

In addition to these rules, Division employees are subject to and governed by the rules, orders and standards issued by Governmental Authorities. Employees and particularly foremen and superintendents are advised to familiarize themselves herewith.

ELECTRIC UTILITY DIVISION

SAFETY RULES

General Practices

(These rules shall apply to all employees of the Division)

1. Foreman responsible for safety.

The superintendent, foreman, or other person directly in charge of any work will be held strictly responsible for the safety of his men and the public in the immediate vicinity. It shall be his duty to do all those things which can be done to safeguard his men and the public and he shall fully satisfy himself that all reasonable protection against accident has been provided.

2. Foreman responsible for discipline.

The superintendent, foreman, or other person directly in charge of any work will be held strictly responsible for the discipline of his men and for their observance of all safety and other rules.

He shall not allow practical joking, showing off, or horseplay during work hours or while on Division premises or in charge of Division property.

3. Starting work without orders.

Under no conditions shall any employee start work where a hazard exists until told to do so by the superintendent, foreman, or other person directly in charge.

4. Unsafe conditions.

Employees must immediately report to their nearest supervisor any defective or unsafe conditions. Employees must not undertake any work-which they are not qualified to perform safely. Unsafe practices and conditions will not be permitted. Hatchways, even if of a temporary nature, must be protected by guard rails and kick plates.

5. Reporting.

Employees must report all accidents promptly to their immediate superior. In case of injury to the employee, the immediate superior will be responsible for the employee's receiving proper medical attention. First aid kits are available throughout the Division.

6. Intoxicating liquor.

Employees must not use intoxicating liquor while on duty nor report for duty while under its influence.

7. Horseplay.

Practical jokes, scuffling, "horseplay" or the urging of persons to take chances will not be tolerated during working hours.

8. Fire equipment.

Employees shall acquaint themselves with the instructions of the Division covering prevention and suppression of fires and with the location, care, and handling of all firefighting equipment at or near their work area

9. Smoking.

Employees are to observe all "NO SMOKING" signs and must not smoke in the proximity of inflammable material or gases whether working on property occupied by the Division or on the premises of others. Always be sure that cigarette ashes are dead before emptying them into waste containers.

10. Hazardous practices.

Employees must exercise general care to prevent fires. They must:

- a. Never smoke in attics or basements.
- b. Never light a blow torch in an attic.
- c. Never use an open flame for illumination in an attic or basement.
- d. Never use an open flame torch in an oil storage plant.
- c. Always use proper soldering procedure while soldering in an attic or next to inflammable material.
- f. Have proper type of extinguishers available when handling torches.
- g. Remove inflammable material from premises as soon as possible.

11. Paint.

Partially used cans of paint in buildings and shops are to be kept in a metal locker when not in use.

12. Storage bins.

Storage bins shall at all times be kept clean and free from loose cardboard paper and excelsior.

Such material is to be kept in a covered metal bin.

13. Inflammable material.

Rags saturated with highly inflammable material are to be properly disposed of after each operation requiring their use. Buckets or other containers shall be properly marked when containing highly inflammable material.

14. Compressed air.

Compressed air shall be confined to the uses for which it was designed. "Horseplay" with compressed air or the cleaning of hair or clothes with it is prohibited.

15. Molten material.

- a. Extra precautions must be taken while handling molten material of any kind, especially compound and solder. Gloves and safety glasses are to be worn by anyone handling such material.

- b. The man above shall warn persons below before pouring or lowering any molten material or equipment.

16. Solder.

Do not put a cold or wet solder ladle into hot solder. Do not use a leaky soldering torch or blow pot. Use only white gasoline in torches.

17. Ladders amid scaffolds.

- a. All movable ladders and scaffolds are to be provided with effective means to prevent slipping or falling. Ladders are to be tied while in use.
- b. Employees shall never work from the top step of a ladder.
- c. Employees shall never use an unsafe ladder or scaffold.

All ladders and scaffolds are to be inspected periodically by supervisors for safe condition.

When possible, provision shall be made to prevent tools from falling from scaffold platforms.

18. Hand tools.

Employees must not use chisels with mushroomed heads, hammers with cracked or loose handles, or any other tool which is in bad repair or not fitted to the work in progress.

19. Arc welding.

An arc welder shall wear a hood when arc welding. The welding is to be shield where possible.

Helpers should wear protective glasses.

Welders working above others should take protective measures to prevent sparks from falling below.

Fire watch should be maintained below.

20. Walking under heavy loads.

Employees must not ride on or walk under a load of a crane or a finger lift.

21. Signals to crane operator.

Only the designated signalman shall give signals to a crane operator.

22. Buried structures.

Constant vigilance must be exercised in order to avoid damage to buried structures of all kinds. When a hard obstacle is struck, it shall be uncovered immediately to determine the nature of the obstruction and the steps necessary for safe excavation.

23. Excavated soil.

Excavated soil shall be so piled as to prevent backsliding. Special care shall be taken to place rocks or heavy material well away from the excavation.

24. Open trenches.

When needed, traffic bridges are to be placed across trenches so that a normal flow of traffic is permitted. Access to fire hydrants must be provided at all times.

25. Warning signs.

Warning signs, barriers, guards, "Men at Work" signs, and red lights at night are to be installed whenever temporary or permanent hazards exist due to moving machinery, exposed current carrying parts, open excavations, hazardous construction operations, removal of manhole covers, and the like.

26. Housekeeping.

- a. Employees shall exercise general care, orderliness, and "good housekeeping" when performing their work; employ safe methods of handling, transporting, and storing materials, supplies, and tools; and keep all walkways clear.
- b. Floors are to be kept clean and free from oil and grease. Each employee is responsible for "housekeeping" as to the equipment for which he is responsible and the immediate area in which he works.

27. Protruding nails.

- a. Nails shall not be left protruding from lumber, scaffolding or temporary structures.
- b. When uncrating merchandise and equipment, employees are to dispose immediately of loose boards having protruding nails.

SAFETY DEVICES

28. Safety equipment.

Safety devices, such as goggles, gas masks, machine guards, mats, shields, insulated platforms, switch stick and fuse tongs, grounding devices. “Men at Work” signs, rubber gloves and protector safety belts, and all other safety devices or materials as may be needed for the safety of the employees, are standard equipment and just be used as directed by the supervisors.

29. Clothing.

Clothing suited to the job shall be worn at all times. Loose or fagged clothing shall not be worn around rotating machinery. Shoes with thin soles or with holes in the soles shall not be worn.

30. Safety goggles.

a. Goggles must be worn when:

1. Using disc sanders;
2. Using surface grinders;
3. Using emery wheels;
4. Using power buffers;
5. Chipping metal;
6. Chipping concrete;
7. Drilling concrete, brick or plaster;
8. Scraping;
9. Welding or burning or helping welder or burner;
10. Pouring habit;
11. Operating power ripsaws;
12. Cleaning with solvents, acids, paint removers;
13. Painting with creosote;
14. Spraying metals;
15. Cleaning with air;
16. Sand blasting;
17. Shoveling or riding load of rubbish;
18. Working in area where dust, Vapor, flying chips, sparks, or hot metal are present.

b. Special care must be taken while removing goggles in order to prevent accumulated foreign matter entering the eyes.

31. Cloves.

Gloves suited to the particular job are to be worn.

32. Respirators.

A suitable respirator is to be used at all times while spray painting or working where injurious dust or vapor is present.

33. Hard hats.

Hard hats shall be worn by the members of all pole line crews while doing their normal work and by all other employees when working in an area where construction or maintenance crews are at work or when employees are working up on a pole or structure.

34. Rubber goods.

Rubber goods or gloves must never be stored among tools or hardware. They are to be put in a special place for rubber goods only.

LIFTING

35. Lifting method.

Employees are to use approved lifting methods at all times and must never attempt to lift more than they are capable of lifting safely.

36. Heavy lifting.

All, weights over 150 pounds which are to be lifted or transported are to be handled under the supervision of the foreman or working foreman.

37. Lifting from trucks.

Due care must be taken by truck drivers in the handling of heavy lifts. The foreman or working foreman is responsible for providing necessary help for loading and unloading.

POWER MACHINES

38. Machine operators.

Only assigned operators will operate power equipment and machinery.

39. Safeguards.

Employees must not remove or make ineffective any safeguard except under the supervision of the man in charge.

40. Grinding wheels.

Grinding wheel workrest shall be kept adjusted within a maximum distance of 1/8" from wheel. Adjustments must not be made while the wheel is in motion. Only one man should use a grinding wheel at any one time.

41. Unattended machines.

Power machine motor switches must be left in the "OFF" position when not attended.

42. Repairs to machines.

The main switch must be tagged and locked open when making repairs on power machinery and equipment. Plugs should be pulled off all portable handpowered tools before adjusting them.

43. Grounding de-energized wires.

- a. Cables and bus work shall be grounded before any work is done or they shall be treated as hot.
- b. In grounding lines, employees must ground one end of ground wire before attaching ground wire to dead line.

44. Rubber blankets.

All adjacent line objects must be covered with approved rubber blankets or other insulating covering when working around and on high voltage wires or equipment.

45. Rubber gloves.

Rubber gloves must be worn whenever directed or where a hazard exists such as working on energized lines, cables, or equipment; stringing lines near energized lines; repairing fallen lines during storms and emergencies; working on lines or wires when the workman is solidly grounded on structure or ground.

46. Switching testing.

All switching, testing and changing of fuses on high voltage side must be performed in accordance with operating rules.

47. High or intermediate voltage spaces.

High or intermediate voltage galleries, vaults, or enclosures must not be entered without authorization by proper authority.

48. Instructions on hazards.

Before working on hot lines or in a substation, the man in charge is to instruct every man verbally as to the nature of the work to be done and the special hazards connected with the job. He is to insist that all of his workmen are to keep clear of equipment until he personally gives clearance to work on this respective equipment.

49. Switches.

All switches must be locked open or blocked and tagged when working in a substation or on high voltage lines. The man in charge shall let all men know of the hazards and install barricades or danger signs around live equipment if necessary.

50. Artificial respiration.

All employees who work with electrical equipment of 120 volts or greater MUST know artificial resuscitation and be able to pass a practical test in its application.

Linemen must know pole top methods as well as methods used while victim is on the ground.

51. Service boxes.

Service boxes must be securely guarded when it is necessary to leave them open. Hot fuses or contacts shall be covered with some form of insulating blanket or sheet strong enough to prevent accidental shock.

52. Disconnect and oil switches.

- a. Before opening or closing disconnect switches in series with circuit breaker, make sure that the circuit breaker in that circuit is open.
- b. When working around oil switches or switch mechanism keep clear of the moving parts.

They may operate without warning.

53. Danger signs.

Equipment which has been rendered inoperative protected for work, and tagged with "Danger" sign

must not be placed in service again or have the “Danger” sign removed unless authorized by the man protected.

54. Fuses.

- a. Employees shall not remove or replace fuses on low voltage service unless safety switch is open where such switch is provided.
- b. When link fuses are installed on open boxes, the workman must make sure that he is clear of all grounded objects.
- c. When placing fuses in hot circuits, the workman must protect his eyes.
- d. Approved equipment must be used when fuses are to be removed or replaced.

55. Potheads.

Potheads of any voltage must not be disconnected under load.

56. Unnecessary conversation.

When it is necessary to do any work on conductors or apparatus that are alive, no unnecessary conversation shall take place.

57. De-energized circuit check.
Employees shall always use approved equipment to check de-energized circuits before cutting into the cable.

58. Energized single and multiple conductor cable splices.

Single conductor cables may be cut or spliced if in each instance specific directions are given by the supervisor or foreman. The normal practice will be to de-energize all multiple conductor cables of any voltage before making splices. Multiple conductor splices will be made “hot” only when authorized by a supervisor.

59. Hot-line work.

- a. 4 KV and below: Any man doing hot-line work must personally see that all adjacent lines are covered with rubber before starting to work.
- b. 6 KV and above: Approved hot-line tools must be used while working on these lines. Lines of lower voltage must be properly protected by

approved equipment when they are located in the working area.

60. Soldering electrical wires (inside wiring).

Before electrical wires are soldered, a test must be made with an approved tester to make sure the wire is dead.

61. Electrical repairs.

Unauthorized employees must not attempt to repair faulty electrical equipment. They shall report the condition to the man in charge.

62. Electrical circuits in working areas.

All employees are to know the location and the circuits controlled by all of the main switches in their immediate working area so that power may be immediately cut off in case of an electrical fire or if some person has become “frozen” to a live circuit and cannot let go.

63. Hand lines.

Employees must use only the hand lines when working between or over hot lines.

64. High voltage equipment work.

Work shall not be performed on any high voltage cable, switch, or device when energized except upon authorization of the supervisor and under the direction of the foreman.

65. Working alone.

Unless authorized, no workman shall work alone in any switchroom, transformer house, regulator room, manhole, or around open switches.

Standby Workmen. Only qualified employees or employees under continuous supervision or instruction of a qualified workman shall be assigned to work on lines or equipment energized in excess of 750 volts, and except in trouble work or emergencies involving hazards of life or property no such employee shall be assigned to work alone. During the time an employee is doing work on any energized parts of the line, the other employee shall act only as an observer, for the purpose of preventing an accident.

OVERHEAD LINE WORK

66. Street lighting.

Street lighting circuits shall always be treated as if they were alive. Street lighting circuits shall always be treated as if they were of maximum voltage existing on the poles.

67. Pole climbing.

- a. Before climbing a pole the employee is to check safety belt, snaps, climbers and climber straps and make rubber glove test.
- b. The position of high voltage wires, the direction of the freed, and the climbing clearance are to be checked before climbing a pole.
- c. Employees are to check for poor conditions such as rotten poles, faulty insulation, and insufficient clearance before starting any work on a pole. Report any of the conditions immediately to the man in charge.

68. Pole work.

- a. Before climbing through and above primary lines, the employee must be sure that all primary lines are covered with rubber. While working on hot lines, the employee must be sure that the ground wire is protected.
- b. Unless absolutely necessary, only one lineman shall go up or down a pole at the same time.
- c. Small materials and tools are not to be thrown up or dropped. They shall be raised or lowered in a canvas bucket.

68a. Work from aerial basket.

- a. Only qualified, trained persons shall be permitted to operate this equipment.
- b. A body belt and safety strip or its equivalent shall be used while working from aerial basket.
- c. The maximum hot line voltage to be worked with rubber gloves, from an insulated aerial basket is 7.5 Kv Phase to ground when using Class 1115,000 volts rubber gloves. Protective equipment (line-hose, hoods, blankets, etc.) shall be used within the work area.
- d. The aerial basket shall not be brought into direct contact with energized conductors or equipment.

- e. Ground personnel shall not contact (touch) vehicle when basket is in proximity to energized lines.

69. De-energized power lines.

- a. All dead lines on poles among hot lines are to be considered hot at all times.
- b. Before work is started on de-energized (dead) high tension lines, the employees must receive proper clearance and test the line to be sure that it is dead before grounding.

70. Changing over cable.

When making cable changeovers, especially after guy wires, etc., have been removed, the employee must see that a questionable pole is braced in some way to prevent its falling.

71. Safety to public:

- a. Barricades must be placed so that all traffic will be compelled to pass safely, especially when molten solder, hot compound, paint, liquid materials, tools, or heavy objects are used during work on poles. "Men at Work" signs must be placed 200 feet away on each approach to the place where the work is being done. This is required by city and county ordinance.
- b. If possible, barricades are to be placed to route traffic to the windward side of the poles.

UNDERGROUND WORK

72. Ventilation of confined spaces.

All manholes, vaults, or continued spaces are to be ventilated with approved equipment before being entered. Precautions are to be taken to ascertain the presence of sewer or illuminating gas.

If gas is present, notify the supervisor or foreman immediately.

73. Manholes.

- a. Manhole covers must never be opened with the bare fingers. Use the hooks provided for the purpose or, in an emergency, some other safe means.

- b. Open manholes are to be continuously guarded against foot or vehicular traffic.
- c. One man shall remain on the surface at an open manhole unless traffic is securely blocked by the splicer’s cart and tent frame or heavy barricade. Light pipe barricades alone will not be considered sufficient protection.
- d. Workmen leaving a location temporarily are to replace covers on all holes subjected to traffic hazards, even for periods of a minute or so, or when out of sight of the manhole, or away from its immediate vicinity.
- e. Equipment using gasoline as fuel, such as lanterns, engines, must not be used at any time in unventilated manholes or other poorly ventilated places. Such equipment shall be placed at a safe distance from the hole, preferably on the leeward side.
- f. Solder pots, wiping metal pots, and compound kettles are to be lowered into manholes on approved equipment attached to hand lines:
- g. Rubbish is to be cleaned out of manholes or vaults periodically as the work progresses. A thorough cleanup must always be made at the end of each day’s work.
- h. Material must never be lowered into man-holes without warning those below.

VEHICLES

74. Driving Division vehicles.

Division vehicles must be driven with due regard for the safety of pedestrians, of the driver himself, of other drivers, and of both Division and other property. An employee must not operate a Division vehicle which he believes unsafe until it has been checked by garage. Drivers must familiarize themselves with all local regulations and laws regarding the operation of motor vehicles and have city and county and Division driver’s licenses. The observance of these laws and regulations is the individual responsibility of each driver. Operators are to be courteous at all times. Accidents are to be reported to the Division’s garage immediately.

74a. Riding in Division vehicles.

Riders should be seated at all times while vehicle is in motion and should not attempt to leave the vehicle while it is in motion.

FIRST AID SUGGESTIONS

75. First aid kits.

- a. The Division provides first aid kits for temporary assistance in case of burns, scratches, wounds and other injuries. All employees should familiarize themselves with the contents of these kits so that they can render assistance in all cases. The services of a doctor should be secured, however, unless the accident is of the very slightest nature.
- b. Each kit contains a tube of vaseline for dressing small burns and scalds, liquid soap for cleansing cuts and wounds, aromatic spirits of ammonia inhalants to be used in cases of fainting, electric shock or any other case where a stimulant is required or advisable, and sterile dressings and bandages.

76. Common injuries and their first aid treatment.

Careful judgment has to be consistently utilized with field conditions as to whether or not an ambulance should be called or a man transported to the doctor or hospital in a Division vehicle.

a. Electrical or Heat Burns.

(1) Symptoms

1st degree	2nd degree	3rd degree
Pain	Pain	Pain
Shock	Shock	Shock
Redness	Blisters	Charring

(2) First Aid Care

- (a) Care for SHOCK
- (b) Prevent infection and relieve pain by using vaseline on minor burns only. For all severe or extensive burns a dry dressing is satisfactory.

(3) Cautions

- (a) Do not break blisters
- (b) Do not remove clothing or other material stuck to the burned area.

b. Chemical Burns.

Flush a chemical burn with a large amount of water to remove the chemical completely, and then treat it as any other burn.

c. Cuts, Wounds, etc.

(1) Types Dangers

Abrasions

Incised

Lacerated

Punctured

(2) First Aid Care

(a) Wounds with severe bleeding: Control serious bleeding (refer to section 76 d).

(b) Wounds in which bleeding is not severe:

Cleanse with liquid soap and water: apply sterile dressing and bandages; refer to DOCTOR.

d. Hemorrhage or Severe Bleeding.

(1) Direct pressure on wound. If the bleeding is not controlled, use digital pressure.

(2) Care for SHOCK

(3) Call a DOCTOR or ambulance

(4) Types of bleeding:

(a) Internal

Symptoms: restlessness, anxiety, thirst

Source: stomach-vomited up (coffee ground appearance) Lungs-coughed up (bright red and frothy) bowels-usually dark tarry stool

First Aid Care: Keep victim QUIET in a lying down position;

Keep victim WARM; give NO STIMULANTS, and Call a DOCTOR.

(b) External

First Aid Care: Control bleeding by direct pressure on wound; then if bleeding is not controlled, use digital pressure.

Care for SHOCK.

Call a DOCTOR and/or ambulance.

e. First Aid for Shock.

Keep patient lying down, preferably with his head lower than the rest of his body. Call a DOCTOR and/or ambulance.

f. Dislocations and Fractures.

(1) Do not attempt to put a joint or a fracture back into place.

(2) Hold the injured limb in the most comfortable position, using splints and bandages.

g. Eye Injuries.

(1) When the presence of a foreign body is suspected in the eye, the safest procedure is to put on an emergency eye patch and have an eye DOCTOR attend to it as soon as possible.

(2) It is not advisable to have a fellow worker remove the foreign body from the eye.

h. Back and Neck Injuries.

(1) Symptoms. If the patient is conscious, he may tell you what part of his body hurts and what happened to him. Pain in the neck or back may be the only symptoms. Always ask him whether he can move his feet and toes, hands and fingers.

Never lift an injured person without first asking whether he can move his feet or hands. If he cannot open and close his fingers readily or grasp your hands firmly, his neck is probably broken. If he can move his fingers but not his feet or toes, his back is probably broken. In either case, the spinal cord may be injured but may not be severed.

The History of the accident may help the first aider to decide what may be wrong.

Don't lift the patient's head even enough to give him a drink of water. Don't let him try to rise or sit up because the injury to the spinal cord may be made worse and permanent paralysis may result.

If the patient is unconscious and you suspect spinal injury, handle him as though his neck were broken. Shock is usually severe. Steps must be taken to prevent shock and further injury to the spinal cord.

- (2) First Aid Treatment. If the patient with a broken neck must be moved, get a door or a wide board and place it beside the patient with the end at least four inches beyond the top of his head. The board should be at least 15 inches wide and 5 feet or more long.

If the patient is on his back, one person should kneel above his head and hold the head between both hands, steadying it so that the head, neck, and shoulders move as a unit with the body not bending. One or more persons may then grasp the patient's clothing at the shoulders and hips and carefully slide him sideways onto the board or door so that he stays face upwards, arms at sides, and his head, trunk, and extremities on the board.

The head must not be raised or the neck bent forward or sideways, but should be well padded at the sides to keep the face upward.

The arms should be folded over the chest and held firmly together by means of safety pins or bandages. Several straps or bandages should be placed around the patient and the board to hold him in place during transportation.

Don't put a pillow under his head, but sweaters, clothing, or improvised small sandbags can be put against the sides of his head to keep it from rolling from side to side during transportation. His face should be up. The board with the injured person on it may then be lifted onto a blanket or stretcher and carried by two or more bearers.

REMEMBER: Any injured person with acute pain in the back should be considered as having a fractured spine until it is proved untrue.

REMEMBER: The head must not be tilted forward, backward, or sideward under any Circumstances

77. Resuscitation (Electric Shock).

GENERAL INSTRUCTIONS

(See procedures for mouth-to-mouth, arm-lift, back-pressure method, prone pressure method, and pole-top-double rock method of resuscitation at end of section)

These instructions must be followed even if the victim appears to be dead.

- a. Have someone phone the nearest doctor and the nearest ambulance.
- b. Free the victim from the circuit immediately. Use a dry stick, dry rope, dry coat or other nonconductor. The use of your own hands without protection is dangerous and may add another victim to the accident.
- c. Instantly attend to the victim's breathing.
- d. As soon as possible, feel with your fingers in the victim's mouth and throat and remove any foreign body (tobacco, false teeth, etc.). If the mouth is shut tightly, pay no more attention to it until later.
- e. Do not stop to loosen the victim's clothing, but **START RESUSCITATION IMMEDIATELY**. Every moment of delay is serious.
- f. As soon as this artificial respiration has been started and while it is being continued, an assistant should loosen any tight clothing about the victim's neck, chest or waist.
- g. A brief return of natural respiration is not a certain indication for stopping the resuscitation. Not infrequently the victim, after a temporary recovery or respiration, Stops breathing again. The victim must be watched and if natural breathing stops, artificial resuscitation should be resumed at once.
- i. In carrying out resuscitation it may be necessary to change the operator. This change must be made without losing the rhythm of respiration.

- j. Resuscitation should be carried on at the nearest possible point to where the victim received his injury.
- k. Should it be necessary, due to extreme weather conditions, etc., to remove the victim before he is breathing normally, resuscitation should be continued during the time he is being carried.
- 1. Ask permission from the medical man in charge to continue resuscitation in ambulance. Send one or more division representatives in ambulance with the victim.
- m. To avoid strain on the heart when the victim revives, keep him lying down and do not allow him to stand or sit up.

MOUTH TO-MOUTH (MOUTH-TO-NOSE) METHOD OF ARTIFICIAL RESPIRATION

If there is foreign matter visible in the mouth, wipe it out quickly with your fingers or a cloth wrapped around your fingers.

- 1. Tilt, the head back so the chin is pointing upward. Pull or push the jaw into a jutting-out position.

These maneuvers should relieve obstruction of the airway by moving the base of the tongue away from the back of the throat.

- 2. Open your mouth wide and place it tightly over the victim's mouth. At the same time pinch the victim's nostrils shut or close the nostrils with your cheek. Or close the victim's mouth and place your mouth over the nose. mow into the victim's mouth or nose. (Air may be blown through the victim's teeth, even though they may be clenched.) The first blowing efforts should determine whether or not obstruction exists.
- 3. Remove your mouth, turn your head to the side, and listen for the return nish of air that indicates air exchange. Repeat the blowing effort.

For an adult, blow vigorously at the rate of about 12 breaths per minute. For a child, take relatively shallow breaths appropriate for the child's size, at the rate of about 20 per minute.

- 4. If you are not getting air exchange, recheck the head and jaw position. If you still do not get air

exchange, quickly turn the victim on his side and administer several sharp blows between the shoulder blades in the hope of dislodging foreign matter.

Again sweep your fingers through the victim's mouth to remove foreign matter.

Those who do not wish to come in contact with the person may hold a cloth over the victim's mouth or nose and breathe through it. The cloth does not greatly affect the exchange of air.

ARTIFICIAL RESPIRATION

ARM-LIFT, BACK-PRESSURE METHOD.

LAY VICTIM IN PRONE POSITION, elbows bent, one hand on the other. Head on hands, face to one side. Kneel at victim's head on either or both knees.

PLACE HANDS: Fingers spread, thumbs touching, heels of hands just below a line between armpits.

APPLY PRESSURE: Rock forward slowly until arms are vertical. Keep elbows straight.

RELEASE PRESSURE: Rock back slowly. Grasp victim's arms just above elbows. Continue backward.

LIFT ARMS: Raise arms until tension is felt for maximum chest expansion. Lower arms to complete cycle.

REPEAT CYCLE 12 TIMES PER MINUTE.

POLE-TOP Resuscitation-DOUBLE ROCK METHOD.

Double-rock method of push-pull pole-top resuscitation.

- 1. Place hands for expiratory phase
- 2. Rock back during expiration
- 3. Raise hands for arm-lift phase during inspiration
- 4. Rock back during arm lift. (See instructions below)

INSTRUCTIONS

Clear victim from contact, keeping yourself from making contact through victim or line.

Start resuscitation-place victim astride your safety belt as for the standard pole-top method.

1. Put your arms around his waist and place both hands on his abdomen.
2. Compress abdomen with an upward motion while rocking backward with your shoulders and upper body. Release pressure and rock forward to the resting position.
3. Move your hands up over the victim's chest, bringing your arms upward and backward.
4. Lift victim's upper arms to a horizontal position. While doing this, rock backward a second time.

Release and rock forward to the resting position.

Repeat cycle 10 to 12 times per minute.

Lower victim to ground as soon as possible when help arrives. Do not keep him in a sitting position on the pole for more than 15 minutes.

If possible, don't stop resuscitation while victim is being lowered.

Continue resuscitation on ground.

DON'T GIVE UP RESUSCITATION WHILE AWAITING ARRIVAL OF DOCTOR.

SCHAFFER METHOD

Use Schaffer method when arm-lift, back-pressure method cannot be applied due to serious arm injury.

Lay victim on his stomach with one arm extended, the other bent at the elbow so that his face, turned outward, rests on his hand or forearm. Kneel, straddling the victim's thighs.

1. Place the palms of your hands on the small of his back, with little fingers just touching the lowest ribs.
2. With arms extended swing forward gradually, bringing weight of your body to bear upon victim. Take about two (2) seconds for this operation.
3. Immediately swing back to remove the pressure. After two (2) seconds) swing forward again. Repeat the entire procedure 12 to 15 times a