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**CARE AND PRESERVATION
OF
CAMP EQUIPMENT
AND
CAMP
HYGIENE AND SANITATION**

By Command of the Army Board

A handwritten signature in cursive script, appearing to read 'H. W. Meyer'.

Army Secretary

Army Headquarters,
Wellington, N.Z.
July 1952

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INTRODUCTION

THE following notes on the care and preservation of camp equipment and on camp hygiene and sanitation are compiled to aid Territorial Quartermasters and Adjutants when holding training periods in tented camps.

POINTS TO REMEMBER

CAMP equipment costs money—your money, and it behoves each and every one to treat it in such a manner as to keep losses and breakages to a minimum.

A little thought and careful handling will ensure this.

You have, no doubt, had impressed on you the absolute necessity of keeping your weapons clean and in good working condition. The same applies to the camp equipment you use. If you care for it as you do your weapons, then it will give the same efficient service your weapons give you.

CHAPTER I: GENERAL INSTRUCTIONS FOR PITCHING, STRIKING, AND PACKING TENTS

SECTION 1: CHOICE OF SITE

1. In deciding on the site for the pitching of a tent, consideration should be paid to the characteristics of the ground, the possibility of drainage, and the prevailing wind.

Characteristics of the Ground

2. The ground should be sufficiently level to enable the poles to stand upright without having to be let into the ground or raised on a stone. It should not be too soft to retain the tent pins nor too rocky or hard for them to be driven into. The nature of the ground should be such as to withstand heavy traffic. Hollows in the ground likely to collect water are bad sites and should be avoided. Siting under trees should also be avoided whenever practicable; if unavoidable, boughs likely to break into or rub against the tents must be removed.

Drainage

3. If the slope of the ground will permit, drains should be cut to carry away surplus water. If this is not practicable, the soil between the tent pins to which the guy lines are fastened and the walls of tents should be well forked and a small bank of earth built up inside the walls. One method of drainage is to cut shallow trenches at the bottom of tent walls, loose earth being heaped up on the inside and the wall allowed to hang against the earth and drain into the trench. The fabric must not be covered with earth. In places where white ants are prevalent it is inadvisable to allow the fabric to touch the earth.

Prevailing Wind

4. It is important to note the strength and direction of the prevailing wind when selecting a tent site. If strong winds prevail, the tents should be so sited as to offer the minimum of resistance to the wind—*i.e.*, by pitching a tent lengthways in the direction of the wind.

5. The direction of the wind governs the position of doors and porchways.

SECTION 2: PITCHING

6. Mark out the pitching space by driving in tent pins. Always mark the position of each upright pole by driving a pin vertically into the ground. Remove these pins when the tent is pitched.

7. All pins for tent lines should be driven well into the ground at an angle of not more than 60° to ground-level with the notches facing outwards. When practicable, stand on the tent side of the pins when driving them in so as to get the correct angle.

8. Carry the tent in its valise on to the pitching site, lay the valise as near to the poles as possible, and open out tent canvas.

9. When tents are provided with weather lines and vases, these should be fitted to the tent and tied to their respective pins before pitching is begun.

10. Put the canvas parts of the tent together, fit poles, insert them into the canvas, and then raise the tent against the wind.

11. When pegging out guy and bracing lines, it is important that the ropes should follow the lines of the seams of the tent roof. They should follow the slope of roof. If this is done, no unequal strain is put on the canvas, the tent will last longer, and will retain its correct shape.

12. In pitching see that the fixing keys attached by wires to the ridge pole sections are inserted the right way in—*i.e.*, so that the countersunk heads of the keys are in the large holes specially bored for them. Always put the keys through the metal sockets so that the flat tops of the keys come in contact with the canvas of the tent when erected. If the keys are upside down, it will not be possible to fix the locking pins underneath and, furthermore, the pointed ends of the keys will rub against and tear the canvas.

13. When erecting marquees for butcher shops, see that the meat benches or tables are in the centre of the marquee. Otherwise the walls are liable to be damaged by blood running on to them from the tables or by the wind blowing the walls on to the meat. Similar damage is possible in a dry-ration store unless precautions are taken to prevent bacon and butter leaving their marks on the marquee walls.

SECTION 3 : STRIKING AND PACKING

14. It is essential that great care is taken when striking tents, otherwise components are likely to be damaged.

15. Tents should be lowered against the wind.

16. Only in exceptional circumstances may tentage be struck while damp. Tents which are struck or packed while damp quickly deteriorate and, if placed in stacks, are liable to give rise to spontaneous combustion.

17. If tentage must be struck while damp, each tent will be clearly labelled "NOT DRY," and, when despatched, the consignee will be advised.

18. If the tentage is retained on the camp site, the officer in charge will be notified of the condition of the tentage in order that he can arrange for it to be dried at the earliest opportunity.

19. In no circumstances will damp tentage be placed into store and allowed to remain there for more than a few days without examination.

20. When striking and packing tents, make certain that the ground is free from oil or any substance that will impair the canvas, and that all poles are free from nails as these are likely to tear the canvas when tents are lowered.

21. Spread out on the ground near the tent all valises, pin bags, &c., and arrange ready for use.

22. Remove detachable walls, awnings, &c., where such are separable from the tent, before striking.

23. Unfasten and coil all ropes, except weather lines.

24. Take up all pins, except large pins for the weather lines. Clean off all soil from pins and pack away in bags with mallets.

25. When tent is ready for lowering, sufficient men should be placed on each weather line to ensure that the tent is lowered to the ground gently, against the wind. Unfasten weather lines and take the weight before the order to lower is given.

26. Remove all poles from the canvas, taking care to collect all ridge pole connecting keys. Unfix poles and bundle or pack in bags. Take up and clean all remaining pins and pack away.

27. Brush off all mud adhering to the canvas and then fold the canvas and pack it in valises.

28. When lowering large tents, take special care to see that the upright poles do not go over towards the end of the tent as this damages or bends the spikes in the tops of the poles.

SECTION 4: INDIAN TENTS

29. Fold the fly or flies to the size that suits the salitah, place on top the purdahs or saibans, and pin bags, poles, &c., where not carried separately.

30. Distribute the ropes evenly, except two corner ropes, which should be left unrolled. Roll the fly tightly and bind into the corner ropes.

31. Place the fly in the salitah and lace it. Where there are separate walls, roll them in pairs, insert them into bags, and secure the flap of the bag by the tying rope.

SECTION 5: CARE AND PRESERVATION OF TENTAGE

32. The life of the tentage can be considerably prolonged if reasonable care is taken while it is in use or in store. Such care will also minimize charges being preferred against units at the conclusion of a period in camp.

33. *Common Causes of Damage:—*

Burns in canvas due to careless smoking or siting of tents near braziers or incinerators.

Holes in canvas due to careless pitching or striking, and the storage of articles close to tent walls.

Split canvas due to overtaut tent lines.

Writing on canvas thus causing leaking spots.

Nails in tent poles.

Loading tents on dirty lorries or mixed with camp kettles, stoves, or oil drums, &c.

Oil stains due to careless cleaning of small arms or to contact with oily hands.

Damage may be caused if a number of tents are joined together—*e.g.*, in Field Ambulance sections, without due care being exercised to ensure that no abnormal strain is placed on ridge ends, doorways, and similar portions which are not designed to take heavy strain.

The use of damaged tentage should be avoided as continued use after damage will aggravate the damage.

SECTION 6: CARE OF CAMP EQUIPMENT

34. *Dont's and Do's*:—

DON'T return hurricane or other type of lamps to store with fuel in them on completion of camp.!

DON'T use tea-cloths or table-cloths as dish cloths or dusters.

DON'T mix clean blankets with dirty blankets and if you have a case of infectious disease in your camp DON'T mix these blankets or linen with the other bedding.

DON'T use table-knives or bread-knives for opening canned goods—use proper openers.

DON'T leave water or moisture in pots or urns as they will rust.

DON'T interfere with electrical fittings in buildings.

DON'T load heavy equipment into rail wagons or on to lorries on top of fragile equipment—*i.e.*, lamps, crockery, &c.

DON'T use tent valises or any tentage as carpets.

DON'T have textiles laundered before return to Ordnance. Ordnance will arrange laundering.

DO load returned stores in some order—this assists Ordnance when unloading.

DO clean all kitchen equipment and utensils before return to Ordnance.

DO pack crockery and glassware in straw or paper or some packing and so avoid breakages.

DO coil all guy ropes on tentage you have used.

DO remove any nails from tent poles.

DO empty your palliasses before return to Ordnance.

DO segregate unserviceable stores from serviceable stores.

Do use table, tea, and dish cloths for the one purpose they are intended to be used.

CHAPTER II: HOW TO ASSIST ORDNANCE TO SERVE YOU

SECTION 7: INDENT FOR CAMP EQUIPMENT (Army Form N.Z. 427)

35. Read carefully the instructions printed on the reverse side of sheet 1 (green copy).

36. Indent in accordance with "Scale of Camp Equipment" (N.Z.P. 1, Appx. J). If stores are required outside the scale, obtain authority from Formation H.Q. and indent separately, using Army Form N.Z. 10 for Loan Issue.

37. Do not indent on Ordnance for R.N.Z.A.S.C. supplies—*i.e.*, straw, fuel, oils, &c.

38. Distribute copies of Army Form N.Z. 427 as expeditiously as possible (see instructions on back of original sheet).

SECTION 8: HANDLING OF STORES

39. If any deficiencies or breakages are found on receipt of stores, advise Ordnance immediately when returning original copy of Army Form N.Z. 427 duly signed.

40. Avoid abuse of stores on issue to troops. A certain amount of "horseplay" is inevitable among troops, and is to be expected, but wilful damage to stores must be charged against persons concerned.

41. You have been reminded in the notes on "Care of Camp Equipment" that equipment must be clean before return to Ordnance. The main faults found are—

Cooking utensils rusted and/or coated with food particles, cooking fat, &c.

Eating utensils handed in dirty by troops.

Lamps and lamp glasses sooty and greasy.

Blankets, paliasses, groundsheets, &c., mud-caked or wet.

Shovels, spades, rakes, &c., coated with mud.

Tea-towels, table-cloths, denims, &c., used for cleaning cookers and greasy equipment and no longer washable.

42. Indent on Ordnance for "Rags, old" in reasonable quantity for general use for cleaning purposes. These are expendable and you do not have to account for them.

43. Advise Ordnance immediately when stores are returned giving mode of despatch, details of M.T. vehicles or rail wagons used.

44. When stores are lost or damaged, a short "to note" to Ordnance when returning the remainder will avoid unnecessary reports and explanations.

45. Ordnance are fully aware of the problems of units holding tented camps, and do not make adverse reports unless units are wilfully negligent in the care and handling of the equipment on issue.

CHAPTER III: MILITARY HYGIENE AND SANITATION

46. There are no subjects of greater importance than the preservation of the health of the soldier and the prevention of disease. The best of equipment and training will be of little avail if men fall sick before they can put their training and skill at arms into practice.

47. The majority of diseases are preventable; that is to say, they are diseases which can be prevented by constant attention to certain simple sanitary rules.

48. The measures necessary to maintain health and prevent disease are not the concern of the Medical Services alone, but are the duty of every officer, N.C.O, and man to understand and practice.

SECTION 9: HYGIENE

49. Hygiene is the science of maintaining and promoting the health of mankind and the prevention of disease.

SECTION 10: SANITATION

50. Sanitation means the practical application of the laws and principles of hygiene to the varied conditions of life under which men live and work.

51. The laws of hygiene are the same everywhere, but the practical application of these laws—*i.e.*, sanitation—varies according to the circumstances.

SECTION 11: CONSERVANCY

52. Conservancy means the removal and disposal of excreta, and is merely one part of sanitation.

SECTION 12: PERSONAL CLEANLINESS

53. Personal cleanliness is very necessary, and must be encouraged in every possible way. Arrangements for washing and bathing are even more important in the field than in barracks. If none exist, they should be improvised without delay.

54. The skin needs cleansing regularly in order to keep the pores from becoming blocked.

55. A hot bath should be taken at least once a week. Bedding and towels should be used only by the man to whom they belong, and must be disinfected should the holder contract an infectious disease.

SECTION 13: FIELD SANITATION

56. Sanitation in the field differs from that in barracks, in that all the essential services are not laid on and must be improvised. Added to this any of the following conditions may be present:—

Overcrowding.

Men not used to carrying out their own sanitation.

Pollution of water-supplies.

Frequent occupation of the same site.

Presence of insect carriers of disease.

SECTION 14: FIELD SANITATION FIXTURES

57. Human excreta may be disposed of in three ways, and any of the undermentioned methods are in common use in the field. Care should be taken in all cases to locate fixtures where they cannot pollute water-supply:—

(a) *Shallow-trench-Latrine*:—

(i) These are permissible only for periods not exceeding three days pending the construction of more permanent structures.

(ii) Five trenches are required for every hundred men, and each trench measures 1 ft. wide, 2 ft. deep, 3 ft. long. The trenches are spaced 2 ft. apart.

(iii) No set of trenches must be used for more than twenty-four hours, after which the trenches should be filled in and a new set opened in front of the filled ones. All excreta should be covered immediately with earth. A mould of earth and a scoop should be provided for this purpose.

(b) *Deep-trench Latrine*: The fly-proof deep-trench latrine is the best for continued use. The number of seats is five for each hundred men. The size of the trench to accommodate five seats measures 10 ft. long, 3 ft. wide, and 6 to 8 ft. deep. Disinfectants should never be used inside the latrine. The trench should be considered full when it becomes filled to within 3 ft. of the top. After closing and filling in, the site should be marked with a letter "L" to warn others from using the area.

(c) *Bucket Latrines*: These may be used in areas where the digging of deep trenches is not possible. The contents of the buckets should be buried well clear of habitation and in a location which will not pollute the water-supply. Buckets should be thoroughly cleaned after emptying.

Urinals

58. The trough type is very suitable for field service. A trough 8 ft. long is required for every hundred men. If possible, it should be constructed with sheet metal and provided with an outlet pipe, leading into a soakage pit.

Liquid Refuse

59. The general principle of disposal of waste water is to get rid of it underground. Soakage pits are usually dug for this purpose, and care should be taken to ensure that the soakage pit is dug sufficiently deep to obtain the best soakage strata.

Grease traps

60. Water from cookhouses contains a large amount of grease and no soil, however porous, will absorb grease for any length of time. Grease-traps should be used in these cases and may be constructed in wood or metal. Accumulated grease should be removed frequently and burnt.

Dry Refuse

61. Whenever possible, all refuse should be burnt. If it cannot be burnt, it should be buried and all deposits completely covered with earth immediately after tipping.

Wash Up

62. Cooking utensils should be sterilized immediately after use by washing in hot, soapy water, followed by rinsing in very hot, clean water. Utensils should be air dried and protected from dust and flies. Mess kits should be sterilized by each individual. Fragments of food should be scraped into a can before washing.

**Do Please Leave the Camp Site Clean and All Rubbish
Burnt Ready for the Next Occupants**

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