RULES GOVERNING FLIGHTS ON AIRWAYS

UPPER ATS ROUTES AND ADVISORY ROUTES

INTRODUCTION

1. The Americans first met the necessity for providing navigational assistance on long trans-continental routes. Once the facilities for navigation were available traffic gravitated to these routes which consequently became so congested that some form of control was necessary to ensure the safety of aircraft.

2. The first airways were introduced into the United Kingdom in 1951, and the system expanded rapidly. Following the American designation, airways were identified by a colour and a number, eg Amber One (A1) Green Two (G2). Originally the colour coding related to the overall direction of the airway. Amber for predominately North-South routes, Green for East-West and Red for North East - South West and North West - South East routes, but as the number of airways grew larger and the UK national airways system became part of a large international network of air routes, the colours ceased to have directional significance.

THE UK AIRWAYS SYSTEM

3. Airways are control areas established in the form of corridors and equipped with radio navigational aids, consisting of VORs, DMEs. NDBs and TACANS Usually they are 10 nm wide. The lower limit varies, being, in the case of an en-route portion of an airway, at least 1000 ft above the highest obstacle within 15 miles of the centre line. The lowest cruising level will always be at least 500 ft above the base of the airway.

4. Rules for Flights on Airways.

a. A Flight Plan must be filed. Airborne Flight Plans must be filed at least 10 mins prior to the ETA for controlled airspace joining point.

b. Clearance for the flight must be obtained from the appropriate ATC authority.

c. A pilot must have a valid instrument rating.

d. The aircraft must carry two-way VHF radio equipment on the notified frequencies.

e. The aircraft must carry specific radio-navigation equipment as follows:

Either: (1) VOR receiver, DME and ADF.

Or (2) Decca Navigator and Flight Log.

f. SSR Mode 3/A 4096 Codes, and MODE C must also be carried.

g. The flight must be conducted in accordance with ATC instructions and the CLEARANCE received.

5. Requirements for Comms, Nav Aids and SSR for flights on Airways, the Upper Airspace and the Hebrides UTA

a. 2-way VHF on the appropriate frequencies.

b. Either:

(1) VOR Receiver, DME and ADF

or

(2) Decca Navigator and Flight Log.

c. SSR 4096 Codes Mode A with Mode C capability.

6. Exceptions to SSR Requirements when flying under IFR in Controlled Airspace. The requirement to carry SSR equipment in UK airspace will not apply to:

a. Gliders.

b. Aircraft below FL100 in CAS receiving an approved crossing service.

No general exemption from the requirement will normally be given. The grant of an exemption will only be considered and issued in exceptional circumstances and for a limited period.

7. ATC Requirements for Flight On Airways. All aircraft flying along airways are required to adhere to IFR procedures at all times.

8. Flight Joining Airways. In flight requests for Airways Joining Clearance, are to include the following:

a. Identification.

b. Type.

c. Position and heading.

d. Level and flight conditions.

e. Departure aerodrome.

f. Estimated time at point of entry.

g. Route and point of first intended landing.

h. True airspeed.

j. Desired level on airway (if different from the above).

9. In order to prevent conflictions with other airways traffic, pilots should ensure that their aircraft are in level flight at the cleared flight level when they cross the boundary of the airway unless specific permission to do otherwise has been given by ATC.

10. Flights Crossing Airways in IFR. Aircraft may, without ATC clearance, fly at right angles across the base of an en-route section of an airway when the lower limit is defined as a Flight Level.

11. Pilots wishing to cross an Airway under Civil ATC control are required to file a flight plan, either before departure of when airborne and to request crossing clearance when at least 10 minutes flying time from the intended crossing point.

12. In flight requests are to include the following:

a. Identification.

b. Aircraft type.

c. Position and heading.

d. Level and flight conditions.

e. Position of crossing.

f. Requested crossing level.

g. Estimated time of crossing.

13. The following civil flights may cross or penetrate airways in VMC without compliance with the IFR requirements:

a. Gliders (by day, except purple airspace).

b. Powered aircraft (by day with clearance from the appropriate ATCC).

c. Powered aircraft on special flights (eg photographic survey) provided:

(1) Prior arrangements are made with the appropriate ATCC.

(2) ATC Clearance is obtained for individual flights.

(3) The aircraft can communicate on the appropriate airways frequency.

14. Procedures for Military Aircraft. Military aircraft flying along airways conform to the normal airways procedures.

15. Military aircraft crossing airways will do so either:

a. Under the control of an approved Air Traffic Control Radar Unit, or

b. Under a positive ATC clearance.

Except that:

(1) Military aircraft in an emergency, which require an immediate airways crossing, and cannot obtain a radar or procedural clearance, must cross at an intermediate 500 feet level whenever possible. A/c flying at quadrantal levels of whole thousands of feet are in all cases to climb 500 feet before entering the airway. After crossing, quadrantal levels must be resumed. The circumstances must be reported to the parent ATCC on landing.

(2) Aircraft may, without ATC clearance, fly at right angles across the base of an en-route section of the airway where the lower limit is defined as a flight level.

ADVISORY AIRSPACE

16. Outside Controlled Airspace, specified Advisory Areas and ATS Advisory Routes have been established. Advisory Service is available to all flights in these airspaces and it offers, in addition to standard Flight Information Service, a continuous separation service to all aircraft which participate. Participation is achieved by carrying-out the requirements given in Para 17. However, participation is not compulsory and the effectiveness of the service is determined by the extent to which aircraft comply with the procedures. Pilots are urged to make use of the service whenever flying in Advisory Airspace.

17. Rules for Flights on ATS Advisory Routes

a. A Flight Plan must be filed.

b. When aircraft are operated on an Advisory Route directly associated with an airway (eg D W2) they should carry the communication and navigation equipment prescribed for the airway.

c. A listening watch on the appropriate frequency maintained.

d. Position reports must be made at:

(1) Designated reporting points.

(2) On request reporting points as required by ATC.

e. Pilots may cancel IFR plans at any time by notifying ATC.

THE UK UPPER AIRSPACE SPECIAL RULES AREA AND UPPER ATS ROUTES

18. The dimensions of the UK Upper Airspace SRA are roughly the same as those of the MRSA, ie it extends from FL 245 to FL 660 and covers much the same area. The special rules within this area apply only to General Air Traffic. The SRA contains a network of Upper ATS Routes between FL 250 and FL 460 which follow the same general pattern as the airways system. Above FL 460 routes will be allocated by ATC. These air routes are designed not only for domestic flying but to cater for the complex traffic patterns created by aircraft flying on to the North Atlantic from Western Europe and the Mediterranean.

19. Rules for Flights Within the UK Special Rules Area

a. A Flight Plan must be filed. Airborne flight plans must be filed at least 10 minutes before entry into the SRA.

b. Clearance to enter the Airspace must be obtained from the appropriate ATC Unit.

c. The pilot must maintain a listening watch on the appropriate frequency.

d. The flight must be conducted in accordance with ATC clearance and instructions.

e. SSR 4096 Codes Mode A and Mode C must be carried.

f. Navigation equipment as for airways must be carried. (See Para 5)

20. Hebrides Upper Control Area (UTA). The remaining portion of the UK Upper Information Region not occupied by the Upper Airspace Special Rules Area is designated the HEBRIDES UPPER CONTROL AREA, which extends vertically from FL 245 to FL 660. The rules for flights within this area are as detailed under the requirements for flights on airways in Para 4.

NOTE 34

RADAR SERVICES AND METHODS OF IDENTIFICATION - CIVIL

INTRODUCTION

1. Civil Area Radar units are seldom autonomous. Normally, they operate as an integral part of a parent ATCC, providing radar services for airways and Upper ATS routes. They may be located within the ATCC (West Drayton) or they may be remoted as in the case of Eastern radar civil at Watton who provide services for West Drayton.

SERVICES PROVIDED

2. The radar services provided are as follows:

a. Flights within Controlled Airspace and Special Rules Airspace - Radar Control Services.

b. Flights outside Controlled Airspace and Special Rules Airspace - Radar Advisory Service.

RADAR CONTROL SERVICE

3. Radar Control Service includes:

a. Radar separation of arriving, departing and en-route flights. S

b. Radar monitoring of arriving, departing and en-route flights, to provide information for the non radar controller. M

c. Radar vectoring as required. V

d. Assistance to aircraft in emergency. E

e. Assistance to aircraft crossing Controlled Airspace. C

f. Warnings and position information on other aircraft considered to constitute a hazard. W

g. Information to assist the navigation of aircraft. N

h. Information on observed weather. (MNEMONIC "Womens VC") O

RADAR ADVISORY SERVICE

4. Radar Advisory Service is given principally on Advisory Routes and within Advisory Service Areas. Elsewhere, an en-route radar service may be given on request to the appropriate radar unit, provided that the radar is suitable and the main task is not jeopardised.

5. The radar advisory service includes the items listed under paragraph 3, with one exception. No assistance may be given to aircraft crossing Controlled Airspace.

6. Whenever possible, traffic information on unknown traffic will be passed. Avoiding action is given if requested by the pilot or considered necessary by the controller. As far as possible, account is taken of the Rules of the Air when giving avoiding action. The final responsibility for the avoidance of collision rests with the pilot. Outside Controlled Airspace, radar service should not be provided within 10 miles of the perimeter of the radar display or permanent echoes and other clutter, except when specific operations will not enable this criteria to be met.

IDENTIFICATION

7. Before providing a radar service, an aircraft must be identified by one of the following methods.

Mil question see Mil lesson note *

a. Position Report Method

(1) By correlating a particular radar echo with an aircraft reporting over a prescribed position, displayed on the video map or plotted on the radar map overlay, provided the observed track is consistent with the route of flight or reported aircraft heading. (When employing this method, the controller should exercise caution, especially if the aircraft is at a high level or if the reporting point is a long distance from the associated navigational aid, as these factors may lead to inaccurate reporting.)

(2) By correlating a particular radar echo with an aircraft's position reported in terms of a VOR radial combined with a range from a DME or TACAN (DME) co-located or serving the same location. The facilities used should be displayed on the video map or map overlay.

NOTE: The above methods may be used provided the aircraft's reported position and level are within radar cover, as shown in the unit coverage diagram and the aircraft was routed along published ATS routes or SIDs immediately prior to the prescribed point. When returns are observed in such proximity as to casue doubt about the identity, another method of identification must be used. Before an aircraft is cleared below the published safety altitude, identification must be confirmed by one of the other methods listed below.

b. The Turn Method. By instructing a pilot to carry out one or more changes of heading which can be readily observed on the radar display; or by observing changes of heading reported by a pilot; or by observing changes of heading as instructed by another controller. In all cases, changes of heading must be at least 30°, and follow a period of track observation of an aircraft's known heading.

c. Departing Aircraft Method. By correlating the radar echo of a departing aircraft to a known airborne time. Identification to be achieved within 1 nm of the end of the runway, unless authorised by NATS HQ.

d. Secondary Radar Method. When secondary radar is used, aircraft may be identified by one or more of the following methods.

(1) By observing compliance with a four digit code setting instruction.

(2) By observing an IDENT feature when it has been requested.

(3) By recognising an individual 4 digit code assigned to the aircraft callsign.

(4) ON/OFF procedures. By instructing the pilot to switch the transponder to STAND-BY and back to ON.

e. Radar Handover Method. By radar handover if the observed track is consistent with the reported track or heading. Radar handovers may be effected by one of the following methods:

(1) Pointing with the finger when displays are adjacent or a conference display is being used.

(2) Designation of the radar echo by a bearing and distance from a reference point displayed on both radar displays, provided that the echo, as seen by the accepting controller, is within 3 nm of the position stated by the transferring controller. (Where the bearing is designated by points of the compass, the distance must not exceed 15 n mls or 30 n mls if the aircraft is tracking along on ATS route displayed to the accepting controller. Where the bearing is designated in degrees, the distance must not exceed 30 n mls.)

(3) By designation of the radar echo by positioning an electronic marker or symbol so that only one radar echo is indicated and there is no possible doubt of correct identification.

(4) By designation of the radar echo by reference to a GEOREF video map, provided that the echo is seen by the accepting controller is within 3 miles of the position stated by the transferring controller and authorised procedures are included in unit instructions.

(5) By use of a radar tracking system whose authorised procedures are included in unit instructions.

LOST IDENTITY

8. Whenever radar identification is lost, the pilot of the aircraft concerned is to be advised at once.

PRINCIPLES OF RADAR OPERATION - CIVIL

1. A radar echo which cannot be associated with an aircraft known by the radar controller to be operating within the airspace concerned shall be considered to represent an unknown aircraft.

Action to be taken by controllers to avoid unknown aircraft in various types of airspace is tabulated below.

Table: Unknown Aircraft–Action by Controller

Type of Airspace	*Type of Service*	*Action To Be Taken by Controller*
Controlled airspace subject to Rule 21, and Special rules airspace in which all flights are subject to the authority of air traffic control (except UAS--see below).	Radar Control Service	Neither avoiding action nor traffic information is to be given unless information has been received which indicates that a particular unknown aircraft is lost or has experienced radio failure.
Controlled airspace NOT subject to Rule 21, and Special rules airspace in which flight without ATC clearance is permitted in certain weather conditions.	Radar Control Service	Pass traffic information unless the primary function of sequencing and separating IFR flights is likely to be compromised. If a pilot requests avoiding action it shall be provided to the extent determined by the radar controller. Give avoiding action if information is received which indicates that a particular unknown aircraft is lost or has experienced radio failure.
Upper Airspace special rules area.	Radar Control Service	(a) Within the Military Mandatory Radar Service Area (MRSA). Neither traffic information nor avoiding action will be given unless information received indicates that an unknown aircraft is lost or has experienced radio failure. (b) Outside the MRSA. Traffic information will be passed provided that this does not compromise the controllers' prime task of separating traffic under his control. Avoiding action will be given at the request of pilots or if information received indicates that an unknown aircraft is lost or has experienced radio failure.
Outside controlled and special rules airspace.	Radar Advisory Service	Whenever practicable, pass traffic information. Give avoiding action if considered necessary or requested by the pilot (where possible according to the Rules of the Air). *It is recognised that, because of the sudden appearance of unknown aircraft and the difficulty in predicting changes of flight path, it is not always possible to provide the standard radar separation.*

POSITION INFORMATION

2. Aircraft should be informed of their position in the following circumstances

a. On first identification (except where the aircraft is operating inside controlled airspace, or the upper airspace, under the control of an Area Radar Unit, the pilot need only be so informed if the identification is by the turn method.

b. When the pilot requests the information.

c. When the aircraft is flying off the correct track.

d. When an aircraft estimate differs significantly from the radar controller's estimate based on radar observation.

e. When the pilot is instructed to resume his own navigation following radar vectoring.

3. Position information may be passed in one of the following forms:

a. A well known geographical position.

b. Bearing (using points of the compass) and distance from a known position.

c. Magnetic track and distance to a reporting point, an en-route navigational aid or an approach aid.

d. By Lat and Long (specific area radar units only).

e. Distance from touchdown if aircraft is on final approach.

TERMINATION OF SERVICES

4. Non radar separation must be provided before radar control is terminated or if a radar handover is not to be effected, before an aircraft enters an adjacent sector. A pilot will be advised when radar serivce is discontinued.

TERRAIN CLEARANCE

5. Terrain clearance is to be applied as follows:

a. Airways or Advisory Routes. 1500 ft above any fixed obstacles within 15 miles of the centre-line of an airway or advisory route.

b. Outside Airways or Advisory Routes. 1500 ft above any fixed obstacle within 30 miles of the aircraft.

SEPARATION AND VECTORING

6. Radar separation is not to be used between aircraft holding over the same navigational aid. Identified aircraft operating within controlled airspace are deemed to be separated from unknown aircraft flying in adjoining uncontrolled airspace. Whenever practicable, however, the radar controller should aim to keep aircraft under his control at least 2 miles within the boundary of controlled airspace.

/EATHER AVOIDANCE

7. Action by the Controller. Whenever possible, controllers should offer the following advice and assistance to pilots concerning weather observed on radar or reported by aircrew:

a. Advise the pilot when the radar display indicates there is weather ahead.

b. Offer and supply circumnavigational assistance.

c. Advise the pilot if the re-routing will take the aircraft outside controlled airspace. The pilot will decide whether to accept re-routing.

d. Provide navigational assistance if necessary.

e. Provide radar advisory service if necessary.

8. Action by the Pilot. When operating in controlled airspace the pilot is required to obtain a clearance for any proposed detours due to storm centres.

9. If weather avoidance takes an aircraft outside controlled airspace, the pilot is required to obtain a clearance before re-joining.

WITHDRAWAL OF SERVICE

10. In the event of clutter on the radar display, it is the responsibility of the radar controller to decide whether or not radar services shall cease to be provided. Non-radar separation must be provided between all aircraft under control before withdrawing radar service.

RADAR FAILURE

11. In the event of radar failure, the radar controller, shall inform the aircraft under control of the failure and in conjunction with the non-radar controller, shall provide non-radar separation as soon as possible and instruct aircraft to communicate with the appropriate non-radar controller. Reduced vertical separation (500 ft below FL 290 or 1000 ft above FL 290) may be used temporarily if standard separation cannot be provided immediately.

TRANSFER OF CONTROL

12. Transfer of control is achieved when a flight, which is operating in accordance with the co-ordination, has reached the position or level agreed between the transferring and accepting units.

Transfer of control normally takes place:

a. At an agreed reporting point

b. On an estimate for an FIR boundary

c. At or passing an agreed level, or

TRANSFER OF COMMUNICATION

13. Transfer of control must not be confused with transfer of communication which may be permitted so that instructions, which become effective later, can be issued. It is emphasised that an accepting air traffic service unit which is in communication with an aircraft not having yet reached the stage of transfer of control shall not alter the clearance without the approval of the transferring unit.

RADAR RELEASE

14. In order to expedite traffic, an aircraft may be released to another unit under a condition that radar will be used where necessary to provide separation from any specified traffic which may conflict with the released aircraft's further progress. The release message must be prefixed with the words 'radar release' and must contain flight data concerning any other aircraft which is in potential conflict with the released aircraft's progress. All such traffic must communicate with the accepting controller before the release becomes effective unless the transferring controller is able to transfer radar identity, in which case it is for the accepting controller to decide whether or not he needs to communicate with this traffic for the provision of radar separation. In either case the track or flight level of the conflicting traffic must not be changed without further co-ordination with the other controller involved.

NOTE 36

RADIO FAILURE PROCEDURES

INTRODUCTION

1. The basic procedures to be adopted in the event of a radio communication failure in the aircraft are detailed in the UK Air Pilot. However, since it is impossible to provide for all contingencies in regulations, there are also some supplementary procedures to deal with certain situations not covered by the basic procedures.

BASIC PROCEDURES

2. Action by Pilots. The basic procedures to be adopted by pilots are as follows:

a. Continue the flight in accordance with current flight plan to holding point of destination airfield. Maintain last cleared FL or F/Plan level. Operate secondary radar transponder on Mode A, Code 76 (7600). C

b. Arrange the flight to arrive at holding point as closely as possible to ETA. A

c. Transmit position reports as normal in case transmitter is still functioning. T

d. Commence descent over holding point on EAT, or ETA if no EAT has been received. Descent must begin within the 10 minutes immediately following EAT or ETA, and the descent rate must be at least 500 ft per minute. Do not adopt this procedure if "Delay not determined" has been given. C

e. If unable to land within 30 minutes from the time descent should have started, then leave vicinity of the airfield and any associated controlled airspace on the laid down routes. U

f. In the event of a missed approach, land at destination if this can be achieved within the 30 minute period allowed; otherwise fly to another airfield. M

PROCEDURE FOR "OTHER FLIGHTS"

3. Aircraft which may not adopt the basic procedure
or
Aircraft unable to land within 30 mins
or
Aircraft given "Delay not Determined" will carry out the following procedures:

a. Leave controlled airspace on the specified route and at the specified level and either:

(1) Fly to an area where VMC Flight is possible and land at a suitable aerodrome, or (if this is not possible)

(2) Select a suitable area to descend through cloud, fly visually to a suitable aerodrome and land.

b. In either case, inform the ATC Service as soon as possible after landing.

SUPPLEMENTARY PROCEDURES

4. The following procedures are to be adopted under the circumstances shown:

a. Flight is planned to enter controlled airspace. If a flight plan has been filed and a clearance has been received before radio failure occurs, the pilot should adopt the basic procedure; if no clearance has been received, but the following four points have been complied with, the aircraft may also proceed.

(1) Contact with controlled airspace controlling authority or associated FIC by radio.

(2) File airborne flight plan.

(3) Request clearance into controlled airspace.

(4) Request for clearance has been acknowledged by ATC.

b. Radio Failure after Take-Off in a control zone:

(1) If still on airfield frequency when failure occurs: Return to airfield maintaing visual contact, or leave the zone as cleared and adopt the "Basic" procedure or land elsewhere.

(2) If cleared to contact ATCC, adopt the "Basic" procedure.

c. Radio Failure on a "RLCE" Type of Clearance:

(1) Proceed in accordance with the clearance given. Climb to the assigned level within controlled airspace.

(2) Turn left or right 60° and leave controlled airspace.

(3) When clear of controlled airspace climb to flight planned level, remaining clear for at least 5 minutes and crossing any airway at an intermediate 500 ft level.

(4) Rejoin airway at flight planned level before leaving UK FIR boundary.

d. Radio Failure on a "Radar" Clearance:

(1) Proceed in accordance with the clearance given and climb to assigned level/altitude within controlled airspace.

(2) After passing the last reporting point at which a level restriction is specified, climb to flight planned level on route in CAS.

Action by Radar Controller

5. a. Airways Radar

(1) Failure of Ground Radio Equipment. All identified aircraft shall be plotted and the procedural controller kept advised of the progress of aircraft, using height finder information if available.

(2) Failure in Identified Aircraft's Radio Equipment. Establish whether the aircraft's receiver is working by asking the aircraft to execute a turn or by the use of SSR. If a complete failure, all other aircraft under radar control should be given separation from the radio failure. Give information about the movements of the radio failure aircraft to other aircraft in the vicinity.

(3) Radio Failure in Unidentified Aircraft. Aircraft that are under radar control may be climbed/descended through the level occupied by the radio failure provided radar cover is adequate and workload permits the controller to provide 5 miles separation from ALL unidentified responses.

b. Military - Open FIR. If an aircraft experiences radio failure whilst under radar control or Advisory Service, controllers are to establish whether the failure is partial or complete as follows:

(1) Partial: (Receiver Functioning)

(a) Instruct the aircraft to turn 30° left or right to ascertain if the receiver is still functioning. If the instruction is complied with, return aircraft to its original heading and continue radar service.

(b) Ask the aircraft to check serviceability on other R/T channels.

(c) If transmitter is unserviceable on all channels inform the next interested ATC agency.

(2) Complete:

(a) Continue to track the aircraft to destination, transfer point, or limit of cover.

(b) Inform the Duty Controller at the appropriate ATCC.

6. Use of Secondary Radar during Radio Failure. Instead of instructing the aircraft to make turns to ascertain if the aircraft's receiver is functioning, the aircraft may be instructed to make Mode or Code changes or to operate IDENT or I/P.

7. Military Radio Failure. If the aircraft's transmitter is not working, or complete radio failure has occurred whilst flying outside controlled airspace, pilots are advised to use the following procedures:

a. If proceeding in accordance with standard radio failure procedures and it appears feasible to complete the flight as planned, the pilot should select the ICAO radio failure code 76(00).

b. If lost or uncertain of position, or if no flight plan has been filed and it does not appear feasible to complete the flight in accordance with standard procedures the pilot in command shall:

(1) Switch SSR to emergency code or

Switch IFF/SIF to squawk emergency.

(2) Continue to attempt to make radio contact and listen out on the appropriate emergency frequency.

(3) If the receiver only is operating, select the appropriate emergency frequency, and fly a triangular pattern to the RIGHT holding each heading for two minutes for aircraft flying at or less than 300 knots TAS, and one minute for aircraft flying above 300 knots TAS. The aircraft should fly at the best endurance speed and turns should be made as tight as practicable; at least two such patterns should be completed before resuming the original heading, and then the pattern should be repeated at intervals.

(4) If both receiver and transmitter are inoperative, fly a pattern similar to that described at sub-paragraph (3) above but to the left.

(5) The ground radar authority observing the above procedure is simultaneously to:

(a) Endeavour to contact the aircraft on the appropriate emergency frequency, pass instructions if the aircraft receiver is serviceable, and continue to pass suitable instructions if the aircraft is observed to be complying.

(b) Report the incident to the appropriate agency for obtaining immediate assistance by shepherd aircraft.

(c) Inform the appropriate Air Traffic Control authority of the position, and if possible of the altitude of the aircraft in distress, in order to clear the path of the aircraft and thus avoid risk of collision.

8. R/T Failure when Crossing an Airway. In the event of an R/T failure when crossing an airway under the control of an ATCRU, the pilot should maintain the last assigned heading and flight level until clear of CAS.