

**I.L.O. Codes of Practice**

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**SAFETY AND HEALTH IN  
AGRICULTURAL WORK**

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## CONTENTS

	Page
<b>Foreword</b> . . . . .	1
<b>CHAPTER I. General Provisions</b> . . . . .	5
General Duties of Employers and Workers . . . . .	5
Obligations of Manufacturers and Dealers . . . . .	6
Selection and Placement of Workers . . . . .	7
Employment of Young Persons . . . . .	7
Employment of Women . . . . .	8
Lighting . . . . .	8
Housekeeping . . . . .	8
<b>CHAPTER II. Farm Buildings</b> . . . . .	10
General Provisions . . . . .	10
Construction . . . . .	10
Maintenance . . . . .	11
Railings and Fencing . . . . .	11
Floors and Walkways . . . . .	12
Stumbling and Slipping Hazards . . . . .	12•
Floor and Yard Openings . . . . .	14
Wall Openings . . . . .	14
Stairs . . . . .	15
Doors and Gates . . . . .	16
Elevated Workplaces . . . . .	16
<b>CHAPTER III. Pits, Cellars and Silos</b> . . . . .	17
<b>CHAPTER IV. Fire Protection</b> . . . . .	20
General Provisions . . . . .	20
Siting of Buildings . . . . .	20
Construction of Buildings . . . . .	21
Fire Alarms . . . . .	21
Lightning Protection . . . . .	21
Garages and Engine Rooms . . . . .	22
Smoking, Open Lights and Open Fires . . . . .	24

**IV SAFETY AND HEALTH IN AGRICULTURAL WORK**

	Page
Storage of Flammable Liquids . . . . .	24
Heating Installations . . . . .	25
Steam Plant, Cookers and Boilers . . . . .	25
Internal Combustion Engines . . . . .	26
Transmissions and Working Machines . . . . .	26
Spontaneous Ignition of Hay . . . . .	27
Fire Fighting . . . . .	27
 <b>CHAPTER V. Machinery . . . . .</b>	 <b>29</b>
General Provisions . . . . .	29
Acquiring and Installing . . . . .	30
Preparing . . . . .	31
Starting and Stopping . . . . .	32
Operating . . . . .	32
Qualifications of Attendants . . . . .	34
 <b>CHAPTER VI. Engines . . . . .</b>	 <b>35</b>
General Provisions . . . . .	35
Internal Combustion Engines . . . . .	35
Steam Engines . . . . .	35
Wind Engines . . . . .	36
Hydraulic Engines . . . . .	36
Horse Whims and Animal Drives . . . . .	36
 <b>CHAPTER VII. Land Clearance and Soil and Crop Preparation . . . . .</b>	 <b>38</b>
Land Clearance . . . . .	38
General Provisions . . . . .	38
Climbing Trees . . . . .	38
Felling and Limbing (Trimming) Trees . . . . .	39
Removing Stumps or Ledges . . . . .	40
Skidding of Trees . . . . .	41
Brush Cutting . . . . .	42
Soil and Crop Preparation . . . . .	42
Rotary Cultivators . . . . .	42
Ploughs and Harrows . . . . .	42
Seed Drills . . . . .	43
Manure Spreaders . . . . .	43

## CONTENTS

v

	Page
<b>CHAPTER VIII. Machines for Harvesting and Storing Produce . . . . .</b>	<b>44</b>
Reaping Machines and Combine Harvesters . . . . .	44
Threshing Machines . . . . .	44
General Provisions . . . . .	44
Hand Feeds . . . . .	45
Self-Feeders . . . . .	46
Decks . . . . .	46
Operation . . . . .	47
Forage and Straw Cutters . . . . .	48
General Provisions . . . . .	48
Feeds . . . . .	48
Cutter Wheels and Drums . . . . .	49
Operating Pedals . . . . .	50
Chopper-blowers . . . . .	50
Forage and Straw Cutters Used with Combine Harvesters . . . .	50
Operation . . . . .	50
Presses, Balers and Binders . . . . .	51
General Provisions . . . . .	51
Covers and Feeds . . . . .	51
Knotting Mechanism . . . . .	51
Ejectors . . . . .	52
Operation . . . . .	52
Chopping, Shredding, Crushing and Grinding Machines . . . . .	52
 <b>CHAPTER IX. Woodworking and Metalworking Machines . . . . .</b>	 <b>54</b>
Woodworking Circular Saws . . . . .	54
General Provisions . . . . .	54
Operation . . . . .	56
Band Saws . . . . .	56
Abrasive Wheels and Grindstones . . . . .	56
 <b>CHAPTER X. Hoisting and Transport Equipment . . . . .</b>	 <b>58</b>
General Provisions . . . . .	58
Hydraulic Lifting Machinery . . . . .	59
Electrical Machinery . . . . .	59
Lifting Machinery . . . . .	59
Controls . . . . .	60
Drums . . . . .	61
Brakes . . . . .	61
Storage of Loose Gear . . . . .	62

**VI SAFETY AND HEALTH IN AGRICULTURAL WORK**

	Page
Pulley Blocks . . . . .	62
Wire Ropes . . . . .	62
Fibre Ropes . . . . .	63
Chains . . . . .	63
Operation . . . . .	64
Maintenance . . . . .	65
Trackless Mobile Cranes . . . . .	65
Winches . . . . .	65
General Provisions . . . . .	65
Hand-operated Winches . . . . .	66
Lifts . . . . .	66
Grain and Fodder Conveyors . . . . .	67
Light Railways . . . . .	67
Overhead Cableways . . . . .	68
Installation . . . . .	68
Operation . . . . .	68
Rope Haulage . . . . .	68
 <b>CHAPTER XI. Pressure Vessels . . . . .</b>	 <b>70</b>
General Provisions . . . . .	70
Compressed Gases . . . . .	70
Pressured Spraying Equipment . . . . .	71
 <b>CHAPTER XII. Hand Tools, Implements and Ladders . . . . .</b>	 <b>72</b>
Hand Tools and Implements . . . . .	72
Ladders . . . . .	74
 <b>CHAPTER XIII. Vehicles . . . . .</b>	 <b>77</b>
General Provisions . . . . .	77
Construction . . . . .	77
Operation . . . . .	78
Tractors . . . . .	79
Construction . . . . .	79
Operation . . . . .	83
 <b>CHAPTER XIV. Animals . . . . .</b>	 <b>86</b>
General Provisions . . . . .	86
Bulls . . . . .	87

## CONTENTS

VII

	Page
<b>CHAPTER XV. Dangerous Substances . . . . .</b>	<b>90</b>
General Provisions . . . . .	90
Toxic Substances . . . . .	91
General Provisions . . . . .	91
Transport . . . . .	93
Usage . . . . .	93
Hygiene . . . . .	94
Maintenance of Appliances . . . . .	95
Disposal of Unwanted Material . . . . .	96
Anhydrous Ammonia . . . . .	97
Corrosive Substances . . . . .	98
Explosives . . . . .	98
Radioactive Substances . . . . .	98
 <b>CHAPTER XVI. Electricity . . . . .</b>	 <b>100</b>
General Provisions . . . . .	100
Installations . . . . .	101
General Provisions . . . . .	101
Soil-warming Transformers . . . . .	102
Motors . . . . .	102
Milking Machines . . . . .	102
Conductors . . . . .	102
Electric Fences . . . . .	103
General Provisions . . . . .	103
Controllers . . . . .	104
Earth Electrodes . . . . .	105
Electric Lighting Installations . . . . .	105
Electric Heating Installations . . . . .	105
Rearer Installations . . . . .	105
Portable and Transportable Equipment . . . . .	106
 <b>CHAPTER XVII. Handling Goods . . . . .</b>	 <b>107</b>
Lifting and Carrying Materials . . . . .	107
Stores and Stacks . . . . .	107
Loading and Unloading Vehicles . . . . .	108
 <b>CHAPTER XVIII. Personal Protective Equipment . . . . .</b>	 <b>109</b>

**VIII SAFETY AND HEALTH IN AGRICULTURAL WORK**

	<b>Page</b>
<b>CHAPTER XIX. Hygiene</b> . . . . .	<b>111</b>
General Provisions . . . . .	111
Toilet Facilities . . . . .	111
Washing Facilities . . . . .	111
Cloakrooms . . . . .	112
Drinking Water . . . . .	112
<b>CHAPTER XX. Medical Aid</b> . . . . .	<b>114</b>
First Aid . . . . .	114
General Provisions . . . . .	114
First-Aid Boxes . . . . .	114
First-Aid Rooms . . . . .	115
Ambulance . . . . .	115
Stretchers . . . . .	116
Notices . . . . .	116
Training in First Aid . . . . .	116
Register . . . . .	117
Medical Examinations . . . . .	117
Occupational Health Services . . . . .	117
<b>CHAPTER XXI. Accommodation and Feeding</b> . . . . .	<b>119</b>
Living Accommodation . . . . .	119
Mess Rooms . . . . .	120
Food . . . . .	120
<b>CHAPTER XXII. Farm Safety and Health Organisation</b> . . . . .	<b>121</b>
<b>CHAPTER XXIII. Reporting and Investigation of Occupational Accidents and Diseases</b> . . . . .	<b>123</b>
<b>CHAPTER XXIV. Miscellaneous Provisions</b> . . . . .	<b>124</b>
Firearms . . . . .	124
Excavations . . . . .	124
<b>INDEX</b> . . . . .	<b>129</b>



## FOREWORD

At its 33rd Session, in 1950, the International Labour Conference adopted a resolution drawing attention to the need for further study of the safety and health problems associated with mechanisation and the use of chemicals in agricultural work. At its Fifth Session, in 1955, the Permanent Agricultural Committee endorsed this resolution and expressed a desire that international standards of safety and health should be laid down for agricultural work.

In order to implement the above-mentioned resolutions the Governing Body of the I.L.O., at its 155th Session (Geneva, May-June 1963), decided that the I.L.O. should convene a meeting of experts to examine, *inter alia*, a draft code of practice relating to safety and health in agricultural work. The following experts attended the meeting, which was held in Geneva from 20 April to 2 May 1964:

- Mr. Nicolai ANDREEV, Assistant Director, The National Scientific and Technological Research Institute for the Repair and Use of Agricultural Machinery, Moscow, U.S.S.R.
- Mr. Jean BARTHÉLEMY, Centre of Studies and Experimentation in Agricultural Machinery, Ministry of Agriculture, Paris, France.
- Mr. G. B. FOGAM, General Secretary, The Cameroon Development Corporation Workers' Union, Victoria, Cameroon.
- Mr. George HOOK, Head of Legal Department, National Union of Agricultural Workers, London, United Kingdom.
- Mr. B. K. S. JAIN, Agricultural Machinery Division, Voltas Ltd., Bombay, India.
- Mr. Lafayette W. KNAPP, Jr., Chief of the Safety Section, Institute of Agricultural Medicine, State University of Iowa, Iowa City, United States.

Mr. A. MEIBOOM, Acting Chief Inspector of Labour, Ministry of Labour, Jerusalem, Israel.

Mr. A. S. ØRSTED-MÜLLER, Labour Inspectorate, Kolding, Denmark.

Mr. Aboubakar Taha SHAALAN, Safety Engineer, Deputy Director of the Labour Department, Dakahlia, United Arab Republic.

The International Social Security Association (I.S.S.A.) was represented by Mr. D. Andreoni and the International Organisation of Employers (I.O.E.) by Mr. I. Hamelin.

The meeting was presided over by Mr. Ørsted-Müller, and Mr. Barthélemy acted as Reporter.

In adopting the code of practice unanimously<sup>1</sup>, the experts were aware that all its provisions could not be applied as they stood to all countries or all regions and that some of them would therefore have to be adapted to national or local conditions. The experts also acknowledged that it might be impossible to apply some of the recommendations of the code to all the equipment which is used.

On the whole, the experts considered that this code of practice might be of interest to all those with responsibilities in safety and health in agriculture, such as the competent government authorities, the manufacturers of equipment used in agriculture, the professional organisations concerned with accident prevention, employers and workers.

The present code of practice consists of a body of concise recommendations for the guidance of authorities, professional groups and all those with responsibilities in the promotion of occupational safety and health in agriculture, including the self-employed farmer. Agriculture is taken here to mean farming,

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<sup>1</sup> The experts examined also a manual of occupational safety in agriculture, which is intended to give practical solutions for the application of the various prevention measures recommended in the code of practice and which will be published in the near future. Also under preparation is a manual of occupational health in agriculture.

including cattle and fruit farming, but excluding forestry and the manufacture of food products in factories.

The risks to which those engaged in agriculture may be exposed are so many and so diverse that most countries dealing with them by way of laws, regulations or standards have issued a number of sets of regulations and orders each covering a different subject (e.g. farm buildings, tractors, pesticides, woodworking machines) rather than a single all-embracing set.

Some occupational risks are not specific to agriculture, such as those caused by motor vehicles, explosives, circular saws, electricity, fire and various toxic substances, but owing to agricultural conditions the measures necessary to prevent these risks may not always be quite the same as in manufacturing or other industries. The present code of practice has been designed to deal in more detail with risks that are peculiar to agriculture or are predominantly agricultural. On the other hand, the common industrial risks such as those due to hoists, gas cylinders and abrasive wheels are mentioned briefly or reference is made to the relevant national laws or regulations of the competent authority or to any recognised standards which may be applicable.

As a general rule, the code of practice does not include detailed specifications for the material and construction of machines, appliances and other equipment used in agricultural work. Nevertheless, there are a few general provisions in the code on the material and construction of certain types of equipment.

As regards machinery and equipment which are predominantly used in industry, reference may be made to the relevant provisions of the *Model Code of Safety Regulations for Industrial Establishments for the Guidance of Governments and Industry*.<sup>1</sup>

This code of practice has been drawn up in general terms to serve as a guide, but it is not intended to replace national laws or regulations or accepted standards relating to occupational safety and health in agriculture, wherever available. Local

<sup>1</sup> Published by the International Labour Office in 1949 and revised in 1956 and 1959.

circumstances and technical possibilities will determine how far it is practicable to follow the provisions of this code. Furthermore, these provisions should be read in the context of conditions in the country proposing to use this information. In this regard care has been taken as to the utility of the document to countries in course of development.

In brief, the code of practice is an attempt to incorporate the essentials of the safety and health provisions applicable to agriculture everywhere and so constitute a text that may be of use in all parts of the world.

## CHAPTER I

### GENERAL PROVISIONS

#### GENERAL DUTIES OF EMPLOYERS AND WORKERS

1. (1) It should be the duty of the employer to provide, maintain and periodically inspect buildings, plant and equipment and to organise the work so as to protect workers against accidents and injury to health.

(2) When acquiring machines, appliances, vehicles or other equipment, employers should ensure that they conform to the relevant safety regulations or, if there are none, that they are so designed or protected as to be capable of being operated safely.

2. (1) It should be the duty of the employer to provide such supervision as will ensure that workers perform their work in the best conditions of safety and health.

(2) Work that is done jointly by a number of persons and requires mutual understanding if risks are to be avoided should be supervised by a competent person.

(3) It should be the duty of the employer to ensure that workers are properly instructed in the hazards of their occupations and the precautions necessary to avoid accidents and injury to health, and in particular that newly engaged or illiterate workers are properly instructed concerning hazards and precautions, and are adequately supervised.

(4) Employers should post up, in prominent positions at suitable places, copies, extracts and summaries of national or local regulations, instructions and notices, relating to the protection of workers against accidents and injury to health. These should be printed in the language or languages of the workers

and on weather-resistant material or be posted in a place protected against dust, wind, rain, etc.

3. (1) Before beginning work each worker should examine his workplace and the plant and equipment that he is to use, and should forthwith report to his supervisor or employer and, if necessary, the competent authority, any defect liable to cause danger.

(2) If the defect is such as to cause danger, the worker should not be permitted to use the workplace, plant or equipment concerned until the defect has been remedied.

4. Workers should make proper use of all safeguards, safety devices and other appliances furnished for their protection or the protection of others.

5. No worker, unless duly authorised, should interfere with, remove, alter, or move any safety device or other appliance furnished for his protection or the protection of others, or tamper with any method or process adopted with a view to avoiding accidents and injury to health.

6. Workers should make themselves acquainted with and observe all safety and health instructions pertaining to their work.

7. Workers should refrain from careless or reckless practices or actions that are likely to result in accidents or injury to health.

#### OBLIGATIONS OF MANUFACTURERS AND DEALERS

8. In order to prevent dangerous equipment from reaching users and to ensure that the necessary precautions are taken, manufacturers and dealers should recognise their obligation to ensure that—

- (a) equipment, instruments, chemicals and other articles employed in agriculture are so designed and supplied to the user as to present minimum hazards in their use or operation;
- (b) appropriate guards are provided on machinery wherever required;

- (c) in the case of equipment, necessary instructions are furnished for proper use and maintenance, drawing the attention of operators to possible hazards; and
- (d) instructions are furnished for the safe use of dangerous substances.

These obligations should also apply to persons hiring out or transferring machinery in any other manner.

### SELECTION AND PLACEMENT OF WORKERS

9. In selecting agricultural workers and placing them in agricultural work, the following general principles should be observed—

- (a) before inexperienced or illiterate workers are assigned to an occupation, they should be given appropriate explanations of the possible dangers of the work and training in the safe use of the machinery, equipment and tools, and generally in the safe performance of their duties; and
- (b) workers should preferably be given the jobs for which they are best qualified by training, aptitude, experience and physical capacity.

10. (1) No person should be employed on work for which he is physically or mentally unsuited.

(2) Physically and mentally handicapped persons or those liable to drunkenness or temporary weakness should not be employed on work that would be particularly dangerous for them or in which they could be a serious danger to their workmates.

### EMPLOYMENT OF YOUNG PERSONS

11. The employment of the following should be permitted only where authorised and subject to such conditions as may be prescribed by the competent authority—

- (a) persons under 14 years of age, in all cases;

- (b) persons under 16 years of age, when working with power-driven machinery, driving tractors and handling flammable liquids;
- (c) persons under 18 years of age, when using explosives, poisonous or corrosive substances, operating steam boilers or circular saws, and handling potentially dangerous animals.

### EMPLOYMENT OF WOMEN

12. The employment of women should be in accordance with national laws and regulations with regard to—

- (a) work before and after childbirth;
- (b) night work;
- (c) lifting, carrying or moving loads;
- (d) performing dangerous operations.

### LIGHTING

13. All places in or near buildings or near machinery in motion, where lighting is required for workers' safety, should, whenever natural lighting is inadequate, be efficiently lighted so long as any worker is present.

14. The means of lighting should not endanger workers' health or safety.

### HOUSEKEEPING

15. All places in farm buildings and yards where work is carried on should be kept adequately clear and, as far as practicable, free from objects that can cause slipping, falling or stumbling.

16. Storeplaces and other places in buildings and yards where work is carried on should be kept clean and, as far as practicable, free from rubbish.



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17. Loose gear and equipment should be removed from working areas when not in use.

18. Places that have to be used by agricultural workers and have become slippery owing to rain, snow, ice, grease, oil, etc., should, as far as practicable, be cleaned or made safe by strewing suitable material such as sand, ashes, sawdust or salt, or by other suitable means.

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## CHAPTER II

### FARM BUILDINGS

#### GENERAL PROVISIONS

##### *Construction*

19. When undertaking construction of new buildings or substantial alterations or repairs to existing buildings, employers should ensure that the buildings, alterations, repairs or work conform to the relevant safety regulations, or, if there are none, to national or other recognised standards; if appropriate, the competent authority should be consulted.

20. All buildings, whether permanent or temporary, should be structurally safe and sound. •

21. Roofs should be of sufficient strength to withstand normal stresses due to snow, ice, wind and rain, and, where necessary, to support suspended loads.

22. Foundations and floors should be of sufficient strength to bear safely the loads for which they are designed.

23. Access to elevated workplaces should, as far as practicable, be by means of stairs and not ladders. In cases where access by ladder is unavoidable, ladders should conform to the safety requirements given in Chapter XII.

24. If necessary, farm buildings should be provided, in addition to the normal means of egress, with emergency means of egress in accordance with the requirements of national or local regulations.

25. All practicable steps should be taken to provide adequate ventilation in farm buildings so as to protect persons against the inhalation of dust, fumes or other impurities likely to be injurious or offensive, and to prevent their accumulation.

### *Maintenance*

26. Buildings should be maintained in a safe condition and, if any dangerous condition is found, it should immediately be remedied, or access to the place concerned should be prevented until the repairs are made.

### RAILINGS AND FENCING

27. (1) All railings for the fencing of floor openings, gangways, elevated workplaces, etc., should—

(a) be of sound material and good construction and possess adequate strength;

and unless otherwise specified by the competent authority—

(b) be at least 1 m (3 ft. 3 in.) high; and

(c) consist of two rails or two taut ropes or chains, supporting stanchions and, if necessary to prevent persons slipping or objects falling, a toe-board.

(2) Intermediate rails, ropes or chains should be about 50 cm (1 ft. 8 in.) high.

(3) Stanchions should be not more than 2 m (6 ft. 6 in.) apart, and should be secured so that they cannot be inadvertently lifted out.

(4) Toe-boards should be at least 15 cm (6 in.) high and securely fastened.

28. Railings should be free from sharp edges.

29. Railings should be maintained in good repair.

30. Temporary fencing of floor openings, elevated workplaces, etc., should, as far as is reasonably practicable, extend to a height of at least 1 m (3 ft. 3 in.) and consist of either—

- (a) two taut ropes or chains with stanchions; or
- (b) a properly rigged and securely fastened net of adequate strength.

31. (1) Covers for floor openings should be safe to walk on and, if necessary, safe to drive vehicles on.

(2) In particular, they should—

- (a) be secured by hinges, grooves, stops, or other effective means against sliding, falling down or lifting out or any other inadvertent displacement; and
- (b) not constitute any hindrance to traffic and, as far as practicable, be flush with the floor.

32. If covers are constructed as grids, the bars should be spaced not more than 5 cm (2 in.) apart.

33. Covers of sack elevators and similar installations should close automatically and securely after the passage of the sacks or material.

## FLOORS AND WALKWAYS

### *Stumbling and Slipping Hazards*

34. (1) Floors should be sufficiently firm, continuous and even to permit safe walking, and, if necessary, safe transport of materials.

(2) In particular—

- (a) floors should be free from holes, splinters, improperly fitted covers for gutters, conduits, etc., protruding nails, bolts, etc., projecting valves or pipes, or other projections or obstructions that might constitute stumbling hazards;

- (b) boards, planks, and other floor coverings should be so placed and secured as to prevent tilting, tipping or other inadvertent displacement;
- (c) gaps between boards, planks or other parts of floor coverings should not exceed 5 cm (2 in.); and
- (d) joists and girders with false ceilings, cob flooring or the like should be boarded over or otherwise safely covered.

35. Floors should not be slippery and, if necessary, should be roughened or provided with special non-slip surfaces. Floors should be adequately drained and properly maintained.

36. Floors should not slope down towards dangerous places such as hatches.

37. Temporary floors such as scaffolds and landings should be erected and dismantled only under the direction of a competent person.

38. Auxiliary floors should, as far as practicable, be avoided, and in any case should be laid only in storeplaces such as barns.

39. (1) Ramps to and in elevated storeplaces should—

- (a) be firm over their whole width and not merely over the width of the vehicle track; and
- (b) if possible, on account of the nature of the ground, slope not more than 1 in 10.

(2) Openings should be made in ramps only if they are automatically protected, when they are opened, by a railing conforming to the requirements of paragraphs 27 to 29 above or by some other effective device.

40. (1) The maximum load per unit of area to be carried by the floor of any storeplace and the maximum load of any vehicle used on such a floor should be posted up in conspicuous places.

(2) These maximum loads should not be exceeded.

## FLOOR AND YARD OPENINGS

41. Wherever practicable, vertical hatchway openings should be used instead of horizontal openings.

42. Ladderway, stairway, hatchway and other floor or yard openings accessible to persons should be guarded on all exposed sides by—

- (a) permanent or removable railings conforming to the requirements of paragraphs 27 to 29; or
- (b) covers conforming to the requirements of paragraphs 31 to 33; or
- (c) other effective means.

43. If railings, covers or other means of protection are removed to allow the passage of persons or goods, they should be replaced immediately after such passage.

44. If loose covers are used to protect openings, they should be secured in position.

45. Every grain pit, stokehole, or furnace pit into which a worker is liable to fall more than 1.5 m (5 ft.) should be guarded by—

- (a) a cover; or
- (b) a fence not less than 1 m (3 ft. 3 in.) high; or
- (c) a guard rail not less than 1 m (3 ft. 3 in.) above the level of the ground, and a lower guard rail about 50 cm (1 ft. 8 in.) above ground level.

## WALL OPENINGS

46. Wall openings less than 1 m (3 ft. 3 in.) from the floor and measuring at least 75 cm (2 ft. 6 in.) vertically and 45 cm (1 ft. 6 in.) horizontally, from which there is a drop of more than 1.5 m (5 ft.), should be protected to a height of at least 1 m (3 ft. 3 in.) by rails, fences, doors or other effective means.

47. Narrower wall openings should be protected by a toe-board if their lower edge is less than 15 cm (6 in.) from the floor.

48. If the protection of openings at least 75 cm (2 ft. 6 in.) wide is removable—

- (a) an adequate handgrip should be fixed on each side; or
- (b) an adequate bar should be placed across the opening at breast height.

### STAIRS

49. Stairs should be of adequate strength to withstand safely the loads they may be expected to bear.

50. Stairs should have a clear width of at least 90 cm (3 ft.).

51. As a rule, stairs made of perforated material should not have openings exceeding 12.5 mm ( $\frac{1}{2}$  in.) in width.

52. No step of a stairway should depend for its support on being secured solely by nails, screws or other similar fixing, and no stairway should have any step missing or any defect likely to weaken the stairway which would be disclosed by a reasonable examination.

53. Stairs with more than five steps should—

- (a) be provided on any open side with railings complying with the requirements of paragraphs 27 to 29;
- (b) if more than 1.2 m (4 ft.) wide, be provided on both sides with an adequate handrail or, if this is not practicable, an adequate hand rope; and
- (c) if not more than 1.2 m (4 ft.) wide, be provided on one side with an adequate handrail or, if this is not practicable, an adequate hand rope.

54. Every stairway which measures more than 1 m (3 ft. 3 in.) vertically from the ground should have at least one handrail.

If there is an open side, the handrail should be on that side; if there are two open sides, there should be a handrail on each side; and if it is a closed stairway the handrail may be on either side.

55. Every stairway which is at an angle of less than  $30^\circ$  from the vertical should be provided with a secure handgrip for use by workers at the highest point at which they have to get on or off the stairway, whether by extension of one stile for not less than 1 m (3 ft. 3 in.) above such point or by some other means.

56. Movable and removable stairs should be adequately secured in position of use.

#### DOORS AND GATES

57. Doors and gates should be secured against flying open and shut, lifting out of their fastenings or sliding out of their guides, and falling or overturning.

58. Doors and gates that are opened by being rolled or pulled up or down should have a device that effectively prevents them from closing inadvertently.

59. Doors in refrigerated rooms should be provided with means of opening from inside the rooms.

#### ELEVATED WORKPLACES

60. Elevated workplaces more than 1.5 m (5 ft.) above the floor or ground should be protected on all open sides by railings conforming to the requirements of paragraphs 27 to 29.

61. Elevated workplaces should be provided with safe means of access such as stairs conforming to the requirements of paragraphs 49 to 56, or ladders conforming to the requirements of paragraphs 400 to 413.

62. Adequate handgrips or other adequate means of support should be provided at the tops of ladders.

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## CHAPTER III

## PITS, CELLARS AND SILOS

63. (1) Liquid manure pits, ensilage pits, and other pits, wells, tanks, vats and the like, the tops of which are less than 1 m (3 ft. 3 in.) above floor or ground level, should be protected by railings conforming to the relevant provisions of paragraphs 27 to 29 or covers conforming to the relevant provisions of paragraphs 31 to 33.

(2) Railings or covers should be kept in position except when it is necessary to remove them for the purposes of the process, in which case a visibly adequate warning notice should be posted.

(3) Ventilation openings should, if necessary, be provided in the covers; if these openings are larger than 5 cm (2 in.) they should be filled with bars not more than 5 cm (2 in.) apart. •

64. As far as possible the necessity for the entry of persons into liquid manure pits should be obviated by the use of equipment such as pumps.

65. Before any person enters a liquid manure pit, ensilage pit or cellar, wine vat or any other space where there may be danger of losing consciousness through asphyxiation, or of poisoning—

- (a) the space should be adequately ventilated by a blower or other effective means;
- (b) except in the case of liquid manure pits, the space should be tested for vitiated air with a flame or other suitable means and found to be safe;

- (c) the person should wear a safety belt with a rope held taut by a second person, adequately equipped to haul to safety the person entering the space;
- (d) if necessary, breathing apparatus should be used.

66. Because of the explosion risks in liquid manure pits—

- (a) the atmosphere should not be tested with a flame; and
- (b) no open flames or smoking should be permitted in or near open pits.

67. So long as a person is in a space referred to in paragraph 63 (1), the second person should hold the rope taut and keep watch.

68. (1) If the person in the space loses consciousness or is indisposed, he should be hauled out immediately, and no attempt should be made to render aid in the space.

(2) Resuscitation of unconscious persons should be begun immediately and a doctor called.

69. If protective coatings are applied to fermenting chambers—

- (a) the manufacturer's instructions for use should be obeyed;
- (b) because of the explosion risk, open flames and smoking should be prohibited during the work; and
- (c) the coatings should be applied from the bottom upwards to minimise the risk from the harmful gases, when they are heavier than air.

70. When fodder-fermenting chambers have been emptied they should be cleaned out.

71. (1) Premises housing wine vats or containing vat cellars should be adequately ventilated.

(2) There should be no direct communication between vat cellars and living rooms.

(3) To ensure continuous evacuation of carbon dioxide, openings, at suitable height from the floor with ventilation ducts directed to the outside, should be provided.

(4) During work at vats or in vat cellars, an open flame should be kept burning at about 30 cm (1 ft.) from floor level to detect the presence of carbon dioxide.

(5) Only persons wearing supplied-air respirators should enter vats or vat cellars in which there may be a dangerous concentration of carbon dioxide.

(6) Vats that have been emptied should be cleaned out with an ammonia solution.

72. Tower silos should be adequately fenced round the top in accordance with the provisions of paragraphs 27 to 29. Safe means of access should be provided to the top of the silo and to any intermediate platform. Ladders should be equipped with cage guards in accordance with the provisions of paragraph 410 (*d*). Warning against potential exposures to gases and to oxygen deficiency should be posted conspicuously.

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## CHAPTER IV

### FIRE PROTECTION

#### GENERAL PROVISIONS

##### *Siting of Buildings*

73. (1) On new farms, buildings with special fire risks, such as repair shops in which welding is done, grain and hay drying buildings, and storeplaces for flammable liquids, should, as far as practicable, be sited at least 45 m (150 ft.) from the farmhouse and barns.

(2) The space between the buildings should, as far as practicable, be free of highly combustible material, such as dry grass, dry brushwood and rubbish. In no case should such combustible material be placed less than 12 m (40 ft.) from buildings.

(3) If buildings are connected by covered passages as protection against the weather, each passage should—

- (a) be built of fire-resisting material<sup>1</sup>; or
- (b) be separated from the buildings by a fire-resisting wall extending to 1 m (3 ft. 3 in) above the eaves. A fire-resisting door should be provided in the passage way.

(4) As far as practicable, buildings should not be in a line parallel to the direction of the prevailing wind.

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<sup>1</sup> In this chapter the meaning of the term “fire-resisting material” should conform with the definition established in national or other recognised standards applicable to the use made of the buildings.

*Construction of Buildings*

74. On new farms, buildings with special fire risks should, as far as practicable, be of fire-resisting material.

75. Chimneys and flues should be adequately insulated from combustible material.

76. Chimneys should be equipped with spark arresters if combustible material is in the vicinity.

*Fire Alarms*

77. (1) In extensive agricultural undertakings adequate fire-alarm systems should be installed.

(2) The personnel should be familiar with the alarm signal.

78. At suitable places notices should be posted up indicating—

(a) the position of the nearest telephone and, at the telephone, the number of the fire brigade;

(b) the place where the fire brigade is to be met if the site is difficult to find.

## LIGHTNING PROTECTION

79. (1) In regions where thunderstorms are frequent or severe, lightning protection should be provided for farm buildings and structures—

(a) in which highly combustible materials or flammable liquids are stored; or

(b) with parts projecting upward such as chimneys, ventilators, ducts, gables and roof ridges.

(2) Lightning-protection systems should be installed by competent persons and in accordance with recognised standards.

## GARAGES AND ENGINE ROOMS

80. Garages and rooms housing stationary internal combustion engines should—

- (a) be of fire-resisting construction;
- (b) be adequately ventilated; and
- (c) have at least one outside wall.

81. Electrical installations in garages and other rooms for internal combustion engines should comply with electricity regulations.

82. Heating installations in garages and other rooms for internal combustion engines should have no open flames or incandescent parts.

83. Inspection pits in garages should be—

- (a) accessible by means of steps, complying with the relevant requirements of paragraphs 49 to 56; and
- (b) provided with covers complying with the relevant requirements of paragraphs 31 and 32 when not in use.

84. (1) The floor drainage system should include a trap for petrol (gasoline) and oil.

(2) The trap should be emptied at suitable intervals.

85. No materials other than those required for servicing or operating the engine should be stored in rooms for internal combustion engines.

86. Excessive quantities of fuels and oils should not be stored in garages or other rooms for internal combustion engines.

87. Work that involves welding or the generation of sparks should not be done in garages or other rooms for internal combustion engines.

88. Oily and greasy waste should be kept in a self-closing metal receptacle.

89. At an easily accessible place there should be kept in readiness for use—

- (a) a suitable fire extinguisher; or
- (b) an adequate quantity of dry sand and a shovel.

90. Rooms adjacent to garages and other rooms for internal combustion engines should—

- (a) be of fire-resisting construction; and
- (b) contain no highly combustible materials such as hay, straw or fodder.

91. The floor of a petrol (gasoline) engine room should be sunk, or the threshold raised, so as to form a basin that can hold all the flammable liquid in the room.

92. Power should preferably be transmitted from the internal combustion engine by shafting led through the engine room wall in a tight-fitting bushing.

93. The exhaust pipe from internal combustion engines should—

- (a) be insulated if necessary and provided with a spark arrester;
- (b) be led through the engine room wall directly into the open air, away from windows and doors; and
- (c) discharge at a safe distance from combustible material.

94. If flammable liquid drips, a drip pan should be provided for internal combustion engines.

95. Internal combustion engines should be operated by persons instructed in their use.

96. Internal combustion engines should not be refuelled—

- (a) while they are running; or
- (b) in the presence of open flames, open lights, lighted cigarettes and the like.

## SMOKING, OPEN LIGHTS AND OPEN FIRES

97. (1) In or near indoor or outdoor places where highly combustible material such as hay or straw, or highly flammable liquid, is stored or handled, the following should be prohibited—

- (a) smoking;
- (b) open lights or open flames; and
- (c) work such as grinding in which sparks are given off, and welding.

(2) Conspicuous notices carrying these prohibitions should be displayed at the entrances to the places concerned.

(3) Open fires should be situated at least 12 m (40 ft.) from buildings or places where flammable materials are stored.

98. Lighted cigarettes, matches and the like should not be thrown away on dry grass, dry brushwood, or other places where they would be liable to start a fire.

99. Whenever possible, non-sparking hand tools should be provided and used for work near flammable liquids and gases.

## STORAGE OF FLAMMABLE LIQUIDS

100. Storage facilities for flammable liquids should comply with national or local regulations or, if there are none, with national or other recognised standards.

101. If highly flammable liquids, such as petrol (gasoline), are stored with less flammable liquids, such as diesel oil, in the same room or in rooms that are not separated by fire-resisting blank walls, the entire quantity of liquid stored should be treated as if it were highly flammable.

102. (1) Highly flammable liquids should be transferred only—

- (a) by pumps, or by gravity systems;
- (b) in the open air; and



(c) at a safe distance from any running engine, open fire, open light, or the like.

(2) If small quantities of liquid are poured from one container to another, the containers should be in electrical leading contact.

103. Small quantities of highly flammable liquids required for immediate use should be kept in closed containers of types approved by the competent authority or a recognised body.

### HEATING INSTALLATIONS

104. Furnaces, stoves, smoke pipes, flues and chimneys should be adequately insulated from combustible material.

105. Open fires and, if necessary, other heating installations should be protected by screens of metal gauze or other suitable material placed at a distance of at least 30 cm (1 ft.).

106. Gas-burning appliances, whether stationary or portable, should conform to national laws or regulations or recognised standards.

107. Gas-burning appliances should, as far as practicable, be installed on a rigid base and be supplied by rigid piping and not flexible tubing.

108. Heating installations should be maintained in good working order and cleaned at suitable intervals.

109. Ashes should be removed—

(a) after they have cooled; and

(b) in suitable containers.

### STEAM PLANT, COOKERS AND BOILERS

110. Outdoors, mobile steam plant, fodder cookers, washing boilers and the like should not be used—

- (a) within 15 m (50 ft.) of buildings or storeplaces with a fire risk; and
- (b) within 30 m (100 ft.) in case of a high wind.

111. Places where steam plant, fodder cookers, washing boilers and the like are used should be kept clear, up to an adequate distance, of highly combustible material such as dry grass and straw.

112. Adequate precautions should be taken to prevent fires being caused by flames, sparks and ashes.

113. Special precautions should be taken when loose material such as straw, chaff, shavings, sawdust and peat-mould are used as fuel.

#### INTERNAL COMBUSTION ENGINES

114. Outdoor internal combustion engines should not be used within 6 m (20 ft.) of buildings or storeplaces with a fire risk.

115. Places where internal combustion engines are used should be kept clear, up to an adequate distance, of highly combustible material such as dry grass and straw.

#### TRANSMISSIONS AND WORKING MACHINES

116. Wooden bearings should not be used except for working machine shafts revolving at not more than 100 revolutions a minute.

117. Transmissions and working machines should be so installed that—

- (a) all parts are clear of fixed objects; and
- (b) highly combustible material for which the machine is not being used is kept at a safe distance.

118. (1) Transmissions and working machines should be examined for heating at suitable intervals.

(2) If dangerous heating is found, the transmission or machine should be stopped.

### SPONTANEOUS IGNITION OF HAY

119. Loose hay with a moisture content exceeding 25 per cent., and chopped or baled hay with a moisture content exceeding 20 per cent., should not be stored.

120. The temperature of stored hay should be checked at suitable intervals.

121. If the temperature of stored hay exceeds 60°C (140°F), preparations should be made for dealing with a fire and the fire brigade should be called.

122. Hay in and around hot or fired pockets should not be uncovered or removed without first being thoroughly wetted with water.

### FIRE FIGHTING

123. Where practicable, farms should be connected to water pressure mains and be suitably provided with hydrants and hoses.

124. If water pressure mains are not available, groups of farms or isolated farms should, if practicable, have a pond of adequate capacity accessible for fire-fighting purposes. A frost-free plug should, if necessary, be provided in the pond.

125. Farms should be adequately equipped with means of fighting incipient fires: things such as hand pumps, fire pails, water barrels, portable extinguishers, sprayers, sand and ladders.

126. Fire-fighting equipment should be kept in or near all places with fire risks.

127. Fire-fighting equipment should be—

- (a) kept readily accessible for use;
- (b) properly maintained; and
- (c) inspected at suitable intervals.

128. A sufficient number of persons should be trained in the use of fire-fighting equipment.

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## CHAPTER V

## MACHINERY

## GENERAL PROVISIONS

129. (1) Moving parts of prime movers and transmissions, and all dangerous parts of machinery, including the point of operation, should be effectively guarded unless they are so constructed, installed or placed as to be as safe as if they were guarded by appropriate safety devices.

(2) In particular—

- (a) all flywheels, gearing, cone and cylinder friction drives, cams, pulleys, belts, chains, pinions, worm gears, crank arms and slide blocks and, to the extent prescribed by the competent authority, shafting (including the journal ends) and other transmission machinery also liable to present danger to any person coming into contact with them when they are in motion, should be so designed or protected as to prevent such danger. Controls should also be so designed or protected as to prevent danger;
- (b) all set-screws, bolts and keys, and, to the extent prescribed by the competent authority, other projecting parts of any moving part of machinery also liable to present danger to any person coming into contact with them when they are in motion should be so designed, sunk or protected as to prevent such danger;
- (c) crushing, shearing and nip points should be adequately guarded;
- (d) paths of counterweights, pendulum weights and the like should be fenced;

- (e) account should also be taken of the following provisions:
- (i) all working parts of machinery which, while in operation, may produce flying particles should be adequately guarded in such a manner as to ensure the safety of the operators;
  - (ii) all parts of machinery which are under dangerous electrical pressure should be protected in such a manner as to give complete protection to persons.

130. Machinery should be adequately guarded even when it is idle for a considerable time, unless it has been rendered in-operative.

131. Openings in guards should not exceed the following dimensions according to the distance between the guards and moving machine parts:

- (a) 6 mm ( $\frac{1}{4}$  in.) when the distance is less than 10 cm (4 in.);
- (b) 12 mm ( $\frac{1}{2}$  in.) when the distance is between 10 and 40 cm (4 in. and 1 ft. 4 in.);
- (c) 50 mm (2 in.) when the distance is more than 40 cm (1 ft. 4 in.).

132. Working spaces for machinery attendants, passageways alongside machinery, and passageways between machinery and fixed objects, such as walls, posts and columns, should be—

- (a) of sufficient width and height to permit safe working or passage; and
- (b) kept clear of obstructions.

### ACQUIRING AND INSTALLING

133. When acquiring new machines care should be taken to obtain adequate operation and maintenance instructions.

134. (1) Machine operators' stands should be—

- (a) safely and easily accessible;
- (b) sufficiently spacious;

- (c) so designed and constructed as to permit safe operation of the machine, not to cause the operator undue fatigue or discomfort, and to avoid excessive noise and vibration;
- (d) provided with fencing, railings, toe-boards or the like, if necessary to prevent danger; and
- (e) properly maintained and kept clear of obstruction.

(2) If necessary to prevent danger, special means of access such as steps and/or grips should be provided.

(3) If the operator's stand is enclosed, means for adequate ventilation should be provided.

135. Machine controls should be so designed and installed that they can be operated reliably, safely and easily from the operator's stand.

136. When appropriate on power-driven machines, the maximum safe speed and the direction of revolution should be indicated.

137. Machines not designed for power operation should not be power driven unless they have been safely adapted to be used in such a way by a qualified technician. •

138. Spring-loaded tools on field machines should be provided with devices that prevent inadvertent release of the tools.

#### PREPARING

139. Before being started, machines should be examined to ensure that they are in a safe working condition, and in particular that—

- (a) they are properly adjusted;
- (b) working parts are properly lubricated;
- (c) nuts, bolts and the like are properly tightened; and
- (d) all protective devices are in place and properly secured.

## STARTING AND STOPPING

140. Every power-driven machine should be provided with adequate means, easily accessible and readily identifiable to the operator, of stopping it quickly, and preventing it from accidentally starting again.

141. If entire control is not at hand when a transmission or a machine is started, a signal should be given immediately before starting that can clearly be heard at the place where the transmission or machine is installed.

142. If a number of persons are employed simultaneously at a machine that can be started by a prime mover, the machine should not be started until the person starting it has satisfied himself that no person is in danger.

143. Transmissions and working machines that can be disengaged should be disengaged when they are stopped and should remain disengaged while they are idle.

144. If necessary to prevent danger, field machines should be provided with a disengaging device by means of which moving parts can be quickly stopped by the operator.

## OPERATING

145. (1) No person should use any machinery without the guards provided being in position, nor should any person be required to use any machinery without the guards provided being in position.

(2) No person using machinery should make inoperative the guards provided, nor should such guards be made inoperative on any machinery to be used by any person.

146. No part of any machinery which is not fully protected should be maintained, cleaned, lubricated, set up or adjusted while in motion, unless such operation can be carried out in



conformity with accepted standards of safety and by a duly instructed person.

147. Belts, ropes, chains and cords of transmissions should not be mounted or dismounted by hand while the machinery is in motion.

148. When machinery is stopped for servicing or repairs, appropriate measures should be taken to ensure that it cannot be inadvertently or otherwise restarted, except by the person engaged in the servicing or repairs.

149. When repair, maintenance or other work has to be done in dangerous proximity to machinery, the machinery should be stopped for the duration of the work.

150. Machinery in motion should not be left unattended if this could cause danger.

151. (1) Travelling machines on which persons have to ride should be provided with a seat for each person.

(2) Seats should be safe, comfortable, easily accessible, adequately sprung and protected as required.

152. No passenger should be carried on a travelling machine unless he has taken his place on a seat or on a safe stand.

153. (1) If necessary, special measures should be taken to prevent danger during the transport of machines.

(2) Machines being transported should be disengaged from the drive.

154. Persons operating machines should avoid wearing unsuitable clothing and articles such as scarves, ties, and jewellery and should not have long loose hair likely to be caught by moving parts of machinery.

155. If necessary to prevent danger, persons operating machines should be provided with, and should use, suitable personal protective equipment.

#### QUALIFICATIONS OF ATTENDANTS

156. Only reliable and competent persons who have been given adequate instruction should be entrusted with the independent operation of prime movers, transmissions and working machines.

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## CHAPTER VI

## ENGINES

## GENERAL PROVISIONS

157. (1) Engines, other than wind engines, should—

- (a) be so constructed and installed that they can be started safely;
- (b) be so constructed and installed that the maximum safe speed cannot be exceeded;
- (c) have remote controls for limiting speed; and
- (d) have devices that enable the engine to be stopped from a safe place in emergencies.

(2) The operators should be instructed in safe methods of starting the engines.

## INTERNAL COMBUSTION ENGINES

158. Starting cranks of internal combustion engines should be secured against kicking back.

159. Exhaust gases from internal combustion engines should be so led off that the operator and other persons in the vicinity are not exposed to them.

## STEAM ENGINES

160. On mobile steam engines, flywheels, driving belt pulleys, cranks, crossheads and other moving parts should be guarded.

## WIND ENGINES

161. Work on the cross shaft and wind wheel should be carried out only if the worker has a life line attached to him, the wind wheel is locked and the machine stopped.

## HYDRAULIC ENGINES

162. Main and tail races of water-power plants, water-wheels, water turbines and waterwheel pits should be so enclosed that falls of persons and material into them are effectively prevented.

163. Stopping devices, such as sluice gates, should shut tight.

164. Adequate measures should be taken to remove seepage water.

165. (1) Hydraulic engines should be de-iced only from a non-slippery place.

(2) Workers de-icing hydraulic engines should not stand on the wheel blades.

## HORSE WHIMS AND ANIMAL DRIVES

166. Whim drives should be enclosed on the top and sides.

167. If the driver has his seat over the drive—

(a) the seat should be well secured on a rotary platform that in all positions projects beyond the side fencing by at least 10 cm (4 in.); and

(b) the platform should be well secured and safe to walk on.

168. The driving shaft should be laid in stout piping buried in the earth and secured against accidental rotation by suitable means, such as a disengaging device or brake.

169. It should be possible to lubricate the whim without removing the protective enclosures.

170. Persons should not—

- (a) sit on the traction beam and platform edges;
- (b) stand on top of the whim unless there is a platform conforming to the requirements of paragraph 167.

171. Draught animals should not be harnessed to the whim unless the safety of the operator has been ensured.

172. Draught animals should be unharnessed—

- (a) if any irregularity occurs in the working of the whim; and
  - (b) while the whim is not in use.
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## CHAPTER VII

LAND CLEARANCE AND SOIL AND CROP  
PREPARATION

## LAND CLEARANCE

*General Provisions*

173. Dangerous trees, snags, boulders and ledges within the reach of workplaces or roads should be removed before regular operations begin.

174. Hand tools and implements used in land clearance should comply with paragraphs 384 to 399.

*Climbing Trees*

175. Only experienced persons who have been given suitable instruction should climb, limb, or fell high trees.

176. Tree climbers should be provided with suitable equipment, in particular a safety belt and a sound rope.

177. While a climber is in a tree, other persons should keep clear of falling objects.

178. The climber's tools should be securely fastened to his belt or person.

179. If a ladder is used for climbing trees the ladder should—  
(a) comply with the requirements of paragraphs 400-413 below;

- (b) be firmly secured; and
- (c) if necessary to prevent danger, be protected against passing persons or vehicles.

### *Felling and Limbing (Trimming) Trees*

180. Areas in which trees are to be felled should be indicated by warning signs, or the approaches should be guarded.

181. No person should enter the zone indicated or guarded unless directly concerned with the felling operations.

182. The minimum safe distance from felling operations should wherever practicable be twice the length of the tree to be felled.

183. Before felling begins—

- (a) the area around the trees should be cleared of brush, snow and other obstacles or hazards;
- (b) a way of escape should be decided on and cleared of dangerous obstacles; and
- (c) if trees are in the vicinity of overhead conductors, the electrical supply undertaking should be notified in order that the necessary safety measures may be taken.

184. The direction of fall of a tree should be controlled as far as practicable by an undercut, a back cut and, if necessary, by inserting wedges in the back cut.

185. When sawing, power-saw operators should—

- (a) secure a good footing;
- (b) remove all obstructions from the path of the saw; and
- (c) see that nobody is in the way of the falling tree, communicate with each other by signal, and take such additional precautions as may be necessary on account of the noise.

186. One-man power-saws should not be placed in a position where they can slip.

187. A power-saw should not be cleaned or serviced with the engine running; or, in the case of an electric saw, when it is plugged into a power supply.

188. Power-saws should be inspected by the operator at least once in every shift and periodically by a competent person.

189. Power-saw operators should wear close-fitting clothing.

190. Where practicable, a lodged tree should be released by attaching a rope or a cable, and in no case by—

- (a) climbing the lodged tree in order to loosen it;
- (b) felling the tree in which the lodged tree is caught;
- (c) felling other trees against the lodged tree.

191. A tree that has been undercut or had its roots cut should be felled without delay and in no case should such a tree be left standing unsecured overnight.

192. Workers bucking or trimming trees should clear their workplaces of brushwood and other obstructions before starting work.

193. On steep slopes, fallen trees or lengths of trees should, if necessary to prevent danger, be secured from sliding or rolling.

194. On steep slopes, workers bucking or trimming trees should stand on the uphill side of the log.

195. Where practicable, workers limbing trees should keep the trunk between them and the branches being cut off.

196. Where cutting has to be done on the near side of the trunk, the cutting tool should cut away from the body.

### *Removing Stumps or Ledges*

197. Blasting operations for removing stumps or ledges should be carried out by workers experienced in the handling of explosives and under the close supervision of an experienced shot-firer.



198. (1) Tractors or pulley blocks, winches or any other equipment used to pull stumps or ledges should comply with the relevant provisions of Chapter XIII (Vehicles) and Chapter X (Hoisting and Transport Equipment), below.

(2) Shear legs used for extracting tree roots should be substantially constructed of sound material and, as regards winches, pulleys and ropes, comply with the relevant provisions of Chapter X.

199. (1) If standing trees are uprooted with the blade of a bulldozer, the driver should be protected by a solid cabin and wear a hard hat.

(2) Standing trees should be pulled over by a tractor only if the latter is fitted with a winch used only for this purpose and is firmly anchored in a safe place with no danger from falling trees.

(3) Stumps should not be removed and standing trees should not be pulled over by a moving tractor.

### *Skidding of Trees*

200. (1) If trees are skidded by tractors the load should be hitched low and additional front weights may become necessary to prevent rearing.

(2) Appropriate haulage devices should be provided which are capable of negotiating obstructions.

### *Brush Cutting*

201. (1) Operators of portable motor-driven brush cutting tools should take care that nobody comes closer than 5 m (17 ft.) to the cutting edges.

(2) Tractor-operated rotary brush choppers in use should be guarded by a solid hood and no onlookers should be permitted within a distance of 20 m (66 ft.).

## SOIL AND CROP PREPARATION

*Rotary Cultivators*

202. (1) The tine shaft in power-driven rotary cultivators should be covered by a protective hood that—

- (a) covers completely the path of the tine outside the earth; and
- (b) is strong enough to retain flying stones, tines and other objects.

(2) If the hood has to be raised for changing or cleaning the tines, it should be secured against falling accidentally.

203. On self-propelled rotary cultivators (single-axle tractors) guide bars should be long enough to enable the driver to remain at a safe distance from the tines, even when turning.

204. If necessary to prevent danger when turning, the land wheels of self-propelled rotary cultivators should—

- (a) have a differential drive; or
- (b) each be capable of being uncoupled by a device on the guide bars.

205. (1) On self-propelled rotary cultivators there should be a coupling that can be operated from the guide bars, between—

- (a) the engine and the traction wheels; and
- (b) the traction wheels and the tine shaft.

(2) Couplings should be secured against accidental engagement.

*Ploughs and Harrows*

206. Workers should not stand on implements when it is necessary to weigh them down. Weights should be used for the purpose.

*Seed Drills*

207. (1) No person should reach with his hands into the seed box while the machine is in motion.

(2) If a platform is fixed to a seed drill on which a worker has to stand, it should be equipped with a hand grip and with a toe-board on the front edge. If an implement is trailed behind the drill, the platform should have a rail at least 1 m (3 ft. 3 in.) high at the back.

*Manure Spreaders*

208. Manure should not be compacted by being trodden on while the machine is working, and nobody should stand within the spreader while it is in motion.

209. If the operation of manure spreaders requires adjustment, the motor should be stopped, or the power shaft should be uncoupled.

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## CHAPTER VIII

MACHINES FOR HARVESTING AND STORING  
PRODUCE

## REAPING MACHINES AND COMBINE HARVESTERS

210. Cutter bars of reaping machines and combine harvesters should not be cleaned by hand but with an appropriate appliance. No person should stand in front of the cutter bar of reapers or combine harvesters to do any work on the machine unless the machine is out of gear, or the draught animals are under secure control.

211. The cutter bar of reapers or combine harvesters should be protected by a suitable guard while the machine is travelling to and from the field.

## THRESHING MACHINES •

*General Provisions*

212. Every moving part of a thresher should be so situated or guarded as to prevent the worker or his clothes from coming into contact with it.

213. At the acquisition of a new threshing machine it is advisable to ascertain that it—

- (a) is equipped with automatic feed if the machine is top fed;
- (b) is equipped with dust extractors;
- (c) has steel drums accurately balanced to prevent vibration; and
- (d) if of the beater-drum type, has the beaters reliably fastened to the drum by safety bolts in sufficient number, or by properly made welding.

*Hand Feeds*

214. If a chute is used for feeding threshing machines, adequate precautions should be taken to prevent persons from falling into the chute.

215. Feed openings of hand-fed threshing machines should be protected by one or more of the following means, according to the design of the machine:

- (a) total enclosure of the feed track from the feeding point to the moving parts of the machine;
- (b) provision of a feed table or feed hopper;
- (c) fencing of the feed opening continuous with the enclosure of the feed track.

216. Feed openings should be provided with a cover that—

- (a) protects the opening on the sides and the top to at least 10 cm (4 in.) beyond the inside edge of the feed table or beyond the edge of the feed hopper;
- (b) is securely fastened in position; and
- (c) blocks the feed track if it is swung or slid out of the normal protective position.

217. If there is a feed table—

- (a) the distance from the outer edge of the table to the drum should be at least 1.1 m (3 ft. 8 in.);
- (b) the table should not slope down towards the drum;
- (c) the side guards of the table should be at least 15 cm (6 in.) high;
- (d) the front edge of the table should be at least 1 m (3 ft. 3 in.) above the floor of the feeder's stand; and
- (e) the table should be securely fastened to the threshing machine.

218. If the feed table is designed for side feeding—

- (a) the side guards should be at least 20 cm (8 in.) high; and

- (b) the side guard on the feeding side should extend so far forward that the distance between its front edge and the beaters is at least 75 cm (2 ft. 6 in.).

219. On end-fed threshers—

- (a) the feeding end should be so designed that loose grain, chaff, etc., falls by itself on to the drum;
- (b) the far end of the feeding funnel should be not more than 30 cm (1 ft.) away from the circumference of the drum; and
- (c) in the feed opening there should be a suspended guard, the bottom of which is not more than 5 cm (2 in.) from the bottom of the feed opening.

### *Self-Feeders*

220. (1) Self-feeders should be provided with a disengaging device by which the feed can be stopped quickly and safely from the feeder's stand.

(2) When a self-feeder has been stopped it should not be possible for it to start again accidentally. •

221. If there is a self-feeder—

- (a) the knives should be protected by a feed table complying with the relevant requirements of paragraphs 217 and 218 or a cover complying with the relevant requirements of paragraph 216; and
- (b) the distance between the cutting parts of the knives and the edge of the feed cover or the feed table should be at least 60 cm (2 ft.).

### *Decks*

222. The deck of every thresher, on which a worker works and from which he is liable to fall more than 1.5 m (5 ft.), should be provided with a guard rail, rope, chain or fence at each end

and at the side of the deck which is not being used for the movement of material. It should be not less than 1 m (3 ft. 3 in.), nor more than 1.1 m (3 ft. 8 in.) in height above the deck and should be supported by uprights not more than 2.5 m (8 ft. 3 in.) apart, provided that one gap of not more than 50 cm (1 ft. 8 in.) may be left for access to the deck by workers.

223. Access to the threshing platform should be provided by a ladder conforming to the requirements of paragraphs 400 to 413 or stairs conforming to the relevant requirements of paragraphs 49 to 56.

224. Fixed ladders should be so installed that—

- (a) the distance from the rungs to the side of the threshing machine is at least 15 cm (6 in.); and
- (b) they are provided with one stile extending 1 m (3 ft. 3 in.) above the deck.

### *Operation*

225. Every device for stopping a prime mover which drives a thresher and every device for disconnecting the power to the driven machine should be so constructed and maintained that the power cannot be reconnected by vibration.

226. Where a prime mover or a thresher of which a prime mover is an integral part is controlled by two or more manually operated switches, they should be designed and connected in such a manner that, if the power at any one switch is disconnected, it should not be capable of being reconnected unless that switch is subsequently manually operated.

227. Threshing machines should be so installed that they are—

- (a) horizontal;
- (b) blocked in position; and
- (c) so aligned with the prime mover and protected that the transmission operates safely.

228. Work on and around threshing machines should be supervised by a competent person and the machine should not be started unless a clear signal has been given to all concerned.

229. Persons should not walk on the feed table, the feed cover, or covers over moving parts while the threshing machine is in operation.

230. If the material to be threshed jams, it should be released by pushing with a flexible appliance and not with the hand or foot.

231. On the threshing platform, material should not be laid in such quantity or manner as to prevent the safe movement of persons.

232. No pointed hook or spike should be used for, or form part of, any device for the attachment of a sack or bag to a thresher.

## FORAGE AND STRAW CUTTERS

### *General Provisions*

233. Forage and straw cutters should be so designed and installed as not to cause danger to—

(a) the machine operator; and

(b) persons bringing up or taking away material.

234. On new machines the guard of the cutters should be interlocked with the drive so that the guard cannot be opened while the machine is in motion and the machine cannot be set in motion while the guard of the moving parts is open.

235. The maximum safe speed of revolution of the cutter wheel or the cutter drum should be marked on the machine and should not be exceeded.

### *Feeds*

236. Feeds of forage and straw cutters should be—



- (a) so designed that the material to be cut does not jam or become entangled; or
- (b) provided with a device that disengages or reverses the machine if the material does jam or become entangled.

237. Feed tables of power-driven chaff cutters should be provided with a solid enclosure on the top and both sides over a distance of at least 60 cm (2 ft.) from the cutting point, or at least 50 cm (1 ft. 8 in.) measured horizontally from the centre of the lower feed roller.

238. Feed tables of hand-operated chaff cutters should be—
- (a) of adequate length to prevent danger; and
  - (b) provided with a solid enclosure on the top and both sides.

239. Feed hoppers should be—
- (a) so installed that the top is at least 1.2 m (4 ft.) above the floor or ground;
  - (b) provided with a suitably arranged stirrup guard or the like; and
  - (c) provided with a clear and durable notice warning against putting hands in the hopper.

240. Feed rollers should be so enclosed that workers are protected against dangerous contacts during operation.

241. Conveyors and chains should be protected against accidental contact with persons—

- (a) at the loading points;
- (b) if designed for reversing, at the discharge points; and
- (c) if necessary to prevent danger, over their entire length.

### *Cutter Wheels and Drums*

242. Cutter wheels and cutter drums should be provided with solid enclosures that effectively prevent persons from coming into accidental contact with moving parts.

*Operating Pedals*

243. If necessary to prevent injury, pedals should be provided with a solid guard.

*Chopper-blowers*

244. The drums should be so installed that no person comes into contact with the cutting and blowing blades.

245. The housing should be strong enough to withstand flying stones, flying pieces of mechanism and the like.

246. Piping should be of sound material, good construction and securely fixed in position.

*Forage and Straw Cutters Used with Combine Harvesters*

247. Forage and straw cutters should not be used with threshing machines unless an effective disengaging device is provided.

248. A forage and straw cutter used with a combine harvester should be so installed that—

- (a) when it is pulled by the combine harvester, the space between the top of the forage and straw cutter and the straw ejector of the combine harvester is adequately protected;
- (b) when the forage and straw cutter is mounted on the combine harvester, the hopper fits tightly to the combine harvester.

*Operation*

249. The material to be cut should not be stamped or pressed with the feet.

250. Persons should not reach into the machine with sticks or the like while the machine is running.

251. Well-fitting keys should be used for unscrewing and adjusting the cutters.

### PRESSES, BALERS AND BINDERS

#### *General Provisions*

252. Machines for pressing, baling or binding straw and hay should be so designed and installed that persons working at them or passing near them cannot—

- (a) fall into the feed hoppers, feed tracks, or ram tracks; or
- (b) come into contact with the dangerous parts of feeding or binding mechanisms and other moving parts.

253. When starting or stopping these machines the precautions established in paragraphs 140 to 144 and 225 to 226 should be observed.

#### *Covers and Feeds*

254. Covers and feeds should be so constructed or guarded as to prevent injury to workers while the machine is in operation.

#### *Knotting Mechanism*

255. Knotting mechanism should be protected by a guard that—

- (a) is of adequate strength;
- (b) extends beyond the ejector and below the level of the needle;
- (c) allows observation of the binding operation;
- (d) has no opening more than 5 cm (2 in.) wide; and
- (e) can be opened but not removed.

256. The knotter drive should have a disengaging device that—

- (a) can be easily and safely operated both when threading the needle and when working at the knotter;

- (b) effectively prevents accidental re-engagement; and
- (c) is interlocked with the knotter guard.

257. (1) Needles should be—

- (a) easily accessible for threading;
- (b) completely in sight; and
- (c) protected on one side.

(2) Needles should not be threaded unless the knotting mechanism has been disengaged.

### *Ejectors*

258. The ejector mechanism should be protected by a guard that—

- (a) is of adequate strength;
- (b) has no opening more than 5 cm (2 in.) wide;
- (c) can be opened but not removed; and
- (d) prevents a worker from stepping within the area of the discharge arms.

### *Operation*

259. Unless the machine has been stopped or the drive disengaged, persons should not—

- (a) reach into the feed opening;
- (b) walk on the cover; or
- (c) open the cover.

### CHOPPING, SHREDDING, CRUSHING AND GRINDING MACHINES

260. Chopping, shredding, crushing, grinding and similar machines should be so designed that persons loading and unloading the machine—

- (a) cannot come into contact with the moving parts; and

(b) do not have to handle the material by hand.

261. If the safety of persons cannot be ensured by design, accidental contact with moving parts should be prevented by protective devices such as hoppers, grids and railings.

262. Where necessary to prevent danger, rammers should be provided with a collar, or otherwise be so designed as to prevent a worker's hand from coming into contact with moving parts of the machine.

263. Hoppers should, as far as practicable—

(a) be so designed as to minimise the risk of the material jamming;

(b) be made of metal or other suitable material;

(c) have the top edges at least 1.2 m (4 ft.) above the ground or floor; and

(d) be adequately equipped with covers.

264. If necessary to prevent danger, the discharge openings of these machines and similar machines should be provided with suitable protective devices.

265. If chopping, shredding, crushing, grinding and similar machines are installed with the feed opening in or under the floor, the opening should be protected by railings conforming to the relevant requirements of paragraphs 27 to 29 or by a cover conforming to the relevant requirements of paragraphs 31 to 33.

## CHAPTER IX

## WOODWORKING AND METALWORKING MACHINES

## WOODWORKING CIRCULAR SAWS

*General Provisions*

266. Saws should be substantially constructed and properly maintained.

267. Woodworking circular saws should be provided with hood guards which—

- (a) cover the exposed part of the saw as much as possible;
- (b) have the plane of the saw blade clearly marked on them or allow a view of the cut;
- (c) are of adequate strength to protect the operator from accidental contact with the saw and from flying splinters or broken saw teeth; and
- (d) permit unhampered discharge of the sawdust.

268. Parts of woodworking circular saws underneath tables should be effectively guarded.

269. If riving knives are used on woodworking circular saws they should—

- (a) be slightly thinner than the cut and slightly thicker than the blade;
- (b) offer adequate resistance to bending, twisting, displacement and flying out;
- (c) extend from the table to 5 mm ( $\frac{3}{16}$  in.) below the top of the saw blade;

- (d) be securely fastened at the back of the saw and in accurate alignment with the saw; and
- (e) be adjustable so that the clearance between the saw and the riving knife above the table does not exceed 3 mm ( $\frac{1}{8}$  in.).

270. Riving knives on woodworking circular saws should be curved approximately to the contour of the saws with which they are used.

271. Woodworking circular rip saws should be provided with a riving knife conforming to the requirements of paragraphs 269 and 270 or with some other effective anti-kickback device.

272. Cross cutting saws for firewood, round timber billets, poles and the like should have a feeding appliance, such as a rocking frame or a roll table, provided with spikes or other devices that securely hold the wood in position.

273. Swing table saws should—

- (a) be of adequate strength and substantial construction;
- (b) be provided with a travel-limiting device that prevents them from advancing so far as to cause danger to the operator;
- (c) return automatically to the starting position after each travel;
- (d) have a saw path not more than 4 cm ( $1\frac{1}{2}$  in.) wide enclosed in solid guards; and
- (e) have the inner edge of the support for the wood at least 5 cm (2 in.) from the saw teeth.

274. Roll tables should—

- (a) be of adequate strength;
- (b) be secured against lifting or rolling out of their seating;
- (c) have a travel-limiting device that prevents them from moving so far forward that the teeth at the back of the saw are exposed; and
- (d) return automatically to the starting position after each travel.

275. Woodcutting circular saws that are used both for rip sawing and for cross cutting should comply with the requirements for both types of sawing.

### *Operation*

276. The floor or ground used by a worker operating a circular saw should be unobstructed and afford him a firm foothold.

277. Chips, splinters and the like should not be removed by hand from the blade or bench while the saw is in motion.

278. Bundles of faggots and the like should not be sawn unless they are bound on both sides of the cut.

279. Saw blades that are cracked or warped or have teeth missing or are otherwise defective or have been repaired by brazing or welding should not be used.

280. When rip-sawing small pieces of wood, the wood should be pushed with push sticks of adequate dimensions and not with the hand.

### BAND SAWS

281. On band saws the band wheels and the parts of the band not used for cutting should be enclosed in guards of adequate strength to retain flying bands.

282. On the working side of the band the guard should be adjustable to the size of the wood. All portions of the saw blade should be securely fenced except the portion of the blade between the bench table and the top guide.

283. Wherever practicable, new machines should be equipped with brakes.

### ABRASIVE WHEELS AND GRINDSTONES

284. No abrasive wheel should be used unless it has the maximum permissible number of revolutions marked on it.

285. Before being mounted, abrasive wheels should be—

(a) carefully inspected to make sure that they have not been damaged;



(b) suspended and lightly tapped to make sure that they ring clear.

286. Damaged or defective wheels and grindstones should not be used.

287. When mounting abrasive wheels and grindstones, packing of elastic material such as rubber, soft cardboard, felt or leather should be inserted between the wheel or the stone and the flanges.

288. When being mounted, abrasive wheels—

(a) should not be forced or hammered on to the spindle;

(b) should be firmly secured on the spindle; and

(c) should be kept well dressed and maintained.

289. Abrasive wheels should not be mounted on circular saw shafts or any other shaft or spindle not intended for them.

290. Abrasive wheels should be fitted with a protective hood.

291. During the operation of abrasive wheels the work rest should be adjusted as closely as possible to the wheel and not more than 3 mm ( $\frac{1}{8}$  in.) from the wheel.

292. During the operation of abrasive wheels—

(a) the maximum permissible number of revolutions marked on the wheel should not be exceeded;

(b) protective hoods should be adjusted to the wear of the wheel; and

(c) the eyes of the operator should be adequately protected by means of either screens or goggles.

293. Grindstones should not be operated at a speed greatly in excess of that obtainable by hand power.

294. Grindstones should be not left standing in water.

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## CHAPTER X

### HOISTING AND TRANSPORT EQUIPMENT

#### GENERAL PROVISIONS

295. All parts of hoisting and transport equipment should be—

- (a) of sound material, good construction and adequate strength;
- (b) maintained in good repair and working order.

296. Fixed hoisting and transport equipment should be—

- (a) fitted with devices to prevent over-running; and
- (b) provided with safety devices to ensure that in case of power failure or a break in the power supply the load will be held in position.

297. Fixed hoisting and transport equipment should be installed—

- (a) by a competent person;
- (b) so that it cannot be displaced by the load, vibration or other influences;
- (c) so that the operator is not exposed to danger from loads, ropes or drums; and
- (d) so that the operator can either see over the zone of operations or communicate with other persons at all loading and unloading points by signals or other adequate means.

298. Before it is put into operation, fixed hoisting and transport equipment should be inspected and, if necessary to prevent danger, tested by an officially recognised body or person.

299. Adequate clearance should be provided between vehicles, moving parts and loads of hoisting and transport equipment and—

- (a) fixed objects such as walls and posts; and
- (b) electrical conductors.

### HYDRAULIC LIFTING MACHINERY

300. (1) Only approved material should be used in the construction or repair of hydraulic systems, and the safe working load of the machine should be clearly indicated.

(2) Hydraulic lifting machinery should be equipped with such flow-regulating safety devices as to prevent uncontrolled operations through—

- (a) accidental contact with the operating controls; or
- (b) failure of the pressure supply system.

(3) Appropriate relief valves should be included in all systems to prevent overloading of the machine or failure of the equipment that could cause injury to the operator.

### ELECTRICAL MACHINERY

301. Electrically driven hoisting and transport equipment should be so installed that—

- (a) the starting device should return to “off” position when released; and
- (b) when auxiliary current is supplied, a short circuit in the auxiliary current system cannot lead to the motor starting or continuing to run, or the brake being released or remaining released.

### LIFTING MACHINERY

302. (1) Cranes, hoists, lifts and pulley blocks and all attached gear should be thoroughly and completely inspected by

a qualified person at least once every 14 months or at such other intervals as may be fixed by the competent authority.

(2) The inspection of cranes should include the lifting of a test load 25 per cent. in excess of the safe working load.

(3) After every inspection a test certificate should be drawn up by the competent person and the certificate should be kept available at the undertaking.

(4) The certificate should specify the state of the lifting machinery, the repairs required (if any) and the maximum safe working load.

(5) Chains, wire ropes and fibre ropes should be thoroughly examined every time they are taken out of storage and, if in continuous use, every three months.

(6) The following lifting tackle should not be used:

- (a) wire ropes when their strength is affected by broken wires, wear or corrosion;
- (b) fibre ropes when they show substantial deterioration;
- (c) chains, rings, hooks, shackles and swivels if they show signs of stretch, wear, cracks or open welds. •

(7) National laws or regulations or recognised standards of safety for cranes, hoists, lifts and all lifting tackle should be observed.

(8) The safe working load should be incised, stamped or marked at a conspicuous place and in a legible and durable manner on all hoisting and transport equipment before the latter is brought into use.

### *Controls*

303. (1) Controls of hoisting and transport equipment should—

- (a) be so situated that the driver at his stand or seat has ample room for operation and an unrestricted view, and remains

clear of the load and ropes, and that no load passes over him; and

(b) be provided, where necessary, with a suitable locking device to prevent accidental movement or displacement.

(2) Control handles should move in the direction of the resultant load movement.

304. (1) The stroke of hand levers should not exceed 60 cm (2 ft.).

(2) The stroke of pedals should not exceed 15 cm (6 in.).

(3) Pedals should have a non-slip surface.

### *Drums*

305. Hoisting drums should have a diameter of not less than 30 times the diameter of the hoisting wire rope.

306. Hoisting drums should be provided with a flange on each side, large enough to prevent the rope slipping off the drum.

### *Brakes*

307. Hoisting and transport equipment should be equipped with brakes capable of effectively arresting and holding a load at least one-and-a-half times the safe working load. A locking device should be provided if necessary.

308. Brakes should—

(a) act without shock and delay; and

(b) be provided with simple and easily accessible means of adjustment.

309. (1) Brakes operated by hand should not require a force greater than 16 kg (35 lb.) at the handle.

(2) Brakes operated by foot should not require a force greater than 32 kg (70 lb.) on the pedal.

*Storage of Loose Gear*

310. When not in use, loose gear such as chains, wire ropes and fibre ropes should be stored under cover in clean, dry, well-ventilated places where they are free from excessive cold or heat and protected against corrosion.

311. Loose gear in storage should be raised from the ground and not be in contact with damaging agents such as ashes, clinker or coke breeze.

*Pulley Blocks*

312. The diameter of the sheaves of pulley blocks measured at the outer circumference of the sheave should be at least six times the circumference of the rope to be used.

313. Blocks should be kept lubricated.

314. The sheaves and housing of blocks should be so constructed that the rope cannot become caught between the sheave and the sides of the block, and the rope should fit properly on the sheave to prevent distortion.

*Wire Ropes*

315. Wire ropes used for hoisting and transport equipment should be made of sound steel wire suitable for the work to be performed.

316. Wire ropes used for hoisting and transport equipment should have an effective breaking strength of five times the greatest anticipated stress in the rope, and of four times in the case of manually operated devices.

317. Wire ropes used for hoisting and transport equipment should consist of one length.

318. Wire ropes used for hoisting and transport equipment should be free from knots and kinks.

319. Ends of wire ropes should be seized or otherwise secured to prevent the strands from coming loose.

320. Fastenings of wire ropes should be carefully examined at regular intervals, and clips or clamps tightened if they show signs of loosening.

321. In order to keep wire ropes pliable and prevent rust they should be treated at regular intervals with suitable lubricants free from acids and alkalis.

322. Reverse bends in wire ropes should be avoided as far as practicable.

### *Fibre Ropes*

323. Fibre ropes for hoisting and transport equipment should be of good grade manilla (abaca) or other fibre of at least equal quality.

324. Before being put into use and while in use, fibre ropes for hoisting and transport equipment should be examined thoroughly, at intervals to be determined according to the nature of the work but not exceeding three months.

325. Fibre ropes should not be re-spliced.

326. Fibre ropes, should not be exposed to abrasion from rough surfaces, grit, sand, etc., or to corrosion by acids, alkalis, fumes, etc.

### *Chains*

327. Chains used for hoisting and transport equipment should be withdrawn from use whenever external defects are evident.

328. Chains should be repaired only by properly qualified persons having suitable equipment for the purpose.

329. Chains that are wound on drums or pass over sheaves should be lubricated at frequent and regular intervals.

330. Chains should not be—

- (a) hammered to straighten links or force them into position;
- (b) crossed, twisted, kinked or knotted;
- (c) dragged from under loads;
- (d) dropped from a height;
- (e) used to roll loads over;
- (f) subjected to shock loads; or
- (g) used for hoisting a load more than 2 m (6 ft. 6 in.), where possible.

331. Broken chains should not be rejoined by wiring links together, by inserting bolts between links, or by passing one link through another and inserting a bolt or nail to hold it.

332. Chains and their rings, hooks, shackles and swivels should be examined at frequent intervals for stretch, wear, gouge marks, cracks and open welds.

333. When individual links of hoisting or transport chains show excessive wear, or are bent, cut, gouged or cracked, they should be removed and replaced.

### *Operation*

334. Hoisting and transport equipment should be operated only by persons instructed in its use.

335. Adequate precautions should be taken to prevent hoisting and transport equipment from being set in motion by unauthorised persons.

336. Hoisting and transport equipment should be used only for the purposes for which it is suitable.

337. Loads should be securely attached.

338. (1) No load should be moved on hoisting or transport equipment unless the agreed signals have been given to and accepted by the operator.



(2) The signalling code should be posted up conspicuously at suitable places.

339. Loads should be raised and lowered smoothly, avoiding sudden jerks.

340. (1) Loads being hoisted or lowered should not pass or remain suspended over persons.

(2) No person should pass or stand under a suspended load.

341. Drivers should not leave hoisting or transport equipment unattended with power on or with a load suspended.

### *Maintenance*

342. Hoisting and transport equipment should be examined at suitable intervals, in accordance with national laws or regulations or recognised standards, and any defects found should be remedied before further use.

## TRACKLESS MOBILE CRANES

343. No trackless mobile crane should be used on a soft or uneven surface or on a slope unless its stability is ensured.

344. Trucks with cranes mounted on them should undergo officially recognised stability tests before being taken into service.

## WINCHES

### *General Provisions*

345. All parts of the framework for winches should be of metal.

346. Frames of winches should be securely anchored to substantial foundations.

347. There should be a fastening point for the rope at each end of a winch barrel, and the rope should be securely

fastened to the drum or barrel. There should be at least two full turns of hoisting rope on the drum when the load hook is in its lower position.

348. On double-speed winches, a positive means of locking the gear-shifting device should be provided.

### *Hand-Operated Winches*

349. (1) As a general rule, hand-operated winches should be so constructed that the maximum effort to be applied by any one person at the handle or handles does not exceed 10 kg (22 lb.) when the winch is lifting its maximum safe working load.

(2) In no case should this effort exceed 16 kg (35 lb.).

350. Winches operated by hand should be provided with—

- (a) ratchet wheels on the drum shafts and locking pawls, or self-locking worm gears, to prevent reversing while loads are being hoisted; and
- (b) effective braking devices for controlling the lowering of the loads.

351. Crank handles for hand-operated winches should be either—

- (a) so constructed that they do not turn while the loads are being lowered by means of the brake; or
- (b) removed before the loads are lowered.

352. Detachable crank handles for hand-operated winches should be secured against accidental removal.

### LIFTS

353. The materials, construction, installation, inspection and operation of lifts in storeplaces should comply with national regulations applying to lifts in industrial establishments.

## GRAIN AND FODDER CONVEYORS

354. Conveyors whose belts are provided with tines, teeth or the like should—

- (a) be adequately protected at the bottom reversing point; and
- (b) if necessary to prevent danger, have sides high enough to screen the tines, teeth, etc., during the return travel.

355. Extensible pneumatic conveyors should be provided with a reliable device that prevents the extensible part from dropping inadvertently.

356. Band-cutting mechanisms on conveyors should be adequately guarded.

357. Precautions should be taken against the overturning or collapsing of conveyors.

## LIGHT RAILWAYS

358. (1) Light railway tracks should be installed with due regard to the speed, gradients, curves, loads and bearing capacity of the ground so as not to cause danger and so as to ensure a clearance of 60 cm (2 ft.) between the sides of cars and any fixed object.

(2) Railway tracks should not constitute a tripping hazard in yards or warehouses.

359. Turntables should be capable of being blocked.

360. Adequate precautions should be taken to prevent collisions at level crossings and other places where there is regular traffic.

361. Vehicles that are moved singly should, if necessary to prevent danger, be provided with adequate brakes.

362. Vehicles should be so designed as to allow safe coupling and uncoupling.

363. Tipping cars should have blocking devices for the buckets or troughs.

## OVERHEAD CABLEWAYS

*Installation*

364. Haulage winches should comply with the requirements of paragraphs 345 to 348.

365. Ropes should comply with the relevant requirements of paragraphs 315 to 322.

366. (1) All the loading and unloading points should be connected by a telephone or other means of communication.

(2) If communication is by signals, the meaning of the signals should be indicated by conspicuous notices at each point.

367. Platforms for operating and attending the cableway should—

(a) be of sound construction;

(b) be provided with safe means of access;

(c) be safe to walk on; and

(d) have open sides fenced in accordance with the requirements of paragraphs 27 to 29.

*Operation*

368. An overhead cableway should not be operated in a high wind or an electrical storm.

## ROPE HAULAGE

369. Winches should comply with the provisions of paragraphs 345 to 348.

370. Ropes should comply with the provisions of paragraphs 315 to 322.

371. If necessary to prevent danger, hauled vehicles should be prevented from running back by means of sprags or other suitable devices.

372. Ropes should be guided by rollers or other suitable devices but not with bare hands.

373. No person should stand in an angle formed by a haulage rope.

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## CHAPTER XI

## PRESSURE VESSELS

## GENERAL PROVISIONS

374. Pressure vessels, fired or unfired, for liquids, gases or vapours should—

- (a) be of sound material, good construction and adequate strength;
- (b) conform to any national standards that may be applicable, or to the I.L.O. *Model Code of Safety Regulations for Industrial Establishments for the Guidance of Governments and Industry*;
- (c) be maintained in good repair and good working order; and
- (d) be thoroughly and completely inspected at least once every 14 months by a competent person or as fixed by national regulations.

## COMPRESSED GASES

375. Cylinders, drums and other containers in which there is compressed gas or gas liquefied or dissolved under pressure should be—

- (a) protected against undue heat and cold; and
- (b) so fastened as to prevent mechanical damage due to falls, blows, and the like, whether in storage or use.

376. (1) When not in use, gas cylinders should have the valves covered by a protective cap.

(2) Empty cylinders should be stored separately from cylinders containing gas.

## PRESSURED SPRAYING EQUIPMENT

377. As regards construction, testing, maintenance, and repair, pressured spraying equipment should comply with national regulations or recognised standards.

378. Pressured spraying equipment should be of material that is proof against corrosion by the substances for which it is intended and used only for purposes for which it has been constructed.

379. Such equipment should have the maximum safe pressure conspicuously marked on it, and be provided with suitable pressure gauges and safety valves.

380. It should not be possible to remove removable parts of this equipment, such as spraying nozzles, unless the pressure has been discharged.

381. The setting of safety valves and reducing valves should be protected against unauthorised alteration.

382. Aerosol spray cans should not be exposed to excessive temperature.

383. Aerosol spray cans should be disposed of by burying in the ground and in any case not by burning.

## **CHAPTER XII**

### **HAND TOOLS, IMPLEMENTS AND LADDERS**

#### **HAND TOOLS AND IMPLEMENTS**

384. Hand tools and implements should be of good quality and appropriate for the work for which they will be used. Implements should be so designed as not to cause injury or undue fatigue to the operator or to the draught animals used with them.

385. Hand tools and implements should be used only for the specific purpose for which they were designed.

386. Instruction in the proper safe operation of tools and implements should be given to the operators. To meet the needs of developing countries, well-illustrated manuals in simple language should be available. Visual aids should be employed if necessary. Care should be taken to follow manufacturers' instructions for proper operation and maintenance of the equipment.

387. Wooden handles of hand tools and implements should be of hard, straight-grained wood free of cracks and knots.

388. Handles of hand tools and implements should be fitted carefully to the heads, kept securely fastened to them, and finished smooth to the touch.

389. The handles of large knives, billhooks and similar cutting tools should have a projection that prevents the hand from slipping on to the blade.

390. Hand tools and implements should be examined at suitable intervals and should not be used if found defective.



391. Hand tools and implements should be tempered, dressed and repaired by competent persons.

392. The cutting edges of cutting tools should be kept sharp.

393. Heads of shock tools should be dressed or ground to a suitable radius on the edge as soon as they begin to mushroom or crack.

394. Hand tools and implements when not in use should not be left lying in fields, yards, passageways, stairways, or other places where persons have to work or pass, or on elevations from which they might fall on persons below.

395. The edges or points of sharp-edged or sharp-pointed hand tools, such as axes, or implements, such as scythes, pitchforks, billhooks and rakes, should be so placed, or sheathed, as to prevent danger during transportation.

396. Sharp tools should not be carried on bicycles unless they are so protected and so fixed on the bicycle as not to cause danger.

397. Sharp-edged and sharp-pointed tools and implements should not be—

- (a) thrown from person to person;
- (b) used in dangerous proximity to other persons or moving machinery; or
- (c) used as props, rammers, prods or the like.

398. When using cutting tools, workers should cut away from the body.

399. Sharp-edged and sharp-pointed hand tools and implements should be so stored that—

- (a) the edges and points are out of reach or are otherwise prevented from causing danger;

- (b) they cannot fall; and
- (c) they cannot cause danger to the person removing them.

## LADDERS

400. (1) All metal, wooden or other ladders that are used by workers should be of sound material, good construction and adequate strength for the purpose for which they are intended.

(2) Stiles and rungs of wooden ladders should be constructed with the grain running lengthwise.

401. (1) Wooden rungs should be fitted into the stiles by rabbet, notch or mortise, unless the rungs are through tenoned and wedged in the stiles.

(2) Tie rods, if required, should be fitted not more than 60 cm (2 ft.) from each end and not more than 2.4 m (8 ft.) apart throughout its length.

402. The intervals between rungs should be—

- (a) equal; and
- (b) not less than 25 cm (10 in.) or more than 35 cm (1 ft. 2 in.). •

403. Wherever possible, ladders should extend 1 m (3 ft. 3 in.) above the top landing place unless there is an adequate handhold extending to an equivalent height.

404. Portable ladders should be properly placed and secured in place. They should not stand on a loose or slippery base unless provided with one of the following non-skid devices:

- (a) metal hooks securely attached to the extension of the uprights and resting on a bar securely attached at the level to which access is required;
- (b) non-slip shoes or spikes secured at the bottom of each upright;
- (c) for the gathering of fruit and similar operations, trestle ladders should be used so as to avoid bearing on the tree itself. Where this is not possible, a metal plate about 10 cm

(4 in.) wide should be firmly affixed to the upper extremity. This should form an arc between the two uprights and have a rough indented surface which can penetrate the bark of the tree so as to prevent lateral slipping.

405. No ladder should be used which has—

- (a) only one upright;
- (b) one or more missing rungs; or
- (c) one or more defective rungs or uprights.

406. Portable ladders should be placed at an angle such that the horizontal distance between the foot of the ladder and the structure against which it rests is equal to one-quarter of the length of the ladder.

407. The following special provisions should be made for trestle ladders:

- (a) an optimum separation between the constituent sections should be constantly maintained by means of toggle joints or chains of a suitable length and strength;
- (b) workers should avoid straddling the top of a ladder or working while standing on the topmost rungs.

408. All ladders whatever their construction must be properly maintained:

- (a) wooden ladders should not be painted but should be treated with a preservative such as linseed oil;
- (b) ladders constructed of steel should be periodically given a coating of rust-proof paint.

409. Portable wooden ladders should be stored in a dry, well-ventilated place and preferably hung on wall-brackets; prolonged exposure to weather should be avoided as far as possible.

410. Apart from the provisions of paragraphs 49 to 56 inclusive, fixed ladders forming an angle of less than 30° with the vertical should satisfy the following conditions:

- (a) the distance from the back of the rungs to the nearest fixed object is at least 15 cm (6 in.);
- (b) the distance from the front of the rungs to the nearest fixed object on the climbing side of the ladder is at least 75 cm (2 ft. 6 in.);
- (c) a clearance of at least 38 cm (1 ft. 3 in.) must be left from the centre line of the ladder on either side across the front of the ladder;
- (d) ladders of more than 5 m (16 ft.) in length should be provided with a cage having a maximum diameter of 60 to 75 cm (2 ft. to 2 ft. 6 in.) and installed at a position of 2.5 m (8 ft.) from the ground or starting platform and upwards;
- (e) ladders used for climbing to heights of over 9 m (30 ft.) should be installed in alternated sections ending on landing platforms.

411. Landing platforms for ladders in tower silos or the like should be spaced no more than 3 m (10 ft.) apart.

412. Workers using ladders should—

- (a) leave both hands free for climbing up and down;
- (b) use a safety attachment when carrying any heavy or bulky article; and
- (c) avoid wearing slippery rubber boots or shoes.

When climbing up or down they should always face the ladder.

413. (1) Ladders should be checked at regular intervals and should not be used if defective.

(2) Ladders in a bad state of repair should be destroyed.

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## CHAPTER XIII

## VEHICLES

## GENERAL PROVISIONS

*Construction*

414. Vehicles should be provided with brakes to control the load effectively and should be in accordance with national laws or regulations or recognised standards.

415. If there are brakes on a trailer they should be so constructed that the driver can apply them without being obliged to turn round.

416. Vehicles used at night should be provided with head-lights and tail lights, suitable for public roads and/or field.

417. Vehicles using public roads should comply with official traffic regulations.

418. Vehicles on which drivers or brakesmen have to travel should have a safe seat for each person travelling.

419. Drivers' and brakesmen's seats should—

- (a) make a comfortable posture possible;
- (b) have a backrest, bar guard, footboard and, if necessary to prevent danger, side rests; and
- (c) be provided with safe steps for climbing on and off.

420. Vehicles used for transporting workers should comply with the regulations applicable to them. They should have fixed

seats for all workers transported and, if necessary, a ladder or steps for the workers to climb on and off.

421. (1) Every dump truck body should be provided with a device for securely locking it in the raised or the lowered position.

(2) Locking devices should—

- (a) be easy to operate; and
- (b) not require persons to lean under the floor of the body when locking or unlocking them.

422. Single-axle vehicles should, if necessary to prevent danger, be secured against accidental tipping up.

423. Bicycles and motor cycles upon which hand tools, implements, and similar loads may be conveyed should be provided with devices for securing the loads so that they cannot cause injury or hamper steering and braking.

424. If coupling devices are underneath the frame of vehicles they should be safely accessible.

425. Movable backs or sides of vehicles should be provided with devices that prevent them from moving accidentally.

426. Stanchions on vehicles should not have sharp points.

### *Operation*

427. No person should leave the controls of a tractor or a self-propelled vehicle while it is moving.

428. While a vehicle is moving no person should—

- (a) stand or sit in an unsafe place such as a shaft, ladder, top, side, roof, trailer bar, mudguard, or tall load;
- (b) climb from one vehicle to another;
- (c) jump on or off; or
- (d) apply skids.

429. Stopped vehicles should, if necessary to prevent danger, be blocked—

- (a) by applying the brakes, placing chocks, or other effective means; and
- (b) also by tying up the reins in the case of animal-drawn vehicles.

430. When coupling vehicles—

- (a) if the motor vehicle is backed, the trailer should be blocked by the brake or chocks;
- (b) if a trailer is pulled on to the motor vehicle, the trailer should, if necessary to prevent danger, be kept under control by the brake or chocks; and
- (c) no person should remain between the motor vehicle and the trailer and, if practicable, the draw-bar should be handled with a jack or hook or other suitable device.

431. When uncoupling vehicles, both vehicles should be blocked by brakes or chocks.

432. When motor vehicles are left unattended—

- (a) the engine should be stopped;
- (b) the brakes should be applied; and
- (c) the transmission placed in its lowest gear or in reverse.

## TRACTORS

### *Construction*

433. Tractors should be provided with a footboard or steps and hand-holds for safe and convenient access to the operator's platform or cab. These should conform to national regulations. Tractors should be provided with seats for the driver and any passengers that may be allowed. If a cab has been provided the extra seats should be inside the cab.

434. Drivers' seats should be adequately sprung or suspended and have a backrest designed to provide a comfortable position, not inducing fatigue.

435. Both seat and backrest should be adjustable to the driver's height and weight.

436. Tractors should be provided with a cab or a frame so arranged that—

- (a) the driver's field of vision is restricted as little as practicable;
- (b) the driver can easily get off the tractor; and
- (c) the cab is suitably ventilated and the roof is painted a bright colour to reflect the sun's rays.

437. Tractor cabs or frames should be of sufficient strength and be adequately fixed to the tractor so as to provide satisfactory protection for the driver and passengers inside the cab in case the tractor overturns sideways or backwards.

438. Tractor cabs should be provided with—

- (a) a windscreen and windows of clear transparent material that does not break into sharp fragments in a crash; and
- (b) a power-driven wiper.

439. The tractor exhaust pipe should be—

- (a) so placed as to prevent the build-up of harmful gases and fumes around the tractor driver; and
- (b) equipped with a spark arrester.

440. All practicable steps should be taken to reduce the noise and vibration associated with the running of the tractor. In any case a silencer should be added to the exhaust system.

441. Pedals should—

- (a) be sufficiently wide;
- (b) be provided with a rim to prevent the foot from slipping off sideways;
- (c) have a rough surface so as to afford a good foothold;
- (d) be perforated so as to allow bits of earth to fall through; and
- (e) have a footrest underneath.



442. It should be possible to couple separate left and right wheel brakes, unless a third pedal is provided that acts on both wheels.

443. The coupling pedal should be on the left and the brake pedals on the right.

444. It should be possible to lock the brakes on when the tractor is stationary, either by use of the coupling pedal or by a parking brake lever.

445. Tractor belt pulleys should be so situated or protected that—

- (a) if the belt breaks or slips off, it cannot strike the driver; and
- (b) there is no risk of accidental contact with the nip point.

446. Tractors should be equipped with mudguards that—

- (a) adequately protect the driver from contact with the back wheels; and
- (b) prevent fouling of the driver's seat.

447. Tractors with adjustable track widths should have the wheels set as far apart as practicable.

448. (1) Draw gear, including coupling pins, should be of adequate strength to hold the heaviest load that the tractor may haul.

(2) Coupling pins should have a device that prevents them from being lifted accidentally out of the coupling and where necessary a span chain should be provided and used.

449. The hitching point of a tractor should be located in accordance with the manufacturer's specifications.

450. Tractor power take-offs should be so guarded that while the engine is running—

- (a) if the power take-off is in use, it is covered on top and at both sides by a shield attached to the tractor that prevents any person from coming into contact with the power take-off; and

(b) if the power take-off is not in use, it is completely enclosed in a cover attached to the tractor.

451. A power take-off shield and cover should be capable of supporting a weight of 120 kg (265 lb.) when attached to the tractor.

452. A power take-off shaft, including the universal joint, should, while in motion, be completely enclosed in a guard that prevents any person from coming into contact with the shaft.

453. A protective device for a power take-off and power take-off shaft should be—

- (a) as far as practicable in one unit;
- (b) substantially constructed;
- (c) firmly secured in position; and
- (d) maintained in good condition.

454. (1) Tractors should be equipped with a lighting installation complying with public traffic regulations.

(2) The installation should include headlights, both on the tractor and the implement being drawn, throwing light forward on roads and also backwards on fields.

(3) Tractors to be used in the field in the dark should be suitably equipped with lights to permit safe operation.

455. Starting switches on tractors should be controlled by rotary or pull-out switches and not tumbler switches, so as to reduce the risk of accidental starting up. The starting mechanism should be interlocked with the gear in such a manner as to prevent the engine from starting if left in gear.

456. (1) Tractors should be provided with self-starting equipment.

(2) If a tractor has a hand crank it should comply with the requirements of paragraph 158.

457. Tractors should be equipped with a first-aid box and a suitable fire extinguisher, securely attached and suitably placed.

458. Tractors should be equipped with electrical audible signals.

459. Easily removable gratings or similar devices should be provided in order to facilitate cleaning of the radiator core.

### *Operation*

460. Only adequately trained persons should drive tractors.

461. Tractors should not be operated or started up in buildings, unless conditions are such that there is no risk of fire or contamination of the air.

462. Tractors should not be driven faster than is safe, having regard to prevailing conditions.

463. Tractors should not haul loads so heavy as to prevent effective control on any sloping, uneven, soft or otherwise unsafe ground on which they will have to travel.

464. Tractors should not haul heavy vehicles or machinery downhill unless these vehicles can be adequately braked.

465. When driven alongside ditches, banks or steeps, tractors should leave a sufficiently wide space to avoid soft ground and the consequent danger of overturning.

466. Tractors should be driven with particular care—

- (a) over sloping, uneven, soft, slippery, or otherwise unsafe ground;
- (b) alongside ditches or banks;
- (c) when turning;
- (d) when reversing; and
- (e) when driven with any attachment that drastically raises or changes the tractor's centre of gravity.

467. The gear lever should not be put in neutral when descending a steep slope. / The operator should select the right gear before attempting to descend or ascend.

468. When slowing down or stopping, brakes should be applied equally to the two back wheels.

469. If necessary to prevent rearing, the front of the tractor should be weighted.

470. When a tractor with a winch is used for pulling, the tractor should be properly aligned in the direction of the pull.

471. Tractors should not carry—

- (a) any person for whom there is not a safe seat;
- (b) children; or
- (c) loose objects unless a safe place is provided for them.

472. When filling the fuel tank the provisions of paragraph 96 should be complied with.

473. Radiator lids should be removed in such a way as to avoid danger of scalding from steam or boiling water. If mechanical means are used to control the engine temperature, such devices should be controlled from the driver's seat.

474. Tractors should not push trucks, machines, etc., unless an adequate and securely fastened push-bar is used for the purpose.

475. Persons should not get down from tractors unless—

- (a) they are stationary; and
- (b) there is adequate and safe landing space.

476. Tractor drivers should wear—

- (a) well-fitting footwear; and
- (b) snug-fitting clothing.

477. Tractor garages should comply with the relevant provisions of paragraphs 80 to 96.

478. Tractors should be maintained in good running order, particular attention being paid to brakes, steering gear and tyres. Worn tyres and parts should be replaced.

479. Tractor brakes should be inspected and, if necessary, adjusted at frequent intervals.

480. Right and left brakes should be so adjusted that braking is equal on the two back wheels.

481. The cab, pedals, footrests and steering gear of tractors should be kept clean.

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## CHAPTER XIV

## ANIMALS

## GENERAL PROVISIONS

482. Animals should be treated kindly and handled gently; they should not be teased.

483. Particular care should be taken not to irritate females during periods of heat, gestation and suckling.

484. When animals are being led, the lead should not be wrapped round the wrist or waist.

485. Animals should not be led by persons riding on bicycles or similar vehicles.

486. Care should be taken that harness is comfortable and, in particular, does not abrade or tear the animal's skin.

487. When putting on or taking off bridles, halters, or harness the attendant should—

(a) first tether the animal;

(b) keep clear of the head and feet; and

(c) leave himself ample space to jump clear.

488. Large animals should be warned by calling or otherwise when they are being approached.

489. Animals known to bite should be muzzled when not in the stall.

490. Injured animals and other animals requiring treatment should be reliably secured before being treated.

491. Cattle should, as far as reasonable, be dehorned, and boars should have their tusks removed.

492. Cattle should not be ridden.

493. In accordance with national laws or regulations, cattle should be tested at suitable intervals for brucellosis, tuberculosis, and other diseases communicable to human beings.

494. Water, soap, disinfectants and towels should be provided in places where animals that are, or are suspected of being, infected are kept.

495. Persons with skin injuries should not handle animals that are, or are suspected of being, infected.

496. Persons handling animals that are, or are suspected of being, infected should disinfect their hands and top clothing after every occasion of contact with the animals.

497. Persons who have itching or burning patches of skin or painful blisters should consult a physician without delay to see whether they are infected with anthrax.

498. Persons assisting in foaling, calving, farrowing, lambing and similar operations should wear rubber gloves and take any other suitable precautions against infection.

499. Carcasses of animals slaughtered because of internal disease should be handled and disposed of in conformity with official regulations.

### BULLS

500. Bulls should always be treated as dangerous animals.

501. The horn tips should be cut and kept blunt (partial dehorning).

502. Bulls should be handled only by strong persons, between the ages of 18 and 60, who have been properly trained in their handling.

503. (1) Bulls should be fitted before they are ten months old with strong nose rings of copper or other material that does not easily crack or break.

(2) Rings that have become too small or have worn out should be replaced.

504. Bull stalls should—

- (a) be well ventilated, well lit and protected from extremes of heat and cold;
- (b) be provided with clean, dry bedding;
- (c) have a non-slippery floor;
- (d) have doors and fastenings secured against lifting and strong enough to withstand any strain the bull can put on them;
- (e) have safe means of escape, such as gaps or baffles, for persons attending the bull; and
- (f) be so arranged that the bull can be fed and secured from outside.

505. (1) Bulls should be led by a strong chain or rope fastened to the halter and a strong pole or staff attached to the nose ring.

(2) The pole or staff should be attached to the ring by a clip, snaphook or other device that does not require the attendant to come close to the bull.

506. (1) When bulls are tethered the tethering line should pass through the nose ring but not be fastened to it.

(2) Tethering lines should allow the bull freedom of movement without any risk of entanglement.

507. Cows should be serviced in strong pens such that—

- (a) the animals can be controlled from the outside; and
- (b) there is a safe exit for any person who has to enter the pen.

508. Any person endeavouring to separate a bull from a herd of cows should be accompanied by a second person who can come to his help if necessary.

509. Dogs should be kept away from bulls as they tend to aggravate and antagonise them.



510. Where a bull is at large in a herd, fencing and gates should be constructed so as to prevent the animals from finding their way out.

511. A person leading a bull should—

- (a) lead one at a time; and
  - (b) be equipped with a ductile stick and, when appropriate, with a pole.
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## CHAPTER XV

### DANGEROUS SUBSTANCES

#### GENERAL PROVISIONS

512. Corrosive, flammable, toxic or explosive substances, including all pesticides, should be handled and used only by persons who have been thoroughly instructed in their use, the risks they may cause and the precautions that should be taken to avoid such risks.

513. Corrosive, flammable, toxic or explosive substances and all pesticides should be stored in special magazines or boxes, the door or lid of which should bear a conspicuous indication of the dangerous nature of the substances stored.

514. All containers for dangerous substances should bear a conspicuous indication of the nature of the contents and the appropriate I.L.O. symbol for these substances.

515. (1) The magazines or boxes should be kept shut and locked, so that they are inaccessible to unauthorised persons.

(2) The dangerous substances should be kept in their original containers. In no circumstances should they be transferred to bottles or vessels that might lead the contents to be taken for food or drink.

(3) In magazines or boxes for storing dangerous substances, no other substances except chemical fertilisers may be stored. No clothing or equipment should be kept in them.

516. Vessels and utensils used for storing, measuring, mixing, or preparing dangerous substances should not be used for any other purpose. These vessels and utensils should be clearly distinguishable from the domestic types.

517. If harmful or obnoxious fumes, gases or dusts arise in enclosed rooms, the latter should be adequately ventilated. If elimination is not practicable, the number of workers who remain in the room should be as small as possible and workers should be equipped with suitable protective equipment.

518. Toxic or corrosive substances should not be handled by workers who are known or suspected to be affected by them.

## TOXIC SUBSTANCES

### *General Provisions*

519. Pesticides, toxic fertilisers and other toxic substances should not be entrusted to persons who, because of immaturity, mental illnesses, weak intelligence, drunkenness, or infirmities, might cause danger to themselves or other persons.

520. Pregnant women should not be employed on work with toxic substances.

521. Persons generally working with toxic substances should have pre-employment and periodical medical examinations by a physician who is aware of the risks to which they are exposed.

522. Persons using toxic substances should reduce their alcoholic intake, and those using substances which may elicit a strong reaction to alcohol, such as calcium cyanamide, should totally abstain from alcoholic drinks ten hours before and 12 hours after any operation with these substances.

523. (1) All containers of toxic substances should state on the label—

- (a) the safety precautions to be taken in handling and use;
- (b) the nature of the early symptoms indicative of poisoning;
- (c) the immediate first-aid method to be instituted in the event of over-exposure, and suitable antidotes; and
- (d) an indication of the methods of safe disposal of containers.

(2) These labels should be approved by the competent national authority.

524. When in use toxic substances should not be left unattended.

525. The exterior of all tanks and other containers for toxic substances and, when not in use, appliances for spraying or spreading toxic substances should be decontaminated as far as practicable.

526. The openings of all tanks and other containers in which toxic substances are kept should be kept securely closed, except when they are being filled or emptied.

527. Tanks and piping for toxic substances should—

- (a) be protected against mechanical damage; and
- (b) if necessary to prevent danger, be provided with stop valves or other devices that effectively prevent or limit escape of the substances.

528. As far as practicable, toxic substances should be prepared for use by mechanical means in closed vessels. •

529. If mechanical preparation is impracticable—

- (a) tall vessels and long-handled implements should be used so as to reduce the risk of splashing; and
- (b) vessels should not be filled to a point that creates a risk of splashing.

530. Vessels used in the preparation of toxic substances should, if practicable, be unbreakable.

531. Persons mixing and diluting toxic liquids and powders should wear protective clothing and boots, gloves and goggles, or a face shield and, when mixing parathion or other highly toxic substances, impermeable clothing and an appropriate respirator in addition.

*Transport*

532. Due care should be taken to prevent spillage of toxic substances and contamination by them, and transport should take place only in suitable vehicles so as to ensure protection to the driver and other users of the vehicles.

*Usage*

533. When organic mercurial fungicides are used for seed treatment—

- (a) adequate protective measures should be taken even when the process takes place outdoors; and
- (b) adequate ventilation should be provided in addition to other protective measures when the process is carried out indoors.

534. The surplus treated seed should in no circumstances be fed to humans or animals but should be destroyed in such a manner as to prevent human and animal contact with the residue or the smoke from such destruction.

535. Where necessary, persons using toxic substances should work in rotation so as to limit the duration of exposure, and working time should be reduced.

536. Where practicable, toxic fertilisers should be spread by mechanical means.

537. Persons spraying or spreading toxic substances should wear protective clothing and boots, gloves, goggles, or a face shield and, when spraying parathion or other highly toxic substances, impermeable clothing and an appropriate respirator in addition.

538. Persons using pressure spraying equipment should—

- (a) follow the manufacturer's instructions for safe use; and
- (b) handle the appliances carefully and protect them from mechanical damage.

539. Workers using toxic substances should not—

- (a) blow out blocked spray pipes or nozzles with the mouth; or
- (b) spray or spread them in a high wind, so that the drift of the spray falls on themselves.

540. Persons handling crops that have been sprayed with toxic substances should wear suitable protective clothing and equipment as long as is necessary to prevent danger.

541. When toxic substances are sprayed in a greenhouse the employer should, immediately after spraying, have notices posted on all the doors of the greenhouse, prohibiting entry by any person not wearing protective clothing as required by paragraph 537. The notices should state how long the closed areas are to remain closed before entry is permitted of persons without such protection.

### *Hygiene*

542. The employer of persons using toxic substances should provide them with—

- (a) the necessary protective clothing and equipment maintained in good condition;
- (b) suitable and separate accommodation for keeping protective clothing and equipment and for workers' personal clothing;
- (c) suitable washing facilities including clean water, soap and individual towels;
- (d) wholesome drinking water and clean drinking vessels;
- (e) suitable facilities for keeping their food and drink free from contamination by toxic substances; and
- (f) suitable facilities for washing and cleaning personal protective clothing and equipment. If highly toxic substances are used, laundering should be done by specially instructed workers.

543. Persons using toxic substances should not eat, drink or smoke unless—

- (a) they have removed their protective clothing;
- (b) they have washed their hands and face and rinsed their mouths; and
- (c) they are outside an area in which they might be affected by the toxic substances.

544. Persons using toxic substances should—

- (a) deposit their personal clothing not worn during working hours in the accommodation provided by the employer for the purpose;
- (b) at the end of each day's operations, remove all protective clothing and deposit it in the special accommodation provided; and
- (c) at the end of each day's operations, wash their hands, faces and necks and shower if highly toxic substances are used.

545. (1) Protective clothing should be laundered or otherwise thoroughly cleaned at least once a week or more frequently, depending upon the nature of the contamination and the material used in the protective clothing.

(2) Gloves should always be washed both inside and outside after use.

(3) Respirators and dust masks should be cleaned and ventilated at the close of each day's operations. Respirator cartridges should be replaced if any chemical smell is detected while in use and in all cases according to the manufacturer's specifications.

546. Barrier creams should not be relied upon as the sole means of protection against toxic substances.

#### *Maintenance of Appliances*

547. (1) Appliances used for spraying or spreading toxic substances should not be repaired unless—

- (a) they have been thoroughly washed with water and decontaminated;
- (b) the person making the repairs is wearing the protective clothing and equipment required for spraying or spreading toxic substances.

(2) To clear a blocked nozzle the person operating the spray should first stop the spray.

548. (1) When washing appliances for spraying or spreading toxic substances care should be taken not to contaminate wells, ponds and streams.

(2) When filling these appliances, back-siphoning to the water supply should be prevented.

549. Persons washing or cleaning appliances that have been used with a toxic substance should wear impermeable clothing and boots and goggles, or a face shield.

### *Disposal of Unwanted Material*

550. (1) Unwanted toxic substances and empty cases, boxes, bottles and other containers that have contained toxic substances should be—

- (a) returned to the supplier if practicable; or
- (b) buried deep in the earth away from springs and other water courses; or
- (c) burned in such a way that persons cannot be endangered by the smoke.

(2) In no case should toxic substances or empty containers be left lying about in fields, yards, etc.

551. Toxic substances should not be thrown into ponds, streams or drains.

552. (1) Toxic substances and chemicals that have lost their potency should be destroyed.



(2) If large quantities of these substances are to be destroyed the competent authority should be consulted.

*Anhydrous Ammonia*

553. Anhydrous ammonia should only be stored in or used with equipment specifically designed for the purpose and with no brass and copper fittings.

554. Before equipment for anhydrous ammonia is put into use—

- (a) it should be tested for loose connections, valve operation and watertightness in general;
- (b) the manufacturers' instructions should be followed.

555. Pipe lines for anhydrous ammonia should have pressure relief valves. Hoses should have bleed valves.

556. Tanks for anhydrous ammonia should—

- (a) be situated at a safe distance from buildings, fire hazards and traffic;
- (b) be protected against solar heat and mechanical damage; and
- (c) not be more than four-fifths full.

557. Tanks for anhydrous ammonia should be welded or repaired only by competent persons.

558. Equipment for anhydrous ammonia should be properly maintained and in particular—

- (a) settings of safety valves should be correctly maintained;
- (b) hoses without safety valves should be drained after use;
- (c) rubber hoses should be stored in a cool, dry place; and
- (d) valves should be kept tightly closed and protected against mechanical damage.

## CORROSIVE SUBSTANCES

559. Bottles and other fragile containers for corrosive liquids should be enclosed in baskets or otherwise suitably protected against breakage.

560. Corrosive liquids should, when practicable, be transferred by pumping, and adequate precautions should be taken to prevent spilling and splashing.

561. Persons handling corrosive liquids should wear corrosion-proof protective equipment.

562. (1) When concentrated acid is diluted the acid should be poured into the water and not the water into the acid.

(2) The mixing should be made slowly and the solution stirred.

## EXPLOSIVES

563. The transport, storage, handling and use of explosives for ground clearance, opening ditches, tree planting, soil blasting and tree removal, or any other use in agriculture, should comply with national regulations or with approved or recognised standards.

564. Detonators, fuses, wiring and other blasting equipment should conform to specifications laid down in national laws and recognised standards.

565. Explosives should be handled only by trained and experienced persons.

## RADIOACTIVE SUBSTANCES

566. Every effort should be made to reduce to the lowest practicable level the exposure of workers to all external or internal sources of ionising radiations. No person should wilfully and unnecessarily expose himself or be exposed, without adequate protection, to ionising radiations.

567. Maximum permissible doses of ionising radiations which may be received from sources outside or inside the body and maximum permissible amounts of radioactive substances which can be taken into the body should be fixed for various categories of workers with due regard for the recommendations of the International Commission on Radiological Protection or of other competent organisations.

568. Workers under the age of 18 should not be engaged in agricultural work involving ionising radiations. However, workers between 16 and 18 years of age may be engaged in such work for purposes of training, provided competent supervision is exercised.

569. Appropriate warnings should be used to indicate the presence of hazards from ionising radiations. Any relevant information that is necessary should be supplied to the workers. All workers directly engaged in radiation work should be adequately instructed, before and during such employment, in the precautions to be taken for their protection, as regards their health and safety, and the reasons therefor.

570. Appropriate monitoring of workers and places of work should be carried out in order to measure the exposure of workers to ionising radiations and radioactive substances, with a view to ensuring that the applicable levels are respected.

571. All workers directly engaged in radiation work should undergo an appropriate medical examination prior to or shortly after taking up such work and should undergo further medical examinations at appropriate intervals.

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## **CHAPTER XVI**

### **ELECTRICITY**

#### **GENERAL PROVISIONS**

572. No electrical appliance should be acquired for use on farms unless an opinion has been obtained from a competent authority or person on its electrical quality and its suitability for the electricity supply available and the purpose for which it is to be used.

573. (1) All electrical equipment, e.g. transformers, switch-gear and circuits, used in agricultural work should be so designed, constructed, installed, protected and maintained as to prevent danger, in accordance with the requirements of national regulations and of the competent authority.

(2) Electrical equipment exposed to the weather should be adequately protected against wet or corrosion.

(3) Equipment and circuits should be capable of withstanding, where necessary, damp, steam, ammonia fumes, acid fumes, coke fumes, oil fumes, sulphur fumes, other chemical influences, fats, heat and the weather.

(4) Equipment for use in places where there is an explosion risk should be of a flameproof type suitable for the atmosphere in question.

574. Only duly qualified electricians should be permitted to install, adjust, examine, repair, displace and remove electrical equipment or circuits.

575. Before being put into use, new electrical installations should be inspected and tested by an electrician to ensure that they comply with national regulations or standards.

576. Electrical installations should be maintained in safe working condition.

577. (1) Any defects found in electrical installations should be remedied as soon as practicable.

(2) Dangerous defects should be remedied immediately.

578. Electrical and earthing installations should be inspected and tested at suitable intervals by an electrician.

579. Efficient and suitably located means should be provided for cutting off all pressure from any part of the system where necessary to prevent danger.

580. No cleaning or other work should be done on current-carrying parts unless—

- (a) the parts have been switched off on all poles of phases, by the removal of all fuses in the circuit or by other reliable means; and
- (b) effective measures have been taken to ensure that only the person making the repairs switches on again.

## INSTALLATIONS

### *General Provisions*

581. The users of electrical equipment should be protected from electric shock through approved methods of earthing, double insulation or other systems in conformity with appropriate national regulations or recognised standards.

582. Where practicable, cables should be kept out of places where there are corrosive fumes such as combustion gases from grain and hop-drying furnaces.

583. Conductors to field machines should be securely fastened to the machines by clips or clamps.

*Soil-Warming Transformers*

584. Transformers for soil warming should—

- (a) have electrically separate input and output windings such that in the event of an insulation failure the extra-low voltage winding will not rise to a dangerous potential above earth;
- (b) have the windings, core and input terminals in a metal enclosure which, if practicable, should be sealed;
- (c) be adequately protected against damp and the weather;
- (d) have output terminals so placed or protected as to prevent accidental short circuits; and
- (e) be adequately earthed.

*Motors*

585. Motors exposed to corrosive fumes, as in places where grain is dried by combustion fumes, should be of the pipe-ventilated type.

586. Motors exposed to dust should be of the totally enclosed or the pipe-ventilated type.

587. Motors, unless of the submersible type, should not be mounted in well shafts.

*Milking Machines*

588. Electrical motor-driven pumps for milking machines should be earthed or otherwise protected as specified in paragraph 581. The vacuum line should be separated from the pump by means of a length of rubber tube.

## CONDUCTORS

589. In damp places, such as premises for pumping, milk production and crop drying, cable entries should have water-tight glands.

590. (1) In glasshouses where corrosive liquids may be regularly sprayed, lead-sheathed cables and water-tight fittings should be used.

(2) The cables and fittings should be given at least two coatings of corrosion-proof paint.

591. In mushroom houses, cable proof against ammonia fumes should be used, for example polychloroprene-sheathed or tough rubber-sheathed cable.

592. Overhead lines should be installed so as to minimise the risk of shock to persons and not in places where elevators and loaded vehicles may be used.

593. Conductors to field machines such as threshing machines, straw presses and straw binders and other dust producing equipment should be led into terminal boxes or housings of the motors through dust-proof fittings.

## ELECTRIC FENCES

### *General Provisions*

594. Electric fences should not be installed in buildings unless the competent authority has approved.

595. All parts of electric fence installation should be kept clear of combustible material such as hay, straw and wood.

596. If necessary to prevent danger, electric fence installations should be provided with lightning protection.

597. Electric fences should be so supplied with current that a person who has gripped a fence is not prevented from immediately releasing himself.

598. Warning notices should be affixed to electric fences at suitable intervals.

599. Not more than one electric fence, including its supply lines, should be fastened to any post or row of posts.

600. Electric fences and their supply lines should not be fastened to a post or mast of overhead mains-fed lines or telecommunication lines unless the controller is supplied from an outlet on the post or mast.

601. (1) Electric fences and their supply lines should be kept at a safe distance from overhead mains-fed lines, in accordance with recognised standards.

(2) If the overhead lines cross the fence, their vertical distance from the fence should be determined according to the voltage of the overhead lines.

### *Controllers*

602. Where practicable, controllers of electric fences should be installed in buildings.

603. Controllers should be installed in places that—

- (a) afford protection against mechanical damage;
- (b) are not dusty; and
- (c) are free from fire risks.

604. Not more than one controller should be connected to any electric fence.

605. Mains-operated controllers should contain an interrupting device in the fence circuit and be connected to mains by—

- (a) fixed wiring from a switch; or
- (b) flexible cord with a plug and socket outlet.

606. Each outdoor mains-operated controller should be capable of being switched off separately by means of a two-pole switch in its immediate vicinity.

607. It should not be possible for current from the controller to reach the fence by any path not intended for this purpose.



608. If battery-operated controllers are used, the batteries should be disconnected from the fence for charging.

### *Earth Electrodes*

609. Earth electrodes for electric fences should be kept at least 3 m (10 ft.) away from any other earth electrode used for protective earthing.

610. Earth connections of electric fences should be segregated from telephone or telegraph poles and from mains-fed installations.

### ELECTRIC LIGHTING INSTALLATIONS

611. As far as practicable, only fixed lighting installations should be used.

612. In barns, hay lofts and other places with a fire risk, lamps should be provided with a protective globe.

613. (1) If hand lamps are used, there should be sufficient socket outlets to avoid the use of long flexible cords.

(2) Socket outlets for current ratings exceeding 10 amperes should be of the switch or shutter type.

### ELECTRIC HEATING INSTALLATIONS

614. (1) Farm electrical heating equipment should be designed, constructed and installed with due regard to fire risks.

(2) In particular, special care should be taken in the installation of appliances with high surface temperatures or capable of producing high temperatures by radiation.

615. Heating appliances should be provided with guards that prevent contact with combustible material.

### REARER INSTALLATIONS

616. All parts of heat-lamp installations should be—

- (a) heat resistant;
- (b) protected against moisture and mechanical damage; and
- (c) kept clear of combustible material.

617. Exposed metalwork liable to become live, such as lids of hovers and heated compartments, should be earthed.

618. Circuits serving infra-red heat lamps should—

- (a) be permanently installed; and
- (b) consist of acid resistant non-metallic sheathed cable.

619. Flexible extension cables should consist of rubber-sheathed asbestos-insulated cord.

620. The connection between the permanent cable and the flexible cable should be protected by heat-resistant material such as asbestos string or fibre-glass insulating tape.

#### PORTABLE AND TRANSPORTABLE EQUIPMENT

621. Hand-held appliances should conform with paragraph 581. •

622. Hand-held, portable and transportable equipment, excluding hand lamps, should be provided with a built-in switch.

623. Fixed electrical connections between portable or transportable equipment and movable conductors should be effectively relieved of tensile stress.

624. Transportable motors should be of the totally enclosed type.

625. Portable conductors should be protected against mechanical damage, mechanical stress and excessive bending, and should be replaced at the first sign of wear.

## CHAPTER XVII

## HANDLING GOODS

## LIFTING AND CARRYING MATERIALS

626. Where reasonable and practicable, mechanical appliances should be provided and used for lifting and carrying loads.

627. Workers assigned to handling loads should be instructed how to lift and carry safely.

628. No person should be employed to lift, carry or move any load so heavy as to be likely to cause injury to him.

## STORES AND STACKS

629. Stores should be so arranged that goods stored cannot fall or roll.

630. When storing round timber, barrels and the like, adequate measures should be taken to prevent rolling.

631. Stacks should be built on firm, level ground or other secure base.

632. If necessary to prevent danger, goods should be removed only from the tops of stacks.

633. When loose material is piled, the angle of repose should be respected unless adequate measures have been taken to prevent the material from sliding down.

634. The maximum load per unit of area to be carried by any storeroom floor and the maximum load of any vehicle used on the floor should be posted up in conspicuous places and these maximum loads should not be exceeded.

## LOADING AND UNLOADING VEHICLES

635. If necessary, vehicles being loaded or unloaded should be blocked or braked.

636. Where practicable, the floor or platform for loading or unloading should be level with the vehicle platform.

637. Where reasonable and practicable, devices such as dray ladders should be used for raising and lowering loads.

638. (1) Vehicles should not be overloaded.

(2) Loads should be stowed so that—

(a) the stability of the vehicle is not impaired; and

(b) loads or parts of loads cannot cause danger to persons by shifting or falling.

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## CHAPTER XVIII

## PERSONAL PROTECTIVE EQUIPMENT

639. (1) Where complete means of protection against harmful agents or equipment are impracticable or insufficient, agricultural workers should be provided with adequate protective clothing and personal protective equipment to shield them from the effects of such hazard.

(2) Protective clothing and personal protective equipment should conform to national regulations or recognised standards.

640. Workers should be instructed in the use of the protective clothing and personal protective equipment provided.

641. Workers should make proper use and take proper care of the protective clothing and personal protective equipment provided.

642. Protective clothing and personal protective equipment should be cleaned at suitable intervals and properly maintained.

643. Where protective clothing and personal protective equipment may be contaminated by poisonous or other dangerous substances, it should be stored in separate accommodation where it will not contaminate the workers' clothing.

644. Before being issued, personal protective equipment that comes into contact with the skin should be washed and disinfected.

645. Suitable protection for the skin should be provided when there is a risk of it coming into contact with materials likely to be absorbed through it or to have injurious effects.

646. Suitable protection such as disinfectants and skin coverings should be provided against the danger of infection when handling animals or parts of animals which may be infected.

647. Suitable respiratory protective equipment acceptable to the competent authority should be provided as protection against the inhalation of toxic or corrosive gases, vapours, fumes or dust.

648. Workers handling, spraying or spreading toxic substances should wear protective clothing and equipment in conformity with the relevant provisions of Chapter XV above.

649. Suitable equipment such as goggles, shields, or masks should be provided as eye protection against harmful vapours, gases, fumes, dust, fragments or flash-burn (welding).

650. On work involving a risk of corrosive or heat burns, suitable protective equipment such as gloves, goggles, gaiters and aprons should be provided.

651. Workers should, as far as practicable, wear suitable shoes or safety boots while at work.

652. Gloves, or gauntlets when necessary, should be worn when—

- (a) clipping thorn hedges;
- (b) pruning trees with thorns or spikes;
- (c) assisting animals in labour; and
- (d) handling animals that are infected or suspected of being infected.

653. Workers working in the sun in hot weather should wear a suitable head covering.

654. Where necessary to prevent danger, workers in elevated workplaces, such as trees or high stacks, should be secured by a safety-belt and a securely anchored life-line.

655. Suitable protective clothing should be provided for work in refrigerated places.

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## CHAPTER XIX

## HYGIENE

## GENERAL PROVISIONS

656. (1) Toilet facilities, washing facilities, cloakrooms and other personal service rooms should as far as practicable—
- (a) be suitably situated, dimensioned, constructed, enclosed and equipped for their purpose;
  - (b) have floors, walls and ceilings that are easy to clean;
  - (c) be maintained in a clean and sanitary condition and protected against insects, rats and other vermin; and
  - (d) be well ventilated and lighted and, if necessary, heated.
- (2) Waste from such facilities should be properly disposed of.

## TOILET FACILITIES

657. As far as practicable, workers should be provided with toilet facilities separate for each sex.

658. For personal cleansing, an adequate supply of toilet paper or, where conditions require, water should be provided.

659. Washing facilities with soap and towels should be provided at, or adjacent to, toilet facilities.

660. Toilet facilities should conform to the requirements of the competent health authority.

## WASHING FACILITIES

661. As far as practicable, suitable and sufficient washing facilities should be provided for agricultural workers, unless such facilities are conveniently accessible at their homes or elsewhere.

662. Washing facilities should comprise—

- (a) a sufficient flow of clean water;
- (b) a sufficient quantity of non-irritating soap; and
- (c) towels for personal use.

663. As far as practicable and in particular where workers are exposed to skin contamination by poisonous, infectious, or irritating substances, showers should be provided for them.

### CLOAKROOMS

664. If as a rule 25 or more workers are regularly employed, they should be provided with a cloakroom situated near washing facilities and equipped for the storage of their working and personal clothing.

665. Cloakrooms should not be used for any other purpose.

666. Where necessary to prevent danger, suitable arrangements should be made for disinfecting cloakrooms in conformity with the requirements of the competent health authority.

### DRINKING WATER

667. An adequate supply of cool and wholesome drinking water should be provided for, and be readily accessible to, all agricultural workers.

668. (1) All water furnished for drinking purposes should be from a source approved by the competent health authority and controlled in the manner prescribed by this authority.

(2) Where such water is not available, the competent health authority should furnish the necessary directions for rendering the water safe for human consumption.

(3) When water is supplied from containers, all containers should have a fitted cover.



(4) The use of common drinking cups should be prohibited unless facilities exist for rinsing them before use.

(5) Drinking water for common use should not be dipped from barrels, pails, tanks or other containers, whether they are fitted with a cover or not.

(6) Sources of drinking water should be protected against pollution and the infiltration of surface water.

## CHAPTER XX

### MEDICAL AID

#### FIRST AID

##### *General Provisions*

669. Except in emergencies, first aid in case of accident or sudden illness should be rendered only by a medical practitioner, a registered nurse or a person trained in first aid and possessing a first-aid certificate acceptable to the competent authority.

670. As far as practicable, adequate means and trained personnel for rendering first aid should be readily available during working hours at places where agricultural work is carried on.

671. Severely injured persons should not be moved before the arrival of a doctor or other qualified person, except for the purpose of removing them from a dangerous place.

672. All injuries, however slight, should be reported to the nearest first-aid man or room and treated as soon as practicable.

##### *First-Aid Boxes*

673. One or more first-aid boxes should be provided at suitable places near workplaces, on motor vehicles and on field machines such as threshers, combines and tractors, and be protected against contamination by dust, moisture, etc.

674. (1) First-aid boxes should contain adequate material for rendering first aid to workers.

(2) The contents of first-aid boxes should comply with the relevant provisions of national regulations or standards.

(3) First-aid boxes should not contain anything besides material for first aid.

(4) First-aid boxes should be clearly marked with the words "First aid" or by a conventional symbol.

675. First-aid boxes should contain simple and clear instructions to be followed in emergencies.

676. First-aid boxes should, if necessary, be replenished after each occasion of use.

677. (1) First-aid boxes should be in the charge of a responsible person who is qualified to render first aid.

(2) The contents and condition of every first-aid box should be inspected at least once a month by the person in charge of it.

### *First-Aid Rooms*

678. (1) If as a rule 100 or more workers are employed, at least one suitably equipped first-aid room should be provided at a readily accessible place for the treatment of minor injuries and as a rest place for seriously sick or injured workers.

(2) A responsible person qualified to render first aid should be in charge of the first-aid room and be readily available during working hours.

(3) The first-aid room should be under the supervision of a doctor.

### *Ambulance*

679. (1) Arrangements should be made to ensure the prompt transport, where necessary, of sick or injured workers to a hospital or other equivalent treatment centre.

(2) Such arrangements should include facilities for promptly obtaining an ambulance from a place situated within a reasonable distance from the working area.

*Stretchers*

680. (1) In undertakings which are so situated that an ambulance cannot be obtained in a reasonably short time there should be available—

- (a) stretcher accommodation; and
  - (b) suitable vehicular means of transport for injured or sick persons equipped with brackets or suitable means of carrying the stretcher.
- (2) Two clean blankets should be provided for each stretcher.

*Notices*

681. Notices should be conspicuously exhibited at suitable places stating—

- (a) the position of the nearest first-aid box, first-aid room, ambulance and stretcher and the place where the person in charge can be found;
- (b) the position of the nearest telephone for calling the ambulance, and the telephone number and name of the person or centre to be called; and
- (c) the name, address and telephone number of the doctor to be called in an emergency.

*Training in First Aid*

682. Steps should be taken to teach first aid to a reasonable number of workers.

683. First-aid personnel should be adequately trained in resuscitation procedures and resuscitation apparatus. If provided, the latter should be used only by persons trained in its use.

684. Workers should be encouraged to become proficient in first aid.

*Register*

685. (1) A first-aid register should be kept in each first-aid room for recording the names of persons to whom first aid has been rendered and the particulars of injuries and treatment.

(2) The register should be accessible only to authorised persons.

## MEDICAL EXAMINATIONS

686. Workers who are exposed to occupational health hazards should undergo a medical examination at suitable intervals.

687. All medical examinations should—

(a) be complete, and free to the workers; and

(b) whenever considered necessary, include X-ray and laboratory examinations.

688. In the case of workers exposed continuously to special occupational health hazards, the periodical medical examinations should include all special investigations deemed necessary for the diagnosis of occupational diseases.

689. The data obtained by medical examinations should be suitably recorded by the medical services responsible for carrying them out, and kept by these services for reference.

690. When the work involves a special risk to the health of a worker, he should not be employed on that work.

691. When a worker is found on medical examination to constitute a risk of infection or a risk to the safety of other workers, he should not be allowed to work while the risk remains, but every effort should be made to find alternative work for him to which such risks are not attached.

## OCCUPATIONAL HEALTH SERVICES

692. In agricultural areas there should be an occupational health service available to all agricultural workers.

693. Medical services for, or available to, agricultural workers should have the following functions:

- (a) first-aid and emergency treatment;
- (b) pre-employment, periodical and special medical examinations;
- (c) periodical training of first-aid personnel;
- (d) advice on any conditions at workplaces and facilities that affect the health of workers;
- (e) promotion of health education among workers; and
- (f) co-operation with the competent authority in the sampling and analysis of substances and atmospheres suspected of being harmful.

694. The medical service should collaborate with labour inspection (especially medical inspection) services, and services concerned with treatment, job placement, accident prevention and welfare.

695. The medical service should be directed by a doctor specialised in occupational health, and should be provided with an adequate staff of nurses and, if necessary, laboratory and clerical personnel.

696. The medical service should keep such records of its activities as will provide adequate information on—

- (a) workers' state of health;
  - (b) the nature, circumstances and outcome of occupational injuries; and
  - (c) the hygienic condition of workplaces, sanitary installations, etc., to the extent that such information is not provided by other agencies.
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## CHAPTER XXI

## ACCOMMODATION AND FEEDING

## LIVING ACCOMMODATION

697. Living accommodation should conform to the requirements of the competent health authority.

698. The site of the accommodation should be suitable for the purpose and, in particular, should be—

- (a) properly drained;
- (b) at a sufficient distance from animal pens, stables, sheds, and accumulations of refuse, manure or offensive matter; and
- (c) kept clear of overgrowing vegetation.

699. Housing accommodation should be sufficient and suitable and, in particular—

- (a) it should be effectively protected from the weather, ground moisture, insects and vermin;
- (b) provision should be made for supplies of drinking water and washing water;
- (c) provision should be made for lighting, ventilation, sanitation and, if necessary, heating;
- (d) means should be provided for storing perishable provisions;
- (e) provision should be made for drying clothes where necessary;
- (f) provision should be made for the hygienic disposal of kitchen garbage, and drainage from the dining, cooking and washing quarters and toilet facilities;
- (g) provision should be made for protection against mosquitoes where necessary; and

(h) provision should be made for preparing and cooking food in hygienic conditions.

700. The sleeping quarters should provide at least 14 m<sup>3</sup> (500 cubic ft.) air space per person and at least 5.75 m<sup>2</sup> (60 sq. ft.) floor space per person, and have a minimum height of at least 2.5 m (8 ft. 3 in.).

701. Living accommodation should be properly maintained and kept clean.

### MESS ROOMS

702. If rooms are made available in which workers can take their own meals, they should be provided with—

- (a) drinking water;
- (b) adequate facilities for washing, unless they are available in the vicinity;
- (c) adequate facilities for cleaning utensils, table gear, etc.

703. (1) Covered receptacles should be provided and used for the disposal of waste food and litter.

(2) The receptacles should be emptied daily, thoroughly cleaned and disinfected.

### FOOD

704. Workers who are boarded by the employer should be provided with wholesome food in adequate quantity and variety.

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## CHAPTER XXII

## FARM SAFETY AND HEALTH ORGANISATION

705. Besides ensuring, by adequate systems of inspection or other means, that regulations and instructions in regard to safety and health are observed, the competent authority should take all necessary steps to promote the co-operation of employers and workers and other interested bodies in achieving the best possible conditions of safety and health in agricultural work.

706. (1) While it is primarily the duty of the employer to assume responsibility and leadership for safety and health activities in his undertaking, in undertakings where it would be reasonable and practicable, consideration should be given to—

- (a) the appointment of one of the employees as a safety officer or safety steward; and
- (b) the formation of a joint safety and hygiene committee.

(2) Safety officers or safety stewards should, as far as practicable—

- (a) see that buildings and equipment are kept in a safe condition, and that work is done in a safe manner;
- (b) report any occupational risks discovered to the employer; and
- (c) endeavour to correct unsafe practices among fellow workers.

(3) The organisation of safety and hygiene committees should be determined according to local circumstances. Their functions should be to promote safe working conditions and practices by appropriate means, and in particular—

- (a) to draw up rules for the guidance of workers in carrying out operations in a safe manner, and to modify these rules in the light of experience;

- (b) to consider suggestions for improving methods of work in order to ensure greater safety, and bring these suggestions to the notice of the persons concerned so that they may be implemented;
- (c) to consider reports made after the investigation of accidents;
- (d) to see that all new workers receive adequate safety training, instruction and guidance; and
- (e) to prepare safety leaflets, posters, etc., drawing attention to particular hazards.

707. Where there are a number of undertakings employing workers in one and the same area, consideration should be given to the formation of a central safety organisation for the area, to which all the undertakings should affiliate.

708. The central organisation should promote occupational safety and health among agricultural workers in the area by all practicable methods, and in particular should stimulate and co-ordinate the activities of the safety and health organisations of individual undertakings, and co-ordinate its own activities with those of national and international organisations.

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## CHAPTER XXIII

**REPORTING AND INVESTIGATION OF OCCUPATIONAL ACCIDENTS AND DISEASES**

709. All accidents and cases of occupational diseases or poisoning among agricultural workers which cause loss of life or serious injury should be notified forthwith to the competent authority.

710. Other injuries, occupational diseases or poisoning causing incapacity for work for three days or more should be notified to the competent authority within such time and in such form as may be specified in national laws or regulations.

711. The competent authority should undertake an investigation into the causes and circumstances of any case or accident mentioned in paragraph 709.

712. When a fatal accident has occurred, the scene of the accident should as far as practicable be left undisturbed until it has been visited by the competent authority.

713. (1) Records should be kept of all accidents and cases of occupational disease affecting agricultural workers.

(2) These records should be in such a form as to show—

- (a) the occupational accident and disease experience of each occupation and individual; and
- (b) the distribution of accidents by cause, with a view to facilitating preventive measures.

714. Necessary assistance and encouragement should be given to safety and hygiene committees in their efforts towards promoting safety and health in agriculture.

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## CHAPTER XXIV

## MISCELLANEOUS PROVISIONS

## FIREARMS

715. Only firearms in good condition and working order should be used.

716. A firearm should be loaded only with ammunition designed for it. Firearms and ammunition should be locked away safely when not in use.

717. Buck-shot should be kept separate from other cartridges.

718. Guns should not be loaded until they are about to be used, and should not be loaded when stored.

719. Loaded guns should not be carried in a vehicle or over ground in such a manner that the person carrying them is liable to cause danger to himself or to others.

720. Shots should not be fired if any person can be endangered either by a direct hit or by a ricochet.

## EXCAVATIONS

721. When excavating wells, pits, ditches, gravel pits, peat bogs, etc., adequate precautions, such as shoring, should be taken to prevent subsidence, caving in, or collapse. The precautions to be taken for the dangers likely to be encountered by a person working in such places are similar to those mentioned in Chapter III.

722. When a person is working in a well—

- (a) he should be secured by a safety belt and a lifeline to a second person at the top adequately equipped to haul him to safety;
- (b) he should wear a hard hat; and
- (c) adequate precautions should be taken to prevent tools or other objects falling on him.

723. When excavating frozen turnip or potato clamps, care should be taken that no person is endangered by undermining.

1.

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## INDEX

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2.

•



## INDEX

The figures refer to paragraphs

## A

Abrasive wheels, 284-292  
 Accidents, reporting and investigation, 709-714  
 Accommodation, 697-701  
 Anhydrous ammonia, 553-558  
 Animal drives, 166-172  
 Animals, 482-511

## B

Balers, 252-259  
 Band saws (see *Saws*)  
 Binders, 252-259  
 Blasting tree stumps, 197-199  
 Boilers, 110-113  
 Brakes, 307-309, 414, 442, 444  
 Brush cutting, 201  
 Buildings, 19-62  
   construction, 19-62, 74-76  
   siting, 73  
 Bulls, 500-511

## C

Cableways, overhead, 364-368  
 Carrying materials, 626-628  
 Cattle (see *Animals*)  
 Cellars, 63-72  
 Chaff cutters (see *Forage and straw cutters*)  
 Chains, 327-333  
 Chimneys, 75-76  
 Chopping machines, 260-265;  
 Circular saws (see *Saws*)  
 Cloakrooms, 656, 664-666  
 Clothing, 154  
   protective, 531, 537, 545, 639-643

Combine harvesters, 210-211, 247-251  
 Combustible material, 97-103  
 Compressed gases, 375-376  
 Conductors, electric, 589-593  
 Construction, farm buildings 19-26, 74-76  
 Controllers, electric, 602-607  
 Conveyors, grain and fodder, 354-357  
 Cookers, 110-113  
 Corrosive substances, 512-518, 559-562  
 Crushing machines, 260-265  
 Cultivators, rotary, 202-205

## D

Dangerous substances, 512-571  
 Dealers, obligations of, 8  
 Diseases, reporting and investigation, 709-714  
 Doors, 57-59  
 Drinking water, 667-668  
 Duties, general, 1-7

## E

Ejectors, 258  
 Electric equipment, portable, 621-624  
   transportable, 621-624  
 Electricity, 572-625  
 Elevated workplaces, 23  
 Emergency means of egress, 24  
 Engine rooms, 80-96  
 Engines, 157-172  
 Excavations, 721-723  
 Exhaust pipes, internal combustion engine, 93  
   tractors, 439-440  
 Explosives, 512-518, 563-565

## F

- Farm buildings, 19-62
- Fencing, 27-33
  - electric, 594-601
- Fertilisers, toxic, 519-552
- Fibre rope (see *Rope*)
- Fire alarms, 77-78
  - arms, 715-720
  - fighting, 123-128
  - protection, 73-127
- First aid, 669-685
- Flammable liquids, 97-103
- Floors, 22, 34-45
- Flues, 75
- Forage and straw cutters, 233-251
- Foundations, 22
- Fungicides, organic mercurial, 533
- Furnace pit, 45

## G

- Garages, 80-96
- Gates, 57-59
- Grain pit, 45
- Grinding machines, 260-265
- Grindstones, 293-294
- Guarding of machinery 129-132

## H

- Handicapped persons, 10
- Handling goods, 626-638
- Hand tools, 384-399
- Harrows, 206
- Harvesting, 210-232
- Hay, spontaneous ignition, 119-122
- Health organisation, 705-708
- Health service, 692-696
- Heating installations, 104-109
- Hoisting (see *Lifting*)
- Horse whims, 166-172
- Housekeeping, 15-18
- Hydraulic engines, 162-165
  - lifting machinery, 300
- Hygiene, 656-668

## I

- Implements, 384-399
- Inspection pits in garages, 83
- Installations, electric, 581-588
  - heating, 614-615
  - lighting, 611-613
- Internal combustion engines, 158-159
- Investigation of accidents and diseases, 709-714

## K

- Knotting mechanism, 255

## L

- Ladders, 400-413
- Land clearance, 173-209
- Lifting equipment, 295-373
  - materials, 626-628
- Lifts, 353
- Lighting, 13-14, 611-613
- Lightning protection, 79
- Living accommodation, 697-701
- Loading and unloading vehicles, 635-638

## M

- Machinery, 129-156
- Maintenance, farm buildings, 26
- Manufacturers and dealers, obligations of, 8
- Manure, pits, 63-68
  - spreaders, 208-209
- Medical aid, 669-696
- Medical examinations, 686-691
- Mess rooms, 702-703
- Milking machines, 588
- Mobile cranes, 343-344
- Motors, electric, 585-587

## O

- Openings in floors and yards, 41-45
  - in ramps, 39
  - in walls, 46-48

## P

Passengers, travelling machines, 152  
 Personal protective equipment, 639-655  
 Pesticides, 519-552  
 Pits, 63-72  
 Placement of workers, 9-10  
 Ploughs, 206  
 Power saws (see *Saws*)  
 Power take-off, 450-453  
 Presses, 252-259  
 Pressure vessels, 374-383  
 Protective equipment, personal, 639-655  
 Pulley blocks, 312-314

## R

Radioactive substances, 514-515, 566-571  
 Railings, 27-33  
 Railways, light, 358-363  
 Ramps, 39  
 Reaping machines, 210-211  
 Reeler Installations, 616-620  
 Reporting of accidents and diseases, 709-714  
 Respirators, 537, 545, 647  
 Roofs, 21  
 Rope, fibre 323-326  
   haulage, 369-373  
   wire, 315-322  
 Runways (see *Ramps*)

## S

Safety organisation, 705-708  
 Saws, band 281-283  
   circular, 266-280  
   power 185-189  
 Seats, vehicles, 151, 167, 418-420, 434-435  
 Seed drills, 207  
 Selection of workers, 9-10  
 Shredding machines, 260-265

Silos, 63-72  
 Slipping hazards, 34-40  
 Sparks, 87  
 Spontaneous ignition (see *Hay*)  
 Spraying equipment, pressured, 377-383, 538.  
 Stacks, 629-634  
 Stairs, 49-56  
 Steam engines, 160  
 Steam plant, 110-113  
 Stokehole, 45  
 Stores, 629-634  
 Straw cutters (see *Forage and straw cutters*)  
 Stumbling hazards, 34-40  
 Stumps (see *Trees*)

## T

Tanks, 63  
 Threshing machines, 212-232  
 Toilet facilities, 656-660  
 Tools (see *Hand tools*)  
 Toxic substances, 512-558  
 Tractors, 433-481  
 Transformers, soil-warming, 584  
 Transmissions, 116-118  
 Transport equipment, 295-373  
 Trees, climbing, 175-179  
   felling and limbing, 180-199  
   skidding, 200

## U

Unloading (see *Loading*)

## V

Vats, 63, 71  
 Vehicles, 414-481  
   loading and unloading, 635-638  
 Ventilation, 25

## W

Walkways, 34-45  
Wall openings, 46-48  
Washing facilities, 656, 661-663  
Welding, 87  
Wells, 63  
Winches, 345-352  
Wind engines, 161

Wine vats (see *Vats*)  
Wire ropes (see *Rope*)  
Women, employment, 12  
Working machines, 116-118

## Y

Young persons, employment, 11