Code of Practice
for the transport by air of cattle, sheep, pigs, goats and horses

CONTENTS

- GENERAL CONSIDERATIONS
- PRE-FLIGHT ARRANGEMENTS
- LOADING AND UNLOADING OF THE AIRCRAFT
- ACCOMMODATION AND CARE OF THE ANIMALS IN THE AIRCRAFT
- TAKE-OFF
- IN FLIGHT
- LANDING
- POST-FLIGHT ARRANGEMENTS
- APPENDIX I - Separation of Animals During Carriage
- APPENDIX II - Humane Shooting of Animals in an Emergency
INTRODUCTION

All those concerned with the carriage of cattle, sheep, goats, pigs and horses must remember at all times that they are dealing with living animals and that special care is therefore needed. This Code is intended for the guidance of all concerned with the transport of these species by air and gives advice on measures to ensure that the welfare of the animals can be protected.

The Code is issued without prejudice to the requirements of the Civil Aviation Authority. It is also necessary to be aware of the special legal requirements which protect the welfare of animals in transit. These are in the Transit of Animals (General) Order 1973 which covers all animals, including birds, fish, reptiles etc., carried in aircraft landing in or departing from Great Britain even if the animals were not loaded or unloaded in Great Britain.


Exporters and carriers should be aware of the requirements of these Orders and any welfare or health requirements of the countries of origin, destination or intermediate stop. The animal health rules for importation into Great Britain are summarised in leaflet IM24. It is also recommended that the animals are carried in accordance with the IATA Live Animals Regulations.

GENERAL CONSIDERATIONS

1. The carriage of farm animals and horses by air is a difficult and complex matter and several parties can be involved in any one shipment. There are several different methods which can be employed and it is essential that all those concerned, exporter, importer, shipper, airline and any agents, are aware of their particular responsibilities well in advance.

2. The exporter should make sure that the animals he intends to send are fit for transportation by air. No animal with a history of respiratory or cardiac disease should be carried by air.

3. When an aircraft is to be used for carrying animals for the first time, or where a new penning system is to be introduced, the airline should consult the appropriate Agriculture Department well before the animals are to be carried so that the Department can advise on the suitability of the system and on stocking densities. In considering whether to seek advice, operators should bear in mind that different versions of the same basic model of aircraft may differ greatly; if there is any doubt at all, the Agriculture Departments should be contacted well beforehand. Aircraft without side rear doors may not be suitable for carrying animals as they do not permit a through flow of air during loading and unloading unless there is an on-board built-in air conditioning unit or ground support equipment is available.

4. Optimum relative humidity for the animals whilst they are in the aircraft is between 45% and 50%. Higher humidities are not critical unless the temperature exceeds 25°C. The combination of a high humidity with a temperature above 25°C should be avoided by increasing the ventilation. The ventilation capacity of the type of aircraft involved should be carefully considered when estimating stocking densities. Nothing carried in the
aircraft should obstruct or impede the flow of air into or out of the aircraft's interior or to the animals.

**PRE-FLIGHT ARRANGEMENTS**

5. The airline should be asked to provide information on the dimensions of the pens, stalls or standings which are to be used to accommodate the animals in the aircraft. Arrangements should be made well in advance of the journey for groups of animals which have been reared together to travel together in the same pens in accordance with the advice set out in the section headed "Accommodation on the aircraft". Where animals which have not been reared together are to travel together in the same pen, they should be mixed on the farm so that they can become accustomed to each other and establish a social pattern within their travel group. The first mingling of animals which are strange to each other is likely to cause stress and fighting and time must be allowed for the group to settle down well before it is loaded for the journey. Animals which are not accustomed to close confinement should be pre-conditioned by keeping them in a restrictive environment for a few days before despatch. If tethering is likely to be required, the animals should be accustomed to this before the flight and any unbroken horses should be halter broken.

6. The exporter or his agent should give the airline detailed information about the diet of the animals, including advice on the quantities to be provided.

7. The exporter should ensure that all necessary documentation - health certification, welfare documents, export licence and other documents necessary to clear Customs - has been obtained, are processed and accompany the animals. A duplicate set of the waybill should accompany the animals to avoid delay should the original be lost.

8. Animals should not be sent by air at times when the journey would begin or end during weekends or public holidays unless this has been agreed in advance and it is known that there will be adequate facilities to handle and care for the animals throughout their journey and on arrival.

9. When it is very hot, ground operations must be limited to the shortest possible time. In such situations the loading and unloading of animals should, if possible, be restricted to early morning, late evening or night. This is particularly relevant at some intermediate stops.

10. The airline should be consulted well in advance to ensure that adequate, experienced staff and facilities are available for loading the animals. The exporter should make sure that he or his staff can be contacted easily by the airline in the 24 hours preceding the flight so that any late changes can be notified and alternative arrangements made.

11. If an intermediate stop is to be made during the flight period, prior consideration should be given to the effect of such a stop on the welfare of the animals and to whether the importing country's disease control requirements will permit such a stop.

12. The animals should be rested, and fed and watered before their journey but, especially for pigs, food and water should not be given during the last two hours before leaving for the airport.

13. When animals have been exempted from a rest period at a Government-approved export lairage, the exporter or his agent should make contingency arrangements for premises to be available at or near the airport to accommodate the animals if there is a
prolonged delay in departure or the aircraft has to return. In all cases a vehicle should remain at the airport while the aircraft is in local air space to enable the animals to be taken back to suitable premises if the aircraft is forced to return.

LOADING AND UNLOADING OF THE AIRCRAFT

14. The airline and handling agents should ensure that all the necessary facilities are available at the airports of departure, arrival and at intermediate stops. Particular emphasis should be made on the availability of suitable ramps and ground support units.

15. Where possible, livestock should be kept together in the social groups in which they have travelled and been pre-conditioned. Every precaution should be taken to minimise the effects of extreme climatic conditions bearing in mind that animals are most comfortable in temperatures between 10ºC and 25ºC. Recognising that animals arriving at airports will experience some stress due to unaccustomed levels of noise and activity, it is imperative that handlers exercise patience and consideration during loading. Failure to do so could seriously affect the behaviour of the animals during the critical period of take-off and during the early stages of the flight.

16. During loading and unloading, handling should be humane and competent. Particular care should be taken in loading nervous or pregnant animals. Tranquillisers should only be used in cases of emergency or, under the direct supervision of a person experienced in their use and effects. Under normal circumstances however, tranquillisers are not recommended.

17. Animals which are wet should not be loaded into the aircraft as a precaution against creating high levels of humidity that would be difficult to rectify during the flight. Sudden changes of light and temperature during loading and unloading should be avoided.

18. Animals being consigned in receptacles should be conditioned to them well in advance of being loaded onto the aircraft. However, actual loading onto the aircraft should take place as close as possible to take-off time.

19. Should take-off be significantly delayed it might be necessary to, unload the animals since environmental conditions can deteriorate very rapidly and problems can arise if animals are held on an aircraft while mechanical failures are rectified.

20. Ramps used for loading and unloading of animals should be in good repair; be so constructed to include a non-slip surface and have facilities that prevent the animals from falling off, escaping or being caused injury. Ramp gradients should not be excessive. When animals are loaded onto the aircraft directly from a road vehicle, there should be no gap between vehicle and aircraft through which animals could accidentally fall or, escape. Where possible, ramps should be carried on freighter aircraft to be used at destination points where suitable facilities are not available.

21. Ramps and mechanical devices should be used for the loading and unloading of animals carried in upper tiers. In the case of small animals, manual means can be used provided the animals can be handled without causing injury, undue stress or disturbance.
ACCOMMODATION AND CARE OF THE ANIMALS IN THE AIRCRAFT

22. Animals should be carried in small groups within the aircraft as this reduces the risk of bullying and also helps the loadmaster to distribute the cargo to trim the aircraft. Wherever possible, the animals should be penned together with the animals they had been penned with during the earlier stages of their journey. Appendix I gives advice on those categories of animals which can be penned together and those which need to be penned individually - however, any animal which is showing signs of aggression should be separated from other animals.

23. When adult males and females of the same species are being carried in the same aircraft, the male animals should be carried at the front of the aircraft and the females at the rear so that the air flow prevents the female odours causing unnecessary sexual stimulation to the males. Species of animals antagonistic to one another, e.g. dogs and sheep, should not be mixed or carried together. Animals should not be placed within sight or smell of other livestock likely to provoke fear or adverse reactions. Animals should not be carried near to other goods which could prejudice the welfare of the animals.

24. Pens and containers used to accommodate animals must be made of strong smooth material with no sharp projections or edges. They should be capable of withstanding the weight of the animals they contain and must provide a means of access to enable the attendant to enter and leave each pen quickly without risk of injury to himself and without enabling the animals to escape.

25. Pens and containers should be provided with an adequate supply of suitable absorbent bedding and be lined with impermeable material in such a way as to prevent seepage of excreta. The lining should not interfere with ventilation. Pens and containers should be made of non-corroding material and must be easily cleaned and disinfected. Where they have to be dismantled for cleaning and disinfection, the design should enable this to be done easily.

26. If animals are carried in tiers, the lower-tier should be able to support the weight of the animals above and, sustain the effect of sudden aircraft movements. Portable fighting should be available for the inspection of all the animals.

27. Animals confined in groups, especially in pens, should be stocked at a density high enough to prevent injuries at take-off during turbulence and at landing but not to the extent that individual animals cannot lie down and rise unaided without risk of injury or crushing. Animals should be penned to prevent movement fore and aft during take-off and landing. Staff of the appropriate Agriculture Department will be able to advise on the appropriate stocking densities and exporters or their agents should contact their local Animal Health Office.

28. The need for food and water should be considered not only in relation to the flight period but also to those periods when the animals are in transit before and after flight. Animals which normally drink water in transit should be offered it at suitable intervals but, to avoid the risk of discomfort being caused by urine retention, water should not be given during the two hours before take-off. Animals in milk will need more water than other animals of the same species. Long journeys can place a strain on the digestive system of animals. Some animals may not eat or drink in unfamiliar surroundings until they are very hungry or thirsty but, dependent on the requirements of the particular species and type of animal, food and water should be offered at suitable intervals and preferably within 18 hours of the start of the journey - and certainly at intervals of not more than 24 hours during it. Horses should be offered water and roughage within 6 hours of the start of the journey.
29. Unless accompanied by young which are suckling them, animals in milk should be milked at intervals not exceeding 12 hours. As this cannot be done on the plane, arrangements should be made for it to be done at the fuelling stops. Milking should normally be done by machine unless it is known that the animals are used to being milked by hand.

30. Animal containers should have sufficient holes to permit adequate air circulation and should be placed so that there is an adequate space to allow the free movement of air into and through the container. In some containers, fan units may be necessary and, where the containers are solid sided, the fans should move stale air upwards and out of the container.

**TAKE-OFF**

31. Where aircraft doors are opened to provide ventilation, as many pre-flight checks and clearances as possible should be completed before the doors are closed. Auxiliary fans may be necessary to maintain a minimum air flow. However, if ground air conditioning is provided, the aircraft should be in a closed condition in order to maintain an efficient flow and the air conditioning unit should not be disconnected until the aircraft's internal unit is able to take over. When the ambient temperature exceeds 22°C, supplementary air conditioning using ground support equipment is essential. When animals are carried in under floor compartments it is essential that they are provided with suitable air conditioning at all times.

**IN FLIGHT**

32. An aircraft's cooling and heating systems should be adjusted to meet the varying requirements of the animals being carried at all stages during the flight. Wide changes of temperature and air pressure should be avoided; animals are most comfortable at temperatures between 10°C and 25°C.

33. During the flight the animals should be cared for by an attendant who is experienced in handling livestock and accompanying them by air. He should have a basic knowledge of veterinary first aid and be able to administer drugs in an emergency.

34. Everyone on an aircraft is required by law to remain seated at take-off and landing but grooms handling horses may, if the carrier has approval from the Civil Aviation Authority, be allowed to stand at the head of the horses at any stage of the flight. Attendants for other animals should sit in a position where they can observe the animals at take-off and landing so that they can take any necessary action as soon as possible.

35. The attendant should be able to communicate with the member of the flight crew in charge of the cargo at all times and should immediately consult him in any situation where the aircraft, its occupants or the animals are at risk. If a problem arises shortly after take-off which affects the welfare of the animals, the aircraft commander should consider returning to the airport of departure.

36. Where the behaviour of an animal prejudices the safety of the, aircraft or personnel, it will be necessary to consider restraining or destroying it. When an animal's behaviour prejudices the welfare of other animals, it may, in certain circumstances, also be necessary to restrain or destroy that animal.
37. If physical restraint is not practical, the animal may have to be sedated by drugs, by reduction of cabin temperature or by decompression.

(a) **Drugs** can sometimes have unpredictable responses and this could be dangerous at high altitudes. Drugs should only be used in emergency situations. Any drugs should be securely locked away until needed.

(b) **Reduction of cabin temperature.** This can be used to control fractious animals.

(c) **Decompression.** This is an extreme measure which can lead to brain damage or the death of the animals. It can however be used in emergencies after the aircraft commander has instructed the crew attendants to put on oxygen masks. It will lower the oxygen content of the cabin and, by producing anoxia, induce rapid unconsciousness of all the animals.

38. Where sedation and restraint fail to control a dangerous animal, or where suffering cannot be relieved, humane destruction should be considered. In deciding whether to order this, the aircraft commander should take into account that:

(a) **all** possible efforts have been made to calm the animal;

(b) the animal's behaviour constitutes a definite danger to the safety of the aircraft and its occupants and it is impossible to make a landing;

(c) all possible efforts have been made to reduce suffering;

(d) no other course of action is possible.

39. Where the aviation authority regulating the airline concerned permits, a captive bolt pistol should be carried. The bolts on pistols currently available produce a penetration ranging from 45 mm to 102 mm but the shorter bolt pistols are only suitable for small animals. In all cases the instrument must be fired with the muzzle placed firmly against the animal's head, using the positions shown in Appendix II. Where more than one position is shown, the first shot should be in position A.

40. The animal must be fully restrained to ensure that the bolt penetrates the brain which is comparatively small and is situated in the upper part of the skull. Stunning with a captive bolt pistol destroys part of the brain and results in immediate unconsciousness but does, not always result in death. To avoid the return of consciousness, animals should be pithed or bled. Where this cannot be done, a second shot to the back of the head will be necessary for horses and cattle to ensure that they are killed. The positions shown at B in Appendix II should be used for these second shots.

41. The aircraft commander is responsible for the security and use of any dangerous drugs or humane killers and there should be someone on the aircraft trained in their use. Humane killers should be kept in working order and regularly cleaned and inspected. If drugs are carried, they should be checked frequently with recommendations as to manufacturers storage and usage dates.

**LANDING**

42. The longer and more gradual the descent, the less stressful it appears to be to the livestock. During descent livestock may become apprehensive and in jet aircraft, when reverse thrust is applied, they may lose their balance. The attendant should therefore pay particular attention to the animals at these times.
43. The animals should be unloaded without delay and any auxiliary ventilation should not be switched off until unloading is completed.

44. Even short periods on the ground in hot countries can lead to a rapid deterioration in the environmental conditions in the aircraft and ground support equipment must be provided to ensure that air conditioning is adequate even for very short intermediate stops. Air crews should seek priority for this equipment for livestock cargoes.

45. During intermediate stops, except in emergency situations, only the attendant travelling with the animals should care for them. The use of local personnel could prejudice the welfare of the animals and increase the disease risk to them.

**POST-FLIGHT ARRANGEMENTS**

46. When animals are being removed from the aircraft, they should not be subjected to prolonged exposure to extremes of climate, noise, fumes, dust etc.

47. The exporter should ensure that proper arrangements have been made for the care, accommodation, feeding, watering and transport of the animals on arrival. All animals should be inspected on arrival at the airport for signs of ill-health, injury, disease or suffering. Any sick, injured or diseased animals should be segregated as soon as possible and, depending on the rules of the importing country, isolated for further examination or treatment. If the final destination is close to the airport, it will usually cause less stress for the animals to be taken there without delay rather than to be rested, fed and watered at premises near the airport, and later reloaded for the last part of the journey. Food and water should be provided as soon as possible but water intake should be restricted immediately after landing to prevent over-consumption.

48. Subject to any requirements of the importing country, if livestock become ill or die during the flight, the carrier should arrange for their examination by a veterinary surgeon on arrival. The carrier should report the full circumstances to the exporter in the UK who should inform his Animal Health Office.
The following animals should be carried in individual pens:

(a) a cow when accompanied by a calf or calves which it is suckling;
(b) a bull over 10 months of age, which should be haltered by the head or neck and not by the ring in its nose;
(c) a sow accompanied by unweaned piglets;
(d) a boar over 6 months of age;
(e) a mare with a foal at foot;
(f) a stallion.

The following may be carried with other animals in the same category but should be carried separately from any other animals:

(a) horned cattle which should also be tethered;
(b) cattle without horns;
(c) calves;
(d) Horned cattle and cattle without horns if all the animals are tethered by the head or neck;
(e) ewes when accompanied by unweaned lambs;
(f) rams over 6 months of age, which should be head haltered;
(g) weaned lambs under 3 months of age;
(h) other sheep;
(i) weaned piglets under 3 months of age;
(j) other swine
(k) female goats when accompanied by unweaned kids;
(l) male goats over 6 months of age;
(m) weaned kids under 3 months of age;
(n) other goats;
(o) assess;
(p) mules and hinnies;
(q) unbroken horses other than assess, mules and hinnies;
(r) broken horses, which should be tethered, other than asses, mules and hinnies;
(s) foals of any description under 9 months of age.

Tethered and untethered animals should not be carried together in the same receptacle or pen except for unweaned young being carried with a tethered female animal which is suckling them. When animals are tethered, a head collar is preferable to a halter.
APPENDIX II - HUMANE SHOOTING OF ANIMALS IN AN EMERGENCY

CATTLE
The instrument should be loaded with a Cash 2 grain or Temple Cox green crimped cartridge or the equivalent. Aim it at the point where imaginary lines from eye to ear cross except when shooting bulls or old and hard-headed beasts, when you should place the muzzle very firmly ½ in. (1 cm) to the side of the ridge that runs down the centre of the face.
Place the muzzle of the gun firmly and at right angles to the head, as shown at A in the illustration; extra care is required if the animal's head is tied close to the ground. Never fire while the animal is moving its head; wait patiently for a quiet interval before squeezing the trigger. If necessary a second shot should be made as shown at B.

CALVES
The instrument should be loaded with a Cash 1 ¼ grain or Temple Cox red crimped cartridge or the equivalent. Place the muzzle squarely on the middle line of the forehead, slightly lower than for adult cattle, as the upper part of the calf's brain is often very undeveloped.

GOATS
The instrument should be loaded with a Cash 1¼ grain or Temple Cox red crimped cartridge or the equivalent. Place the muzzle of the instrument behind the horns as shown by the point of the arrow and aim towards the animal's mouth, except for kids, when you should shoot from the front as for calves.

PIGS
The instrument should be loaded with a Cash 1¼ grain or Temple Cox red crimped cartridge or the equivalent. When dealing with heavy sows and boars a Cash 2 grain or Temple Cox green crimped cartridge or the equivalent should be used. Place the muzzle of the instrument about a finger's width above the level of the eyes or just to one side of the point where imaginary lines from eye to ear cross halfway across the forehead, aiming well up into the head. In the case of adult boars the muzzle of the gun must be placed to one side of the midline of the skull.
HORNLESS SHEEP AND RAMS

The instrument should be loaded with a Cash 1¼ grain or Temple Cox red crimped cartridge or the equivalent. When dealing with rams or heavy sheep a Cash 2 grain or Temple Cox green crimped cartridge or the equivalent should be used. Raise the animal’s muzzle gently by hand and then place the instrument firmly against the tip of the head as shown in the diagram and aim in the direction indicated by the arrow towards the gullet.

HORNED SHEEP AND RAMS

The instrument should be loaded with a Cash 1¼ grain or Temple Cox red crimped cartridge or the equivalent. If you are dealing with rams or heavy sheep a Cash 2 grain or Temple Cox green crimped cartridge or the equivalent should be used. Place the muzzle just behind the middle of the ridge which runs between the horns and aim towards the gullet.

HORSES, MULES AND DONKEYS

The instrument should be loaded with a Cash 2 grain or Temple Cox green crimped cartridge or the equivalent. If you are dealing with a foal a Cash 1¼ grain or Temple Cox red crimped cartridge or the equivalent can be used. In all cases a head collar, bridle or halter should be put on the animal and held by an assistant. Make all movements slowly. If the animal is restless it should be blindfolded. You must shoot above the eyes as the brain is in the upper part of the head. Particular care must be taken to place the muzzle high up as shown at A in the illustration, and to fire where the arrow points (halfway across the forehead). If the muzzle of the instrument is sloped place it flat on the forehead; the bolt will then be directed a little upwards. If the muzzle of the instrument is not sloped, tilt it very slightly so that the bolt will travel in the direction required. If necessary a second shot should be made as shown at B.