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Legal Aspects and Insurance of the Liability of civil aerospace products manufacturers in the EEC, for damage to third parties.

by

Jean-Michel Fobe

Licentiaat in de Rechten
Licence Spéciale en Droit Maritime et Aérien

Institute of Air and Space Law
McGill University, Montreal

August 1993

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Master of Laws.

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ISBN 0-315-94552-4

Canada

Short title

Aviation products liability and insurance in the EEC.

TABLE OF CONTENT

ABSTRACT

Civil aerospace products manufacturers in the EEC may, as in the USA, be called into litigation as co-defendant following an aircraft accident by the victims or their dependents. As opposed to the airlines, their liability is not limited by international conventions.

This thesis examines their liability and insurance in case of damage to third parties after the entry into force of EEC Directive 85/374 on liability for defective products.

First, a brief description will be given of the evolution of the aerospace industry in Europe and its governmental regulation through certification. In the second part we will examine the evolution of product liability in Europe. The main focus will be on the Directive. After a discussion of aspects of conflict of laws and enforcement of judgments, the particulars of aviation products liability in Europe will be looked at. Finally, we will consider aviation product liability insurance.

RESUME

En Europe, comme aux USA, les constructeurs aéronautiques peuvent être poursuivis comme co-responsables par les victimes ou leurs ayants droit en cas d' accident d' avion. Contrairement aux transporteurs leur responsabilité n' est pas limitée par des conventions internationales.

Cette thèse étudie leur responsabilité et assurance en cas de dommage aux tiers après l' entrée en vigueur de la Directive CEE 85/374 concernant la responsabilité civile produits.

D' abord nous examinerons l' évolution de l' industrie aérospatiale en Europe et son contrôle gouvernemental par la voie de la certification. La deuxième partie concerne l' évolution de la responsabilité civile produits en Europe et en particulier la Directive. Après une discussion des aspects du droit international privé et de l' exécution des jugements, les particularités de la responsabilité produits aéronautiques seront analysés. La dernière partie traite de son assurance.

ACKNOWLEDGEMENTS

This thesis would not have been possible without the kind assistance of several people and organizations. They have given generously of their time and support.

In particular, I am indebted to my supervisor, Professor Peter Haanappel whose advice, suggestions and criticisms have been most helpful.

I would like also to thank Jacques Verwilghen of Aviabel, Jean-Pierre Vlérick of Sabca, Geoff Shumann of Aecma, Hektor Kerr Smiley of Bowring Aviation, Peter Madge of Willis Corroon, Jean-Michel Gicquel of La Réunion Aérienne, the directors and staff of AAU, USAIG, The Rand Corporation of Civil Justice, the partners and staff of Beaumont and Son in London, and all the others who gave me access to their documentation. The cooperation and assistance I received from the staff of the Law Library of the McGill University and the Katholieke Universiteit Leuven was also very appreciated.

My final words of appreciation are certainly due to my wife Vinciane for her patience and constant encouragements. This thesis is dedicated to her and our two little daughters Aurélie and Séverine.

I. Introduction

A. The European Aerospace Industry

1. From small national entities to multinational consortia

Since the early days of aviation some European pioneers have evolved like their counterparts in the United States and elsewhere from enthusiastic homebuilders to businessmen heading huge industrial entities. Over the years the structure of the industry has changed with progressive assimilation of most of the numerous small companies into today's large enterprises which trade on the world market. This evolution has both responded to and contributed to the steady and sometimes dramatic growth in the role of aviation in the economy and society in Europe[1]. This was also parallelled with a steady growth over the last 30 years in the practice of transfrontier cooperation between European companies for the development and production of advanced aerospace products.

In the aeronautical field the manufacture of aircraft and helicopters in Europe reached the point already some time ago where no major development was being undertaken which did not

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[1]Commission of the European Communities, Toward a programme of Strategic Measures in Aeronautical Research and Technology for Europe, COM(88) 294 final, Brussels, 7 June 1988, p. 2.

involve cooperation across frontiers[2]. To illustrate this we have reprinted here a table from the EEC Commission on the main cooperative aircraft programmes in the past ten years with the participating companies[3]. They include both military and civil applications.

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[2]For a detailed discussion on cooperation in the civil aerospace industry see : G. Joucla, La Coopération Internationale dans les Industries Aéronautiques Européennes, Paris, Librairie Générale de Droit et de Jurisprudence, 1971; W. Spreen, International Cooperation in the Aerospace Industry : Objectives, Structure, Performance, thèse doctorale auprès de l' Institut d'Administration et de Gestion, Université Catholique de Louvain,1986 [unpublished]; K. Hayward, International Collaboration in Civil Aerospace (London: Frances Pinter(Publishers), 1986).

[3]COM(88) 294 final Annex A.

TABLE 1: The main cooperative aircraft programmes in the EEC

	AS	AMD-BA	AIT	BAe	CASA	DORNIER	FOKKER	MBB	SABCA	OTHERS
CIVIL AIRCRAFT										
Airbus A300/310/320/330/340	●			●	●	●	●	●	●	
ATR 42/72	●		●							
Concorde	●			●						
Fokker F.27/Fo-50, F.28/Fo-100		●					●	●	●	●
MILITARY AIRCRAFT										
Jaguar		●		●						
Tornado			●	●				●		
Alpha Jet		●				●			●	
EFA			●	●	●	●		●		
Transall	●							●		
Atlantic -1/-2	●	●	●			●	●		●	
HELICOPTERS										
Puma	●								●	●
Gazelle	●									●
Lynx	●									●
EH 101									●	●●
HAP - HAC/PAH 2	●							●		●
NH 90	●						●	●		●
A129 LAH					●		●			●

OTHERS: SHORTS AGUSTA WESTLAND

The latest successes of the European Space Agency and Arianespace with the Ariane launcher and in particular Ariane 4 at a time that the Space Shuttle was grounded have also shown the capability of European cooperative space ventures.

The European Aerospace Industry employs some 480,000 persons and has a consolidated turnover of about ECU 50,000 million, more than a nine-fold increase since the early 1970s.[4] The exports of the European Aeronautics Industry outside Europe represent 30% of turnover (the figure for the aircraft sector alone is about 40%). The average ratio of R&D expenditure to the European Aerospace Industry turnover is near 15%. The US industry ratio however is markedly higher, at about 25%. (These values are based on 1985 data.)[5]

For fifteen years, between 1965 and 1980, the European Aerospace industry grew continuously at the international level. Its relative weight against the American aerospace industry regularly increased. In 1965 the value of the European production represented only 18% of the American. This figure increased to 20% in 1970, 39% in 1975 and culminated in 1980 with 52%. From this year on with the rise of the US dollar against the European currencies (+ 82% from 1980 to 1985) and, to a lesser extent, the important growth of the US military market (+ 67% in

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[4]US figures are respectively 0,95 million persons and an equivalent industry turnover in ECU of 82,775 million; numbers taken from: Commission of the European Communities "The European Aerospace Industry - Trading Position and Figures 1992".

[5]Euromart Study Report, Executive Summary Published April, 1988 at 14.

constant dollars from 1980 to 1985), a downturn in favour of the US market has occurred with a low point in 1985 for the European aerospace production when it represented only 29% of the US production. Since 1985, with the depreciation of the US dollar and the pause in the military budget, a new increase in the relative weight of the production of the European aerospace industry became was noticeable, with 43% of the US production in 1987[6].

In the EEC the aerospace production comes mainly from four countries : The United Kingdom, France, Germany and Italy. France and the United Kingdom have a similar weight in terms of turnover and are competing for the first place with each having approximately 30% of the European production. The German industry is progressing regularly through its participation in almost every cooperative program with the French and British industries and its share is now approximately 25% of the European production. Italy also develops its production steadily and arrives at a share between 8 and 10% depending of the years. Three other countries, the Netherlands, Belgium and Spain - whose industry is the youngest - also have a notable production in this field and their development comes mainly from participation in international cooperative programs, but also in national programs eg. in the Netherlands : small commercial transport jets and commuters and in Spain : commuters and trainers.

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[6]AECMA, European Industrial Outlook - Aerospace Industry (Paris : August 1988) at 3.

The production is divided into four technical sectors :

1) airframes (aircraft, helicopters and missiles) for 49.2% of the total in 1986

2) engines 17.6%

3) equipment (mainly electronic and hydraulic) 27.8%

4) space products (launchers and satellites) 5.4%

Another major division is the military sector v. the civil sector. Although the production of military equipment is largely dominant, its importance is decreasing relatively from 70% in total production in 1980 to 64% in 1986 due to the growth of the civil production. The European military aerospace production consists mainly of fighter aircraft (Tornado, Mirage F1 and 2000, Harrier), trainers (Alfajet, Hawk), military helicopters and missiles of various natures.

In the civil sector the comeback of the European industry on the world markets is really the most significant fact of the last decades. In the mid 70s, the European production was only marginal with 5% because of its absence in the field of the narrow bodied jet aircraft. Airbus Industries, created in 1970, has with the A300 and the A310 created a strong niche in the world market of the wide bodies, the large civil airliners, previously dominated by the US manufacturers[7]. The combined expertise and industrial strength of the Airbus partners- Aerospatiale, MBB, British Aerospace, CASA, and associates

[7]For a detailed history of Airbus Industrie see : L. Bogdan, L'Epopée du ciel Clair - de Lindbergh à l'Airbus, Paris, Hachette, 1988.

Belairbus and Fokker - established a very high reputation for quality in the airline industry, with technical innovation. The introduction of the smaller 150 seat airliner A320 in commercial operation with Air France and British Airways in April 1988 and total sales and commitments for more than 500 aircraft is confirming the market penetration of the European industry. With the start of the programs for the A330 and the A340 in the spring of 1987 the Airbus family will also be able to compete on the market for the large intercontinental airliners. In 1991 Airbus delivered 25 A-300, 19 A-310 and 119 A-320, thus securing about 1/5 of the world market for large commercial transport aircraft by numbers delivered. In terms of orders, Airbus had nearly 25% of the market (in numbers of aircraft). By mid-1992, the Airbus order book amounted to 837 aircraft, made up of 88 A300, 48 A310, 335 A320 144 A321, 143 A330 and 115 A340.

Despite the success of the Airbus consortium, the United States is still the unchallenged leader in the world aerospace market: the whole of the European aerospace industry produces less than the four leading American manufacturers. However, this domination became somewhat attenuated during the 1980s: the value of American production fell from 326% of European production in 1982 to 238% in 1991, owing to the slowdown in American sales of military equipment coupled with the growth in European civil production[8].

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[8]Figures taken from the draft of "Panorama of the EC Industry 1993 - Aerospace" at 2.

In July 1990 the Commission of the European Communities adopted a communication on the European aircraft industry. This formed part of the industrial policy approach as defined by the Commission in its Communication on industrial policy in an open and competitive environment of November 1990. It that document it stressed the importance of the completion of the internal market and its implications for companies' structures in connection with an increase in competition on the international market. The Commission considers that the aircraft industry is an important industrial sector considering in particular the considerable opportunities opened up by this industry for the transfer of technologies to other industrial sectors. A second Communication was adopted in April 1992[9]. Herein the Commission noted that the aircraft industry has to cope with structural adjustment problems, after a period of sustained development and that despite enormous efforts, at both national and European level, the European aircraft industry is still suffering from the effects of excessively long partitioning of its industrial structures, particularly in the equipment sector.

In response to the Commission's second communication the Association Européenne des Constructeurs de Matériel Aérospatial[10] (AECMA) produced a position paper: The European

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[9]Commission of the European Communities, The European Aircraft Industry: First assessment and possible Community actions, COM(92) 164 final, Brussels, 29 April 1992, p.1.

[10]See discussion of AECMA and its structure hereunder at I.A.2.

Aeronautical Industry Towards the 21st Century[11]. According to AECMA the industry is confronted by great opportunities and major challenges. Part of the challenges arise from factors internal to the industry. External developments are, however, not less important like the changing East-West relationship and consequent changes of defence forces levels; changes in the international framework for regulating state aids and tariffs applied to aeronautical products resulting from US pressures and the growing influence and scope of European Community laws and measures in the context of the Single Market.

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[11]Association Européenne des Constructeurs de Matériel Aérospatial, The European Aeronautical Industry Towards the 21st Century, AECMA/23396/92.

2. AECMA and the national trade organizations

The 'Association Européenne Des Constructeurs De Matériel Aérospatial' is an association under French Law. It was created in 1950, first under the name of AICMA - Association Internationale des Constructeurs de Matériel Aérospatial - but since 1973 under its current name and, after a review of its regulations in 1974 to highlight its more specific European vocation, with the aim of establishing a direct forum for senior management in the European Aerospace Industry to discuss subjects of mutual concern and interest. Its membership comprises the national aerospace trade associations from nine European countries[12]. The members of these national associations are the domestic aerospace manufacturing companies in each country and therefore it can be submitted that AECMA is representing the entire European Aerospace manufacturing industry.

The objective of the Association is to promote the development of the Aerospace Industry in Europe by making it more competitive as a whole, and by trying to create, for its benefit, a domestic European market. To meet this objective the Association studies

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[12]The AECMA member National Associations are : for Belgium, GEBECOMA (Groupement Belge des Constructeurs de Matériel Aérospatial); for Denmark, F.D.F.F.(Foreningen af Danske Fabrikanter af Flymaterial); for France, GIFAS(Groupement des Industries Françaises Aéronautiques et Spatiales); for Germany, BDLI(Bundesverband der Deutschen Luftfahrt-, Raumfahrt- und Ausrustungsindustrie e.V.); for Italy, AIA(Associazione Industrie Aerospaziali); for The Netherlands, NAI(Netherlands Aerospace Industries); for Spain, ATECMA(Agrupacion Tecnica Espanola de Constructores de Material Aerospacial); for Sweden, SAI(Swedish Aerospace Industries and for The UK, SBAC(Society of British Aerospace Companies).

all the problems linked with this, aiming to find solutions and define strategies which will benefit mutually all its members. It represents its members before all qualified bodies, and especially before European Economic Community authorities. Its activities at the world level are conducted mainly through ICCAIA[13] and at ICAO[14].

The Association's decision making body is its Board of Directors, which is responsible, ultimately, for reviewing work programmes and initiating new studies for AECMA to undertake. The Board members are the AECMA President and Vice-Presidents, and the Presidents of the National Associations.

The three principal industrial sectors, Engine, Airframe and Equipment are represented individually in Sectoral Groups which meet to discuss issues relevant to their representative sector. A Coordinating Committee facilitates a liaison between the Sectoral Groups. AECMA has approximately ninety working bodies, grouped into Commissions, Committees and Working Groups. Only a brief description of the activities of the most important commissions can be given hereafter.

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[13]ICCAIA is the International Coordinating Council of Aerospace Industries Associations. It groups together the aerospace industry associations of the United States, Canada, Europe and Japan.

[14]ICAO, the International Civil Aviation Organization.

Economic Commission (CE)

The Economic Commission of AECMA is responsible for studying economic, financial and administrative problems which arise at a European level as a consequence of international cooperation in the aerospace field. Product Liability is a particular concern within the Economic Commission and a working group constantly is monitoring developments in this subject. Their objective is to promote, via the responsible authorities and organizations and in liaison with other manufacturers, worldwide, a better protection of consumers' and manufacturers' interests where they are concerned in cases of air catastrophes. At the same time, a second group under the direction of the Economic Commission, is studying questions of industrial ownership of software and protection against unauthorized copies.

In 1968, the Economic Commission circulated amongst its members a Recommendation on "The Administrative Clauses of International Contracts" for harmonizing the different national practices. It also circulated a study on "The various Market Price Elements in European Aerospace Manufacture" to allow, as far as possible, a comparison of costs of production on the intra-European level. On 25 March 1975, the Economic Commission organised a Conference attended by Governments and Industry, on Product Liability of aircraft manufacturers and opened the dialogue with the national Governments, to whom it submitted the broad outlines of a plan

covering "catastrophe risks"[15]. In October 1977, the Economic Commission presented a "Report" which was examined by a joint Government/Industry meeting held on 20th February 1979 in Paris, with the participation of all the AECMA countries. Following this meeting, the Economic Commission made contact with the qualified representatives from the European Aerospace Insurance Market, in order to know their point of view. A new joint Government/Industry meeting was held in Paris on 29th April 1981 with Insurance observers, based upon a new report giving the Insurers' position. Following this meeting a synthesis[16] stating the points of agreement and disagreement was issued, and a complementary report[17] agreed to be used as a new platform for discussions between Governments and Industry. In the mean time contacts were resumed with the Insurers, on the basis of a questionnaire[18].

The Economic Commission also in 1980 adopted a position on the "Draft Community Directive on Strict Liability". AECMA made its position on this Directive known to the European Communities Commission and asked that the Development risk be taken into consideration and that Limitation of Liability be permitted[19].

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[15]Aecma "Products Liability (Catastrophe Scheme)", October 1977, Recommendation n. CE/RC/77/7008/O/F et E/Rev. 1.

[16]AECMA doc. PC/ulr/11909/REV.1.

[17]Appendices 2 and 3 to AECMA doc. WBD/LSM/13262.

[18]Aecma doc. JA/BC/13024/2.

[19]See discussion on p.

In 1989 the original mandate of the Product Liability Working Group was revised by the Economic Commission. It reads now:

> To maintain, in the short term, pressure on European governments to ensure their continuing awareness of the potential threat to the Industry from an air catastrophe and to seek a long term solution by opening discussion with the Commission of the European Communities with a view to establishing some form of international convention.

In 1985 a new study has been placed on the Economic Commission's work programme - "Property and Liability in Software Matters". After evaluation in conjunction with the Technical and Industrial Commission the results of this study were issued in 1989[20].

Product Support Commission (PSC)

The AECMA Product Support Commission has long recognized the importance of harmonizing product support activities on an international scale. To this end the PSC is promoting actively international meetings to harmonize civil and military procurement methods and documentation procedures. The Product Support Commission also has working groups concerned with all aspects of avionic software support, product support services and another group that has published a "Guide for the Preparation of Aircraft Maintenance Documentation" popularly known as "Simplified English".

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[20]"Aecma Recommendation on Property and Liability in Software Matters Produced by the CE-CTI/PLSM Working Group", CE-CTI/89/19487, February 1989.

Technical and Industrial Commission (CTI)

The objective of this Commission is to harmonize technical and industrial relationships between aerospace companies in Europe and to ease the problems of collaboration in future programmes by reducing or removing those technical barriers currently encountered when undertaking collaborative programmes. The commission oversees the work undertaken by the AECMA technical committees (Standardization Committee, Airworthiness Committee and Windtunnel Committee) and also acts as AECMA's external mouthpiece on technical matters. The CTI has working groups concerned with Avionic Software, Quality Assurance, CAD/CAM, and Computer Data Exchange. This latter group currently is very active in developing a set of business messages between the systems operated by aerospace partner companies, customers, suppliers, etc.

Airworthiness Committee (AC)

The AECMA Airworthiness Committee represents AECMA whenever necessary with respect to all airworthiness matters. Amongst its objectives was the easing of aeronautical product certification through the promotion of the idea of a joint European Airworthiness body, now the Joint Aviation Authorities, and Joint Aviation Requirements[21]. To fulfill its role in the European scenario, the Airworthiness Committee cooperates in a number of

[21]See discussion p.42.

joint working bodies with airworthiness authorities, airlines and pilots.

Standardization Committee (CN)

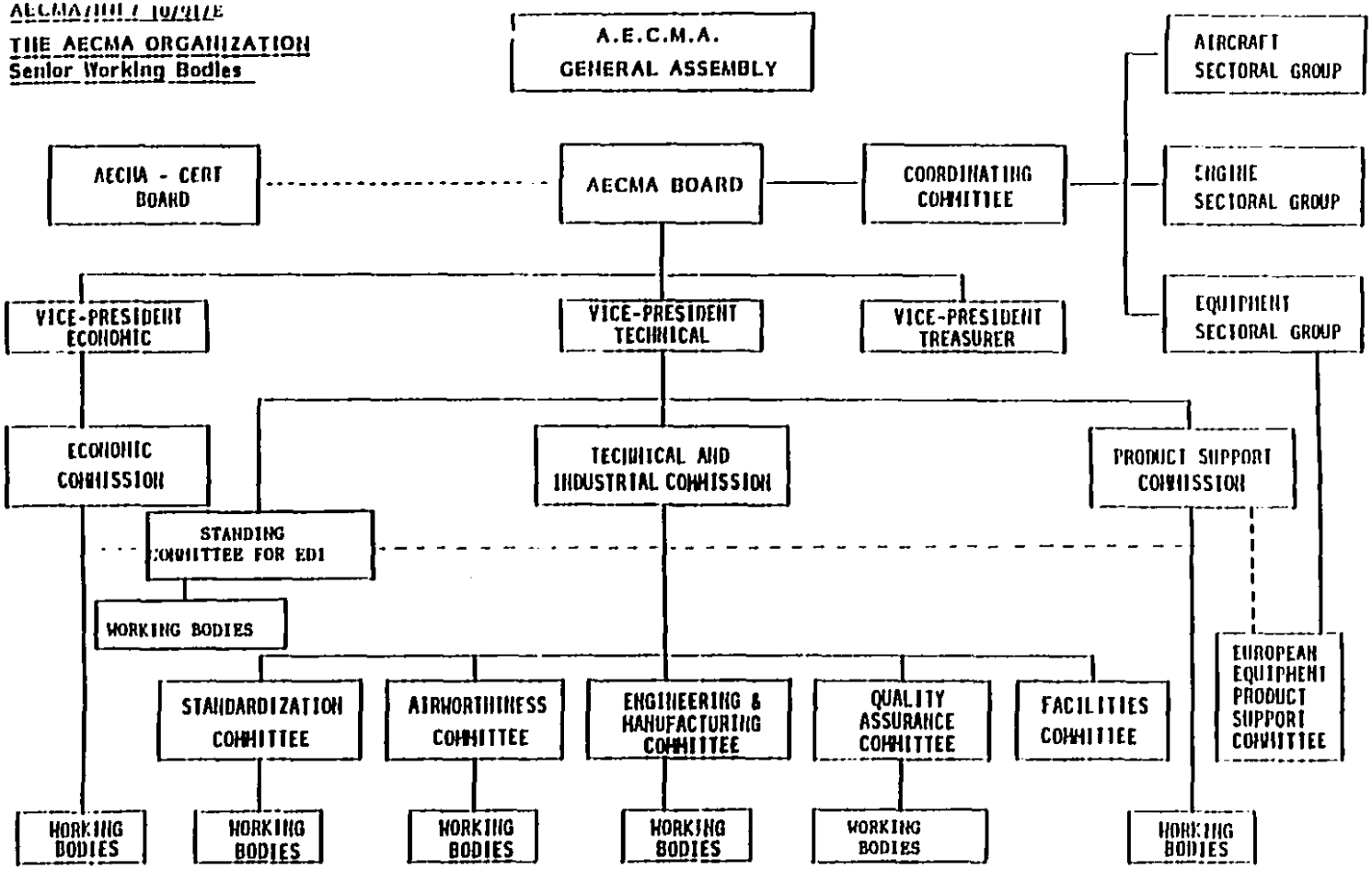
The Committee was founded to promote the harmonization of aerospace standards in Europe and pays particular attention to those areas where improved standardization can result in reduced costs to the manufacturer. Under the Committee is a framework of specialist commissions tasked to prepare European aerospace standards. Once published by AECMA, these standards will then go forward to the European Standardization Committee (CEN) for approval prior to becoming accepted as European Standards (EN). The Standardization Committee of AECMA works closely with the International Organization for Standardization (ISO) as well as national standardization bodies to ensure that there is no duplication of effort. As a result, a number of AECMA Standards have formed the basis of, or been included in ISO Standards.

In 1986 AECMA was recognized as an Associated Body (ASB) to the European Standardization Committee (CEN).

A diagram of AECMA's organization is reproduced hereafter.

AECMA/IH / 10/91/E

THE AECMA ORGANIZATION
Senior Working Bodies



KEY : ——·—·—— Reporting function ---------- Coordinating function

TABLE 2: The AECMA Organization

B. Government regulation of the European Aerospace Industry : the certification process

The process of aircraft manufacturing is closely regulated by the governments. Compliance with government regulation is made in the aerospace industry through the airworthiness certification process of aircraft.

1. International requirements

The legal basis for the international requirements of the certification of aircraft can be found in the 1944 Chicago Convention on International Civil Aviation and the Standards adopted by the Council of the International Civil Aviation Organization pursuant to the provisions of Article 37 of the Convention and designated as Annex 8.

According to Art. 29 of the Chicago Convention every aircraft of a contracting State, engaged in international navigation, shall carry 'in conformity with the conditions prescribed in this Convention':

a) its certificate of registration;

b) its certificate of airworthiness;

c) the appropriate licenses for each member of the crew

d) its journey log book;

e) if it is equipped with radio apparatus, the aircraft radio station license;

f) if it carries passengers, a list of their names and places of embarkation and destination;
g) if it carries cargo, a manifest and detailed declarations of the cargo.

Art. 31 requires that the State of Registry has the duty to provide aircraft engaged in international navigation with a certificate of airworthiness that it has issued or rendered valid.

Before granting this certificate which declares that the aircraft is fit to fly, it must be established that the design, construction and operating characteristics of the aircraft are in compliance with the appropriate airworthiness requirements of that State. To facilitate the import and export of aircraft, as well as the exchange of aircraft for lease, charter or interchange and to facilitate operations of aircraft in international air navigation, Article 33 of the Convention on International Civil Aviation also places the burden on the State of Registry to recognize and render valid an airworthiness certificate issued by another Member State, subject to the condition that the airworthiness requirements under which such a certificate is issued or rendered valid are equal to or above the minimum standards which may be established by ICAO from time to time pursuant to the Convention.

The first edition of Annex 8, entitled Airworthiness of Aircraft,

which contained these minimum standards was adopted by the ICAO Council on 1 March 1949.

The present ICAO policy in the field of airworthiness was adopted by the Council on 15 March 1972 and is as follows :

"a) the objective of international airworthiness Standards is to define, for application by the competent national authorities, the minimum level of airworthiness[22] constituting the international basis for the recognition by States under Article 33 of the Convention, of certificates of airworthiness for the purpose of the flight into or over their territories, thereby achieving, among other things, protection of other aircraft, third parties and property;

b) the Standards developed to meet the objective stated in a) above are considered by the Council as meeting, in the necessary scope and detail, the obligations of the Organization under Article 37 of the Convention to adopt International Standards of Airworthiness;

c) international airworthiness Standards adopted by the Council are recognized as being the complete international code necessary to bring into force and effect the rights and obligations which arise under Article 33 of the Convention;

d) the technical airworthiness Standards in Annex 8 shall be presented as broad specifications stating the objectives rather than the means of realizing these objectives; ICAO recognizes that national codes of airworthiness containing the full scope and extent of detail considered necessary by individual States are required as the basis for the certification by individual States of airworthiness of each aircraft;

e) to assist States in applying the Standards of Annex 8 and in developing their own comprehensive national codes in a uniform manner, detailed guidance material shall be developed and published expeditiously in the working languages of the Organization."[23]

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[22]Emphasis added.

[23]see Foreword to Annex 8 to the Convention on International Civil Aviation, Eight Edition - July 1988, at (viii).

In 1973, the Council amended Annex 8 to reflect this new policy and the aforementioned airworthiness technical guidance material has been issued under the title 'Airworthiness Technical Manual'[24]. The Airworthiness Technical Manual has been prepared to assist States in the development of their national regulations and practices; it provides information which could be used by States in their air navigation programmes and to suit their own requirements or needs in the field of aviation. As such, the manual constitutes solely technical guidance material with no mandatory legal status.[25]

In 1981 ICAO developed a 'Manual of Procedures for the Establishment of an Aircraft Inspection Organization'[26] to provide guidance to those States intending to establish an inspection organization to meet their obligation under the Convention on International Civil Aviation to ensure that the aircraft on their registers were maintained in an airworthy condition. This manual was replaced in 1983 by a new and more elaborated document entitled 'Manual of Procedures for an Airworthiness Organization'[27]. It outlines the obligations of the State of Registry on matters related to airworthiness; provides detailed guidance on the establishment and operation of an airworthiness organization within the State Civil Aviation

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[24]Airworthiness Technical Manual ICAO Doc 9051-AN/896, Second Edition - 1987.

[25]see Foreword of Airworthiness Technical Manual, op.cit., at (iv).

[26]ICAO Doc 9292-AN/907.

[27]ICAO Doc 9389-AN/919.

Authority; it also covers the procedures for the issuance, renewal and validation of Certificates of Airworthiness, as well as procedures which may be used by a manufacturing State to issue Type Certificates for aircraft and aircraft components. No attempt however has been made to formulate specific regulations.

ICAO in 1983 also prepared a 'Manual of Model Regulations for National Control of Flight Operations and Continuing Airworthiness of Aircraft'[28] to assist States in developing or updating their national aviation regulations in the areas of flight operations and airworthiness. A second edition was published in 1987.

The incident of the Aloha Boeing 737 on April 28, 1988[29] focused worldwide attention on the problems of aging aircraft[30] and their continuous airworthiness. Annex 8 of the Chicago Convention introduced provisions relating to this problem as of 1974. However, pursuant the request of the Technical Commission of the 27th Session of the ICAO General Assembly in 1989, work is currently being done for substantial amendments to Annex 8 and

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[28]ICAO Doc 9388-AN/918.

[29]The 19 years old aircraft with 90,000 flights suffered an in-flight decompression and separation of approximately 18 feet of the fuselage skin and structure at the top of the airplane.

[30]For a discussion on this subject see: Ulf G. Goranson: "Structural Airworthiness of Aging Jet Transports" Boeing Commercial Airplanes Seattle, Washington, U.S.A.(May 1989); Clyde Kizer, "Continued Airworthiness of the Air Transport Fleet" (A briefing on Recent International Efforts to Assure the Continued Airworthiness of Aging Airplanes presented to the Technical Commission of the 27th ICAO General Assembly in Montreal, Canada, 29 September 1989)[unpublished].

Annex 6 of the Chicago Convention.[31] A new Continuing Airworthiness Manual is being developed as well.

2. National requirements

Since the Chicago Convention confirmed the sovereign right of the State of Registry of an aircraft to issue certificates of airworthiness, one has to look at a number of national and multinational codes, such as the former Union of Soviet Socialist Republics Civil Airworthiness Requirements, the United States Federal Aviation Regulations (FAR), the British Civil Aviation Requirements and the European Joint Aviation Requirements to find comprehensive airworthiness requirements. We shall discuss only briefly the certification regulations in the USA and the main EEC aerospace manufacturing countries.

a) In the United States[32], where the majority of aircraft are made, the Federal Aviation Act 1958 empowers the Administrator of the Federal Aviation Administration (FAA) to regulate the aircraft industry by prescribing minimum standards[33]. Under this general safety power of the Administrator of the FAA the

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[31]See ICAO A29-WP/38 and A29-WP/83.

[32]for a detailed analysis of the certification procedure in the United States see : John Saba, The tort Liability of the United States Government for Negligent Inspection and Certification of Aircraft (D.C.L. Thesis, Institute of Air and Space Law, McGill University, 1985)[unpublished] Chapter Three at 32.

[33]49 U.S.C. Sec. 1421 (a) (1970).

regulations dealing with the aircraft manufacturing process have been established and are revised when necessary[34].

The compliance with this regulatory system is achieved through a three-tiered certification process : First, a manufacturer must obtain a Type Certificate by submitting blueprints and design drawings of the type design of the aircraft. Next, the manufacturer must obtain a Production Certificate based on his ability to establish conformity of production models with the "Type" or prototype. After manufacture of production models, and upon final assembly and distribution of the aircraft the last stage of the certification process is the issuance of the Airworthiness Certificate. This certificate is issued by the Administrator when he finds that the aircraft conforms to its Type Certificate and is in condition for safe operation[35].

Those stages of certification are followed and augmented by other FAA orders and actions aimed at securing, maintaining and promoting aviation safety. For example, once an aircraft and its engine are certificated as airworthy, the holders of Type and Production Certificates, as well as aviation manufacturers, are under a continuing duty to report to the FAA any failure, malfunction or defect resulting in certain enumerated serious problems, which are not attributable to improper maintenance or

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[34]See Title 14 Code of Federal Regulations.

[35]Mark A. Dombroff, "Certification and Inspection: An Overview of Government Liability" (1982) 47 J.A.L.C. 229 at 231; see also John R. Harrison and Phillip J. Kolczynski, "Government Liability for Certification of Aircraft?" (1978) 44 J.A.L.C. 23.

usage. The Act also establishes a procedure for "any person" to file a complaint with the FAA claiming violations of the statute or regulations. If there is reasonable ground for the complaint, the FAA has a statutorily imposed duty to investigate such matters. In addition if the FAA Administrator is made aware that "unsafe conditions exists in a product, or are likely to exist or develop, he may compel corrections, impose flight limitations, or prohibit the operation of an aircraft by means of an Airworthiness Directive." These Directives are issued in accordance to conditions and procedures prescribed in the Code of Federal Regulations. Violations of these Directives are made subject to different civil penalties including revocation or suspension of aircraft certificates.

b) In the EEC the twelve Member States have their own and in some aspects very different airworthiness regulations. To illustrate this we will discuss first the regulations in the three countries which have the largest aircraft manufacturing industry: The United Kingdom, France and Germany. The regulations in some other countries will be briefly outlined thereafter.

(1) In the United Kingdom airworthiness certificates are issued by the Civil Aviation Authority (CAA) which is not a government department but an independent body based on full cost recovery principles, created by the Civil Aviation Act, 1971. The principal responsibilities of the CAA are the economic and safety regulation of British civil aviation and the operation - jointly with the Ministery of Defence - of the National Air Traffic

Services. The Government, through the Department of Transport, has retained certain other civil aviation responsibilities, including international civil aviation relations, the investigation of aircraft accidents, policy on aircraft noise and national airports development, and the co-ordination of aviation security. On civil aviation matters generally the CAA acts as the Government's expert adviser.

The CAA is not a servant or agent of the Crown nor does it enjoy any privilege of Crown immunity. However, it acts on behalf of the Crown when authorized by Air Navigation Orders to perform functions which by virtue of the Chicago Convention fall on the Crown. Section 3(i) of the Civil Aviation Act requires the CAA to perform its functions in a manner which it considers best and in accordance with the guidance given by the Secretary of State. It carries out administrative functions by notices and instruments, requirements, certificates, licenses, approvals and instructions. It is assisted by the Airworthiness Requirements Board whom it has the duty to consult on all matters concerning the standards of design and construction of aircraft and their maintenance. The Board comprises representatives of the aviation industry as well as the CAA[36].

The CAA has the power to grant, issue, suspend, vary or revoke Certificates of Airworthiness and to validate certificate issued

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[36]Timm Scorer, "The Liability of Aircraft Manufacturers and Certification Authorities in the United Kingdom", (1985) 10 Air LAW 28 at 38; see also Shawcross and Beaumont, Air Law, 4th Ed. by P. Martin, J.D. McClean, E. de Montlaur-Martin, Rod Margo (London: Butterworth, 1977) Para. V B at V/14.

by the State of Registration of foreign aircraft. Through the British Civil Airworthiness Requirements (BCAR), the CAA prescribes minimum standards and requirements as to construction, workmanship and materials for aircraft. Continuing safety is ensured through their approval and enforcement of Maintenance Schedules, Certificates of Maintenance or Release and Certificates of Compliance[37].

The standards set in the BCAR are published either as BCAR Sections or (as in the case for large transport aircraft, sailplanes and powered sailplanes, engines, propellers and auxiliary power units) by adopting the Joint Airworthiness Requirements. These latter requirements have been adopted as an international standard by the leading aviation authorities in Europe[38].

When an aircraft is in service, the CAA has also a continuing interest in its design and performance. In addition to its involvement in the mandatory occurrence reporting system, it promoted with the full co-operation of British airlines the Civil Aviation Airworthiness Data Recording Programme. Under this programme the flight data recorders fitted to airliners and special ones fitted in helicopters produce research data which are constantly monitored to see if the standards set for both performance and operation are been met, eroded, or improved upon.

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[37]Timm Scorer, op.cit., ibidem.

[38]For a discussion of the JARs see infra I.B.3.d.

The data are also proving of increasing value in detecting operational trends and allowing remedial action to be taken.

The CAA, through its Airworthiness Division, certificates all UK passenger-carrying hovercraft, and gives substantially similar services for hovercraft to those it provides for aircraft.

(2) Certification of aircraft in France falls under the authority of the DGAC (Direction Générale de l'Aviation Civile) which is the main body in charge of civil aviation. It depends of the State Secretary in charge of Transport in the Ministery of Town- Planning, Housing and Transport. The DGAC consists in a central body composed of six departments or services, five of which have a technical or economic assignment which prepare the definition of the aviation policy and of its means and supervise its implementation. The central administration is complemented in the field by eight regional agencies established in metropolitan France and in the French overseas departments and territories.

The department specially charged with aviation safety is the SFACT, Service de la Formation aéronautique et du contrôle technique or Aeronautical Training and Technical Supervision Service. It is in charge of the training of personnel and checking the equipment (certification, maintenance, operation, and use). In addition to the licenses of flying personnel, the SFACT issues the airworthiness certificates for aircraft and their nuisance-limitation certificates and exercises the

technical oversight over air-transport companies. Part of this oversight is delegated to a private organization, the Bureau Veritas[39].

The Bureau Veritas Group over the years has become a multidisciplinary organization. It consists of the limited company Bureau Veritas with five departmental Branches (Aeronautical and Space, Marine, Building Civil Engineering and Safety, Commodities and International Trade, Industrial) four functional units (computer centre, R & D centre, Training centre and Prices and Economic Value Analysis Unit) as well as seven 9specialized subsidiaries (1) Technitas (technical assistance), (2) Unitas (inland navigation), (3) Veritest (non destructive testing), (4) AIBV (Motor vehicle testing), (5) LBF (agrofood testing), (6) BVCS (containers) and (7) Veridatas (Software assesment).

The legal provisions regulating the certification in France are contained in the articles R 131-1 to R 131-3 of the "Code de l' Aviation Civile" and the "Recueil des arrêtés, décisions,

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[39]Bureau Veritas was created in Antwerp (Belgium) in 1828 and was first an information Bureau for marine insurance. In 1833 the Bureau Veritas Head Office was moved to Paris. Although it was given official recognition by the British Government already in 1890, the French official recognition was received in 1908. As of 1922 aeronautical surveys were entrusted by the French Government as well as the issuance or maintenance of Airworthiness Certificates. In 1937 the Bureau Veritas was recognized by the French Government as an aeronautical Classification Society; for a discussion see in P. Velas, ed., La vie de l' avion commercial, (Paris: Pédone, 1990) at 159: A. Mihaïl, "Conditions de surveillance de l' entretien des aéronefs de transport public français par le bureau Veritas dans le cadre de son action d' organisme habilité par l' état".

instructions et circulaire intervenus dans les matières traitées au Code de l' Aviation Civile"[40].

The certification process runs in two stages. The first stage, the type certification is finalized when a type certificate is delivered to a 'model' when it is demonstrated, after extensive testing of the components and the complete aircraft, that it complies to the airworthiness requirements contained in the technical regulations taken in compliance with Annex 8 of the Chicago Convention. The second stage is the delivery of a CDN (certificat de navigabilité) for an individual aircraft produced in conformity to the model by a manufacturer who has obtained the type certificate. Continuing airworthiness is ensured through mandatory maintenance programs which are established since the design phase of each type of aircraft.

Generally speaking one could say that the French airworthiness requirements were based, before the adoption of the JARs, on the American Federal Aviation Regulations with some national 'special conditions'.

(3) In West Germany the certification authority is the

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[40]The most important French provisions are : l' arrêté du 6 septembre 1967 relatif aux conditions de navigabilité des aéronefs and its amendments; l' instruction du 21 décembre 1984 relative aux règlements de navigabilité; l'arrêté du 28 août 1978 relatif à la classification des certificats de navigabilité and, l' arrêté du 22 novembre 1978 relatif aux certificats de navigabilité.

Luftfahrt-Bundesamt (LBA). It has been created in 1954[41] and is based in Braunschweig. It depends of the Bundesverkehrsministerium in Bonn, the German Ministery of Transportation.

At the end of the Second World War there existed in Germany series of requirements in the various fields of aircraft manufacturing. These were applied equally for civil and military aircraft. However since Germany was prohibited from manufacturing aircraft until 1955 and with the considerable progress of the aviation technology it was not useful to keep those old requirements.

At that time the majority of aircraft, flight instruments and equipment were also imported from foreign countries. The testing and certification could therefore only be done according to the requirements of the country of manufacturing. It also appeared more practical to apply the foreign requirements for aircraft and components manufactured in Germany except for gliders, motorgliders and balloons, and also some smaller equipment. The German Bundesminister für Verkehr recognized therefore from May 14, 1965 on the applicable Federal Aviation Regulations (FAR) issued by the FAA[42]. The LBA issued German translations.

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[41]LBA-Gesetz of 30 November 1954 (BGBI. I S.354) as amended on 16 May 1968 (BGBI. I S. 397) and on 18 September 1980 (BGBI. I S. 1729).

[42]FAR-Parts 23,25,27,29,33 and 35.

Since Germany at that time and still now, was a leader in the development of gliders and motorgliders its airworthiness requirements for those aircraft had a more national inspiration. They became the so called Lufttüchtigkeitforderungen für Segelflugzeugen und Motorsegler (LFSM), which are now the basis of the European Joint Airworthiness Code for sailplanes and powered sailplanes, the JAR-22[43].

The certification process in Germany is also three-tiered : an aircraft needs a type certificate (Munsterzulassung), an airworthiness certificate (Lufttüchtigkeitszeugnis) and a certificate to prove its continuing airworthiness and its airworthiness in case of repairs or maintenance (Nachprüfschein)[44]. With the tests for the type certification (Munsterprüfung) of a new aircraft an examination is made to see if this type of aircraft complies with the requirements set forth in the Bauanordnung für Luftfahrtgerät (LuftBauO) and its executive orders the Durchfürungsverordnungen (DVO) zur LuftBauO and if it has no characteristics or flight attitudes which could impair a safe operation. A verification is also made to see if the manuals, operating handbooks and documents needed for maintenance, repairs and replacement of parts comply with the requirements of the LuftGerPO. Those tests are done primarily by the companies which developed and designed the new type of

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[43]see infra Fn.82.

[44]See Prüfordnung für Luftfahrtgerät (LuftGerPO) of 16 May 1968.

aircraft. Those companies have to be authorized by the LBA, otherwise the LBA itself will accomplish the tests.

The airworthiness of an aircraft built in accordance with an approved type is checked through a so-called 'Stückprüfung' which is done by the manufacturer who has to be authorized by the LBA as a 'Zulassungsbehörde'. In this 'Stückprüfung' a verification is made by special qualified staff 'Prüfern von Luftfahrtgerät' to see if the aircraft conforms to the type and whether it is airworthy. Thereafter an airworthiness certificate (Lufttüchtigkeitzeugnis) will be issued by the LBA. The continuing airworthiness is checked through compulsory maintenance schedules and verifications after repairs or modifications through approved maintenance enterprises with qualified staff[45]. As in the other countries the LBA has the power to issue airworthiness directives (Lufttüchtigkeitsanweisungen - LTA) when a defect or a problem is encountered with the operation of an aircraft.

(4) In the Kingdom of The Netherlands the Ministery of Transportation (Ministerie van Verkeer en Waterstaat) is in charge of civil aviation and aviation safety in general. For specific tasks of aviation policy, infrastructure, environmental aspects, legislation and especially the government control and the promotion of aviation safety the Ministery of Transportation

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[45]See the Verordung über Luftfarhtpersonal (LuftpersV) of 1983; For a summary of the German legislation on certification see the brochure of the Luftfahrt-Bundesamt : "Das LBA informiert : Heft 1: Luftfahrzeuge" (Braunschweig: Luftfahrt-Bundesamt, 1988).

has an subordinate organization, the RLD (Rijksluchtvaartdienst). Its Aviation Inspection Direction (Directie Luchtvaartinspectie) is entrusted with the certification procedures and the issuance of the respective certificates. The procedures are not very different as those described above[46]. A high level of delegation towards the aerospace products manufacturers is noticeable combined with close government control.

The Netherlands have always be very positive towards the development of the Joint Airworthiness Requirements and cooperation within ECAC[47]. Before the multilateral cooperation in Europe with respect to certification the Dutch requirements were based on the FAR25 for Transport Category Aeroplanes, on FAR23 for Normal Utility, and Acrobatic Category Aeroplanes, on FAR29 for Transport Category Rotorcraft and FAR27 for Normal Category Rotorcraft[48].

5) In Belgium, where no mainframe manufacturers for large commercial transport aircraft are based, most of the aerospace manufacturing industry relies on subcontracting for international cooperative programs. Certification procedures are carried out

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[46]The legal basis are : Luchtvaartwet Art. 4, Art. 7 and Art. 10; Regeling Toezicht Luchtvaart Art. 72 to 93 and its Executory Decisions 2073,2074, 2074.1, 2074.a, 2077, 2077.a, 2077.b, 2086,2087, 2088, 2088.c, 2088.e, 2089, 2093 and 2093.b.

[47]see discussion below.

[48]see ECAC information paper n. 14 for a discussion of "special conditions" applicable to aircraft to be exported to the Netherlands from a State, which has signed or assessed to the Multilateral Agreement Relating to Certificates of Airworthiness for Imported Aircraft.

by the Ministery of Communications, Civil Aeronautics Administration[49].

Because of the variety of national airworthiness requirements a number of bilateral airworthiness agreements have been signed between different countries[50]. In Europe a trend towards greater regional cooperation has led to the creation of the Joint Aviation Requirements and the Joint Aviation Authorities. The history of major cross border aerospace cooperation has played a major role in this evolution. It will be discussed briefly in the following lines.

3. Regional Cooperation in Europe

a. The Paris Agreement of 22 April 1960 relating to certificates of airworthiness for imported aircraft

This agreement[51] is complementary to Article 33 of the Chicago Convention which provides for the mutual recognition by other

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[49]The legal documents iro certification in Belgium are : Aviation Law of 27.06.1937 Art. 5 and 6, Art. 11; Royal Decree of 15.03.1954, Aviation Regulation, Art. 21-29 and the Departmental Circulars CIR/AIRW-01, CIR/AIRW-02 and CIR/AIRW-03. As for The Kingdom of The Netherlands the airworthiness requirements for Belgium were largely based before the multilateral cooperation in Europe on the US F.A.R.s with some national variants (see ECAC Information Paper n. 14 p. 3).

[50]For a discussion see: Guido Rinaldi Baccelli, "Le futur des accords bilatéraux de navigabilité", Liber Amicorum Honouring Nicolas Mateesco Matte, ed. Guido Rinaldi Baccelli, 255 (Paris: Pédone, 1989).

[51]Multilateral Agreement Relating to Certificates of Airworthiness for Imported Aircraft, Signed at Paris, on 22 April 1960,ICAO Doc. 8056.

contracting States of airworthiness certificates issued or rendered valid by the State of Registry, but does not cover the issue and validation of certificates of airworthiness for aircraft imported from one State to another.

The issue of the recognition for the purpose of export and import of certificates of airworthiness conforming to ICAO standards had been raised already in ICAO in 1950, when the Assembly decided in Resolution A4-13 that the Council should initiate a study of the question, with a view to offering a resolution on this subject to Contracting States.

In March 1952, however, the Council decided that this study which had been undertaken pursuant to this Assembly Resolution A4-13 should be discontinued for the time being. It was never renewed. From the replies received from forty Contracting States to a request for information on their present practices with regard to the validation or renewal of certificates of airworthiness of imported aircraft, it appeared that States in general desired to preserve their freedom of action on the certification of aircraft built in other States, except where bilateral agreements obligated the parties, under stated conditions, to recognize one another's certificates. Some States at least, might also wish to preserve the right to promulgate safety specifications supplementary to ICAO standards an.. to make them applicable to all aircraft registered in their territory. The Council concluded that the advantages that would accrue from the establishment, in lieu of bilateral agreements, of a standard

procedure, whereby the certificate of an aircraft complying with the applicable ICAO standards would be unconditionally validated or renewed by the importing State, would not be sufficient to justify prejudicing the development of Annex 8 to serve its primary purpose as a means of implementing Articles 33 and 37 of the Convention[52].

The multilateral agreement signed at Paris on 22 April 1960 by States members of the European Civil Aviation Conference (ECAC)[53] is the result of efforts undertaken by ECAC since 1957. It has been ratified by fifteen States and acceded to by Sweden. It came into force on 21 August 1961[54].

Article 1 provides that it applies only to civil aircraft constructed in the territory of a contracting State and imported from one Contracting State to another provided that such aircraft:

a) have been constructed in accordance with the applicable

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[52]Gerald F. FitzGerald, Q.C., The International Civil Aviation Organization - A Case Study in the Law and Practice of International Organization, (Montreal: Institute of Air and Space Law McGill University, 1986)[unpublished] at 12-12.

[53]For a discussion of the regional cooperation within ECAC see Ludwig Weber, "Les éléments de la coopération dans le cadre de la commission européenne de l'aviation civile (CEAC)" (1977) 31 R.F.D.A. 388.

[54]For a discussion of the Paris Agreement see : Michel Guinchard, "L'Accord Multilatéral relatif aux Certificats de Navigabilité des Aéronefs Importés" (1961) 7 A.F.I. 591; O.H. Faull und A. Rudolf ,"Das Ubereinkommen über Lufttüchtigkeitszeugnisse eingeführter Luftfahrzeuge" (1961) 10 Z.L.W. 81.

laws, regulations and requirements relating to the airworthiness of the State of Construction,

b) comply with the applicable minimum standards relating to airworthiness established pursuant to the Convention on International Civil Aviation,

c) can comply with the requirements of the operating regulations of the State of import, and

d) comply with any other special conditions notified from time to time in accordance with the terms of Article 4 of the Agreement.

Under this Agreement States are obliged to validate the certificate of another Contracting Party or issue a new certificate in respect of Civil Aircraft imported from another Contracting Party. This obligation has been eroded however, by the provisions of Article 4 and Article 5. Under Article 4, a State to which an application has been made has the right to make the validation of the certificate dependent on the fulfillment of "any special condition which are, for the time being, applicable to the issue of its own certificates of airworthiness and which have been notified to all Contracting States". Under Article 5 the Contracting States have reserved the right to defer the issue or validation of those certificates "in respect of any aircraft imported or being imported into its territory if such aircraft:

a) appears in practice, to have been maintained below the standards of maintenance normally accepted by that State,

b) appears to have features unacceptable to that State,

c) appears to have failed to comply with the applicable laws, regulations, and requirements relating to airworthiness of the State where the aircraft was constructed, or,

d) being an aircraft to which subparagraph (c) of Article 1 of this Agreement refers, is not for the time being able to comply with the requirements of the operating instructions of the State of import."

The Multilateral Agreement covers also only complete aircraft and not engines and other components.

b. ECAC and the status of the Certificate of Airworthiness for Export

Although the certificate of airworthiness for export is a widely used document worldwide, it is not mentioned in any of the articles of the ICAO Chicago Convention, or in ICAO Annex 8, or in the ECAC Multilateral Agreement. It is generally accepted that this document has no legal status.

During the Sixth Session of the European Civil Aviation Conference in Strasbourg from 26 June - 6 July 1967, the Conference felt, that, as regards the validation by the State of import of a certificate of airworthiness issued by the competent authority of the State of export before exporting an aircraft, a certificate of airworthiness for export should be recognized by the State of import as having the same value as a certificate of airworthiness issued by the importing State.

This recommendation was subsequently sent to the Member States, and the replies received indicated that it was suitable for adoption. As a practical solution the Conference therefore agreed to amend Recommendation No 40 of ECAC/4 as follows :

RECOMMENDATION NO.5
STATUS OF CERTIFICATE OF AIRWORTHINESS FOR EXPORT

THE CONFERENCE RECOMMENDS

that Recommendation No. 40 of ECAC/4 be amended by the addition of the following paragraph:
"2)that the State of import, when granting validation to the 'certificate of airworthiness for export', should be recognized to have assumed the same responsibility for the aircraft as if it had delivered the certificate of airworthiness provided for in the Chicago Convention."[55]

c. ECAC and the approval and acceptance of accessories or component parts imported as separate items

Since 1959, ECAC has also studied the question of component parts. It was agreed that, where in respect of an aircraft being imported such items were an integral part of the structure of that aircraft, or essential for the provision of its certificate of airworthiness and would therefore fall within the scope op the agreement. On the other hand, accessories or component parts imported as separate items, not covered by certificates of airworthiness, are excluded[56]. Since the provision of such items is so closely related to the export and import of aircraft, the

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[55]See Doc 8694 ECAC/6 European Civil Aviation Conference.Sixth Session. Strasbourg, 26 June-6 July 1967. Report, p.34.

[56]ECAC/3 (9-20 March 1959).

Conference considered it would be highly desirable for a Code to be produced by ECAC, setting out standard conditions in respect of such items governing their approval by the State of export and their acceptance by the State of import.

The Conference therefore adopted a recommendation that the Secretariat should prepare a paper setting out the procedures used by Member States at that time for dealing with the certification of the airworthiness of accessories and component parts imported separately and that thereafter a Study Group should be established to develop a uniform procedure governing the approval by the State of export of accessories or component parts and the acceptance of such parts by the State of import.
After the signature of the Paris Agreement[57], where nothing is mentioned about accessories and component parts imported separately, this matter was discussed again in ECAC in 1961.
At that time, while it was recognized that it would be important to add a Protocol to the Paris Agreement incorporating the proposals made by the Study Group, the Commission found that it was preferable to adopt the less formal procedure of a recommendation[58] in view of a more easy implementation of the already adopted measures.

Due to the complexities of the subject the Study Group decided to limit the Protocol as initially suggested by the French

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[57]see ref. p.

[58]Recommendation number 39, ECAC/4 (4 - 18 July 1961).

Delegation to items and parts for aircraft already exported[59]. An agreement was reached however on the technical content of the Protocol and that a draft would be prepared in the near future. It also felt that a Second Protocol should be drafted to cover the question of engines and engine/propeller combinations imported separately, which were excluded by a restriction imposed at that time on the "accessories and component parts imported separately"[60]. The Conference of 1964 'taking note of the very satisfactory work that had been done' agreed that work should be continued on the drafting of these Protocols. At the ninth meeting of the Bureau of ECAC it was decided that, until sufficient experience had been gained by States in the implementation of the provisions of the Draft Protocol[61] to include accessories and component parts imported separately to the Multilateral Agreement of 1960, the subject should have only the status of a recommendation.

Since 1 June 1966 the Member States applied this recommendation. At its Sixth Session in 1967, the Conference noted that the Member States had not encountered any difficulties in implementing the provisions of the Draft Protocol. It felt however that the time had come to speed up the procedure designed to raise the status of the draft Protocol to that of a formal Protocol to the Multilateral Agreement on certificates of

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[59]ECAC/5 (6 - 18 July 1964) Report on Agenda Item 31, 31:2.

[60]ibidem at 31:3.

[61]For the text of the Draft Protocol see Recommendation number 6 adopted by the Conference at its Sixth Session,(ECAC/6 (26 June - 6 July 1967) Report p.37.

airworthiness. It realized though that there could be difficulties in establishing the Protocol in its proper legal form[62].

d. Joint Aviation Requirements

It has been seen that although the International Civil Aviation Organization sets minimum standards for aviation safety, the interpretation and application of these standards has been almost universally on a state by state basis, frequently at a much higher level than the minimum universally agreed[63].

With the development of the Concorde, the start of the Airbus programme and an increased experience in cooperative aerospace programmes at the end of the sixties the European manufactures became aware of the necessity to stop considering technical standards as means of protecting a national market. They realized that the harmonization of the technical conditions for the issuance of airworthiness certificates was a must. The changed nature of the aviation industry, e.g. multinational manufacture, the emergence of cross-border leasing and the liberalization of air transport economic regulation, have also led the aviation safety authorities within Europe to develop common procedures and practices - and working together towards

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[62]ibidem at p. 36 para 71.

[63]see for example for ECAC States : ECAC Information Paper No.14, Airworthiness Regulations, Special Conditions, Documents to be attached to the certificate of airworthiness at the time of export (1970).

achieving commonality with the USA - whilst maintaining safety levels and generally with the aim of improving them.

Following preliminary contacts between representatives of the British, French and German industries, who were later joined by representatives of Belgian, Dutch, Italian and Swedish Industries, an Airworthiness Committee was set up under the auspices of A.I.C.M.A.(""later renamed A.E.C.M.A.). Besides discussions at national level, exchanges of views took place between this Committee and representatives of the Airworthiness Authorities of Germany (L.B.A.), France (S.G.A.C.), Great Britain (A.R.B.) and the Netherlands (R.L.D.) whom representatives of the Italian, Swedish and the Belgian Authorities were invited, and agreed to join.

In 1971 agreement was reached on the following points in particular:

"a) It is highly desirable to establish Joint Airworthiness Requirements (JAR) for the countries represented in A.I.C.M.A.

b) Those Joint Airworthiness Requirements will follow the following Requirements as closely as possible:
FAR 25 - Transport Category Airplanes
BCAR, Section C - Engines and Propellers

c) It is important to ensure that as far as possible consistent interpretations of the requirements are used in the countries concerned.

d) Proposed variants to the above Basic Requirements will be discussed and established by Specialist Study Groups including representatives from the Authorities and the Industries and will be passed to a Joint Steering Committee (J.S.C.) also formed of representatives from the Authorities and Industries.
Variants will be as few as possible and in principle common to all participating countries. Only in the case where no agreement could be reached in a reasonable time, will the

National Authorities exercise their right to define variant which will be peculiar to them.

e) ..."[64]

Later Denmark, Finland, Norway and Switzerland also became participants. They were joined finally by Austria.

The basic idea behind the JAR was to minimize Type Certification problems on joint ventures and also to facilitate the export and import of aviation products.

An Airworthiness Authorities Steering Committee was formed to represent the Authorities, and an Airworthiness Committee under the Sponsorship of AECMA was formed to represent the manufacturers. Together these formed the Joint Steering Committee(JSC), which was later expanded to include also the AEA (Association of European Airlines) and Europilote. Its purpose was to organize the preparation of JARs, and their interpretation when necessary. The JSC has in turn established various Technical Study Groups, the Administrative Group and, later, the JAR Technical Committee, all of which are responsible to the JSC for the work they undertake[65].

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[64]Joint Airworthiness Requirements, General Instructions to the Study Groups, J.S.C. Document No. 1 Issue 2 4th November 1971, 1-Introduction and History; For a discussion of the history of the JARs see also Claude Frantzen, "Un Code de Navigabilité Commun à sept pays européens" (1972) 144 Revue du SGAC 120.

[65] Recently the Joint Steering Committee has been renamed Joint Steering Assembly (JSA).

In March 1979, the Directors General of Belgium, Denmark, Finland, France, Federal Republic of Germany, Netherlands, Norway, Sweden, Switzerland and the United Kingdom signed the document entitled "Arrangements Concerning the Development and the Acceptance of Airworthiness Requirements", which has been a necessary step towards the adoption by participating countries of JARs as their national codes. In the recitals of this document the Aviation Authorities of the participating countries have indicated the reasons of this endeavour to harmonize their airworthiness requirements. They are the promotion of aviation safety, the avoidance of duplication of work in obtaining national certification and the resulting assistance to their aircraft manufacturers. As part of this "Arrangements" document, Appendix 1, a small technical Secretariat was established. It was agreed that until some alternative arrangement is agreed by two-thirds of the Authorities, the JAR Secretariat will be provided by the Authorities and housed by one of them. The Secretariat, however, in terms of work is responsible to the AASC and not to the housing Authority.

The Arrangements established a framework of cooperation by experts to formulate JARs, defined as "technical requirements and where necessary acceptable means of compliance with the interpretation of them". JARs for each type of products and components are published. Each Civil Aviation Authority will accept these JARs as acceptable standards for the certification of relevant products and components and the authority of the importing country may not impose any additional requirements

differing from the JARs for the purpose of its own certification or validation of the certification by the country of manufacture, except where the product has novel or unusual features. Arrangements are made for the ICAO Airworthiness Committee to be kept informed of technical work on the JARs. In the formulation of the JARs close regard has been paid to the US Federal Aviation Regulations (the FARs). For example JAR-25 - the code which applies to large multiturbined aircraft (exceeding 5,700 kilograms Maximum Total Authorized Weight) is based on FAR Part 25. In 1987 JAR 25 had been adopted by the UK, French, Dutch and German Civil Aviation Authorities as a sole code and by other authorities as an optional code.

Since this Arrangements document was drawn up, the joint regulations have extended from design to maintenance and now to operations and flight crew licensing ; to reflect this wider range of interests the aviation authorities of the signatories of the 'Arrangements document' are now called Joint Aviation Authorities (JAA)[66].

None of this cooperation work towards the streamlining of national standards, however, affected the ultimate responsibility of the State of registry for the certification of the complete aircraft or the duty imposed by international agreements to recognize the certificate of airworthiness.[67]

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[66]ICAO A27-WP/111.

[67]Eileen Denza, "From Aerostats to DC-10s - Recognition of Certificates of Airworthiness" in A. Kean ed., Essays in Air Law (The Hague: Martinus Nijhoff Publishers, 1982) 39 at 49.

During the tenth ECAC Conference of 12 - 15 June 1979, a recommendation concerning the Joint Airworthiness Requirements was unanimously adopted[68]. Herein the Conference recommended:

> "1) that the authorities of the States associated in the development of joint airworthiness requirements (JARs) should formalize their co-operation in close relationship with ECAC;
> 2) that the authorities of the other Member States should recognize the existence of the joint airworthiness requirements (JARs) by giving at least the same status to certification under a joint airworthiness requirement as they give to certification under such well-known airworthiness requirements as are currently in force, and
> 3) that the authorities of the States interested in developing a joint procedure for certification or validation of the certification of aircraft under joint airworthiness requirements should pursue their work in that direction and keep the Technical Committee informed of progress."

On 19 June 1987, the Representatives of the Civil Aviation Authorities in Europe met in Le Bourget (France) where they reviewed the development of the European Joint Airworthiness Requirements (JAR) according to the "Arrangements concerning the development and the acceptance of JAR", and the specialists report on future airworthiness procedures. As a result of this meeting a "Memorandum of Understanding between Certain European Civil Aviation Authorities on Future Airworthiness Procedures" was signed on the same day 'to meet the needs of European industry, joint projects and the benefits of a common European approach to aircraft safety'[69].

The main points of this Memorandum are :

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[68]ECAC/10 (12 - 15 June 1979) Recommendation NO. 3.

[69]See Memorandum of Understanding of 19 June 1987 at 2.

"3. The Authorities agreed that in the short term, major efforts should be made to make JAR a uniform requirement without national variants and that arrangements should be developed which answer the following criteria:
a) they should be based on co-operation between national authorities;
b) the necessary expertise should be assembled in joint certification teams in such a way as to minimise duplication, costs and delays;
c) they should aim at implementing on a non discriminatory basis, Type Certification procedures using existing JAR for European products as well as products of third countries, thus enabling participating countries in due course to adopt JAR as their sole code;
d) initially these arrangements should cover type certification, continued airworthiness throughout the type life cycle and directly associated regulatory activities;
e) they should be compatible with legal regulatory functions currently applicable in each country;
f) they should allow airworthiness technical findings made by joint teams to be accepted by the national authorities without additional technical work.

4. To this effect the Authorities have further agreed:
a) to require their specialists to develop in more detail such arrangements to be approved by each country covering in particular:
- the sharing of work and responsibilities between the joint teams and the national authorities,
- the number of staff allocated to management and certification work,
- the budget and funding,
- the time scale;
b) to provide adequate resources for their work.

5. In anticipation of the results of the above work the relevant Authorities will aim to implement joint procedures as soon as required for the efficient conduct of :
a) certification of new projects, including joint projects, where application is made to several of the participating authorities,
b) continued airworthiness matters related to products which have been the subject to joint certification, for the lifetime of those products.
c) simplified import procedures for existing products."

The Authorities agreed further to ask their specialists to work to evaluate in more detail future steps towards a common European structure covering a wider range of products and safety regulations and to apply as early as possible these concepts.

The system set up by the signatories to the 1979 "Arrangements" and the 1987 "Memorandum of Understanding", by sharing work between countries, was removing the burden of multiple certification and different standards and was creating common or mutually acceptable maintenance systems. For the European aircraft aviation industry it represented a major advance in efficiency and the removal of trade barriers. To ensure even closer harmonization and effective work sharing, the European Civil Aviation Conference (ECAC), whose membership of then 25[70] States included all those participating in the JAA system, has, at its 17th Intermediate Session in Paris of 21 and 23 June 1989, amended its Constitution in such a way as to open the possibility for JAA to become an "associated body" of ECAC[71]. On 10 November 1989, the Directors General of Civil Aviation of ECAC members states agreed amendments to the ECAC constitution which enabled the JAA to be established as an associated body of ECAC[72] and on 11 September 1990 they signed a revised set of Arrangements at Cyprus[73] in which the functions, the organization and procedures of the Joint Aviation Authorities are described[74]. The new set of

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[70]now 31.

[71]ICAO A27-WP/111 and ECAC 17th Intermediate Session (Paris, 21 and 23 June 1989) Report; See for Ecac Constitution: ECAC.CEAC Doc nr. 20, 2d. Ed. and in particular Article 1 (4) and Article 4 (2).

[72]See ECAC Decision of 6.12.1989.

[73]Arrangements concerning the development, the acceptance and the implementation of Joint Aviation Requirements, Cyprus 11 September 1990. The text is reproduced in Air Law, 4th ed.,op. cit., Vol. II, Issue 46.

[74]See H. Meyer, "The JAA joins the ECAC" (1990) ITA May 59/6.

Arrangements has been opened for signature by the ECAC Members States wishing to be JAA members[75].

The day to day management of the JAA is run by the JAA Committee on which all participating countries[76] have a member. The running of the system is delegated by that Committee to the Executive Board which comprises six members. Three are permanent members (representatives from France, The United Kingdom and Germany). The other members are elected according a formal procedure. They meet typically about every five or six weeks. There is continuous consultation with the industry on the Joint Boards and in the Technical Study Groups. The secretariat of the JAA is presently based in the Netherlands in Hoofddorp. The cooperation of the JAA Members States is now extended into the fields of requirements for operations, maintenance[77] and licensing. Cooperation has also been extended to research in aviation safety.

It is important to keep in mind that the JAA system does not change the legal obligations in Member States. Each country whose authority is party to the JAA keeps its responsibilities to ICAO and its members, in particular, for the implementation of the Annexes. European aircraft keep their national registrations as now and carry a certificate of airworthiness issued by the

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[75]At present 20 Member States of the Council of Europe are JAA members; Arrangement adopted in Cyprus dd. 11.09.1990.

[76]Now 20 countries.

[77]See ICAO A29-WP/31.

competent authority of the country of registry. In fulfilling the corresponding tasks, however, the competent authority of the country of registration will use technical data gathered by either their own personnel or by a combination of personnel of their own and of other JAA authorities. Such a joint team is required to be approved by the authority.

In the context of the export of aeronautical products (e.g. export certificates of airworthiness for a jointly certificated aircraft) the formal responsibilities are vested in a single Authority - normally from the country of manufacture or final assembly - on behalf of all the involved JAA authorities. Relevant responsibilities in these cases are those covered by bilateral agreements and some ICAO provisions (e.g. continued airworthiness matters). Discussions and co-ordination to develop the Joint Aviation Regulations and to reduce differences from other standards (particularly FARs) are matters however, that are carried out jointly by all the JAA countries.

At present the JAA Committee meets formally with the FAA about once a year to plan the co-operative activities and a number of ad-hoc committees carry out the joint work. The JAA also comments on all FAA notices of Proposed Rule-making (NPRMs) and the FAA does the same for JAR Notices of Proposed Amendments. All amendments to FAR 25 are considered for adoption into JAR 25 unchanged; if differences are felt possibly to be necessary, then

a longer process is started where the amendment is discussed in the appropriate JAA Study Group.[78]

e. EEC Council Regulation N°. 3922/91 of 16.12.1991

Since the effectiveness of the JAA could be limited by the fact that it is, up to now, a purely voluntary arrangement, lacking a legal framework, the Council of the European Communities adopted Regulation N°. 3922/91[79] with the aim of strengthening the JAA by making this voluntary arrangement binding by incorporating it into Community legislation[80]. This Regulation entered into force on 1 January 1992 and is binding in its entirety and directly applicable in all EEC Member States. As a result, and according to Article 3 of this Regulation, the common technical requirements and administrative procedures applicable in the Community with regard to the type certification of products and parts in the Joint Aviation Requirements listed in Annex II[81] shall be the relevant codes in the Member States. With regard to fields not listed in this Annex, the Council of the European

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[78]ICAO A27-WP/111 at 5.

[79]Council Regulation (EEC) N°. 3922/91 of 16.12.1991 on the harmonization of technical requirements and administrative procedures in the field of civil aviation, O.J.E.C. N°. L 373/4 of 31.12.1991.

[80]See also Explanatory Memorandum to the Proposal for a Council Directive on the harmonization of technical requirements and procedures applicable to civil aircraft (presented by the Commission) COM(90) 442 final of 27 September 1990.

[81]JAR 22 Sailplanes and powered sailplanes; JAR 25 Large aeroplanes; JAR AWO All weather operations; JAR E engines; JAR P Propellers; JAR APU Auxiliary power units; JAR TSO Technical standards orders; JAR VLA Very light aeroplanes; JAR 145 Approved maintenance organizations.

Communities will adopt common technical requirements and administrative procedures on the basis of Article 84 (2) of the Treaty of Rome when the Commission will have submitted its proposals. In the mean time Member States may apply the relevant provisions of their existing national regulations (Art. 4). According to Article 6 the Member States shall provide mutual recognition "without further technical requirements or evaluation" to products designed, manufactured, operated and maintained in compliance with the common technical requirements and administrative procedures where such products have been certificated by another Member State. If a safety problem becomes apparent from an accident, incident or service experience to a product manufactured, operated or maintained in accordance with the Joint Aviation Requirements, those states however may react immediately. They are under an obligation to inform the EC Commission and the other Member States of the measures taken and the reasons therefore if the safety problem results from an inadequate safety level corresponding to the application of the common technical requirements and administrative procedures, or shortcomings in the common technical requirements and administrative procedures (Art. 8). Member States have also the obligation to take whatever steps are necessary to coordinate their research programmes with a view to improve the safety of civil aircraft and their operation and to assist one another in the implementation of this regulation.

The European aerospace industries association, AECMA, has been very active in this move towards technical harmonization in

Europe and the adoption of Joint Aviation Requirements. It claims however that the common rules still leave the doors open to different and sometimes conflicting interpretations. Not all JAA Member States are Member States of the European Communities and there is therefore a "de facto two-tier JAA Organization". They are calling for a "single European aviation authority" similar in scope and legal power to the U.S. Federal Aviation Administration, a single register of all European-owned transport aircraft and a European certificate of airworthiness[82].

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[82] AWST, October 12,1992 at 64.

II. Liability of aerospace products manufacturers

A. Product liability in the EEC

1. Introduction

On the 25th of July 1985, the Council of the European Communities reached a long awaited consensus on the subject of products liability. It adopted and promulgated after more than ten years of fierce debate Directive 85/374 "on the Approximation of the Laws, Regulations, and Administrative Provisions of the Member States Concerning Liability for Defective Products"[1]. In doing so it created an obligation for the twelve Member States of the EEC to modify, if necessary, their existing laws on products liability. Implementation[2] had to be undertaken by August 1, 1988. Not all have so far been able to meet this deadline. However in any event the result will be a trend towards unification of the law which will take according to some sources from five to ten years to materialize[3].

The European nations have been slower than the United States in their adoption of a concept of liability without fault. The Directive will have no doubt important consequences for both the claims-consciousness of the consumers and the product liability

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[1] O.J.E.C. No. L 210/29 of 7 August 1985.

[2] See infra II.A.4.

[3] Otto baron van Wassenaer van Catwijck, Comment "Products Liability in Europe", (1986) 34 A.J.C.L. 789.

system in Europe, but there is general agreement that the implementation of the Directive will not lead to 'U.S. conditions' in European product liability law.

2. The work of the EEC to harmonize existing product liability rules of the Member States

The members of the EEC have considered that the disparity in their respective laws on the issue of products liability adversely affects the free movement of goods and distorts trade. It has been argued that the lack of uniformity in the products risk may affect decisions as to the cost incurred in building safety into the product, and may have some influence on the cost of insurance, all of which would need to be reflected in the final cost of the product. The need for harmonization of European national laws has led to the promulgation of two international agreements on products liability which would provide for strict liability, and also an international agreement on conflict of law rules[4].

In 1977 the Council of Europe proposed the "Strasbourg

[4]See John R. Maddox, "Products Liability in Europe - Towards a Regime of Strict Liability" (1985) 29/05 J.W.T.L. 508 at 509.

Convention"[5], which established strict liability for defective products that cause personal injury or death.

The Commission of the European Communities in 1976 developed a similar Directive from a first draft going back to August 1974 (doc.11/334/74-F). This proposal was discussed before the European Parliament; the Economic and Social Committee gave its opinion and many amendments were proposed. Taking those criticisms, opinions, suggestions, amendments or observations into consideration, the Commission published a revised proposal on October 1, 1979[6]. After a lot of discussions and in view of the different opinions in the Member States, the Council finally adopted Directive 85/374/EEC of 25 July 1985 which was accompanied by several statements of those states about the scope of their obligations which were certainly characterized by elements of compromise[7].

The 1973 Hague Convention on the Law Applicable to Products Liability[8] prepared a system of conflicts of law rules.

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[5]European Convention on Products Liability in Regard to Personal Injury and Death, concluded January 27, 1977, Eur.Tr.Ser. N°. 91, February 1977; for a discussion see: H.Duintjer Tebbens, International Product Liability - A Study of Comparative and International Legal Aspects of Product Liability (Alphen aan den Rijn, The Netherlands: Sijthoff & Noordhoff International Publishers, 1980) at 143.

[6]O.J.E.C. No. L 271, 26-10-1979, p. 3.

[7]see discussion infra,at II.A.3.; Council Documents 8205/85.

[8]See discussion infra p. 110.

3.The EEC Product Liability Directive of July 25, 1985

a. Adoption of Strict Liability with Respect to Products

Article 1 lays down the principle of strict liability or liability irrespective of fault. It states :

> The producer shall be liable for damages caused by a defect in his product.

This principle was already adopted in the first draft of the Commission in 1976. The rationale behind it was at that time, and even now, that "only a liability of this type leads to an adequate protection of the consumer, since he is freed from the burden of proving fault on the part of the producer and also need not fear that he will have to bear his damage alone because the producer can prove that there was no fault."[9] The old principle of liability based on fault, prevailing in the EEC Member States is now broken down by the Directive in a wide economic field. Before, it was limited in some countries to some fields of the law like liability for pharmaceuticals, nuclear energy etc. ... Fault is no longer a prerequisite to liability. In case of a claim, the producer of a defective product cannot exonerate

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[9]Proposal for a Council Directive relating to the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products (Presented by the Commission to the Council on September 1976), Bulletin of the European Communities Supplement 11/76, Explanatory memorandum at 13.

himself by proving "no fault". The proof of having observed due diligence no longer protects the producer from liability.

Strict liability however is not the same as absolute liability. According to the Explanatory Memorandum to the Draft of 1976, the Commission found that liability irrespective of fault does not burden the producer to an unjustified extent. It felt that he normally could divide the costs of damage passed on to him as a result of liability being made independent of fault among all users or consumers of products free of defects from the same range, or of his production as a whole, by including the expense incurred (payment of damages or payment of insurance premiums) in his general production costs. All the consumers thus bear the costs of the damage to a reasonable extent.[10]

Under the Directive the victim, however, still has to prove damage, the defect and the causal connection (Article 4). The term "product" is defined in Article 2 and has a wide range of application. It includes all movables except 'primary agricultural products'[11] and game, even where the movables are incorporated into other movables or into immovables. This is obviously very important for component part manufactures and manufactures of finished products using subcontractors for component parts. Also the extent to which industrial waste is included under the definition of "product" is not totally clear.

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[10]ibidem at 13.

[11]Article 2 defines "Primary agricultural products" as the products of the soil, of stock-farming and of fisheries, excluding products which have undergone initial processing.

In one industry it may be perhaps raw material or an industrial product for another industry eg. paper industry using recycled waste as raw material. Electricity is also deemed a product for the purpose of the Directive. According to Article 15.1.a) any Member State may by way of derogation from Article 2, provide in its legislation that "products" are to include primary agricultural products and game[12].

The general exclusion of immovables should be noted. The Directive will not apply, for example, to a defective house which collapses, save to the extent that any movable "incorporated into" the house is defective. Since most immovables are composed of movables which are "incorporated into" the whole, this potential range of application should not be ignored. But in such cases it would be necessary to show that the particular movable (or movables) was in itself (or were themselves) defective; in other words, a defective combination into an immovable of movables which themselves are not defective would not appear to fall within the scope of the Directive[13]. For the producer this means an increase in legal liability as compared to the prevailing liability under the fault system.

A detailed discussion of the economic arguments for and against strict liability falls outside the scope of this study. We can mention a few of them :

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[12]See later discussion on the options of the Member States.

[13]William Binchy, "The EEC Directive on Products Liability- Part I" (1986) 80/02 Gazette/Incorporated Law Society of Ireland, March 1986 37 at 38.

- strict liability would according to some reduce litigation costs, inhibit socially unacceptable side effects and reflect the lack of bargaining equality between consumers and producers;
- on the other hand, it would have roughly the same effect on prices as an indirect tax; it would lead to a redistribution of income away from consumers who incur low accident costs to those with higher accident costs; product liability, as a restriction to freedom of the producers to maximise long-run profits, could also retard innovation whereby consumers would eventually be denied products which could have benefited them greatly.

In several EEC Member States the shifting of the burden of proof with respect to fault had already increased the liability in many instances. Liability due to 'failure of proof of exoneration' existed already and in such instances the Directive has little effect upon the economic result. Now, however, a producer who could gain before from proving that he acted without fault (eg. observing due diligence) cannot shield himself anymore behind relevant laws and regulations when planning his products. Risk-analysis and risk-consulting will focus on the remaining defenses, such as the absence of defectiveness in the product[14] and the defenses enumerated in Article 7 of the Directive. Documentation will also become more important.

[14]see infra, at II.A.3.d.

b. The Notion of Defectiveness

Since the injured party still has to prove a defect (Article 4 of the Directive) the notion of defectiveness[15] remains a cornerstone of the Directive. Defectiveness is a prerequisite to liability (Article 1).

According to Article 6(1) a product is defective 'when it does not provide the safety which a person is entitled to expect taking all the circumstances into account'. The key word is safety : products that are safe but shoddy do not fall within its scope. A product that does not provide the safety which a person is entitled to expect, taking all circumstances into account, is defective.

Three specific circumstances are mentioned in Article 6(1) without any particular weight relative to each other or relative to other unspecified circumstances:

a) the presentation of the product;

b) the use to which it could reasonably expected that the product would be put;

c) the time when the product was put into circulation.

What weight each should have depends on the facts of each particular case.

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[15]See for a discussion on the subject : M. Griffiths, "Defectiveness in EEC Product Liability" (1987) J.B.L. 222.

If a product is represented in the advertising literature and in the detailed descriptive quality, a consumer who suffers damage from the product's dangerousness in lacking this quality may have a right to action according to circumstance a). It would appear that the "presentation" of the product includes an omission to provide information which ought to have been given, to protect the user from harm[16].

With respect to the second specific circumstance "the use to which it could reasonably be expected that the product would be put" the notion of reasonableness is important. Clearly there are limits to what may reasonably be expected. Some commentators[17] fear that so far as misuse of a product is concerned, it may be that the European Directive will be interpreted as broadly as in the United States so as to apply a modification of the foreseeability rule akin to that in Hughes v. Lord Advocate[18].

The third specific circumstance of Article 6 (1) "the time when the product was put into circulation"[19] may operate in one of two ways. First, the passage of time may be relevant as throwing

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[16]William Binchy, op. cit. 41.

[17]William Binchy ibidem.

[18][1967] A.C. 837; see also Moran -v- Faberge Inc. 273 Md. 538, 332 A.2d 11 [1975].

[19]The Directive does not give a definition of "put into circulation". See infra II.A.3.d.(a) .For a discussion hereon see also Jacques Deprimoz, "Plongée dans les zones d' ombres de la Directive Communautaire sur la Responsabilité du fait des Produits Défectueux" (1987) 3 RGAT 361 at 362.

light on what a person is "entitled to expect". Indeed, one could surely expect that any consumer products, after sufficient wear and tear, would eventually become likely to be unsafe. Secondly the standards of safety may change over a period of time. This change may be the result of a development in the state of scientific and technical knowledge : this is covered in the state of the art defense[20]. However, safety standards can change without a direct reference to such scientific and technical developments. What may have been an acceptable risk from a product twenty years ago may simply cease to be acceptable to the community over this period. The thrust of Article 6 is to seek to ensure that producers will not suffer unduly from these changes in attitude[21]. The passage of time since the product was put into circulation may also be relevant to the question of proof which is dealt with ir Article 4.

c. The Scope of the Directive

The scope of the directive addresses the question of who is subject to strict liability and which losses are to be compensated. This is dealt with in Articles 3 and 9 which define respectively the terms "producer" and "damage".

It is however very important to bear in mind that according to Article 13 the pre-existing liability laws of the Member States shall not be affected by the Directive. This means that liability based on fault as developed in the courts for the

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[20]see discussion below at II.A.3.d.(e).

[21]William Binchy op.cit. 42

producer will continue to exist as a matter of principle[22]. This will enable the plaintiff to select the most favorable theory for his case. He can bring his claim of damages in his national jurisdiction under general rules of international private law. This judgement will be executed against the foreign producer if his country adheres to the EEC Convention on Jurisdiction and Enforcement of Judgements in Civil and Commercial Matters of 1968[23].

Article 3(1) defines a producer as one who is :

(a) the manufacturer of a finished product;

(b) the producer of any raw material;

(c) the manufacturer of a component part; and

(d) any person who, by putting his name, trade mark or other distinguishing feature on the product, presents himself as its producer[24].

Strict liability also applies to the EEC importer,that is to say any person "who imports into the Community a product for sale, hire, leasing or any form of distribution in the course of his business" (Article 3(2) of the Directive). There is no question that the Directive will affect the non-commercial importation of food or gadgets purchased abrcad by hollidaymakers. Import for

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[22]See Ulrich Stürmer, Jack Edwrad Koepke, Benno Reischel, New EEC Product Liability - The U.S. in Comparison (Cologne: Gerling-Konzern Globale Rückversicherungs-AG, 1988) at 25.

[23]Convention on Jurisdiction and the Enforcement of Judgments in Civil and Commercial Matters, Brussels, 27 September 1968, (1972) OJEC L. 299/32.

[24]This is to cover the so-called "quasi-producers".

the own use of the importer does not fall within the scope of the Directive[25]. The argument for imposing strict liability on the commercial importer is that his business involves exposing consumers within the Community to the risk of being injured by the imported product. Importers have to be regarded as producers because otherwise the consumer will have problems in finding the responsible person abroad. However there was no reason to make the sole "importer" distributing or importing goods from one EEC country to another liable as producers because this could create an artificial trade barrier[26]. The liability of the importer pursuant to Article 3(2) of the Directive is of particular significance to air transport. If a European airline for example imports an aircraft from outside the Community, not for its own use but in order to immediately make it the object of a hire purchase agreement, a leasing agreement or a resale, this airline is regarded as the producer. If this airline on the other hand had no intention to rent or resale the aircraft at the time it was imported, but used it initially for its own operations, this airline cannot subsequently be deemed the producer if it lets the aircraft out for hire at a later date[27]. The time of importation

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[25]For example the purchase of American airplanes by a European airline.(H.C. Taschner,"La future responsabilité du fait des produits défectueux dans la Communauté Européenne" (1986) 297 Rev.M.C. 257-263 at 260).

[26]Norbert Reich, "Product Safety and Product Liability - An analysis of the EEC Council Directive of 25 July 1985 on the Approximation of the Laws, Regulations, and Administrative Provisions of the Member States Concerning Liability for Defective Products" (1986) J.C.P. Vol.9/02 p.133-154 at 142.

[27]See A. Kean, "Product Liability for Aircraft: a conflict of obligations" (1986) J.B.L. 242; E. Frietsch, "Die Produkthaftungs-Richtlinie der Europäischen Gemeinschaft und der Luftverkehr" (1987) 36 Z.L.W. 170.

is the time at which the importer's purpose is decisive. Problems could also arise in connection with aircraft leasing agreements and in particular in case of a wet lease[28]th, i.e. when the aircraft is leased with crew. The importing airline could be held liable as air carrier as well and therefore be subject to both the regulations governing product liability - as importer - and under the Warsaw Convention![29]

Finally, strict liability applies under specific conditions to any "supplier of the product ... unless he informs the injured person, within a reasonable time, of the identity of the producer or of the person who supplied him with the product" (Article 3(3) of the Directive). This secondary or derivative liability of the supplier is of utmost importance. By using a legal fiction the Directive turns the supplier into a producer. He can only escape responsibility if he states the name of the producer or any other person who supplied him with the product. His responsibility has to be regarded as being supplementary, depending on whether or not the producer is found. It does not exist in the case where the consumer cannot recover his damages from the producer because of the latter's bankruptcy[30].

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[28]In case of dry lease, i.e. leasing of aircraft against payment without crew, the importing airline is liable only as producer; liability under the Warsaw Convention lies solely with the the lessee airline.

[29]See Dr. Wolf Müller-Rostin, "Aviation product Liability in Europe - The E.C. Directive and Brussels Convention 1968", Paper presented at the 1987 ESC Aviation Law and Claims Conference in London 24 & 25.11.1987 at 5.

[30]Norbert Reich, ibidem.

In creating a greater responsibility, Community law takes regard in changes in the manufacturing and distribution processes. The consumer who does not know the details of the production process and does not need to know, will be able to recover his damages without having to prove fault on the part of the producer. Strict liability will also apply in cases of products consisting of various components supplied by a multitude of producers throughout their lines of production both horizontally and vertically. Producers of products components will face increasing claims activity caused by the defective product components of third party producers. Multi-defendant litigation will also increase. The cost of litigation per defective product will be multiplied due to increased complexity[31].

Not all claims activity falls under the strict liability regime of the Directive. Article 9 limits the material scope of application to:

(a) damage caused by death or by personal injuries;

(b) damage to, or destruction of, any item of property other than the defective product itself, with a lower threshold of 500 ECU[32], provided that the item of property:

(i)is of a type ordinarily intended for private use or consumption, and

(ii)was used by the injured person mainly for his own private use or consumption.

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[31]U. Stürmer, J.E. Koepke, B. Reischel op.cit. p.27.

[32]European Currency Unit, as defined by Article 18 of the Directive.

This Article 9 is however specified as being without prejudice to national provisions relating to non-material damage. In the original draft Directive, presented by the Commission to the Council in 1976, "damage" had been defined somewhat differently[33] but on the question of death and personal injuries, the substantial position has not been changed. In the Explanatory Memorandum, so far as the death of the user of the defective product was concerned, it is made clear that the Article was "intended to cover both rights to compensation arising for the benefit of the injured person in the period between the event giving rise to injury and his death, and rights to compensation arising for the benefit of persons who had rights against the deceased. These will be primarily rights to maintenance of the spouse or close relatives."[34]

So far as personal injuries were concerned, the Explanatory Memorandum stated that this term "comprises the cost of treatment and of all expenditure incurred in restoring the injured person to health and any impairment of earning capacity as a result of the personal injury"[35]. According to this Explanatory Memorandum "the Directive does not include payment of compensation for pain and suffering of for damage not regarded as damage to property

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[33]See Proposal for a Council Directive relating to the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective product, Bulletin of the European Communities, Supplement 11/76.

[34]ibidem at 16 para. 17.

[35]ibidem.

(non-material damage). It is therefore possible to award such damages to the extent that national laws recognize such claims, based on legal grounds."

With regard to property damage the original draft has been amended. Article 9 requires first, that the damage be to any item of property other than the defective product itself. Secondly, that the item of property damaged by the defective product be of a type "ordinarily intended for private use or consumption" and that it have been "used by the injured person mainly for his own private use or consumption". Those substantial limitations are intended to prevent an inflation of claims and an undue burden on industry if damage to property used in the course of trade, business or profession had been included.

Also the so-called pure economic losses (e.g. lost profit caused by a defective product not involving personal injury or property damages) and so called immaterial damages (e.g. pain and suffering or loss of use and enjoyment) do not come within the ambit of strict liability.

d. The Defenses

Article 7 of the Directive contains six defenses which if proven by the producer would enable him to escape liability, notwithstanding damage having been done by reason of a defect in a product.

(a) The producer did not put the product into circulation

The Directive does not define what is meant by "put the product into circulation"[36]. According to the Commission it was not considered necessary to define this term "since this is self-explanatory in the ordinary meaning of the words".[37] The Commission considered that "normally, an article has been put into circulation when it has been started off on the chain of distribution".[38]

The practical difficulty of course is to determine the exact moment of this "putting into circulation". When an aircraft is delivered by an aircraft manufacturer to a test flight centre and crashes during a test flight due to a manufacturing defect causing harm to third parties, the manufacturer would be liable. The test flight would be regarded as "putting into circulation"[39].

Another condition is that the producer should put the product into circulation of his own free will[40]. If a product is

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[36]Contrary to the Strasbourg Convention of 1977 where the following definition is given in Article 2.d.: a product has been 'put into circulation' when the producer has delivered it to another person. See also footnote 19 supra.

[37]Explanatory Memorandum to the Draft Directive, op.cit., para 15

[38]id.

[39]J.L. Fagnart, "La Directive du 25 Juillet 1985 sur la Responsabilité du fait des Produits" (1987) 23/01 Cahiers de Droit Européen 3-68 at 45.

[40]Explanatory Memorandum to the First Draft, op.cit. para. 14.

released onto the market as a result of theft, the producer would not be strictly liable.[41]

(b) having regard to the circumstances, its probable that the defect which caused the damage did not exist at the time when the product was put into circulation by him or that this defect came into being afterwards

This provision is identical to Article 5.1.b. of the Strasbourg Convention of 1977. It is designed to protect the producer from defects coming into being some time after the product was put into circulation by him. The main problem with this exception is the question of proof. The burden lies on the producer. If the injured party succeeds in proving a defect in causal relation to the damage suffered, the producer has to prove that it arose only after the time the product wa put into circulation. This can raise some very difficult issues for example, if a defect appears in a product two years after the product was put into circulation, by what criteria can it be judged to have "come into being" at any particular time? And when should that time be?[42]

The producer's burden of proof is however eased because he has only to prove a probability having regard to the circumstances.

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[41]William Binchy, "The EEC Directive on Products Liability- Part II" (1986) 80/03 Gazette/ Incorporated Law Society of Ireland, April 1986 73.

[42]William Binchy, op.cit. Part II p.73.

(c) that the product was neither manufactured by him for sale or any form of distribution for economic purpose nor manufactured or distributed by him in the course of his business

This defense protects the non-commercial producer and is very similar to Article 5.1.c. of the Strasbourg Convention.

Those first three defenses reflect the "stream of commerce" requirement of American product liability law. A manufacturer in the United States can argue that it did not place the product in the stream of commerce, that the defect did not exist when it put the product in the stream of commerce, and that it did not manufacture the product for placement in the stream of commerce.[43]

(d) that the defect is due to compliance of the product with mandatory regulations issued by the public authorities

This defense ensures that a commercial producer will not be faced with the dilemma of having to comply either with mandatory regulations issued by the public authorities or with the terms of the Directive: if such a potential clash arises, the producer will have a good defense under the Directive if he complies with the mandatory regulations.[44]

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[43]Nadine E.Roddy, "Strict Product Liability in Europe: The EEC and the Directive on Defective Products" (1987) Product Liability Trends Vol.12 n.9 September 1987 p.101.

[44]William Binchy, op.cit., Part II p. 74.

This defense could be important for the aerospace products manufacturers at first sight. In the EEC countries aircraft types and component parts will only be certificated after the certification authorities being satisfied that the relevant airworthiness requirements and/or any special conditions above the Federal Aviation Regulations of the United States have been complied with[45]. Nevertheless, those regulations do not, as a general rule, lay down standards of performance, other than those to be achieved, and, in most cases, these are minimum standards. Consequently, there may be difficulties in seeking to invoke compliance with such regulations as a defence to damage caused in the event that the requirements are defective in some manner.

It may well be that the defense will be restricted to cases where the defect was the inevitable consequence of compliance with a mandatory regulation. The defendant may therefore be required to demonstrate not only the existence and scope of the regulation but the impossibility of compliance by any means other than that which gave rise to the defect. In such cases, it is almost certain that the aircraft manufacturer would have grounds to recover and seek an apportionment of damages from the certification authorities in his country.[46]

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[45]See discussion supra in Part I.B. Government Regulation of the European Aerospace industry through certification.

[46]Nicholas Hughes,"Aviation Products Liability : U.K.", European Study Conferences, 1987 Aviation Law and Claims Conference at 33.

(e) that the state of scientific and technical knowledge at the time when he put the product into circulation was not such as to enable the existence of the defect to be discovered (the so-called "state of the art defense" or "development risks" defense)

This defense is of utmost importance for industries and trades which deal with innovative products and in particular the aerospace industry. Under the Directive these industries carry the liability risk for damages caused by defects which could be discovered according to the state of the art and technical knowledge. The critical point in time is the moment when the product was put into circulation[47]. This means that the producer can defend a claim on the basis of the prior state of the art even if, at the time of the occurrence of the damage, the defect could have been recognized. The producer, however, carries the burden of proof that defect-recognition was not possible at the time the product was initially placed into circulation. Yet he retains perhaps some chance of defending the claim, and he also has an incentive to apply current scientific and technical knowledge.[48]

This defence is known in the United States as the "state-of-the-art defense". The Directive's preservation of this defense will preclude decisions such as the New Jersey Supreme Court's in

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[47]See discussion supra at II.A.3.d.(a).

[48]U. Stürmer, J.E. Koepke, B. Reischel, op.cit. p. 35.

Beshada v. Johns-Mansville Corp.[49], which held the defense unavailable to an asbestos product manufacturer in a strict liability failure-to-warn case, and the Louisiana Supreme Court's in Halphen v. Johns-Mansville Sales Corp.[50], which held the defense unavailable to an asbestos product manufacturer in a strict liability design defect case[51].

Article 15(1)(b), however, gives Member States a way to exclude this defense[52]. The "state of the Art defense" was one of the most debated issues of the Directive[53]. The first draft of the Commission of 1976 did not contain this defense. According to the Explanatory Memorandum "later scientific and technical knowledge sometimes makes it possible only at a later date to realize that a product considered to be harmless is in reality dangerous (development risks). If these extremely rare cases of damage were to be excluded from the producer's liability, the consumer would have to bear the risk of unknown defects. Here also, only the principle of liability irrespective of fault can lead to a universally acceptable solution, whereby the costs of the damage is divided among a large number of consumers by the

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[49]90 N.J. 191,447 A.2d 359 (1982).

[50]484 So.2d 110 (La. 1986).

[51]Nadine E. Roddy, ibidem, p.101.

[52]see discussion infra at II.A.4.

[53]Note : The Strasbourg Convention of 1977 makes no exception for development risks. See Ferdinando Albanese, "Legal Harmonization in Europe, Product Liability - A Comparison Between the Directive of the European Communities and the Council of Europe Convention" in C.J. Miller, ed., Comparative Product Liability (London: United Kingdom Comparative Law Series Volume 6. 1986) 15 at 22.

producer. For this reason development risks had to be included."[54]

Since this First Draft of the Commission the issue of this defense was very much discussed. The European Parliament, after consideration of the report of the Legal Affairs Committee and the opinions of the Committee on Economic and Monetary Affairs and the Committee on the Environment, Public Health and Consumer Protection proposed in its Resolution of 26 April 1979 to exclude the development risks of the scope of the Directive[55]. The Economic and Social Committee was divided on the subject[56]. The Commission in its Second Draft of October 1979[57] did not adopt the Parliament's view on the advisability of deleting development risks from the draft. One of the main reasons was that according to information it had received from the European Committee of Insurers the inclusion of development risks in the Directive would not lead to insurance rates considerably higher than those resulting from the introduction of no-fault liability excluding such risks[58].

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[54]Explanatory Memorandum, op.cit., para. 2. p.14.

[55]O.J. No. C 127, 21.5.1979 p. 61.

[56]O.J. of 7.5.1979 nr. C 114/15.

[57]Amendment of the proposal for a Council Directive relating to the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products (Submitted by the Commission to the Council on 1 October 1979 pursuant to Article 149 of the EEC Treaty) (OJ) No C 274 , 26-10-1979 p.3.

[58]HL, Session 1979-80, 50th Report, Select Committee on the European Communities, "Liability for Defective Products-9427/79: Amended Draft Directive on Liability for Defective Products", (London: HMSO, 22 April 1980).

Industry had always insisted upon the fact that a strict liability including development risks would put it at a competitive disadvantage and prevent innovation. This is also one of the reasons for the above mentioned resolution of the European Parliament. Extensive lobbying was done by various trade associations against the strict liability principle and in favour of the maintenance of a state of the art defense.

The European Aerospace Industry, through AECMA, voiced its strong opposition to the strict liability principle of the Directive and the exclusion of the "state of the art defense" in a Memorandum on the EEC Draft Directive for the Council of Ministers Working Party[59]. The purpose of this Memorandum was in the first place "to highlight the special features of aerospace which make the concept of strict liability particularly inadequate from the viewpoint of aerospace, as well as counter productive from the viewpoint of the community at large". AECMA's aim was clearly to exclude aerospace from the scope of the Directive.

The most important paragraphs of this Memorandum are reproduced hereafter :

"4.- It is illogical to attempt to equate - in the sense of treating alike - the ordinary household products, on the one hand, and e.g., sophisticated equipment like modern commercial aircraft, on the other hand. The latter are special products, therefore meriting special treatment, by

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[59]EEC Product Liability Draft Directive, AECMA Memorandum for Council of Ministers Working Party, JA/SUE/9932/I/REV.3/E (1980).

reason of the high-risk exposure, in the sense that one single occurrence can result in multiple fatalities involving, in monetary terms, (where liability exists) some hundreds of millions of dollars. The position is obviously quite different from the case resulting from an occurrence concerning one single ordinary household product.

5.- The cost of strict liability in the context of aerospace would impose a detriment to the community, which would far outweigh any possible consumer benefit. Much higher fares for the flying public would result : and, as is now well known, flying is no longer a luxury enjoyed by the privileged few : it is one of the most important ingredients in domestic and international commerce.

6.- The "state of the art" (in France "la règle de l'art") defence must be retained, so that any producer whose product is as safe as it could be made, in conformity with then current knowledge, must be absolved from legal liability. Thus, an accident caused by some previously unknown metallurgical phenomenon, only brought within the field of human knowledge by the most searching post-accident investigation, should not - in fairness or on grounds of pragmatism - be allowed to impose liability of any kind upon the manufacturer. Moreover, compliance with standards imposed by Governments, as regards quality control, airworthiness certification, and related safety measures, should also all constitute effective defenses to the producer.

7.- Research and development is the very lifeblood of aerospace. That is to say, civil aircraft entering into commercial operation today result from years of research and development in time gone by : and research and development today is designed to produce the commercial aircraft of the future. But strict liability would be bound to impose constraints on innovation, calculated to sterilize research and development for future years, involving very considerable detriment to European aerospace, in such a highly international competitive business, and comprising such a major element for European progress."[60]

From an interim report of the Secretariat General of the Council of 13 July 1981 it appears that six national delegation were for the exclusion of the state of the art defense : Belgium, Denmark, Greece, France, Ireland and Luxembourg. Their arguments were basically twofold : firstly, the manufacturers were best able to insure those risk and this insurance cost would finally be borne by the collectivity of the consumers and secondly, it would

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[60]ibidem at 2.

politically not be feasible for countries where a protection against those risks already existed for the consumers to go a step backwards on this matter. Three other delegations were against the exclusion of this defense : Italy, The Netherlands and the United Kingdom. Germany reserved its opinion on the subject. Their arguments were that, on the one hand, such a provision would have a negative impact on technologically advanced products because of a probability of excessive insurance premiums due to the fact that those industries are traditionally more exposed to those risks and, on the other hand, that the introduction of those risk would unbalance the Directive against the interests of industry.

The final solution of the Directive is thus a compromise between the various positions. This is clearly confirmed in recital 16 of the Directive which states that the state of the art defense "may be felt in certain Member States to restrict unduly the protection of the consumer; whereas it should therefore be possible for a Member State to maintain its legislation or to provide by new legislation that this exonerating circumstance is not admitted; whereas, in the case of new legislation, making use of this derogation should, however, be subject to a Community stand-still procedure, in order to raise, if possible, the level of protection in a uniform manner throughout the Community;".

(f) in the case of a manufacturer of a component, that the defect is attributable to the design of the product in which the component has been fitted or to the instructions given by the manufacturer of the product.

This defense allows the manufacturer of a component to escape liability under the Directive where, in effect, the responsibility lies with the manufacturer of the product in which the component is fitted.

When the component part in itself satisfies legitimate safety requirements, the liability of the producer of that part cannot be invoked. This is even true if the finished product as a whole is defective because the component part, owing to the general design of the producer of the finished product, was unsuitable for incorporation into that finished product, and also if the component part was manufactured according technical specifications provided by the manufacturer of the finished product and it then transpired that those specifications were erroneous.

Although not mentioned explicitly, this defense was also available under the Strasbourg Convention[61]. Paragraph 51 of the Explanatory Memorandum to the Convention reads :

> "The committee considered that there was no need for the Convention to contain a provision enabling the producer of the component part to establish that he is not liable by proving that the defect resulted from the design or

[61]See para. 51 of the explanatory report to the Strasbourg Convention quoted in Ferdinando Albanese, op. cit. at 23.

instructions of the producer of the product into which it was incorporated.

The reason is that it follows from Article 3, paragraph 1, taken together with Article 2, paragraph (b), that the producer of a component part is liable only if that component part is defective, and this is for the injured party to demonstrate and prove. The point about the question of defectiveness, according to Article 2, paragraph (c), is whether the component part considered in itself- that is , as an autonomous product - does not provide the safety that may legitimately be expected of it.

If the component part in itself satisfies legitimate safety requirements, the liability of the producer of that part cannot be invoked. This principle applies even if the finished product as a whole is defective because the component part, owing to the general design of the producer of the finished product, was unsuitable for incorporation into that finished product, and also if the component part was manufactured according to technical specifications provided by the manufacturer of the finished product and it then transpires that those specifications were erroneous. Article 3, paragraph 4, does not apply in such cases.

If on the other hand, the component part, considered as an independent product - that is, without any regard to its subsequent use by the manufacturer of the finished product- does not meet the safety requirements that may legitimately be expected of it, then the producer of that component part is liable, under Article 3 paragraph 1, taken together with Article 2, paragraphs (b) and (c)."

When the defect of the finished product is attributable to a combination of causes, including the act of the manufacturer of the component and the instructions given by the manufacturer of the product, joint and several liability under Article 5 of the Directive would appear appropriate according to one author[62]. For him is seems that the term "attributable" in Article 7(f) should be interpreted as meaning "attributable exclusively".

Problems of interpretation could indeed arise in view of Article

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[62]William Binchy op. cit. Part II at 74. For a discussion of joint and several liability see infra, II.A.3.e.

8.1.[63]. Criticisms have been voiced against the imposition of strict liability on component part manufacturers by those who would have preferred channelling liability entirely through the producer of the finished product. According to Fernando Albanese such liability is both in the interest of the consumer, since the component manufacturer may be financially in a better position than the producer of the finished product, and in the interest of the producer of the component part himself, who may not wish to leave the defense of his case to someone else.[64]

e. Liability of two or more Persons, Statute of Repose and Limitation of Liability

a) Joint and Several Liability

According to Article 5 of the Directive two or more "persons" are liable for the same damage (e.g. the producer of the end product and the manufacturer of a component) they shall be jointly and severally liable. The injured party may thus elect to claim damages against each and every one of the defendants in full amount of the loss. Internal recourse for contribution among the various defendants is left however to the laws of the individual EEC Member States.

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[63]See text in appendix. The provisions of national laws concerning the right of contribution or recourse are unaffected by the Directive when it states in this Article that the liability of the producer shall not be reduced when the damage is caused by both a defect in product and by the act or omission of a third party. See also discussion infra on joint and several liability and contributory fault of the injured or a third party.

[64]Albanese op.cit. at 20.

Since the various laws of the EEC Member States to achieving contribution do not fall under the strict liability of the Directive, this means that in certain countries the prevailing standard of liability based on fault will also be the basis for contribution claims. The courts will have to decide to what extent the rules governing the shifting of the burden of proof are applicable to contribution claims. In such cases it could be that the party which must compensate damages in full under application of strict liability will not in all cases achieve partial compensation from other joint tortfeasors and be left with the loss.

b) Contributory Fault of the Injured or of a Third Party, Acts of God

The Directive specifies in Article 8(2) that the strict liability of the producer may be reduced if the damage is caused both by a defect in the product and by the "fault" of the injured person. Contributory fault of the victim may thus reduce the amount of liability. The same applies to the contributory fault of any person for whom the injured person is responsible. The joint causation of an injury by a defect in product and by the act or omission of a third party is however not allowed as a defense under the Directive (Article 8(1)). The provisions of national laws concerning the right of contribution and repose are unaffected by this Article. This situation is therefore very similar to the situation discussed above with the joint and several liability of Article 5.

The defense known as "Act of God" or force majeure is not dealt with in particular. The history of the Directive might indicate that strict liability should not apply to damages caused by an Act of God. According to one commentator an exclusion of liability for "development risks" cannot be justified in French and German law by pretending that the cause of the damage can be described as an "Act of God", "force majeure" or "höhere Gewalt".[65]

c) Statutes of Limitation and of Repose

The Directive provides for a statute of limitation of three years as to claims based on strict liability. This period runs "from the day on which the plaintiff became aware ... of the damage, the defect and the identity of the producer" (Article 10(1).

Aside from this limitation period, Article 11 provides that claims based on strict liability shall be "extinguished" after ten years. This period of repose shall run from the time when the product itself is first put into circulation.
The Member States have to adapt their legislation accordingly. Their laws regulating suspension or interruption of the limitation period shall however not be affected by the Directive (Article 10(2)).

As stated by one commentator the idea of a limitation period is based on two policies : first that a defendant should be

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[65]Hans Claudius Taschner, "European Initiatives: The European Communities" in C.J. Miller, ed., Comparative Product Liability, op.cit., 1 at 13.

protected from stale, possibly fraudulent, claims, where accessibility to evidence has been diminished; and secondly that a plaintiff who sleeps on his rights is not entitled to an indefinite period within which to take action.[66]

The strict liability within the scope of the Directive does not "replace" prevailing liability by fault. It provides instead an additional cause of action. Therefore if strict liability claims repose or expire, certain claims based on fault may remain valid where such claims are not otherwise precluded by the applicable statute of limitation. The merits and disadvantages to the ten-year cut-off point have been widely debated. The Council of Europe, who favoured the same approach as was ultimately adopted by the EEC Directive, was conscious of the problem but nonetheless considered ten years "an acceptable period in view of the need to fix some limit (ten years being a fair average) and the desirability of affording producers some security".[67] The drafters of the Directive similarly considered that ten years "appeared appropriate as an average period". They indicated that "a limit to the period of liability is necessary above all to provide a well-balanced solution to the problem of 'development risks'" and that "an unlimited period of liability, however, would mean that the producer would have to bear an inordinately high risk particularly in this field."[68]

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[66]W. Binchy, op.cit. Part I at 74.

[67]Explanatory Report to the Strasbourg Convention para. 68.

[68]Explanatory Memorandum to the Draft Directive (1976) para. 28.

It appears that the starting points of the three and ten years periods will give rise to considerable debate before the courts and companies therefore will be able to defend on the basis of the expiration of a time period only if sufficient documentation has been provided specifying, among other things, the day when the product was put into circulation.

d) Limitation with Respect to the Amount of Damages

The Directive does not contain any limitation with respect to the amount of damages which may be claimed, under strict liability. Two exceptions to this principle should be noted:

Article 16 provides that the total liability of the producer may be limited to 70 million ECU or more for bodily injury damages which are "caused by identical items with the same defect" (i.e. damages caused to persons by mass produced products). The adoption of this provision is an option for the EEC Member States. If two or more persons are liable the limit increases accordingly.

The other marginal limitation with respect to property damages is provided by means of retention. According to Article 9(b) the injured party must bear the first 500 ECU as a deductible. The aim of this retention was to avoid nuisance claims for petty cash. The experience of the claims handling of the liability

insurers has however demonstrated that this retention is much too low to have significant economic effect.[69]

4. Implementation of the Directive - options of the Member States

4.1. According to Article 19 of the Directive the EEC Member States had to bring into force the laws, regulations and administrative provisions necessary to comply with it by July 30th 1988. This deadline is passed already some time ago and not all have been able to meet it yet. Up to this date[70] only ten states already have implemented the Directive : UK, Greece, Luxembourg, Italy, Denmark, Portugal, Germany, The Netherlands,Belgium and Ireland. Draft legislation is prepared in the other countries.

By the end of 1988 the EEC Commission had opened infringement proceedings under Art. 169 of the EEC Treaty against the nine Member States that had not implemented the Directive at that time[71]. Separate infringement proceedings were also opened against Italy and the United Kingdom because the Commission felt that the laws enacted by those Member States did not conform to the Directive. The infringement procedure against Italy has been dropped early March 1990 after consideration by the Commission of

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[69]See Ulrich Stürmer, Jack Edward Koepke, Benno Reischel, op.cit. at 40.

[70]27/8/1993.

[71]EEC Commission Press Release IP(88) 877 of 22/12/1988; then only Greece, Italy and The U.K. had implemented the Directive.

the arguments of this country. The procedure against the United Kingdom is still pending. Recently France has been condemned by the European Court of Justice for not having implemented the Directive[72].

4.2. The three options left to the Member States by the Directive relate to the scope of the new liability regime,the liability of the producer for the so-called development risk and the limitation of the producer's total liability.

4.2.1. Primary Agricultural Products and Game

By way of derogation from Article 2 the Member States may provide in their legislation that within the meaning of Article 1 of the Directive 'product' also means primary agricultural products and game[73].

4.2.2. Development Risks

The Member States may maintain in their legislation or provide in their new legislation that the producer shall be liable even if he proves that the state of scientific and technical knowledge at the time when he put the product into circulation was not such as to enable the existence of a defect to be discovered[74]. This

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[72]Judgement of 13.01.1993, Case C-293/91 Commission v. France [not yet published].

[73]Article 15.1(a).

[74]Article 15.1(b).

means that by way of derogation of Article 7(e) the so-called state of the art defence is not maintained.

Member States wishing to introduce this option have to comply with the standstill procedure set out in Article 15.2. which aims to promote uniformity in the national laws of the Member States. If a Member State wishes to exclude this defense it must submit the text of its proposed measure to the Commission, which will inform the other Member States of the proposal. The Submitting State must then hold the measure in abeyance. If within three months of receiving the proposal the Commission does not advise the Submitting State that it intends to submit a proposal to the Council of Ministers amending the Directive on the relevant matter, the State may adopt the proposed measure immediately. If the Commission states an intention but does not in fact submit the proposal to the Council of Ministers within nine months of receiving the proposal from the Submitting State, this State may adopt the proposed measure then. If the Commission does submit to the Council of Ministers such a proposal amending the Directive within the aforementioned nine months, the Submitting State must hold the proposed measure in abeyance for a further period of 18 months from the date on which the proposal is submitted. Ten years after the date of notification of the Directive, i.e. after July 30 1995, the Commission must submit to the Council of Ministers a report on the effect of court decisions involving the defense on consumer protection and the functioning of the common market. The Council of Ministers must then decide whether to repeal this defence.

4.2.3. Limitation of the producer's total financial liability

The Member States may finally provide in their legislation that the producer's total liability for damage resulting from death or personal injury and caused by identical items with the same defect shall be limited to an amount which may not be less than 70 million ECU[75].

In 1995 the Commission shall submit to the Council a report on the effect on consumer protection and the functioning of the common market of the implementation of the financial limit. In the light of this report the Council shall decide - a unanimous vote
is required - whether to repeal this option[76].

4.3. In the limited scope of this study we will only discuss briefly the way some of the Member States have used (or intend to use) the options available to them bearing in mind firstly that by its nature a Directive is binding 'as to the result to be achieved' but leaves them the choice of forms and methods to attain it[77] and secondly that according to the recent jurisprudence of the European Court of Justice[78] this form of

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[75]Article 16.1.

[76]Article 16.2.

[77]EEC Treaty Art. 189.

[78]Case 152/84 Marshall v. Southampton and South West Hampshire Area Health Authority (Teaching) [1986] 1 C.M.L.R. 688; see also generally P.E. Morris, "The Direct Effect of Directives - Some Recent Developments in the European Court" (1989) J.B.L. 233, Part I and 309, Part II; Case C-106/89 Marleasing v. La

Community legislation is not directly applicable for individuals in the absence of any (or accurate) national implementing legislation. In product liability cases pending before national courts preliminary rulings could be requested from the European Court of Justice according to Article 177 of the Treaty to interpret Directive 85/374/EEC. For courts of last resort, where no appeal is possible as a matter of right, this reference to the ECJ is required. In some cases the doctrine of "acte clair" has been invoked so as to avoid mandatory Article 177 references. This doctrine, originated under French law, posits that appeals need not be taken whenever the law and the result in the case at hand are clear. Appeals in such circumstances are wasteful of judicial and litigant time and energy. As rightly indicated by a commentator differences of opinion as to the clarity of EC law often exists[79]!

A synoptic table is produced hereafter to show the options of the Member States.

Commercial Internatcional de Alimentacion S.A. [1992] 1 C.M.L.R. 305; Cases C-6/90 and C-9/90, Francovich v. Italy,Bonifaci v. Italy, Judgment of the Court of Justice of 19 November 1991 and Annotation by Gerhard Bebr [1992] 29 C.M.L.R. 558.

[79]See : Ralph H. Folsom, European Community Law in a Nutshell (St. Paul, Min., U.S.A.: West Publishing Co., 1992) at 82 as illustrated by the Entreprises Garoche case.

TABLE 3: Status of implementation of the EEC Directive 85/374

IMPLEMENTATION OF EEC DIRECTIVE 85/374

Country	Law	Entry into force	OPTIONS		
			Agric. Prod (1)	Development Risk (2)	Limit of Liab. (3)
UK	Consumer Prot. Act 1987	1/3/88			
GR	Law Decree 31/3/88	30/7/88			*
IT	Law Decree 24/5/88	29/6/88			
L	Law 21/4/89	2/5/89	*	*	
DK	Law 7/6/89	10/6/89			
P	Law Decree 6/11/89	21/11/89			*
D	Law 15/12/89	1/1/90			*
NL	Law 13/9/90	1/11/90			
B	Law 25/2/91	1/4/91			
IRL	Liab.Def.Prod. Act 1991	16/12/91			
SP	(Draft 27/3/89)		*	[4]	*
F	(Draft 23/5/90)		*		

(1) By way of derogation of Art. 2 that 'product' also means primary agricultural products and game.
(2) No 'state ofthe art' defense.
(3) Limitation of liability.
(4) Pharmaceutical and food products excluded.

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The UK implemented the Directive through Part I of the Consumer Protection Act of 15 May 1987[80] which entered into force on 1 March 1988. The Commission is of the opinion that the so-called "development risks" defence (Art. 7e of the Directive) has been wrongly implemented. Section 4 (1) (e) of the UK act takes an "ideal" producer as the standard of measuring whether or not a defect could have been discovered according to the state of scientific and technical knowledge. This introduces, according to the Commission, a subjective element thereby tending to lead national judges to apply the rules of negligence and liability based on fault. This conflicts entirely with Art. 1 of the Directive which introduces liability for defective products, irrespective of fault (strict liability).

The Consumer Protection Act, unlike the Directive, uses the concept of supply to the user as the key to liability. Section 46(9) states:

> "A ship, aircraft or motor vehicle shall not be treated for the purposes of this Act as supplied to any person by reason only that services consisting in the carriage of goods or passengers in that ship, aircraft or vehicle, or in its use for any other purpose, are provided to that person in pursuance of an agreement relating to the use of the ship, aircraft or vehicle for a particular period or for particular voyages, flights or journeys."

Thus, if British Airways fly a passenger in one of their planes, they do not thereby become a "supplier" of the plane. They will therefore not be liable as supplier of a defective plane if it is defective. Nor will they be liable as "importer" unless they had

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[80]For a comment see Shawcross and Beaumont, Air Law, op.cit.,V.4. and following; Clifford Chance, "Product Liability Law" (London: Clifford Chance Publications, 1993) p. 1 to 11.

(a) imported it from outside the EEC, and (b) done so in order to "supply", e.g. lease or sell, it[81].

In The Netherlands the Directive has been introduced into the Dutch legislation with the Wet Produktenaansprakelijkheid of 13 September 1990[82]. This law introduced new articles 1407(a) to 1407(i) in the Dutch Civil Code following article 1407. It entered into force on November 1, 1990[83]. Those changes have been incorporated into sections 6:185-193 of the New Netherlands Civil Code which entered into force on January 1, 1992.

Germany introduced the Directive into its legislation by a separate Act, the "Gesetz über die Haftung für fehlerhafte Produkte" of 15.12.1989[84] which entered into force on 1 January 1990. An interesting conflict of law problem could arise in this country for cases where the laws of the German Democratic Republic would have been applicable before the German reunification. The German Democratic Republic ceased to exist on

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[81]Consumer Protection Act 1987, Current Law Statutes Annotated (London: Sweet & Maxwell, 1987) 43, General note 9 sub Section 46(9).

[82]Wet Produktenaansprakelijkheid van 13 september 1990, Stb. 1990, 487.

[83]See : L. Dommering-van Rongen,Produktenaansprakelijkheid, Een nieuwe Europese privaatrechtelijke regeling vergeleken met de produktenaansprakelijkheid in de Verenigde Staten (Kluwer: Deventer, 1991). The new law of 13.09.1990 is published in the Staatsblad 1990 at 487. The date of the entry into force of November 1, 1990 results from a Decision of the Queen of October 9, 1990, Staatsblad 1990, 523.

[84]Act Regarding the Liability for Defective Products. It entered into force on 1 January 1990 and is published in the Bundesgesetzblatt I, 1990, at 2198. For a discussion see : P. Nikolai Ehlers, "Products Liability in Germany Today and Tomorrow" (1991) 16 A.A.S.L. 41.

3.10.1990 as a consequence to its accession to the Federal Republic of Germany. The Unification Treaty between West and East Germany provides that German Tort Law which is part of the German Civil Code will be applied in the former German Democratic Republic only if the relevant tort was committed on or after the day of unification[85]. The new German Products Liability Act will be applicable in the former German Democratic Republic with respect to those products that were put into circulation on or after the 3.10.1990[86].

Belgium also implemented the Directive with a specific law on February 25, 1991[87] which entered into force on April 1, 1991. This country, like most countries decided not to use the three options. Article 6 of the Belgian Products Liability Law defines what is meant by 'putting into circulation' as 'the first act materializing the producer's intent to give the product the allocation to which he destines it by transfer to a third party or by utilization on the latter's behalf'[88].

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[85]Einigungsvertrag of 31 August 1990, Anlage 1, Kapittel III, Sachgebiet B, Abschnitt II, 1, Artikel 232 EGBGB, Para. 10 (Bundesgesetzblatt II, 1990 , at 944).

[86]Ehlers, op.cit., at 54.

[87]Loi relative à la responsabilité du fait des produits défectueux, 25.02.1991 (Moniteur Belge du 22.03.1991 p. 5884); for a discussion see: T. Vansweevelt, "De Wet van 25 februari 1991 inzake produktenaansprakelijkheid", Part I (1992) T.B.B.R. 96 and Part II (1992) T.B.B.R. 184; Marc Fallon, "La loi du 25 février 1991 relative à la responsabilité du fait des produits défectueux" (1991) J.T. 22.06.1991 p. 467.

[88]Free translation by the author. The original text in french is "Au sens de la présente loi; on entend par "mise en circulation" le premier acte matérialisant l' intention du producteur de donner au produit l' affectation à laquelle il le destine par transfert à un tiers ou utilisation au profit de

France has been condemned by the Court of Justice on 13.01.1993 because it still had not ratified the directive on that date. In its brief this country had indicated that a 'Projet de Loi'[89] exists and has been examined in first reading by the National Assembly on 11.06.1992. The arguments of France for its defense shed light on the difficulties to implement the Directive in its national law:

> "Le gouvernement français tient à constater que les règles de la directive en cause établissent le principe d' une responsabilité sans faute et que, malgré une proximité certaine avec les règles existant dans le code civil et la jurisprudence, elles ont posé certains problèmes d' intégration en droit français, dans la mesure où elles ne visent que le défaut de sécurité des produits et ne couvrent que certains dommages, tout en n' envisageant que la responsabilité des producteurs.
>
> Or, puisque la responsabilité du fait des produits se rattache avant tout, en droit français, à la garantie des vices cachés, ce qui imposait des obligations au vendeur lui-même au-delà du producteur, il s' est donc avéré nécessaire de concilier des conceptions juridiques qui ne se recoupaient pas complètement."[90]

From the draft legislation in our possession it appears that France is attempting to adapt its Civil Code by including a new Titre IV bis after Article 1386 and changing the Articles 1387

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celui-ci.".

[89]See draft of 23.05.1990 before the Assemblée Nationale. For a discussion see : "Projet de loi modifiant le code civil et relatif à la responsabilité du fait du défaut de sécurité des produits" Gaz. Pal. 18/19 Juillet 1990, p. 432-435. This draft has been amended as Draft Bill n° 2952 of 14 October 1992 which has been adopted by the National Assembly, amended by the Senate and is subject to recommendations of the Legislative Commission.

[90]Judgement of the Court of Justice of 13.01.1993, Case C-293/91, Rapport du juge rapporteur III, 10.

and 1388; changes are also proposed to the Articles 1641, 1648, 1713 and 1891 of the Civil Code.

5. The EEC General Product Safety Directive of 29.06.1992

Without going into details mention has to be made of the recent Council Directive 92/59/EEC of 29 June 1992 on general product safety[91]. This directive will have to be implemented by the Member States by the first of June 1994. The idea behind this Directive according to the Commission is to establish only "as a basic rule of law, a general common denominator to all more specific legislation on product safety in any area to which recourse can be taken where there are loopholes or inadequacies in existing legislation which cannot be mended in the short run or where such legislation simply does not exist". Article 13 of this directive stipulates that it shall be without prejudice to directive 85/374/EEC which is the Council Directive of 25 July 1985 concerning liability for defective products commented above[92].

The General Safety Directive creates an obligation to producers to place only safe products on the market (Art. 3.1.). A definition of what is meant by 'safe product' is given in Article 2(b) :

"... any product which, under normal or reasonably foreseeable conditions of use, including duration, does not present any risk or only the minimum risks compatible with the

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[91]OJ L 228, 11.08.92 p.0024.

[92]See supra at II.A.3.

product's use, considered as acceptable and consistent with a high level of protection for the safety and health of persons, taking into account the following points in particular:
-the characteristics of the product, including its composition, packaging, instructions for assembly and maintenance,
-the effect on other products, where it is reasonably foreseeable that it will be used with other products,
-the presentation of the product, the labelling, any instructions for its use and disposal and any other indication or information provided by the producer,
-the categories of consumers at serious risk when using the product, in particular children.
The feasibility of obtaining higher levels of safety or the availability of other products presenting a lesser degree of risk shall not constitute grounds for considering a product to be 'unsafe' or 'dangerous'."[93]

[93]For a brief comment of the General safety directive see "Product Liability Law" (London : Clifford Chance Publications, 1993).

B. Conflict of laws, Enforcement of judgments

1. Introduction

Since product liability claims and claims involving aerospace products in particular often relate to facts containing foreign elements connected with other countries or jurisdictions, complex conflict of law problems can arise. The activities of the EC and the Council of Europe attempting to harmonize the laws in their respective Member States being limited in their geographical scope but also by their supplementary character will not prevent or ease this matter.

Aircraft engaged in international commercial transportation can carry several hundred of passengers, many of different nationalities and have contacts with several countries. Smaller aircraft for business and pleasure are in this respect not very different. With every passenger or third party on the ground as potential plaintiff in case of accident hundreds of claims can be filed in different countries.

In which court will an action be brought? Which law is applicable and how to enforce a judgment of a court in one country against a defendant in another country will be briefly outlined hereafter.

The common law countries provide most case law on the subject of jurisdiction and some words on American Interstate and

International 'long-arm' jurisdiction have to be said since this is the largest aerospace products manufacturer of the world but also the largest market for European products. In continental law the EEC Convention on Jurisdiction and Enforcement of 1968 deserves attention as well.

Special attention will be given also to the Hague Convention on Product Liability of 1973 set up under the auspices of the Hague Conference of Private International Law and directed to choice of law.

Due to the availability of different jurisdictional and choice of law alternatives 'forum-shopping' is common place in product liability litigation. In the area of aviation products liability the 'shopping' may be increased due to the existence of more developed and favorable conditions in the law of certain countries.

2. Jurisdiction

(1) US Jurisdictional Principles :

One of the most important threshold issues to be determined in any lawsuit in the US is whether the court in which the lawsuit has been filed has jurisdiction over the parties and the subject matter of the lawsuit. Personal and subject matter jurisdiction are particularly important for foreign defendants since a finding

that there is no jurisdiction may enable a defendant to avoid significant legal liability.

Whether a court has jurisdiction ratione loci plays a very important part in American conflicts caselaw in regard to product liability. The same is true in British and Commonwealth law but not in continental European law. In the American judicial organization one has to consider that there are federal and state courts[94]. The selection of the appropriate forum by the plaintiff's lawyer is crucial, for upon that choice rests a lot of decisions concerning the applicable law on the many questions of the elements of proof, evidence, measures of damages, right to recover, and others, which even singly, can determine the outcome of the litigation[95]. Therefore the choice of a forum, where available, is frequently governed in the United States by tactical considerations such as:

- the quality, extent and amount of discovery available in those two jurisdictions;
- in some jurisdictions, the state courts are considered more favorable for the plaintiffs, from the point of view of jury awards and general likelihood of success;
- statute of limitations, proximate cause including intervening cause, rules to defenses as contributory negligence, comparative negligence, assumption of risk, unavoidable accident, Act of God;

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[94]David R. and Brierley J.E.C., Major Legal Systems in the World Today, 2d ed., p. 425.

[95]Speiser, Krause and Gans, Aviation Tort Law, op. cit., Vol.I p.129.

- how these jurisdictions rule on product liability questions like : negligence, breach of express or implied warranty, strict liability in tort, negligent misrepresentation, fraud;
- if one or more wrongful deaths is involved, how does each of these states rule as to: measure and elements of damages; recovery of interests and from period; distribution of proceeds of either a settlement or a judgement;
- rules as to collateral estoppel or release etc...

When in a product liability case the plaintiff has a choice as between a court in the United States and one in a foreign country, especially in aviation tort cases, plaintiff's lawyers often opt for an American court. Important factors are : contingency fees, choice-of-laws, substantive law as to torts but also as to measure, element and amount of damages recoverable, procedural differences as to pleading, discovery, mode of trial (jury rather than court) and rules of evidence. The choice of an American forum does however not preclude the application of substantive law of another country[96].

In the relationship between the federal courts, a principle similar to that applicable in the relationship of federal and state law applies: the general rule is in favour of the jurisdiction of the state courts. Federal courts can only be seized in cases where the American Constitution, or some statute of Congress based on Constitutional provisions, has recognized their jurisdiction, and such recognition is based on two main

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[96]See infra: at II.B.3.

ideas: the federal courts are sometimes competent by virtu of the nature of the dispute (when it involves, for example, some provision of the Constitution itself or some federal statute) and they are also sometimes competent on account of one of the parties involved (when the United States itself, a foreign diplomat or the citizens of two different states of the union are involved)[97].

Product liability actions will often be faced with a diversity of citizenship which is established by either citizens of different U.S.-states or U.S.-citizens and an alien party opposing each other in court[98]. With regard to corporations 28 U.S.C.[99] Para 1332 (c) provides that they are considered as citizens of the state in which they are incorporated as well as of the state in which they have their administrative office. A discussion exists whether this regulation should apply to alien corporations as well[100].

The Federal District Courts have jurisdiction relating to the value of the claim in cases of diversity of citizenship concurring with the jurisdiction of the state courts, provided

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[97]David and Brierley,op.cit., 2d. ed., p. 428.

[98]Elmar Giemulla and Thomas Wenzler, "Product liability in the field of aviation - the foreign plaintiff in the U.S.-American court" (1990) Air Law Vol. XV, number 3 at 111.

[99]United States Code.

[100]Cfr. footnote 94, ibidem note 4: Pro: H. Geoffrey Moulton Jr. "Alien Corporations And Federal Diversity Jurisdiction", (1984) 84 Columbia Law Review 177/196 and Contra: Marc Ritter, "Diversity Jurisdiction over Alien Corporations", (1983) 50 University of Chicago Law Review 1458/1480.

the value in the dispute for each of the parties exceeds $ 50,000[101]. When federal courts can be seized in some such matter, their jurisdiction is rarely exclusive. The parties can frequently still resort to the state rather than the federal courts. In this eventuality an appeal may be possible to the United States Supreme Court from the final decision rendered by the state court but only when the case raises some fundamental issue under the Constitution or a federal statute. However, when a case involves a matter which could not, in the first instance, be taken to the federal court, it necessarily follows that the decision of the highest state court is final and binding. The United States Supreme Court does not therefore have at all the same role as the French Cour de Cassation[102].

In diversity of citizenship cases the Federal Courts tend to refuse their jurisdiction because they would have to apply state law to these cases but also because of the great workload involved. Therefore they strictly insist on 'complete diversity', i.e. none of the plaintiffs may have the same citizenship as any of the defendants[103].

Since the second World War American courts and legislators have in a joint effort wrought a complete reversal of the century-old principle of assumption of <u>in personam</u> jurisdiction based on 'presence within one state' and 'submission to jurisdiction' and

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[101]28 U.S.C. Para. 1332.

[102]David and Brierley, op. cit., 2d. ed., p. 429.

[103]Giemulla and Wenzler, op. cit. at 111.

extended the jurisdictional reach over non-residents, in particular commercial companies. In quasi-in-rem proceedings based on attachment of assets, the general requirements for the exercise of in personam jurisdiction apply[104].

In 1945, the U.S. Supreme Court held in the leading International Shoe - case[105] that due process required that a non-resident defendant must "have certain minimum contacts with (the forum state) such that the maintenance of the suit does not offend traditional notions of fair play and substantial justice". This led to a lot of discretion to the courts and subsequent cases have restricted this[106].

Since 1955, following the lead of Illinois, a growing number of States have enacted "long-arm" statutes specifying the contacts on which jurisdiction could be based. The two principal contacts relevant to products liability in those statutes are the commission of a tort and doing business within the state. A few states enacted specific provisions in order to facilitate suits against out-of-state manufacturers. Other states, by statute or ruling of the highest court, simply provide that jurisdiction may be exercised on any basis not inconsistent with the federal constitutional requirements[107].

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[104]See Shaffer v. Heitner, 97 S Ct 2569 (1977).

[105]International Shoe Corp. v. Washington, 326 US 310, 316, 90 L Ed 95,102 (1945).

[106]See Harry Duintjer Tebbens, op.cit. at p. 196.

[107]Duintjer Tebbens, op. cit. p. 196.

The leading case interpreting the notion of 'tortious act' is Gray v. American Radiator & Standard Sanitary Corp.[108] The court held that a tortious act cannot be separated from the resulting injury, despite the language of the statute. In its liberal approach giving paramount weight to policy considerations, the court found an Ohio valve manufacturer amenable to jurisdiction in Illinois when its valve was incorporated into a waterheater in Pennsylvania and, thence sold in Illinois, caused an explosion in that State. Learning from difficulties with narrowly worded long-arm jurisdiction rules several states worded rules based on a tort committed "wholly or in part" within a state or on "an act which results in the accrual of a tort action" within the state.

The jurisdictional contact, doing business within the state, has also evolved towards a concept in which the corporation must meet minimum standards of contact with a state beyond mere presence by an agent before that state may exercise jurisdiction over it. In the leading case of Buckeye Boiler Co. v. Superior Court[109],the Supreme Court of California stated that "if the manufacturer sells its products in circumstances such that it knows or should reasonably anticipate that they will ultimately be resold in a particular state, it should be held to have purposefully availed itself of the market for its products in that state". In McGee v. International Life Ins. Co.[110], in a

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[108]22 Ill2d 432, 176 NE 2d 761 (SuprCt Ill 1961).

[109]Buckeye Boiler Co. v. Superior Court, 71 Cal2d 893, 902, 80 CalRptr 113,120,458 P2d 57,64, (1969).

[110]McGee v. International Life Ins. Co., 355 US 220, 78 S Ct 199, 2 L Ed2d 223 (1959).

dispute arising out of a life insurance contract, the U.S. Supreme Court held that "It is sufficient for purposes of due process that the suit was based on a contract which had substantial connection with the (forum state)... It cannot be denied that California has a manifest interest in providing effective means of redress for its citizens when their insurers refuse to pay claims. These residents would be at a severe disadvantage if they were forced to follow the insurance company to a distant state in order to hold it legally accountable." This case is very important because its language has been broadly been applied to all businesses. However, it represents the least contact with the forum state that has been approved by the Supreme Court as the basis for personal jurisdiction where the cause of action involved the defendant's in-state activities. Significantly greater contacts with the forum state have always been required in cases where the claim does not involve in-state activities[111].

The Uniform Interstate and International Procedure Act of 1962[112], which reflects in its section 1.03 the common core of most prevailing long-arm statutes, allows jurisdiction if a claim arises from any of one of the following contacts :

(1) transacting any business in this state;

(2) contracting to supply services or things in this state;

(3) causing tortious injury by an act or omission in this state;

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[111]Steven Emanuel, Civil Procedure, 8th Ed. (Larchmont, New York: Emanuel Law Outlines, 1986).

[112](1966) 9 B Uniform Laws Annotated, para. 1.03(a), at 310.

(4) causing tortious injury in this state by an act or omission outside this state if he regularly does or solicits business, or engages in any other persistent course of conduct, or derives substantial revenue from goods used or consumed or services rendered, in this state.

The Supreme Court however has placed in the landmark case of Volkswagen Corp. v. Woodson[113] significant limits on the use of long-arm statutes in product liability suits against out-of state manufacturers and vendors. It held that even though it may have been foreseeable that defendants might derive revenue from a car ultimately used in Oklahoma, this was not sufficient to confer jurisdiction on the Oklahoma courts. It stated that "the foreseeability that is critical to due process analysis is not the mere likelihood that a product will find its way into the forum State. Rather, it is that the defendant's conduct and connection with the forum state are such that he would reasonably anticipate being haled into court there."

A modern test required by the courts against American non-resident defendants is the "stream of commerce" test. In its most recent pronouncement on in personam jurisdiction in a product liability case, the U.S. Supreme Court in Asahi Metal Industry Co. v. Superior Court of California, Solano County[114]

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[113]Volkswagen Corp. v. Woodson, 444 U.S. 286 (1980).

[114]Asahi Metal Industry Co. v. Superior Court of California, Solano County, 480 U.S. 102, 107 S. Ct. 1026 (1987);for a discussion see : J. Philip Jordan and Frederick C. Leiner, "American Jurisdiction over Foreign Corporations in Product Liability Lawsuits: The ASAHI Decision and Beyond" (1987) 21

approved the position taken by a number of courts that due process required more than the defendant's awareness of its product's entry into the forum state through the stream of commerce. According to the court, the placement of a product into the stream of commerce, without more, is not an act of the defendant purposefully directed toward the forum state such that personal jurisdiction may be exerted over the defendant.

This brief overview of US jurisdictional principles can not be closed before mentioning the 'forum non conveniens[115]' doctrine. It asserts the "discretionary power of a court to decline to exercise a possessed jurisdiction whenever it appears that the cause before it may be more appropriately tried elsewhere."[116] This doctrine is very important in aviation product liability litigation especially for non U.S. manufacturers.

An important U.S. Supreme Court decision is Piper Aircraft Co. v. Reyno[117]. In this case the plane built by an American manufacturer crashed in Scotland, killing all aboard. When the decedents' representatives brought a wrongful death action in Pennsylvania Federal District Court, the defendants (the American manufacturer of the plane's propellers and the plane' manufacturer) moved for dismissal on the ground of forum non

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J.W.T.L. n° 5, 31.

[115]See P. Nikolai Ehlers, "Forum Non Conviens" (1987) 36 Z.L.W. 327; Giemulla and Wenzler, op. cit. at 112.

[116]James & Hazard, Civil Procedure (3d Ed. 1985).

[117]454 U.S. 235 (1981).

conveniens arguing that Scotland was a more appropriate forum : the decedents and their heirs were all Scottish citizens, the necessary witnesses to the crash and to the prior maintenance of the plane were located in Scotland and Great Britain. The plaintiff opposed the forum non conveniens motion because Scottish law was much less favorable to her (no strict tort liability, limitation of the items of damages). The Supreme Court denied plaintiff's motion and stated in fact that the likelihood of an unfavorable change in the law (in casu, because of choice-of-law principles, Scottish law would have had to apply to one, but not the other defendant) should not even be given "substantial" let alone "conclusive" weight in the forum non conveniens decision. The Court stressed that the essential purpose of the forum non convenience doctrine is to assure that the litigation takes place in the most convenient forum. Since most litigations could take place (at least from the standpoint of jurisdiction) in two or more forums, a rule that forum non conveniens will not be applied where the law would be less favorable to the plaintiff would strip forum non conveniens of most of its utility, and would lead to trials in "plainly inconvenient" forums[118]. In the case of Friends for All Children Inc. v. Lockheed Aircraft Corporation[119] arising out of the crash of a C5A outside Saigon on 14 April 1975 the United States Court of Appeals set out the four step analysis the Courts should make: 1. The existence of a suitable alternative forum having jurisdiction over the whole case must be established.

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[118]Emanuel, op.cit. p. 72.

[119]No. 82-1424 (D.C. Circ. 9 Sept. 1983).

2. Private interest factors should be weighed subject to strong inclination not to disturb the Plaintiff's choice of forum. The private interest factors include but are not limited to : ease of access to sources of proof, availability of witnesses, examination of wreckage and the like, burden of translation and other factors that make trial of an action 'easy expeditious and inexpensive'.

3. If the balance of private interest factors is 'in equipoise' the court must consider whether public interest factors, such as not overburdening courts with cases that lack significant connection with them, encouraging trial of controversies in the localities where they arise, familiarity with the governing law, tip the balance in favour of a trial in a foreign forum - if equipoise still exists, then the Courts should not disturb the Plaintiff's choice of forum.

4. If the balance favours a foreign forum the judge must be sure that the Plaintiff can reinstate the suit in the alternative forum 'without undue inconvenience of prejudice'.[120]

(2) Jurisdiction of the English Courts

The traditional rule governing the jurisdiction of the English courts in civil actions is that those courts will have jurisdiction in actions in personam if the defendant is properly served with the writ, or other process, or has submitted to the jurisdiction of the court. Service of process on a corporation

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[120]See Ian Awford, "Some recent developments in products liability in tort - with particular reference to aviation cases" (1985) 10 Air Law 129 at 147.

is governed by special rules: in the case of a company registered in England, it is effected by leaving it at, or sending it by post to, the company's registered office; in the case of a company registered in Scotland but carrying business in England, it is effected by leaving the document at, or sending it by post to, the company's principal place of business in England; in case of a foreign corporation carrying on business in England, process is addressed to the person registered under the Companies ACT 1985 for this purpose, and left at or sent by post to, his registered address, or, if the corporation has failed to register the name and address of any such person, by leaving the document at, or sending it by post to, any place of business of the corporation in England. A defendant submits to the jurisdiction of the English court by acknowledging service, endorsement of the writ by the defendant's solicitor with a statement of acceptance of service or agreement to a term in a contract that the English court shall have jurisdiction.[121]

The coming into full force in January 1987 of the Civil Jurisdiction and Judgments Act 1982, which brings into effect the Brussels Convention on jurisdiction and enforcement of judgments in civil and commercial matters of 1968[122], revolutionised the law in England. The 1968 Convention introduced in English law a

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[121]Shawcross and Beaumont, op.cit., at I(80).

[122]On the 1968 Convention see generally Collins, Civil Jurisdiction and Judgement Acts 1982 (1983), pp. 1-126;Hartley, Civil Jurisdiction and Judgments (1984), pp. 1-108; Anton, Civil Jurisdiction in Scotland (1984), pp. 1-155; Weser, Convention Communautaire sur la compétence judiciaire et l'exécution des décisions (1975).

detailed set of rules dealing with the circumstances in which courts may exercise jurisdiction in matters within the scope of the Convention.[123] They will be discussed in more detail later.

The 1982 Act and the Convention supersede any inconsistent prior legislation. The English texts of the 1968 Convention as amended by the Accession Convention, the 1971 Protocol (as amended), and the transitional and final provisions of the Accession Convention are scheduled to the 1982 Act for "convenience of reference". If any question of interpretation is not referred to the European Court under the 1971 Protocol, it is to be determined in accordance with the principles laid down by, and any relevant decision of the European Court.[124] The consequence of this introduction of the Convention system in the United Kingdom is that there will be three sets of basic rules of jurisdiction in the United Kingdom:

- one for cases within the Convention (mainly, but not only, where the defendant is domiciled in another Contracting State);
- a second set, where the defendant is domiciled in another part of the United Kingdom; and
- a third set, substantially different from the first two, where the defendant is not domiciled in a Contracting State.

As in the United States the English court may in its discretion decline to exercise its jurisdiction where it finds that England

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[123]Dicey and Morris on The Conflicts of Laws, 11th Ed. (London : Stevens & Sons Ltd., 1987) p. 266.

[124]Dicey & Morris, op.cit. p. 274.

is forum non conveniens, i.e. not the appropriate forum. This principle was developed in Scotland. After a period of hesitation the House of Lords decided in The Abidin Daver[125] that the Scottish doctrine was also part of English law.[126] In the case of The Spiliada[127] for the first time a definition of the term 'appropriate forum' was given. A good illustration of the application of the forum non conveniens doctrine in an aviation cases by the english court is SNIAS v. Lee Kui Jak[128].

Aviation cases are also governed by special statutory provisions. Jurisdiction in respect of claims under the Carriage by Air Act 1961 or the Carriage by Air (Supplementary Provisions) Act 1962 is governed by special rules laid down in those Acts. Service outside the jurisdiction is permissible and does not require leave. Claims under s 76 of the Civil Aviation Act 1982 (actions in trespass or nuisance, strict liability in some cases of surface damage) would be treated as actions in tort for the purposes of jurisdictional rules.[129] According to Art. 57 of the Brussels Convention given effect by the Civil Jurisdiction and Judgments Act 1982 the Convention shall not affect any convention to which the contracting states are or will be parties and which,

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[125][1984] AC 398, [1984] I All ER 470, (HL).

[126]Shawcross & Beaumont, op.cit. I(80).

[127]The Spiliada [1985] 2 Lloyds Rep 116 CA.

[128]SNIAS v. Lee Kui Jak [1987] AC 871; for a detailed discussion of this case see: T.R. Brymer, "Le "forum shopping" ou la course à la compétence : la réponse des tribunaux anglais" (1992) R.F.D.A. 9 at 15.

[129]Shawcross & Beaumont, op.cit. I(82).

in relation to particular matters, govern jurisdiction or the recognition or enforcement of judgments. Actions brought in respect of international carriage by air falling within the Warsaw Convention will fall hereunder.

(3) Jurisdiction in Continental EEC

a) Intra-Common Market litigation - EEC Convention of 1968

Since 1 February 1973, with the entry into force of the 1968 Convention on Jurisdiction and Enforcement[130] between the six original Member States of the EEC, separate rules of jurisdiction apply to intra-Common Market litigation as distinguished from all other proceedings with an international character.[131] It created uniform jurisdiction rules and opened in addition to the general competence of the forum rei a special forum delicti in Article 5(3) : "A person domiciled in a Contracting State may, in another Contracting State, be sued in ... matters relating to tort, delict or quasi-delict, in the courts for the place where the harmful event occurred". In the French potassium mines case[132] the European Court, in a preliminary ruling requested by the Hague Court of Appeal, held that the "place where the harmful event occurred" must be understood as being intended to cover

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[130]Convention on Jurisdiction and the Enforcement of Judgments in Civil and Commercial Matters, Brussels, 27 September 1968, (1972) OJEC L. 299/32.

[131]Duintjer Tebbens,op.cit. p. 292.

[132]European Court, 30 November 1976, (case 21/76)[1976] ECR 1735 with opinion of Advocate General, summarized (1976) 23 NILR 365.

both the place where the damage occurred and the place of the event giving rise to it.

b) Defendant outside the Common Market

The ban on "exorbitant" fora listed in Art. 4 of the Convention does not apply to the defendant outside the Common Market. This implies that manufacturers and other suppliers established in the USA, Japan, Sweden or any other than the original six of the EEC may be sued, inter alia in France in the forum nationalitatis (s. 14 Civil Code), in the Netherlands in the forum actoris (s. 126 (3) Code of Civil Procedure), in Germany in the forum patrimonii (s.23 Code of Civil Procedure). These provisions are designated to facilitate recovery by domestic plaintiffs against defendants with little or no ties with the forum country other than the one of its residents or nationals brings an action against him there.[133]

3. Choice of Law

The question "what law governs" is essential in almost every aerospace product liability case because of the speed, mobility and range of modern air- and spacecraft. The multicountry (or multistate in the U.S.A.) contacts resulting from supply, operations and accident or incidents with aircraft have in aviation tort cases and litigation furnished an important laboratory for judicial experimentation with, and attempts to

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[133]Duintjer Tebbens, op.cit. p.297.

solve, novel and vexing problems as to choice-of-law.[134] As noted by a court in the U.S.A. in the Paris Air Crash Case[135] "the law on 'choice of law' in the various states and in the federal courts is a veritable jungle, which if the law can be found out, leads not to a 'rule of action' but a reign of chaos dominated in each case by the judge's 'informed guess' as to what some other state than the one in which he sits would hold its law to be".

When a court has jurisdiction in a case with foreign elements in the factual circumstances, it will not necessarily apply to the issues in the case the rule and principles of law which would be applicable to a case all the elements of which were wholly within the same state or country. The choice of law rules in each state or country will determine what system of internal law shall constitute the applicable law for this case. Since private international law[136] is not the same in all countries, conflicts between the various systems of private international law have been reduced by international conventions in areas of law where it was imperative. An important example is the Warsaw Convention of 1929 as amended, which makes the international carriage of persons or goods by aircraft for reward subject to uniform rules as regards both jurisdiction and the law to be applied. This

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[134]Speizer, Krause & Gans, Aviation Tort Law, op. cit. at p.60.

[135]In re Paris Air Crash (1975,CD Cal) 399 F Supp 732.

[136]See generally on this subject : Dicey and Morris, Conflict of Laws, 11th. Ed.(1987); Cheshire and North's, Private International Law, 11th. Ed.(1987); Harry Duintjer Tebbens, op. cit. p. 165.

convention also provides that any agreement by the parties purporting to alter the rules on these matters shall be nul and void.[137] In the Hague Conference of Private International Law important attempts have also been made to unify the rules of private international law. The Hague Convention on the law applicable to products liability of 1973[138] has been a remarkable achievement in this respect.

We will only discuss the choice of law rules in tort.

Since the USA is the country with the most substantial number of court decisions on the choice of the law applicable to product liability we will start our brief discussion with the law in this country. Airplane crashes have been prolific sources of conflicts problems there. The Rules of Decision Act[139] states that in civil actions, the federal courts must apply the "law of the several states, except where the Constitution or treaties of the United States or Acts of Congress otherwise require or provide." Interpretation problems arose in diversity cases about the term 'law of several states'. Congress passed in 1934 an

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[137]Cheshire & North's, Private International Law, 11th. Ed. (London : Butterworths, 1987) at 9.

[138]See : Duintjer Tebbens, op. cit. p. 333 - 360; as of 1.01.1991 this convention has been signed by 9 countries : Belgium, Spain,Portugal, France, Italy, Luxembourg, Norway, The Netherlands, Yugoslavia. It was ratified and came into effect in only 5 countries : France, Luxembourg, Norway, The Netherlands and Yugoslavia.

[139]The Rules of Decision Act, 28 U.S.C. 1652 has been in effect, with occasional changes of terminology, since 1789.

"Enabling Act,"[140] which allowed the Supreme Court to "prescribe, by general rules, ... the forms of process, writs, pleadings, and motions, and the practice and procedure in civil actions at law" for the federal courts. The landmark decision Erie Railroad v. Tompkins[141] of 1938[142] has changed the interpretation of the traditional rule of Swift v. Tyson[143] and implies that the federal court must ask itself which state's law would be applied by the courts of the state where the federal court sits. This rule[144] has been confirmed in Klaxon Co. v. Stentor Electric Mfg. c.[145] and is still good law. (In aviation product liability cases wrongful death actions have predominantly been regarded as sounding in tort for choice of law purposes despite some cases based on warranty rights for the benefit of passengers like in Noel v. United Aircraft Co.[146] Goldberg v. American Airlines, Inc.[147] was one of the first cases to state this clearly in a warranty action against airplane and altimeter manufacturers. The court stated : "Where, as here, the plaintiff's intestate

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[140]Enabling Act 28 U.S.C. para.2072.

[141]Erie Railroad v. Tompkins, 304 U.S. 64 (1938).

[142]Pursuant to the Enabling Act, the U.S. Supreme Court also promulgated in the same 1938 term the Federal Rules of Civil Procedure.

[143]Swift v. Tyson, 16 Pet. (41 U.S.) 1 (1842).

[144]also called the "follow the local state conflicts law".

[145]Klaxon v. Stentor Electric Mfg. Co, 313 U.S. 487 (1941).

[146]Noel v. United Aircraft Co., 191 FSupp 557 (Del 1961).

[147]Goldberg v. American Airlines, Inc. 199NYS2d 134 (1960), affirmed sub nom. Goldberg v. Kollsmann instrument Corp., 12 NY2d 432.

made no contract with the defendant, the law of the place where other parties contracted can have no influence on the case.")
The federal court must also follow the rules governing the allocation of the burden of proof in force in the state where it is sitting[148]. Following Erie confusion arose in the discussions concerning the distinction between "procedural" and "substantive" matters. According to its rule State common law is controlling in "substantive matters" whereas "procedure" in federal courts is regulated by the Federal Rules of Civil Procedure. A solution came with Hanna v. Plumer[149] in 1965 when the U.S. Supreme Court removed the Federal Rules of Civil Procedure entirely from the scope of the Erie decision.

In general the broad situation in aviation tort cases is described by Speizer, Krause & Gans[150] as follows: in some states, the old, traditional, certain , simple, rigid rule still controls that the law of the place of the wrong - the lex loci delicti - is the law to be applied by the forum court; in an increasing number of states a more flexible group of principles, "rules" or guidelines is applied to determine what law should govern as to substantive issues - the law of that jurisdiction with the most qualitative contacts (sometimes called the "centre of gravity" approach), or the law of that jurisdiction that has the greatest governmental interest in the issue or issues

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[148]Palmer v. Hoffman, 318 U.S. 109 (1943).

[149]Hanna v. Plumer, 380 U.S. 460 (1965).

[150]Speizer, Krause & Gans, Aviation Tort Law, op. cit. Vol. I at p. 61.

involved, or the jurisdiction evoked by applying the "better rule of law," etc., by consideration of "choice-influencing" factors.

In the U.K. questions as to liability in torts where the alleged tort took place in England will be governed by English law even in cases in which all the parties are aliens[151]. Where the tort took place abroad the situation is less clear[152]. The leading case is Chaplin v. Boys[153] where the particular issue was as to the extent of the liability of the negligent defendant, for the heads of damages under Maltese law were very limited, excluding, for example, any amount for pain and suffering such as is available under English law. The House of Lords rejected the argument that questions as to heads of damage were procedural questions to be governed by the law of the forum: the issue was one of liability. In most cases, however, according to the authors of Shawcross and Beaumont 's Air Law[154], it appears that the English courts will apply a test of 'double actionability'. The plaintiff must establish both that, had the act taken place in England, it would have been actionable as a tort in English law and also that it is actionable (as a tort or creating some other form of civil liability) under the law of the country in which it did take place. English courts may, however, depart from it if clear and satisfying grounds are shown for such a

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[151]Szalatnay-Stacho v. Fink [1947] KB I, [1946] 2 All ER 231, CA.

[152]For a detailed study in English Law see Dicey and Morris, The Conflict of Laws, op. cit., Rules 204 and 205, p. 1358.

[153]Chaplin v. Boys, [1971] AC 356, [1969] 2 All ER 1085.

[154]Shawcross & Beaumont, Air Law, Vol.I. at I/83.

departure. Since no English authority on the application of choice of law rules to torts taking place aboard an aircraft in flight exist there is a problem to apply the rules of Chaplin which concerned an automobile accident in Malta. Is the law of the place of the tort the place over which the aircraft is flying or the law of the country in which it is registered?[155]

In common law jurisdictions generally claims arising out of fatal accidents are brought under statute law[156]. In the U.K. those cases may be brought under the Fatal Accidents Act 1976 or the Law Reform (Miscellaneous Provisions) Act 1934.

In the Continental European Countries various conflict of law rules exist and different departures or refinements from the traditional lex loci delicti evolved. Since the mid 'sixties' under the impetus of the Hague Conference on Private International Law scholars have devoted much attention to the subject.

In 1973 the Hague Conference on Private International Law adopted the Hague Convention on the Law Applicable to Products Liability[157]. This convention applies to international cases of

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[155]This issue is discussed in more detail in Shawcross & Beaumont's Air Law, op. cit., at I (96).

[156]In the U.S.A. see s. 378 of Restatement, Conflict of Laws (1st Edn.).

[157]see fnt. 137; also F. Cavers, The Proper Law of Producer's Liability, in The Choice of Law, Selected Essays, 1933- 1983 p. 308; Willis L.M. Reese, "Further Comments on the Hague Convention on the Law applicable to Products Liability" (1978) Ga. J. Int'L & Comp. L. Vol. 8 Issue 2 p.311.

products liability and designates the applicable law whether or not this is the law of a State party to the Convention. The system of choice contained in Articles 4-7 has been summarized by H. Duintjer-Tebbens as follows : subject to an escape clause of unforeseeable distribution of his product, a supplier's product liability is determined by the law of the country where certain pairs of connecting factors are located. These pairs are selected from among four connections, viz., place of injury, victim's habitual residence, place of business of supplier and place of acquisition of the product. If no relevant coincidence of factors is found, the law of the defendant's place of business applies, unless the claimant prefers the lex loci delicti (Art.6). Furthermore, safety standards of the country of marketing may be taken into account whatever the applicable law (Art. 9)[158]. In the field of aerospace products liability this Convention is however of little practical interest because of its inability to cope with plane crashes involving defective products made by several producers, with victims residing in many countries, none having acquired any of the defective products, and few hailing from the principal places of their respective producers[159].

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[158]H. Duintjer-Tebbens, op. cit. p. 342.

[159]D. Cavers, op. cit., p. 314.; cfr. DC-10 case In re Paris Air Crash of 3 March 1974, 399 FSupp 732 (Calif 1975).

4. Enforcement of Judgments

In the U.S.A. every judgment of a court of another state is in some sense a 'foreign judgment' which cannot be enforced directly but must be made the subject of another action. Under IV para. 1 of the Constitution, however, plus implementing legislation adopted by the First Congress, the judgments of any court within the United States 'shall have full faith and credit' given them in every court within the United States as they may have by law or usage in the courts of the state where they are rendered[160].

Despite the fact that the Full Faith and Credit clause of the U.S. Constitution does not apply to foreign-country judgments, the attitude toward enforcement of judgments rendered by other jurisdictions seems to carry over to foreign-nation judgments as well[161]. No federal law governs the enforcement of those foreign-country judgments. Even in federal courts, state rather than federal law applies to the subject. The practice of the various states does not even vary widely. The Restatement (Third) of the Foreign Relations Law of the United States includes, among judgments of a court of a foreign state entitled to recognition in courts in the United States, 'final judgments granting or denying recovery of a sum of money, establishing or confirming the status of a person, or determining interests in

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[160]Andreas F. Lowenfeld, "United States of America" in Charles Platto, ed., Enforcement of Foreign Judgments Worldwide (London, Graham & Trotman and International Bar Association, 1989) p. 259.

[161]Andreas F. Lowenfeld, op.cit., ibidem.

property'[162]. Arbitral awards would generally not come within this law since they are governed by the United Nations Convention on the Recognition and Enforcement of Arbitral Awards (the New York Convention).

There are exceptions to this general rule. For example, a foreign judgment may not be recognised if the foreign proceeding lacks due process or if the judgment debtor (the losing party) did not receive adequate notice of the legal action. In addition, in some states a foreign judgment will not be recognised if the foreign country in which the judgment was rendered does not recognise the judgments of US courts (the reciprocity requirement)[163].

In Europe mention must be made of the EC Convention on Jurisdiction and Enforcement of Judgments in Civil and Commercial Matters[164], signed at Brussels on September 27 1968. This convention has been amended by the Convention of Accession of October 9, 1978 of Denmark, Ireland and the U.K.; the Convention of Accession of October 25, 1982 of Greece and the Convention of Accession of May 26, 1989 of Spain and Portugal. Since June 1 1988 this convention applies among the original six member states

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[162]Restatement (Thi d) of the Foreign Relations Law of the United States para. 441-442.

[163]Robert S. Rendell, "United States - Enforcing foreign judgments" (1991) International Financial Law Review, February p. 48.

[164]For a recent commentary on this convention see: S. Pieri, "The 1986 Brussels Convention on Jurisdiction an The Enforcement of Judgments in Civil and Commercial Matters: The Evolution of the Text and the Case Law of the Court of Justice over the Last Four Years" (1992) 29 C.M.L.R. 537.

of the EC (Belgium, France, Germany, Italy, Luxembourg and the Netherlands) as well as Denmark, Ireland and the U.K.

The requirements a judgment must meet in order to be capable of recognition or enforcement differ from one country to another and from one (bilateral) convention to the other[165]. In some countries, such as Germany , for example, a detailed statutory regulation of those requirements exist whereas in other countries, such as France, the Netherlands and Spain the courts have developed their own rules. The Brussels Convention has replaced many bilateral conventions between European countries. It is based on direct rules of jurisdiction and it has standardised the rules for obtaining enforcement. The number of grounds for refusal of recognition and enforcement has been reduced. Provisions is made for cases of conflict with other conventions[166]. In a separate Protocol the contracting states have conferred jurisdiction on the Court of Justice of the European Communities to interpret the Convention by way of preliminary rulings. The national courts are bound by the interpretation given at their request.

In all contracting states except Italy, where recognition is made subject to the special procedure of art. 797 of the Code of Civil Procedure, recognition of a foreign judgment is automatic, without any court decision or other formality being required.

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[165]Paul M. Storm, op.cit., p. 113.

[166]Paul M. Storm, "Europe" in Charles Platto, ed., Enforcement of Foreign judgments Worldwide, op. cit., at p.107.

Two exceptions to the regime of Art. 26 of the Convention exist :

1) where recognition is the principal issue in a dispute the procedure for enforcement provided for in the Convention may be applied

2) if the outcome of the proceedings depends on the determination of an incidental question of recognition the court entertaining those proceedings has jurisdiction on the question of recognition.

As indicated in its title and Art. 1 the Convention applies in civil and commercial matters, whatever the nature of the court or tribunal. Damages awarded in criminal proceedings thus fall within its scope. It does not apply to the status or legal capacity of natural persons, rights in property arising out of a matrimonial relationship, will and succession, bankruptcy and similar proceedings, social security and arbitration.

C. Aviation products liability

1. Specific aspects of aviation products liability litigation in general

In the litigation arising out of the Air Canada accident at Cincinatti on June 2d 1983, where as a result of a mid-flight fire the aircraft had to make an emergency landing[1], Judge Bertelsman made the following remark : "It is obvious that if these Plaintiffs are going to have a meaningful recovery they're going to have to go after the products defendants". This simplification reflects clearly the front line position of the aircraft manufacturers in the United States as an attractive target whenever an aircraft accident occurs. They will always be a prime target in aircraft accident litigation, unless the evidence shows that the accident does not involve the slightest question of product manufacturing or design defect or failure to live up to other duties of care and warranties imposed upon the manufacturer.

Some factors give the aircraft manufacturers a comparative disadvantage[2] :

1. as opposed to the position of air carriers, manufacturers are not protected by the Warsaw Convention system and Montreal Agreement (CAB 18900) which gives carriers the qualified

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[1]Aircraft involved was a DC9-32, Value CAD$ 6,400,000, Occupants 49, Fatalities 23.

[2]Ian Awford, Developments in Aviation Products Liability (London: Lloyd's of London Press Ltd., 1985).

protection of limitations on the amount of damages that may be awarded against them;

2. in certain jurisdictions air carriers may be permitted to contract out of liability for domestic carriage accidents or there may be very low domestic limits applicable to carrier's liability;

3. Airport and Air Traffic Control Authorities may be protected by sovereign immunity;

4. even though the case against the manufacturer may not be strong, it will often be enjoined in litigation with the aim of setting it against other defendants ('scatter gun approach' of Plaintiffs Lawyers in certain jurisdictions);

5. being at the top of the pyramid of activities that go together to make the final product the manufacturer faces additional risks. As assembler or manufacturer with the final responsibility of putting together a myriad of systems and equipment manufactured by sub-component manufacturers, they will often be saddled with liability and have to seek contribution or indemnity from other parties.

Most aviation-crash cases are, however, resolved with claimants settling at various stages of the litigation process because both claimants and defendants in aviation accidents have an incentive to settle early because litigation, especially if it proceeds to trial, is very expensive[3].

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[3]See for detailed study in Elizabeth M. King, James P. Smith, Dispute Resolution Following Airplane Crashes (Santa Monica: The Rand Corporation,1988).

The manufacturer of an aircraft, components or navigation equipment may be liable in contract for defects in the product. The law will imply certain terms, for example, as to fitness of the goods for their purpose, into a contract for sale; in many cases there may be express warranties as part of an elaborate written contract. The doctrine of privity of contracts does, however, greatly limit the scope of liability; rights and obligations attach only to the parties to the contract and not, without more, to third parties[4] like passengers in a widebody jetliner. In the limited scope of this research we will only discuss this liability to third parties.

Products liability in air law has been and is still of growing importance because it may provide a cause of action to a passenger injured in an aircraft accident alternative to (and, because of the conventions limiting liability in actions against carriers, more valuable than) an action against the aircraft operator[5]. As indicated in Chapter II A the history of product liability, common to many common law jurisdictions, is of an initial development of liability based on negligence, followed by the introduction of strict liability in at least certain type of cases. The same evolution happened in civil law countries.

The celebrations of the 60th anniversary of the Warsaw Convention 1929 are gone but not the controversy on the level of

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[4]Shawcross and Beaumont, Air Law, op. cit. CH. 17 Manufacturers and Repairers.

[5]Shawcross and Beaumont, op.cit., at V/37.

compensation of victims of airline crashes. Some writers have even stated that 'the System has now reached a point where it must be regarded beyond repair, unless the amendments suggested by the Montreal Protocols are put into effect with a minimum of further delay'[6]. Others believe that the Warsaw Convention should be irrevocably retired after almost 60 years of service[7]. Initiatives of the European Commission are expected very soon and many states have on the table instruments for the ratification of said Protocols. Many believed that in case of ratification of Montreal Protocol 3 by the U.S.A. together with the establishment of a Supplemental Compensation Plan the Warsaw System was likely to survive and many nations would follow this trend. In the USA, however, when the 102d Congress adjourned on October 9, 1992 it was clear that the latest efforts to convince the Senate to give its affirmative advice and consent to the Montreal Protocols failed once again. The attempt to pass the implementing language in the FAA Authorization Act for the Supplemental Compensation Plan (SCP)[8] also failed due to the strong opposition from the

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[6]Sven Brise, Study on the Status and Future of the Warsaw System (Submitted to the Commission of Air Transport of the International Chamber of Commerce in December 1988) p. 80; Werner Guldimann, "A Future System of Liability in Air Carriage" (1991) 16 A.A.S.L. 93.; Sven Brise, Study on the Possibilities of Community Action to Harmonise Limits of Passenger Liability and Increase the Amounts of Compensation for International Accident Victims in Air Transport (Submitted to the Commission of the European Communities pursuant to Contract No. C1, B91, B2-7040, SIN 001556 on 15 September 1991)[unpublished].

[7]Alexander Tobolewski, "Just say no to the limitation of the liability in Air Law" (1988) Unpublished Paper sent to the Participants of the ICC Symposium on "Liability to Passengers in Air Transport" in the fall of 1988 at 22.

[8]Bill S.2945 introduced by Senator Mitchell on July 2d, 1992 "To amend the Federal Aviation Act of 1958 to establish and operate a system in the United States to supplement the

aircraft manufacturers[9]. In Japan, the Japanese airlines have abolished the liability limits for personal injury or death in international carriage by air as of November 20, 1992 based on the provision for a "special contract" under Article 22(1) of the Warsaw Convention, to be included in the "conditions of carriage"[10]. Some major European airlines are believed to follow this initiative soon.

During the Eurpol/II meeting of ECAC in Paris from 22-24/06/1993 the Member States examined the options available. A clear consensus appears that most want the Warsaw System to survive but with an important increase of the liability limits[11]. This could perhaps be achieved through a new Protocol to the Convention.

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compensation payable to claimants under the Convention for the Unification of Certain Rules Relating to International Carriage by Air in respect of death or personal injury of passengers"; for commentaries on the latest U.S.A. SCP see: Dr. Wolf Müller-Rostin, "The American Supplemental Compensation Plan: An Undue Burden on the Passenger" (1992) 41 Z.L.W. 349 and Andrew J. Harakas, "The Montreal Protocols in the United States 17 Years Later - The Road to Ratification or Final Defeat?" (1992) 41 Z.L.W. 354.

[9]Christopher P. Fotos, "International Liability Treaty in Danger" (1992) A.W.S.T. of 5.10.1992 at 35.

[10]For comments see Koichi Abe, "The so -called 'Japanese Initiative' - Japanese airlines' abolition of liability limits for personal injury or death in international carriage by air" Lloyd's Aviation Law, June 15, 1993; Bin Cheng, "Air Carriers' Liability for Passenger Injury or Death: The Japanese Initiative and Response to the Recent EC Consultation Paper" (1993) XVIII Air Law 109.

[11] See ECAC EURPOL - II/6 Report 24/06/93.

2. U.S. aviation product liability law[12]

The U.S. experience in aviation product liability litigation is very important. A wealth of precedents exist. They are not only limited to U.S. plaintiffs and U.S. manufacturers since many factors, still today, attract litigants to the United States[13]. Specific for this country is the variety of state product liability laws and the coexistence of the State and the Federal Court system. A good understanding of the mechanisms of conflict of laws is therefore essential.

The impact of product liability litigation has had an disastrous impact on the U.S. aircraft manufacturers according to G.A.M.A.[14]. In many position papers they claim that product liability cost is the largest cost factor in the production of single engine aircraft and that it adversely affects the competitive position of U.S. general aviation manufacturers. Paid claims incurred by the industry have soared from 24 million U.S.D. in 1977 to 210 million U.S.D. in 1985 with the resulting termination of the production of many aircraft lines, laying off

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[12]See Speiser and Krause, op. cit. Vol. 2 Part V "Aviation Product Liability; Manufacturers and other Suppliers" CH 19 and 20.

[13]Randal R. Craft, " La responsabilité des fabricants en droit américain" (1981) 137 R.F.D.A. 21; J.E. Saba, "Aircraft Crashworthiness and the Manufacturer's Tort Liability in the United States" (1982) 7 A.A.S.L. 171; Y. Quintin et John Wyser-Pratte, "Quelques remarques sur la responsabilité du fabricant d'équipement aéronautique en droit américain" (1989) 171 R.F.D.A. 322.

[14]General Aviation Manufacturers Association.

thousands of employees all around the United States.[15] A strong debate is going on for many years now about the need to reform the tort system in this country.

A major study has been conducted by the Institute of Civil Justice and the Rand Corporation about costs and compensation paid in aviation accident litigation[16]. This study has analyzed the entire population of U.S. airline major aviation accident death cases from 1970 to 1984 - i.e. more than 2000 cases. In the executive summary of this study we find the following interesting comparison between air accident cases and asbestos cases where also extensive case law exists:

> Air Accident Cases. With an average of fewer than 200 cases per year, U.S. airline major accident cases are only a small fraction of the actual tort caseload. The average air accident death case resulted in $412,233 in payments by defendants, of which 71 percent ($291,170) was net compensation to the plaintiffs. The other 29 percent ($121,063) covered total litigation expenditures for both sides.
> Asbestos Cases. An average of over 5,000 asbestos claims are now filed per year. In the average case closed in 1980-1982, defendants paid $123,400 in 1986 value dollars. Plaintiffs received $47,600 (39 percent) in net compensation, and $75,800 (61 percent) was used for litigation expenditures for both sides combined.
> Conclusion. Airline accident litigation has a lower ratio of transactions costs to total expenditures than tort litigation in general. As a percentage of total outlays, average transaction costs in aviation cases are only 29 percent, about half the average in all tort cases combined (50 percent) and in asbestos

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[15]Cfr. information paper from the "Coalition for General Aviation Liability Reform" received from G.A.M.A. dd. May 26, 1988.

[16]James S. Kakalik et al., Costs and Compensation Paid in Aviation Accident Litigation, Rand Corporation, Institute of Civil Justice (Santa Monica: Rand Corporation, 1988); For a study on award levels in the twelve EC countries see : David McIntosh and Marjorie Holmes of Davies Arnold Cooper, Personal Injury Awards in the EC Countries -An Industry Report (London: Lloyd's of London Press, 1990)[CII ref. (4)Nobl Rev (P)].

cases (61 percent). On the other hand, aviation accident cases have higher average transactions costs in absolute dollar terms ($121,000) than the average tort case ($19,000) or the average asbestos case ($76,000).

Various hypotheses have been advanced by the researchers to explain why transactions costs as a percentage of compensation are substantially lower for airline accidents than for all tort litigation combined and for asbestos litigation :

1) in aviation cases, a unified defense is led by the airline's insurer
2) defendants agree among themselves as to the apportionment of liability in many accidents and often have no significant contest over liability with plaintiffs
3) because air accident death cases are relatively high-value cases and defense litigation expenditures do not increase proportionately with the amount of compensation at stake in a case, defense litigation expenditures in air accident cases tend to be a lower percentage of the compensation paid
4) many of these cases are settled without a lawsuit
5) experienced aviation accident specialist attorneys often work on these cases, and the plaintiffs' lawyers often use a committee to coordinate work on an accident
6) the relatively high value of the air cases and the fact that nearly every case results in payment of compensation makes it possible for plaintiff's lawyers to charge a substantially reduced contingent fee percentage and still make a reasonable income
7) competition among plaintiff's lawyers for clients may have put downward pressure on the contingent fee percentage

The study states also following hypotheses for the reason why the transaction costs are substantially higher in aviation accident litigation than for all tort litigation combined and for asbestos litigation:

1) since the aviation accident cases under review involved wrongful death cases, air cases may be more costly to prepare and to value than the typical tort cases involving a much less serious injury
2) air accident cases usually involve multiple defendants. Although defendants have increasingly shown a unified front to plaintiffs, disputes among defendants have resulted in average defense liability litigation costs per death that are more than the defense expenditures to resolve the issue of the amount of compensation per death. What is at stake in these liability disputes is not only who pays compensation but also the market-

related future of airlines, airplane manufacturers, and other defendants
3) higher-value cases result in higher plaintiffs' litigation expenditures under the contingent fee system
4) the higher the compensation at stake in the litigation process may lead to larger transaction costs as both sides work to protect their interests.

The American Law on product liability has three different categories of foundations for claims which are distinguished according to the requirements (wilful misconduct, rightful claimants, ...) and the legal consequences (scope of compensation, ...)[17]. These are the claims derived from 'warranty', from 'negligence' and 'strict liability in tort'. Variations in case law of the different Federal States, where those instruments of liability have been recognized as such, exist.

We will not discuss the claims derived from warranty since this study is limited to the damages affecting third parties who have no influence on either the circumstances of the conclusion or the subject of the contract[18]. It is to be noted that the Uniform Commercial Code has however extended this contractual liability to third parties 'if it is reasonable to expect that such person may use, consume or be affected by the goods and who is injured in person by breach of the warranty'[19]. The scope of

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[17]Elmar Giemulla and Thomas Wenzler, "Product liability in the field of aviation - the foreign plaintiff in the U.S.-American court" (1990) 15 Air Law 114.

[18]See however in the aviation context King v. Douglas Aircraft Corporation 159 So 2d 108 (Fla App, 1963), 9 Avi Cas 17,178 and Goldberg v. Kollsman Instrument Corporation 191 NE 2d 81 (NY, 1963), 8 Avi Cas 17,629.

[19]UCC para. 2-318 (Third Party Beneficiaries of Warranties Express of Implied).

compensation is determined by UCC para. 2-715. The only damages awarded are compensatory and not punitive[20].

Liability for negligence of the manufacturer will be invoked directly by the third parties if the manufacturer has failed to comply with his duty to take any possible measures in order to avoid any foreseeable risk involved in the handling of the product. The prerequisites of liability are:

1) a duty of care,

2) a breach of this duty,

3) an adequate causal connection and

4) damage sustained by the plaintiff.

If these requirements are met the liability for negligence includes liability for improper design[21] and faulty manufacturing, the liability for inadequate warning, instructions for use etc., and finally the duty of product control[22]. Of considerable importance for US product liability law in general, including the various aspects of aviation product liability, are the various sections of Restatement, Torts, Chapter 14, "Liability of Persons Supplying Chattels for the Use of Others," para. 388-408[23]. Since the aviation industry is a very regulated

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[20]See Giemulla/Wenzler, op. cit. at 114 for details.

[21]See A.R. Abrahamson, "Defining the design defect in Aircraft products liability cases" 1 (1980) 45 J.A.L.C. 167.

[22]Giemulla/Wenzler op. cit. at 117.

[23]For an annotation dealing with the liability of manufacturers, wholesalers, distributors, and retailers for injury or death allegedly caused by defects in aircraft parts, supplies, or equipment, see 97 ALR3d 627.

industry close attention must also be paid to the various provisions of the Federal Aviation Act of 1958 dealing with the powers, etc., of the Administrator with respect to safety and airworthiness of aircraft and the Federal Aviation Regulations with respect to certification and airworthiness standards[24]. An important case, Manos v. Trans World Airlines Inc.[25] resulted from the incident of a thrust reverser on a Boeing 707 in 1966. The malfunction produced an asymmetric forward thrust condition and the aircraft exploded and burned up during an aborted take-off. In Vrooman v. Beech Aircraft Corp.[26] the Tenth Circuit Court of Appeals observed that: "While the airplane manufacturerd or repaired is not an inherently dangerous vehicle, it was designed manufactured and repaired to fly in the air, and unless it is made or repaired without mechanical defects it becomes a thing of danger to all in the range of probable foreseeability."

The difficulties in sustaining the negligence burden of proof in aviation cases has, as in other instances[27], favored the shift

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[24]FAR Part 21 "Certification Procedures for products and parts", Part 23 "Airworthiness Standards: Normal, Utility, and Acrobatic Category Airplanes, Part 25 "Airworthiness Standards: Transport Category Airplanes.

[25]Manos v. Transworld Airlines Inc., 324 F. Supp. 470, 11 Avi Cas. 17,966.

[26]Vrooman v. Beech Aircraft Corp., 183 F.2d 479, 3 CCH Avi. 17,248.

[27]See annotation "Products Liability: sufficiency of evidence to support product misuse deferse in actions concerning automobiles, boats, aircraft and other vehicles." 63 ALR4th 18.

towards the more technical theory of strict liability in tort[28] where a showing that the product itself is defective will be sufficient to ensure recovery. The decision which gave effective birth to this doctrine is the much discussed case of Greenman v. Yuba Power Products Inc.[29]. Chief Justice Traynor provided in his opinion for the court following definition of strict liability: "A manufacturer is strictly liable in tort when an article he places on the market, knowing that it is to be used without inspection for defects, proves to have a defect that causes injury to a human being." As opposed to negligence only three elements need to be proved for this theory to operate:

1) the existence of a defect,

2) that the defect existed at the time the product left the manufacturer's control, and

3) that the defect caused the injury.

Two years after this landmark decision the theory of strict liability in tort was adopted in 1965, in amended form, in Section 402A of the Restatement (Second) of Torts. This section provides that:

> "(1) One who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user of consumer, or to his property, if
> (a) the seller is engaged in the business of selling such product, and

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[28]See annotation: "Strict liability, in absence of statute, for injury or damage occurring on the ground caused by ascent, descent, or flight of aircraft." 73 ALR4th 416.

[29]Greenman v. Yuba Power Products Inc., 59 Cal. 2d 57,377 P. 2d 897,27 Cal. Rptr. 697 (1963); See Susan Leslie Frank, "Strict Products Liability under California Law" (1980) 5 Air Law 196.

(b) it is expected to and does reach the user or consumer without substantial change in the condition in which it is sold.
(2) This rule applies although
(a) the seller has exercised all possible care in the preparation and sale of his product, and
(b) the user or consumer has not bought the product from or entered into any contractual relationship with the seller."

In the late 1960's and 1970's the strict liability in tort doctrine had been applied or been recognized as being applicable in many aviation product liability reported cases[30]. In the leading 1975 decision Berkebile v. Brantly Helicopter Corp.[31] the Pennsylvania Supreme Court stated clearly: "The crucial difference between strict liability and negligence is that the existence of due care, whether on the part of the seller or consumer is irrelevant. The seller is responsible for injury caused by his defective product even if he has exercised all possible care in the preparation and sale of his product."

In Tokio Marine and Fire Ins. Co. v. McDonnell Douglas Corp.[32] it was held that the doctrine of strict tort liability will not be applied in a case where the sales contract was between two large corporations who had negotiated from positions of relatively equal strength and the plaintiff's claim is for damage to the property sold.

A much discussed variation to this strict liability theory is the "crashworthiness doctrine". Under this theory an aircraft must have the ability "to protect its occupants from injury during the

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[30]Speiser and Krause, op. cit. , Vol. II at 517.

[31]Berkebile v. Brantly Helicopter Corp. (1975) 462 pa 83, 337 A2d 893, 13 CCH Avi 17878.

[32]Tokio Marine and Fire Ins. Co. v. McDonnell Douglas Corp. (1980, CA2 NY) 617 F2d 936, 15 CCH Avi 18050.

crash sequence and to provide for the safe egress from the wreckage"[33]. For example, in the tragic accident in Tenerife in 1977, when two 747's collided on the ground, experts estimated that most of the 583 deaths in that accident did not result from the impact but could have been avoided if the planes had been "designed and equipped with crashworthiness in mind"[34].

Courts in the United States may award punitive damages[35] to the plaintiff in addition to compensatory damages. These damages have the purpose to punish the defendant (wrongdoer) for conduct which is wilful, wanton, reckless, oppressive, outrageous or malicious[36]. They are also to deter others from engaging in such outrageous conduct. The most publicised case in which punitive damages have been awarded is Grimshaw v. Ford Motor Co. (the Pinto case)[37]. This case resulted from the death of a driver of

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[33]D. Cathcart, Aircrash Litigation Techniques 269 (1985); see for a detailed discussion Steven R. Baggett , "Crashworthiness Claims in Aviation Accidents" (1987) 53 J.A.L.C. 219.

[34]Donnelly, "Aircraft Crashworthiness-Plaintiff's Viewpoint" (1976) 42 J.A.L.C. 65; Nolan, Airline Safety: The Shocking Truth (Discover, Oct. 1986) at 30.

[35]See Randal R. Craft, "Factors Influencing Settlement of Personal Injury and Death Claims in Aircraft Accident Litigation" (1981) 46 J.A.L.C. 895 at 910; Randal R. Craft, "Products Liability" (1984) 02 Norwegian American Commerce 10.

[36]For a discussion see Patricia Barlow and Hektor Kerr-Smiley, "Recovery of punitive damages from insurers in non U.S. jurisdictions" (1986) 11 Air Law 58; Richard Allen, "Controlling the growth of punitive damages in products liability cases" (1986) 51 J.A.L.C. 567; Stephen C. Kenney, "Punitive damages in aviation cases: solving the insurance coverage dilemma" (1983) 48 J.A.L.C. 753.

[37]N° 19-77-61 (Super. Ct. Orange Cty., Cal., 7Feb., 1978), Aff'd as amended, 119 Cal. App. 3d. 757, 174 Cal. Rptr. 348 (1981).

a Ford Pinto when his automobile burst into flames because of the rupture of the gas tank when the car was struck from the rear. The jury found that the defendant manufacturer's conduct was 'wilful, intentional and done in conscious disregard of its possible result'. The jury was convinced that the manufacturer had knowledge of the dangers in the fuel system before the car was placed on the market. Instead of remedying this through inexpensive design changes it chose to sell it in its dangerous condition to save costs. The trial court awarded $ 125 million in punitive damages which was subsequently reduced to $ 3.5 million and confirmed by the California Court of Appeals. Aviation manufacturers in the U.S.A. have also been hit by substantial punitive damage claims. In Rosendin v. Avco Lycoming Div.[38] a jury awarded $10.5 million in punitive damages to the sole survivor of an executive jet disaster due to engine failure. It was based on evidence of an intentional breach of a safety standard along with evidence of a fraudulent effort to mislead consumers. In Piper Aircraft Co. v. Coulter[39] the Florida District Court of Appeal held that punitive damages can be assessed against a strictly liable manufacturer. The punitive damages in this case were not predicated upon Piper's negligent design of the aircraft (accidental door openings) but on the evidence that after the design of the aircraft was completed, Piper received actual knowledge that the door design was

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[38] N° 202,715 (Super. Ct. Santa Clara County, Cal., 8 March 1972.

[39] 17 Avi 18,163 (Fla. Dist. Ct. App. 1983).

defective and that such defect could result in loss of control of the aircraft during flight.

Since the elements to successfully bring a claim for punitive damages are as many and varied as there are jurisdictions in which to bring them, one of the major issues to be dealt with by defendant manufacturers is the choice of the law to be applied to any claim for punitive damages. A few states do not permit punitive damage awards altogether; many states which generally recognise punitive damage awards do not do so in death cases; the standards of conduct required for a claim for punitive damages to succeed also differ; some states prohibit insurance coverage of punitive damage awards for reasons of public policy[40]. In the litigation arising of the DC 10 air crash near Chicago on May 25, 1979[41] for example it was difficult to proceed with settlement negotiations until the Seventh Circuit Court of Appeals concluded, after analyzing the laws of the states where the alleged wrongdoing occurred and also the laws where the disaster occurred, that the applicable state law did not permit punitive damages against either the manufacturer of the airline.

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[40]See for example: "Punitive Damage Review 1989" prepared by the New York Lawfirm Wilson, Elser, Moskowitz, Edelman & Dicker. This document lists State by State whether punitive damages may be awarded; their insurability; tort reform legislation affecting punitive damages.

[41]In re Air Crash Disaster Near Chicago, Illinois, 500 F. Supp. 1044 (N.D. Ill. 1980), rev'd in part and aff'd in part, 644 F.2d 594 (7th Circ.1981).

As noted by a commentator[42] the risks of punitive damage awards should not be over-emphasised. Many more punitive damage claims were made than were enthusiastically pursued. Very few resulted in awards. Punitive damages are claimed, it is submitted, also for tactical reasons by plaintiff lawyers. For example[43]:

1) publicity :

Plaintiff's lawyers may seek to publicise their availability by immediately filing claims for large headline hitting damages. After the Saudia Riyadh L-1011 disaster of August 19, 1980 the first claim, with attendant press coverage, was for $ 40 million punitive and $ 20 million compensatory damages. A settlement was eventually obtained for substantially under 1 percent of the $ 60 million totally claimed.

2) the hope to secure a full dollar settlement offer based on an agreement to withdraw the punitive damages claim :

Plaintiff's lawyers thus remove the contingency on which their fees are based at an early stage maximising the net fee they take.

3) to keep a claim on behalf of a foreign plaintiff in the United States by resisting a forum non convenience motion on the ground that the alternative jurisdiction does not award such damages.

Important recent decisions should be noted:

- The United States Court of Appeals for the Second Circuit decided on March 19, 1991 In Re: Air Disaster at Lockerbie,

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[42]Ian Awford, Developments in Aviation Products Liability (London: Lloyd's of London Press Ltd.,1985) at 73.

[43]See Ian Awford, op. cit., at 74.

Scotland on December 21, 1988[44] that punitive damages cannot be recovered under the Warsaw Convention;

- This was confirmed in the United States Court of Appeals for the District of Columbia Circuit in its decision of May 7, 1991 In Re: Korean Airlines Disaster of September 1983[45];

- In Pacific Mut. Life Ins. Co. v. Haslip[46] the U.S. Supreme Court decided on March 4, 1991 that the common-law method for assessing punitive damages is not so inherently unfair as to deny due process and be per se unconstitutional. The Supreme Court held that as long as discretion is exercised within reasonable constraint, due process is satisfied.

3. Aviation product liability law in Europe

Unlike in the U.S.A., the Courts in Europe have rarely been involved with aviation product liability cases. Reported case law is very sparse. The reported cases mostly deal with accidents involving light general aviation aircraft and gliders. Even after the entry into force of the EC Directive on the liability for defective products in most of the E.C. Countries[47]

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[44]In re: Air Disaster at Lockerbie, Scotland on December 21,1988; Rein, et.al. v. Pan American World Airways Incorporated Docket n. 90-7388.

[45]In Re: Korean Air Lines Disaster of Septemberl, 1983, Korean Air Lines Company, Ltd., United States Court of Appeals for the District of Columbia Circuit, Decided May 7, 1991 N. 89-5415; Appeal from the United States District Court for the District of Columbia (Civil Action n. 83-0345).

[46]Pacific Mut. Life Ins. Co. v. Haslip, 111 S. Ct. 1032 (1991) cited by Frank j. Chiarchiaro in Aircraft Builders Council, Inc. Law Report, Fall 1991 at 8.

[47]Only France and Spain still have to implement the Directive.

very few cases have been reported! Some recent disasters involving the modern technology Airbus in Europe and other parts of the world will be discussed after the brief overview of the reported caselaw in France.

a) France

Before the entry into force of the legislation tranposing the EEC product liability directive in France the common fault based liability of articles 1382/1383 and 1384(1) of the French Civil Code applies to French aviation product manufacturers. The general tort liability based on articles 1382/1383 presupposes a showing of fault of the person claimed to be liable. Under article 1384(1) a keeper of a thing is liable for damage caused by it, unless he proves that the damage was in fact due to another or to an Act of God. The French lawyers have invented a sophisticated distinction which is apt to bring even the manufacturer within the scope of article 1384(1), viz. between the 'garde de la structure' (control over the internal dynamism) and the 'garde du comportement' (control over the external deportment as conditioned by a transporter, retailer, user etc.)[48]. In France the settled case law does not accept the 'cumul' of actions based on contractual and tort liability. Recently the French Cour de Cassation rendered some very important decisions in cases where parties were not in contractual privity. In the landmark decision Besse et autre c.

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[48] H. Duintjer Tebbens, op.cit., at 91.

Protois et autre[49] of 12.07.1991 the French Cour de Cassation, in plenary session, made an end to conflicting jurisprudence of the first and third civil chamber of the Court. It refused to apply the theory of the contractual liability in a case involving a suit of a house owner directly against a subcontractor of a general construction enterprise, after the expiration of the 10 years limitation period in favour of the latter. The Cour de Cassation held that the Court of Appeals of Nancy in its decision of 16.01.1990 breached article 1165 of the Civil Code which states that agreements can only bind the parties who are part to it and that no contractual links exist between the owner and the subcontractor. In the case Albesby et al. c. Debregeas et al.[50] the Cour de Cassation very recently held that the theory of the liability of the presumed liability of the professional seller in case of hidden defects (art.1643 CC. and following) and the 'bref délai' in which a legal action must be initiated (art. 1648 CC.) was not applicable. Mr. Albespy was wounded when his gun exploded during a hunting party because of a defective cartridge. He had received the cartridge from his brother who had bought it from a distributor in France. The Court of Appeals of Montpellier (1st Chamber) in its decision of 28 June 1990 had held that an action based on Article 1384(1) CC. and the 'garde de la structure' by the manufacturer could not be applied since no certainty existed as to who manufactured this cartridge. An action based on the theory of the hidden defect of a thing sold

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[49]Besse et autre c. Portois et autre, Cass.Fr.(ass.) 12.07.1991, D. 1991, 549 note J. Ghestin.

[50]Cass. Civ., I, 27.01.1993 [unpublished]; see comment in Droit et Patrimoine, mai 1993, at 37.

by a professional (Art. 1647 and 1648 CC.) also failed because the action was not initiated within the 'bref délai'. The Court de Cassation found that the liability was contractual but based on Articles 1135 and 1147 of the Civil Code (action en responsabilité pour défaut de conformité and/or action en responsabilité pour violation de l' obligation de sécurité). The court stated positively that a professional seller must distribute products exempted of any vice or manufacturing defect which could be a danger for persons or things.

Since in France some aviation product liability case have been reported, a brief overview of the most important ones will be given in the following lines. They are however limited to light aircraft and gliders.

In 1957 the Tribunal de Versailles in the case Veuve de Franceschi v. Hiller Helicopters[51] had to decide on the facts resulting from a helicopter crash in France on 28.09.1953. The pilot of a Hiller Helicopter, working for a French corporation representing Hiller in Europe, was killed when he made a steep turn during a flight presentation of his helicopter before the French military forces. The tail rotor broke off and the helicopter plunged into the ground from an altitude of about 40 meters. The helicopter had been assembled in France. His widow, claimed that Hiller was liable because of the improper design of a component. The court rejected this argument and held that,

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[51]Jugement du Tribunal de Versailles, 1ère Ch., du 12.03.1957, Veuve de Franceschi c. Hiller Helicopters, (1957) 11 R.F.D.A. 276.

based on the facts before it - a brutal manoeuvre close to the ground by a test pilot requested by his employer not to do so, no fault was proven against the manufacturer "eu égard à la réglementation et aux conditions d' emploi tant nationales que internationales". Since the helicopter was designed in California the Court held that the liabilities of Hiller had to be determined according to the laws of California. It had to examine whether, at the time of manufacturing and taking into account the state of the art, the design, the components involved were defective or not. It held that Hiller proved that it complied with its national law, and thereafter with the French and international law because it obtained in France an airworthiness certificate by equivalence to the U.S. regulation. The accident resulted from pilot error.

On April 1, 1968 the Court of Appeals of Grenoble rendered an important decision which is a good illustration of the civil law approach of a product liability case involving a light Aeroclub aircraft. The case of Association "Aéro-club de Bourgoin - La Tour du Pin" c. Veuve Peschaud[52] arose of the accident of a Piper Cub belonging to the Aéro-Club which was flown by a student pilot under the supervision of his instructor, the chief pilot of the Aéro-Club. The instructor was also in charge of the maintenance of the fleet. On 23.07.1958 during a training flight suddenly the left wing folded up. The cause was the rupture of the front

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[52]Cour d' Appel de Grenoble (2e Ch.), 01.04.1968, Association "Aéro-Club de Bourgoin - La Tour du Pin" c. Veuve Peschaud, (1968) 22 R.F.D.A. 342 and Note Me Garapon; (1969) J.C.P. II 15752 and Observations of Michel de Juglart and Emmanuel du Pontavice.

left wing support due to corrosion. Both men were killed. The Court of Appeal confirmed the decision of the Tribunal de grande instance de Bourgoin of 19.05.1967 whereby the Aéro-Club was held liable for the accident and condemned to pay 90.000 FF to the widow of the student pilot. This amount was in excess of the limited liability provisions of the French Law of 2 March 1957 on the liability of air carriers (transposition of the Warsaw Convention as amended at The Hague and also extended to internal carriage) which was held inapplicable. The court first decided that an instruction flight is not a transport, thus rendering the Law of 2 March 1957 inapplicable (no limit of liability and no time bar of the action). Secondly, Article 1384 Para. 1 of the Civil Code was held applicable even if this flight was not for reward. According to this Article the holder of a thing is presumed liable for losses it causes to third parties, unless he proves that he could not prevent the cause which led to the loss. In French product liability cases a distinction is made by the jurisprudence and the scholars between "la garde de la structure" (custody of the structure) and "la garde du comportement" (custody of the behaviour of the thing). The manufacturer usually retains the custody of the structure and the user acquires the custody of the behaviour. According to the caselaw of the French Cour de Cassation, after the Oxygène Liquide Case[53] each time the cause of an accident is attributed to a defect of

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[53]Affaire de l' Oxygène Liquide, Cass. 2e sect. Civile, 5.01.1956 : D. 1957, 261, and Note Rodière; 10.01.1960 : J.C.P. 1960, II, 11824 and Note Esmein; D.1960, 609, and Note Rodière); see also: Société Commerciale Européenne des Brasseries "Brasseries de la Meuse" c. Etablissements Boussois-Souchon-Neuvesel et al., Cass. 2e Ch. Civ., 5.06.1971, (1971) Bull.Arr.Cass. 11.N° 204.

the thing which could not be discovered by its user, the owner will be considered to have retained its custody. The Aéro-Club claimed that it had transferred the custody of the Piper-Cub to the student-pilot and that therefore Article 1384 Para. 1 was not applicable. The Court of Appeals did not agree and held that:

> "...que celui auquel le propriétaire, présumé gardien, prétend avoir transféré la garde, doit, pour être considéré comme gardien, avoir le pouvoir non seulement d' user de la chose, mais aussi de la surveiller et de la contrôler en tous ses éléments, qu'il doit avoir reçu toute possibilité de prévenir lui-même le préjudice que la chose peut causer; Qu'en l' espèce, même si Peschaud pilotait l' avion, il ne peut être considéré comme en ayant eu la garde, d' une part parce qu'il n' avait ni la surveillance ni même le contrôle de tous ses éléments, notamment en ce qui concernait les vices cachés tel celui qui est à l' origine de l' accident, et n' avait aucune possibilité de prévenir le dommage pouvant être causé par vice; d' autre part, parce qu'il était pour la conduite elle-même sous le contrôle et la surveillance du moniteur-chef Bouvard, préposé de l' aéro-club;"

The Court of Appeals also found Article 1382 of the Civil Code applicable (the common fault based liability) because a witness informed the legal expert that the chief-pilot had refused to change the defective part of the Piper-Cub before the next scheduled revision, despite a Circular of the Bureau Veritas asking all the owners of Piper-Cubs to change them.

In 1969 the Tribunal Correctionnel de Blois rendered a judgement in the case of a crash of a glider[54]. A Nord 1300 crashed on 21.05.1964 on the airfield of Blois-le-Breuil when it lost its left wing during an autorotation following a stall. The pilot was killed. Criminal charges were brought against 1) a repairer

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[54]Tribunal Correctionnel de Blois 4.02.1969, M.P. c. Vaudore, Coupe et Coutenceau, (1969) R.F.D.A. 213.

because of a negligent repairs of a previous incident and 2) a Veritas inspector because of a negligent inspection following those repairs. Both were condemned for "homicide involontaire" (manslaughter) to a suspended sentence of 3 months of imprisonment and a fine of 1000 FF. The Court of Appeals of Orléans reformed this judgement[55] after having declared it void on procedural grounds. The Court held that the two men were not guilty because 1) it was not possible to exclude the hypothesis that the pilot lost consciousness, even for a short period and that it could not be explained why he did not try to use his parachute and 2) the technical investigation could not explain the reason of the autorotation but established that during the 'dive' the glider attained speeds largely exceeding the strength that a similar glider even in a good condition could have resisted.

In 1972 the Court of Appeals of Grenoble affirmed and reversed in part a decision in another glider accident of the Tribunal Correctionnel de Valence. On 23.08.1968[56] a French glider, a Wassmer 30 "Bijave", crashed 1 or 2 minutes after takeoff during a tow, when one of its wings broke, killing the passenger and the pilot. The repairer of a previous incident and the Veritas inspector had been declared guilty of manslaughter and the inspector was fined with suspended sentence 1000 FF. On civil

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[55]Cour d' Appel d' Orléans, Arrêt du 5 décembre 1969, (1970) R.F.D.A. 100.

[56]Cour d'Appel de Grenoble (Ch. Corr.) du 24.11.1972 en cause Collart, Nickel, Thomas c. Veuve Bourchardon et Aéro-club de Valence, (1973) R.F.D.A. 67.

grounds the Bureau Veritas had been declared vicariously liable for its employee; the repairer had to make good the entire loss of widow Bouchardon, in her own name, and, as administrator of her daughter, and the Aeroclub had been held liable for 50% of its loss. The manufacturer, represented by its CEO, and the engineer of the manufacturer who authorized the faulty repairs had not been found liable. The Court of Appeals held, after a complementary investigation by an expert, that it was not legally proven that the repairer and the inspector were guilty of manslaughter. Evidence showed that the glider had been involved three months earlier in an incident, a hard landing, which had damaged the main wing spar. The Aeroclub had not provided the repairer and the inspector with the incident report of the pilot responsible for this previous accident. Both men could therefore not have been aware of the seriousness of this incident and act according to internal and not visible failures. The fatigue of the wing spar following this previous incident and the reduced strength of the wood due to previous effort cycles had also only been discovered by scientific studies in 1970. The glider type involved had at the time of those studies flown over 250.000 hours, even in difficult conditions, without accidents.

In 1977 the Court of Appeals of Paris[57] again had to decide about the breakup in flight on 17.08.1975 of a glider of the same make, a Wassmer 30 "Bijave", owned by the French State. The glider involved in this case had been built in 1963. Due to a

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[57] Cour d' Appel de Paris (12e Ch.), 27.10.1977, (1978) R.F.D.A. 196.

turbulence the glider stalled and engaged in a spin. When speed increased up to 220 Km per hour the flight instructor pulled the airbrakes and initiated a recovery when a loud crack was heard. When it became clear that the glider became uncontrollable the instructor ordered the evacuation. He ejected safely but the parachute of the unfortunate student pilot did not deploy. As a result the latter crashed together with the glider and was killed. Experts appointed by the Court concluded that the design of the glider involved was inadequate. They also had remarks about the quality of the wood used for its manufacturing. This wood was also weakened by a mycologic alteration. Charges of manslaughter were issued against the former CEO of the manufacturer, Sté. Wasmer Aviation, and its engineer, head of the design bureau. The Court of Appeals of Paris held that, with respect of the design of the glider, it was not proven that they acted negligently. However, with respect to the bad quality of the wood used in the manufacturing, the Court found, reversing the decision of the lower court that only the CEO, who was ultimately responsible for its selection, was guilty. The engineer was not. One of the experts had also revealed that the military authorities had requested, after an incident in 1968 with a similar glider, a better quality control of the wood before its use.

In a decision of the Court of Appeals of Paris of 01.12.1980[58],

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[58]Paris (1re Ch. A) 1.12.1980 (ref. 3914), Gaz. Pal. 1981.I, somm. p 157.

involving an accident caused by the handle of a seat belt which blocked the elevator controls of an aeroclub aircraft thereby killing the flight instructor and his student, the manufacturer of the aircraft was held solely responsible for the accident. His liability was based on his fault: the handle was not certified, the manufacturer should have warned the Aeroclub of the dangers of this handle in particular circumstances especially because previous incidents had occurred on the same type of aircraft.

A decision of the Première Chambre of the Court of Appeals of Paris, reported by A. Garnault in 1979[59], deciding on the breakup in flight of the wing of an aeroclub aircraft, formally excluded the applicability of Article 1384 and the uncertain concept of "garde de la structure" imposed on the aeroclub. It held in its favour that, before the accident, the aircraft had been controlled and found in order by the Bureau Veritas.

Other reported cases in France concern liability in contract pursuant to Articles 1641 to 1648 of the Civil Code or cases involving crashes of aircraft during test flights of prototypes. We will not discuss them due to the limitated scope of this study. The legal ground for the liability in contract of the manufacturer in those cases is the "théorie des vices cachés". Article 1643 of the Civil Code provides a warranty for hidden

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[59]A. Garnault, "La responsabilité du constructeur aéronautique", Conférence au Colloque organisé par la Société Française de Droit Aérien et Spatial à Paris , les 22 et 23 novembre 1979, (1980) 3 R.F.D.A. 137 at 142.

defects to be borne by the seller(/manufacturer) even if he was unaware of them unless he stipulated to the contrary in the contract. There is a irrebutable presumption of fault of the seller(/manufacturer) according to the very liberal jurisprudence of the French Courts. Pursuant to Article 1648 of the Code any action against the seller/manufacturer for latent defects must be brought by the claimant within a short period of time ("dans un bref délai") which means as early as possible from the time of discovery of the defect bearing in mind that the time limit for bringing same depends on the nature of the defect and of the practice of trade as determined by the Court. The Court may appreciate at its entire discretion whether an action is or is not time barred. This is especially so taking into consideration the ten years limitation period provided in Article 189 bis of the French "Code de Commerce"[60].

Some recent disasters involving the European Airbus Consortium will be mentioned now despite the fact that the official aircraft

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[60]Patrice Rembauville-Nicolle, "Aviation products liability under French law", (1987) Aviation Law and Claims Conference London, 24th and 25th November 1987; for cases on contractual liability see : Cour d' Appel de Lyon (1ère Ch. Civ.) 1.02.1979, Centre école Régional de Parachutisme de Lyon, Sté Bail Equipement c. Sté Centrair, (1979) 33 R.F.D.A. 82; Cour d' Appel de Paris (7e Ch. sect. B) 27.11.1985, Sté Turboméca, Sté Nemet Exploration, Groupe des Assurances Mutuelles de France, Sté T.R.W. et S.N.I.A.S., (1985) R.F.D.A. 473; Tribunal de Grande Instance de Paris 21.12.1983[unpublished], cited by Tosi in "Application, en matière aérienne, des règles du droit commun de la responsabilité civile" J.C. Responsabilité Civile Art. 1382 à 1386 Fasc. 460-5; for cases on test flights see: Cons. d' Etat (2e et 6e sous-sect) 18.04.1980 (réf. 4272), D.1980.I.R.506 (note F. Moderne et P. Bon); Tribunal de Grande Instance de Paris (1ère Ch., 2e Sect.) 6.07.1988, Cie La Préservatrice Foncière c. Sté Nationale d' Etude et de Construction de Moteurs Aviation-SNECMA, (1988) R.F.D.A. 305.

accident investigations are, to our knowledge, not yet released for all of those cases and litigation is presently taking place in different countries. Our comments, based on discussions with well informed sources, should therefore be read with the caveat that they are personal and not intended to put any blame on one of the parties involved.

The first accident of our non-exhaustive review concerns a crash of a Indian Airlines Airbus A320 on February 14, 1990. This aircraft was carrying 139 passengers, 2 flight and 5 cabin crew members when it crashed on approach to runway 09 at Bangalore, India. The crash killed both flight crew members, 2 cabin crew members and 88 passengers, 56 passengers survived. All passengers, except for 18 were travelling on domestic contracts. For those passengers the limit of liability[61] in respect of death is RS 500.000[62] for a passenger of 12 years or more and RS 250.000[63] for passengers below twelve years of age on the date of the accident as a result of a liability increase by way of special contract. Those sum are payable automatically without the need to prove the loss. The other passengers for which the regime of international carriage applied had Warsaw Convention tickets or other applicable carriage as the case may be. However no special contract increasing the liability limits exists for Indian Airlines in respect of international carriage. The Accidents Division of the Indian Directorate of Civil Aviation

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[61]According to the Notification of 1973.

[62]RS 500.000 = approximately USD 15.923.

[63]RS 250.000 = approximately USD 7.962.

completed its report on the circumstances surrounding the crash and two major errors by the crew have been cited[64]: 1) they ordered a descent to 3,270 ft whereas the minimum descent altitude for Bangalore (surrounded by hills) is 6,000 ft. The effect of this instruction was to reduce engine thrust to idle so that the aircraft speed fell below the approach norms, 2) the pilot did not disengage the flight director when the co-pilot disengaged his 21 seconds before the crash. Had he done so the engine thrust would have built up and the descent halted. By the time the engines were normally set to full thrust, about three seconds before the crash, it was too late. The Court of Enquiry in Bangalore, which has reviewed this report, attributes the proximate cause of the accident to pilot error: failure of the pilots to monitor speed during final approach. However contributory issues which could explain crew action/inaction when the situation became critical were discussed in its report as well. A theory has been developed that confusion existed between the Flight Control Unit (FCU) altitude and vertical speed selectors. Immediately after the accident the Indian Airlines A320 fleet has been grounded by the Indian government apparently by reason of purely internal political motives. Because of considerable speculation and debates on the subject of "fly by wire" technology in Europe and also in the United States and other parts of the world the Court examined carefully whether some form of possible computer aberration could have resulted in spurious cockpit indications relating either to speed presentation or thrust mode engagement. After this tragedy

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[64]Interavia Air Letter n. 11,979 - April 19, 1990 p.2.

Airbus Industrie made modifications to the Flight Management Guidance System of the A320.[65] From information received it appears that, although under local Indian legislation Indian Airlines would have been able to avail itself of the Warsaw liability regime as amended at the Hague, claimants are invoking the vicarious liability of Indian Airlines for the wilful misconduct of their pilots with a consequence that under Article 25 of the Convention the liability defence, if the latter are successful, would be unavailable. Many cases have been settled already with Indian Airlines at the above mentioned liability limits. However it is not known whether a subrogation action against Airbus Industrie has been initiated or whether a sharing agreement between the insurers of the Airline and one of other co-liable industries, if applicable, has been negotiated in this case.

The second important accident is the accident of an Airbus A320 of Air Inter which crashed on January 20, 1992 on the Mont St. Odile, near Hohwald during a VOR/DME approach procedure to Strasbourg runway 05. Eighty-seven passengers and four crew members were killed. There were 8 survivors among the passengers and one among the cabin crew. Human error is also cited as the prime cause of this disaster. It is reported that during the

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[65]It has to be noted that in a previous accident of an Airbus A320 at Mulhouse-Habsheim in 1988, also a controlled flight into terrain, during a flight display as a result of a clear human error a lot of discussion had arisen already on the issue of the fly by wire technology; for a discussion on human error see: Human error in the cockpit (Zurich: Swiss Reinsurance Company, Aviation Department, 1990) and Safety Management in the cockpit (Zurich: Swiss Reinsurance Company, 1988).

latest moments of the flight, when the aircraft was flying with the autopilot, the rate of descend of the Airbus was 900 m/min instead of the normal 300 m/min. Two official[66] aircraft accident investigations have been initiated in France: the first by the 'Commission d' Enquête' appointed by the Minister of Transportation to operate under the supervision of the 'Inspection Générale de l' Aviation Civile' has the task to determine the technical causes of this accident and the other, organized by the judiciary, has to determine the liabilities. In an interim report issued by the 'Commission d' enquête' three recommendations aimed at preventing the recurrence of the disaster were formulated: 1) changing the flight deck layout, 2) making it compulsory for all aircraft to have a ground proximity warning system[67] and finally 3) changing the location of an emergency radio beacon to make it more likely to survive a crash[68]. In this case it is noteworthy that in a press conference, a couple of days after the accident, the Air France Groupe, of which Air Inter is part, indicated that it would compensate the survivors and the families of the victims totally, thus setting aside the liability limits of the Warsaw Convention as amended at the Hague as applicable for French domestic transport as per domestic legislation. It also added however that

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[66]as opposed to the private accident investigation initiated on behalf of private parties like the insurers of the airline and the manufacturer.

[67]Early 1993 French Prosecutor Jacques Guinchard charged Air Inter's former operations director with negligent homicide for not installing ground proximity warning systems on the domestic fleet (AWST January 25, 1993).

[68]Lloyd's Weekly Casualty Report, 24 feb. 1992.

this offer was without prejudice and was no recognition of liability on the part of Air Inter. The French insurance companies, member of the Association des Assureurs Aviation de France, applied in this case the recent 'Charte relative à l' indemnisation des passagers victimes d' un accident aérien'[69] of 1991 whereby a non refundable provision is awarded to the victims or their families before any determination of liabilities and the examination of insurance coverage one week after the justification of the capacity of victim or beneficiary.[70]

The third accident involves a Thai Airways Airbus A310-300 which struck a mountain on approach to Kathmandu Airport on 31.07.1992 killing all 113 persons on board, including 11 americans. Investigators have reported in their preliminary findings that the crew had difficulty lowering the wing flaps when preparing to land. The pilot managed to lower the flaps, but had approached too close to the runway and executed a missed approach. The aircraft was cleared to return south-west to recommence the approach. The flaps were retracted and the aircraft was turned

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[69]This Charter was signed by representatives of the Association des Assureurs Aviation de France and the Ministre de L' Equipement, du Logement, des Transports et de la Mer.

[70]The charter's aim is to alleviate the immediate difficulties of the passengers and their families of an aircraft operated by a french public transport company or having its principal place of business in France in case of an aircraft accident. In case of death a lump sum of 50.000 FRF is awarded per passenger. In case of injury resulting in a hospitalization of more than eight days a sum of 10.000 FRF per passenger plus 2.500 FRF per dependent is awarded per month of hospitalization for a total not exceeding 50.000 FRF. This compensation definitively transferred to the beneficiary but will be deducted from a later settlement in his favour. The payment is no admission of liability. The above mentioned monies will be paid by the liability insurers of the airline.

to the right till it headed north again. The investigation commission said that the pilot received a "terrain" and "pull up" alert from the aircraft's ground-proximity warning system as it flew north. The report said "It appears that the crew had just initiated a climb when the aircraft hit the mountain"[71].

b) Belgium

For a brief outline of the regime of the liability of aerospace products manufacturers in Belgium no specific caselaw has been found. A reference to the common delictual or contractual liability in this country is still valid[72]. It is our view that the case law is more conservative than in France. Noticable differences exist for instance i.r.o. the interpretations by the courts of Article 1384 Para. 1 and the rebuttable aspect of the presumed contractual liability of the professional seller in case of hidden defects. An illustration on the application of 1384 Para. 1 with respect to an alleged defective radiomodel which crashed during a competition and injured a spectator can be found in the decision of the Court of Appeals of Brussels of 5.02.1988, s.a. Royale Belge c. Derhoven, s.a. l' Escaut et Joris[73]. The 'pilot' declared to the police that a 'technical failure' caused his aeroplane to crash. Since no precise cause

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[71]Lloyd's Weekly Loss Report Aug. 14, 1992; Air Safety Week, august 24, 1992.

[72]For references see: Jacques Naveau - Marc Godfroid, Précis de Droit Aérien (Brussels: Bruylant, 1988) at 304 n° 222.; also on contractual liability: Cour de Cassation, 1ère Ch., 12.12.1958 and Cour de Cassation, 1ère Ch., 3.04.1959 and note G. Van Hecke, "La responsabilité du fabricant" R.C.J.B. 204.

[73](1990) R.G.A.R. 11684.

of the incident could be given the Court held that the loss and the injuries were caused either by a fault of the 'pilot' or a defect of the model. In any event the 'pilot' is liable in both cases.

c) United Kingdom

Even after the entry into force of Part I. of the Consumer Protection Act 1987 on 1st March 1988 the common law in England and Wales continues to provide for recovery of damages for personal injury or death from defective products both in tort and contract. In tort (or delict in Scotland), liability is fault-based and therefore involves the onerous burden of proving negligence whilst in contract liability is governed by the rules of privity thereby restricting liability to the supplier of the goods to the consumer[74]. In some cases statutory regulation exists(e.g. obligation imposed upon manufacturers of articles or substances for use at work under the Health and Safety at Work Act 1974 to ensure, as far as is reasonably practical that the design of their product is safe; the standards imposed by the Civil Aviation Authority and the Aviation legislation with regard to the design, construction, material and workmanship involved in aircraft construction).

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[74]See in general: C.J. Miller and P.A. Lovell, Product Liability (London: Butterworth, 1977); Grevill Janner, Janner's Complete Product Liability (London:Gower, 1988); in aviation context: Shawcross and Beaumont, Air Law, 4th ed. by P. Martin, J.D. McClean, E. de Montfaur-Martin (London: Butterworth, 1977).

Originally liability in negligence rested upon the broad principles of duty of care based on neighborhood or proximity enunciated in 1932 by Lord Atkin in the House of Lords in the landmark case of M'Alister (or Donoghue) v. Stevenson[75]. Nevertheless plaintiffs could succeed in shifting the burden of proof to the manufacturer either by adducting sufficient circumstantial evidence or relying on the maxim "res ipsa loquitur" in the rules of evidence - although the latter is only available if the plaintiff could establish that the accident or damage occurred in such way that the only inference to be drawn is that it resulted from the defendant's negligence. The courts have refused to expand the maxim into matter of substantive law so as to enable, for example the plaintiff in a product liability case to shift the burden of proof automatically by a showing of a product defect[76]. Nevertheless the courts do admit circumstantial evidence and exhibit a common sense approach so that genuine plaintiff starts with a distinct advantage. The emphasis found in early statements on the inherent dangerousness of the product, on the risk to life or property, has however largely disappeared in more recent cases. In an important non-aviation case, Junior Books Ltd. v. Veitchi Co. Ltd.[77] the House of Lords held a flooring sub-contractor liable for the economic

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[75]M' Alister (or Donoghue) v. Stevenson [1932] AC 562, HL.

[76]See Lloyd v. West Midland Gas Board (1971) 2 All.E.R. 1240.

[77]Junior Books v. Veitchi Co. Ltd. [1983] A.C. 520; for a comment in the aviation product liability context see: Ian Awford, "Some recent developments in products liability in tort- with particular reference to aviation cases" (1985) 10 Air Law at 138.

loss suffered by the owner of the building when the floor, though not dangerous, was so defective in terms of its intended use that it had to be replaced; the defect in the product was identified largely by reference to the terms of the contract to which the defender, but not the pursuer, was party. According to Ian Awford, this decision is unlikely to have practical significance between the manufacturer and the purchaser of aircraft where any liability for grounding or defect in the aircraft, is likely to be excluded. He feels however that, where the aircraft has been sold to a third party, where it has been leased, or a sub-contractor component manufacturer is attacked this case "is likely to be a topic of conversation"[78]. A manufacturer will, however only be liable for economic loss suffered by an ultimate purchaser if there are special facts indicating a very close proximity between the parties and real reliance on the competence of the manufacturer[79].

In an address given by Neil R. McGilchrist[80] reference is made to one of the few aviation product cases litigated in the United Kingdom resulting from an accident in 1977 where a Britannia aircraft had crashed when one propeller went into reverse pitch in the air. The Judge, drawing his conclusions from the facts and ignoring all the expert evidence, decided as follows:

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[78]Ian Awford, op. cit., at 140.

[79]Muirhead v. Industrial Tank Specialities Ltd. [1985] QB 507, [1985] 3 All. ER 705, CA, quoted in Shawcross and Beaumont, Air Law, op. cit., at V/38.

[80]Neil R. McGilchrist, "Product Liability in Europe", An Address given to Embraer, San Jose de Campos, Prazil, 1 April 1987 [unpublished].

"Even a modern aircraft cannot be so complicated a piece of equipment that it is impossible to trace electrical faults. A thorough examination of the ED3 area may have given the answer quite quickly. If the prudent manufacturer had tried to trace this fault and had failed, he could have consulted British Aerospace, who made the aircraft and the engines. The discovery may have been time consuming. It may have been expensive. But that would have been insignificant in comparison with the possible consequences of putting an aircraft back into service when it was or should have been realised that there was even a small chance that the defect might cause it to crash.

"Balancing all these matters as I best can, and remembering that it is for the Plaintiffs ultimately to prove their case, on the balance op probability I think that the Defendants fell short of what was required of the ordinary, prudent aircraft maintenance engineering firm in August 1977. In this I am not saying that it has been proved that they deliberately took a chance. The Plaintiffs do not have to go as far as that. In any event I think it much more likely that for some reason or other the problems posed by this aircraft were not given the degree of careful consideration that was required and because they were not properly thought through the risk which should have been appreciated probably was not. Testing on the ground 12 times after a change op PCU was, in my judgment, in these particular circumstances not enough. Prudent maintenance engineers would have done more. They would have realised the need to get to the bottom of the problem and not to certify that the aircraft was fit to fly until they had, because they would have appreciated that not to do so involved a small, but nevertheless unacceptable, possibility that disaster might result. For the Plaintiffs to succeed it is not necessary for them to prove that the Defendants or a firm in their position would necessarily have foreseen the precise form of malfunction, or as it is sometimes put the precise concatenation of circumstances, which led ultimately to disaster. But that they should have foreseen that the aircraft might be put in jeopardy and crash I have, on the balance of probability, in the end no doubt.
"It follows that negligence is established as alleged."

In Appeal the judgment was upheld.

A more recent decision of the Court of Session of 17.09.1987, North Scottish Helicopters & another v. United Technologies

Corporation Inc. & another[81], the first known judgment on aviation products liability in Scotland, illustrates an application of the principles of law of delict, just before the entry into force of the EEC Products Directive. The case resulted form an incident on 16 October 1981 when a Sikorsky S-76A helicopter was badly damaged by fire during engine ground-running at Aberdeen. The aircraft operator and the Lessee (but not the owner) sought to recover the costs of repairs ($ 971,201) and 'loss-of-use' from manufacturers of the aircraft and the main rotor brake, alleging that the fire was caused by negligence in design and/or manufacture of the main rotor brake unit. The Plaintiffs took their inspiration from the official report of the U.K. Accidents Investigation Branch of the Department of Transport. Since they had elected to prove negligence in their pleading they could not thereafter choose an alternative ground or seek to transfer the burden of proof by a later plea of res ipsa loquitur. Lord Davidson was impressed by the defendants' expert witnesses and said that the most formidable objection to the plaintiffs' case that the problem was foreseeable was that no witness (on either side) had asserted that at the design stage a competent engineer should have anticipated the most likely failure mechanism. The plaintiffs also alleged the UTC were at fault in not taking appropriate steps after four previous fire in the rotor brake system. Lord Davidson rejected this allegation because he found that in each of the fires there was some kind of

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[81]Case cited By Harold Caplan in International Union of Aviation Insurers, Quarterly Bulletin n. 106, Fourth Quarter 1987 at 28; By Nicolas Hughes in "Aviation Products Liability: U.K.", European Study Conferences, 1987 Aviation Law and Claims Conference at 12.

human error rather than any basic defect in the brake unit. As a result the designers and manufacturers of both the helicopter and the main rotor brake were exonerated.

To our knowledge no aviation product liability cases have been reported yet since the entry into force of the Consumer Protection Act.

d) Germany

In Germany, since to our knowledge no cases have been reported with respect of aviation product liability, only a brief summary of the delictual theory of liability will be given. The basis of this fault liability is Section 823 para. 1 of the German Federal Civil Code (BGB)[82]. As in other countries the difficult issue is the burden of proof of the victim. Since the landmark case "Hühnerpestfall"[83] of the German Supreme Court of 1968 involving a virus vaccine manufacturer, whose vaccine was insufficiently immunized thereby causing a loss for a poultry farmer, the burden of proof is shifted to the manufacturer. If it is shown that the damage is caused by the product (i.e. an industrial product), the manufacturer is presumed to be at fault, unless he

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[82]The text of s. 823 BGB Para. 1 has been translated by H. Duintjer-Tebbens, op. cit. at 73, as follows:
"A person who wilfully or negligently, without legal right, injures the life, body, health, freedom, property or any other right of another, is bound to compensate him for any damage arising therefrom."

[83]BGH 26 Nov. 1968, BGHZ 51,91,(1969) NJW 269 note Diederichsen, (1969) JZ 387 note Deutsch.

rebuts this presumption[84]. Later judgments of the Supreme Court have extended this rule beyond production defects[85] and to inadequate warnings[86].

The German Products Liability Act[87], implementing the EC Council Directive of 25 July 1985, introduced a second theory of products liability in Germany: a no-fault liability for defective products[88]. Germany opted for a limitation of the liability of the manufacturer in cases of personal injury and death. S. 9 para. 1 of the Produkhaftungsgesetz provides for a limit of 160 million Deutsche Marks for damage caused by identical items with the same defect. As most EC Countries, Germany did not make use of the option under Article 15 (1) b) of the Directive and retained the development risk defense of the manufacturer. Under S. 15 para. 2 of the Products Liability Act the delictual products liability will remain available for products liability claims.

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[84]For a discussion of the product liability in Germany see: P. Nikolai Ehlers, "Products Liability in Germany Today and Tomorrow", (1991) A.A.S.L. 41; H. Duintjer-Tebbens, op. cit. at 66; in the aviation context see: Dr. Wolf D. Müller-Rostin, "Produkthaftpflicht im Luftverkehr und ihre Versicherbarkeit", (1983) Z.L.W. 223; Edwin Frietsch, "Die Produkthaftungs-Richtlinie der Europäischen Gemeinschaft und der Luftverkehr", (1987) Z.L.W. 170.

[85]BGH 28 Sept 1970, (1971) VersR 80.

[86]BGH 11 July 1972, BGHZ 59, 172, (1972) NJW 2217 notes Franz and Schmidt-Salzer.

[87]Gesetz über die Haftung für fehlerhafte Produkte, Bundesgesetzblatt I, 1990 at 2198; entered into force on 1 January 1990.

[88]For a discussion see: Westphalen, "Das neue Produkthaftungsgesetz", (1990) NJW, 83.

e) The Netherlands

Recent disasters in the Netherlands have made aviation products liability a much discussed topic in the legal profession and the aviation insurance business. However the events are too recent with the result that no reported case law can be quoted as of the drafting of this thesis.

The first tragic event with only material damage arose of the crash of a F16 fighter on the neighborhood Hasseler Es, a suburb of Hengelo, in February 1992. The results of the accident investigation indicated that the plane crashed because of a broken pin in the PW220 engine due to metal fatigue. The origine was traced to a manufacturing defect. The Dutch ministery of defense compensated the damages of the victims on the ground up to 2.000.000. DFL with no possible recourse against the manufacturer due to a contractual waiver[89].

The second drama was the tragic crash of an EL AL B747 freighter on October 4, 1992 at Bijlmermeer, some minutes after take off from Schipol airport. The Boeing slammed into a ten-storey apartment building of a populated suburban community with many illegal immigrants thereby totally destroying 77 flats damaging at least 196 others. These facts caused at the beginning of the investigation a lot of confusion as to the exact number of casualties. The total number of presumed persons killed on the

[89]De Telegraaf 9.02.1993 at T9.

ground was 67 and 27 persons injured. Persons established missing: living in the destroyed flats 39 and others 12. Three crew members and one passenger on board were also killed. At the end of 1992 aviation insurers had reserved 75.000.000 USD for this loss. The official accident investigation reports are, to our knowledge, not yet available but reports from investigation teams supported the theory that faulty designed 'fuse-pins' caused one of the four engines to tear from the wing of the jet causing in turn an other engine to tear away[90].

In the Netherlands product liability in tort was based on Articles 1401 and following of the Dutch Civil Code. Those articles originated from the French Civil Code Art. 1382 and following discussed above. It is a fault based liability. Under the general tort provision of Article 1401 of the Dutch Civil Code (now 6:162 of the New Netherlands Civil Code[91]) the claimant bears, inter alia the burden of proof of the negligence of the producer. Article 1403(1) contained the provision i.r.o. the liability for things under one's control. As opposed to French case law the Dutch law has not developed a device such as the French strict responsabilité du fait des choses based on Article 1384(1) of the French Civil Code. The burden of proof of the victims has over the years however been eased. Important cases

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[90]See Lloyd's Aviation Department Bulletin of 15-31 October 1992.

[91]See J.H. Nieuwenhuis, C.J.J.M. Stolker and W.L. Valk ed., Nieuw Burgerlijk Wetboek, Tekst & Commentaar (Deventer: Kluwer, 1990); Overgangsrecht, loose-leaf (Deventer: Kluwer Februari 1993 Suppl. 1).

are the Ford Nederland N.V. case of 1957[92], the so-called 'Moffenkit'-case of 1966[93] of the Dutch Supreme Court and the landmark Leaking hot-water bottle Case of 1973[94]. In this case the Supreme Court held, about the extent of the manufacturer's duty of care, that he also has to anticipate foreseeable misuse. The Court also held that if a product presents such a danger that it should not have been allowed into circulation, it would be for the manufacturer to establish that the product, despite his controls, nevertheless came into circulation in the absence of his fault. In the Halcyon Case of 1989[95] the Supreme Court confirmed the lower court's decision in which the definition of Article 4 of the EEC directive was used to determine whether a drug causing unexpected side effects was defective. At that time the Dutch Products liability law of 13.09.1990[96] was not yet voted and the Supreme Court, which noted that the definition coincides with the current definition of a defect, held that under the present law proof of fault was still required to establish liability. The producer in this case was held at fault for not having given sufficient warning, while the risk of damage should have been foreseen.

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[92]Cour of Appeal of Amsterdam, 27 June 1957, (1958) NJ 104.

[93]HR 3 March 1966, NJ 279, note Scholten.

[94]HR 2 Feb. 1973, NJ 315; for a commentary see H. Duintjer-Tebbens op.cit. at 104.

[95]Upjohn v. Van Ommeren, HR 30.06.1989, NJ 1990, 652.

[96]For a detailed comment of the Dutch legislation on products liability and the EC Directive on defective products see: L. Dommering-van Rongen, Produktenaansprakelijkheid - Een nieuwe Europese privaatrechtelijke regeling vergeleken met de produktenaansprakelijkheid in de Verenigde Staten (Deventer: Kluwer, 1991).

With the Dutch Products Liability Law of 13.09.1990, which entered into effect on 1.11.1990, new articles 1407 a-j were introduced in the Dutch Civil Code. Those articles were reproduced in the New Netherlands Civil Code which entered into force as of 1.01.1992 in articles 6:185-193. In a decision of the Court of Breda of 27.11.1990, rendered shortly after the entry into force of the Dutch Products Liability Law, the Court applied the new regime on a product imported from Germany despite the fact that this regime was not applicable because the product was put into circulation many years before[97]!

The new strict products liability regime applies the Directive without making use of the options discussed above[98] and leaves the fault based liability system unaffected. As indicated above no aviation products liability cases have been reported yet.

4. Exposure of European manufacturers to American courts

During our discussion of US aviation product liability law[99] and US jurisdictional principles[100] we have seen that victims of aircraft accidents or their families in case of death are attracted to the United States and are tempted to start a litigation in this country against the airline, the manufacturer,

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[97]L. Dommeringen-van Rongen op.cit. at 68; TvC 1991, p. 49-52.

[98]See supra at II.A.4.

[99]supra at II.C.2.

[100]supra at II.B.2.(1).

component part manufacturers and even government agencies in some cases. This is sometimes called the scatter gun approach! Advised by lawyers who can be paid with the contingency fee system, which is not available in most EEC countries, plaintiffs are seeking a deep pocket to compensate their loss. Lord Denning in Smith Kline & French Laboratories Ltd. v. Bloch[101] described this as follows :

> "As a moth is drawn to the light, so is a litigant drawn to the United States. If he can only get his case into their courts, he stands to win a fortune. At no cost to himself, and at no risk of having to pay anything to the other side. The lawyers there will conduct the case 'on spec' as we say, or on a 'contingency fee' as they say. The Lawyers will charge the litigant nothing for their services but instead they will take 40% of the damages, if they win the case in court, or out of court in a settlement."

As indicated above the defense lawyers then will try to avoid the US jurisdictions by invoking the doctrine of forum non conveniens. Other factors to be mentioned are the jury system and the very important, and often very costly discovery procedures for foreign litigants in the United States. Some particular aspects of this procedure will be discused hereafter.

Rule 26 of the Federal Rules of Civil Procedure lists the methods of discovery permitted in federal litigation[102]. Most States in the United Stated have adopted the Federal Rules for discovery, and these provisions give a good indication of the trends of modern discovery in that country. Those provisions often

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[101]Court of Appeal, Civil Division, UK, [1983] 2 All ER 72,74.

[102]For a brief discussion see Emmanuel law outlines, Civil Procedure, op. cit. at 127.

conflict with the Convention on the Taking of Evidence Abroad in Civil or Commercial Matters[103] (Hague Evidence Convention of 18 March 1970). This convention has created procedures by which a judicial body in one country may request evidence located in another. A good illustration of the conflict between the Hague Evidence Convention's rules and the Federal Rules of Civil Procedures can be found in an important decision of the U.S. Supreme Court of 15 June 1987 in Société Nationale Industrielle Aérospatiale and Société de Construction d' Avions de Tourisme v. United States District Court for the Southern District of Iowa, etc[104]. This case arose out of a crash in Iowa on August 19,1980 of a French single engined piston aircraft 'Rallye' injuring the pilot and a passenger. Separate suits were brought in the United States District Court for the Southern District of Iowa alleging that the aircraft manufacturer had manufactured and sold a defective plane and that he was guilty of negligence and breach of warranty. After an initial discovery conducted by both sides pursuant to the Federal Rules of Civil Procedure without objection, petitioners filed a motion for a protective order when plaintiffs served a second request for the production of documents pursuant to Rule 34, a set of interrogatories pursuant to Rule 33, and requests for admission pursuant to Rule 36. In their motion the petitioners alleged that because they were French corporations, and that the discovery sought could only be

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[103]18 March 1970, 23 UST 2555, TIAS n. 7444, 847 UNTS 231 (Ratified by and in effect in Barbados, Cyprus, Czechoslovakia, Denmark, Finland, France, Germany, Israel, Italy, Luxembourg, Netherlands, Norway, Portugal, Singapore, Sweden, United Kingdom, and United States).

[104]U.S. Supreme Court Reports 96 L Ed 2d. 461.

found in a foreign state, namely France, the Hague Convention dictated the exclusive procedures that must be followed for pretrial discovery. In addition their motion stated that under French penal law they could not respond to discovery requests that did not comply with the Convention. The Magistrate denied the motion. Petitioners sought a writ of mandamus from the Court of Appeals although immediate appellate review of an interlocutory discovery order is not ordinarily available. The Court of Appeals, considering the case 'on the merits' because of the novelty and the importance of the question presented, and the likelihood of its recurrence, denied the petition for mandamus holding that "when the district court has jurisdiction over a foreign litigant the Hague Convention does not apply to the production of evidence in that litigant's possession, even though the documents and information sought may physically be located within the territory of a foreign signatory to the Convention"[105]. The Supreme Court disagreed. It held that "the text of the Evidence Convention, as well as the history of its proposal and ratification by the United States, unambiguously supports the conclusion that it was intended to establish optional[106] procedures that would facilitate the taking of evidence abroad." It added that although the procedures of the Hague Convention are not mandatory, "The Hague Convention does "apply" to the production of evidence in a litigant's possession in the sense that it is one method of seeking evidence that a court may elect to employ." In touching upon the problem of

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[105]782 F2d (CA8 1986) at 124.

[106]emphasis added.

discovery abuse the Supreme Court reasserted the role of the district courts in the supervision of the pretrial procedures without articulating specific rules to guide 'this delicate task of adjudication'. This decision of the Supreme Court allows thus trial courts to make case-by-case determinations concerning the relevance of the Hague Evidence Convention to local rules of civil procedures.

In the United States the Committee on Rules of Practice and Procedure of the Judicial Conference issued a preliminary draft of proposed amendments to the Federal Rules of Civil Procedure in September 1989. As a direct response to the Aerospatiale case a proposed amendment to Rule 26 has been introduced that would add the following language to the Rule :

> "If an applicable treaty or convention provides for discovery in another country, the discovery methods agreed to in such treaty or convention shall be employed; but if discovery conducted by such methods is inadequate or inequitable and additional discovery is not prohibited by the treaty or convention, a party may employ the methods here provided in addition to those provided by such convention or treaty."[107]

Since discovery procedures can be very expensive for aircraft manufacturers who are required to produce literally hundreds of internal technical documents, drawings, test reports and so on in certified copies and translations it is not surprising that 'abuse' of these procedures is also a 'settlement inducement tactic' used by trial lawyers that cannot be disregarded lightly by the manufacturers and their insurers.

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[107]See Stephen E. Walsh, Proposed changes to the Federal Rules of Civil Procedure - A Law Report for foreign litigants" in Aircraft Builders Council, Inc. Law Report Fall 1990, by the Law Firm Mendes & Mount [unpublished].

III. Insurance of the liability of aerospace products manufacturers in the EEC

Aerospace products manufacturers in the EEC are very different in size and in the type of products they manufacture[1]. Some are airframe or engine manufacturers, others assemblers or manufacturers of big components like engines, auxiliary power units, landing gears, avionics, steering mechanisms, telecommunication equipment etc... whilst others are industrial enterprises who have diversified there production line and found a market for their products into the aerospace business[2]. Their main expertise lies in chemical, technical, electronic products not only geared to the aeronautical sector. Some are small and medium sized subcontractors who are manufacturing so to speak only 'nuts and bolts' or non critical parts. The biggest

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[1]See: Panorama of the EC Industry, 1993, C. Aerospace, CO-76-92-625-E-C; The European Aerospace Industry - Trading Position and Figures 1992, EC - DG III, III/6813/92-EN.

[2]See for example the multinational company Du Pont de Nemours. It is the manufacturer of Kapton, which is a strong, carbon-based, amber colored film that is extremely thin and light and which has been the world's most widely used aircraft wiring insulation since 1970. Since 1984 studies by the US Navy and the Air Force have determined that Kapton sometimes explodes. The Navy therefore banned its use but others still use it. In an Airbus A-300 and A-310 there are about 95 to 113 miles of wires insulated with Kapton! Examples of Kapton related incident involving commercial airliners are, amongst others: an electrical fire aboard a B757 owned by Britain's Monarch Airlines on Jan, 14 1985 which had to make a safe emergency landing in Lisbon Portugal; an inflight fire aboard a TWA L-1011 on May 27, 1983. The crew could extinguish the fire and land normally in Kansas city. The investigation found that 27 Kapton-insulated wires had been burned in two. The engineers recommended that Kapton be prohibited in future aircraft purchases by TWA. (See Stan Jones, "Wired for Disaster", Fort Worth Star-Telegram, July 24, 1988).

entities have facilities worldwide and their european establishments are only a part of a bigger group. Production lines can also be removed from Europe after some time or be absorbed in a bigger entity after mergers or take-overs. Some manufacturers may even have dropped out of the aerospace sector entirely after years of production etc. ... It has to be realized also that so-called "European" aircraft contain vast amounts of components manufactured in other parts of the world and imported into the EEC. The liability exposure and insurance needs of all those different actors are therefore of course very diverse.

A. Insurance

1. Insurance v. liability

Companies in general have no legitimate interest in passing on the entire commercial risk in the manufacturing and marketing of their products to a community of consumers. Their 'business risk' as a whole is not insurable. The profits generated by the massive investments in research development, manufacturing and marketing are the legitimate return the manufacturers can expect. In principle, risks are only insurable insofar as they cannot be influenced by the will of the contracting parties. On this basis the insurable and uninsurable parts of the business risk must be distinguished[3]. Product liability insurance is only a partial transfer of the risks taken by the entrepreneurs. It is an insurance of their legal liability which may arise at common law,

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[3]Gordon T. Sanders, Product Liability - Insuring against the risks (London: Longman Intelligence Reports, 1986) c. 2.; infra III.A.3.

under statute, under contract, to other persons and arising from the supply of their goods[4]. On the part of the insurers there is also a constraint on the amount and width of coverage they will grant.

As all other markets the insurance market is cyclical. It depends upon the laws of supply and demand. When insurance markets are 'soft', ie, when there is an over-supply of insurance capital, attracted by potential profits, cover is wide and premiums affordable. Inevitably, over-supply of capital results in a reduction in price, the insurance markets go 'hard', as profitability disappears, and cover becomes scarce and no longer affordable[5].

Aerospace products liability insurance is also international: this means that the cover has to be spread internationally if the insurer wants to balance his portfolio. This is achieved by means of co-insurance and reinsurance[6]. The effect of this spread is that the cover and in particular the definition of the insurance contract, its scope, the conditions and exclusions must necessarily be the result of a consensus between the various markets[7]. Generally aviation products liability insurance is

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[4]See generally: Colin Smyth, Insurances of Liability (London: The CII Tuition Service, Study Course 070, 1985).

[5]G. Sanders, op. cit., at 16.

[6]See infra: III.B.

[7]Jean-Michel Gicquel, "Problèmes et perspectives de l'assurance de la responsabilité civile du fait des produits aéronautiques et spatiaux", paper presented at a conference in Paris on 25.09.1986 [unpublished].

regarded as the most difficult type of aviation business[8] to insure. According to Rod Margo[9] the complexity of aviation products liability insurance and the vast potential exposure of insured have resulted in there being a more restricted market for this type of cover than for other types of liability cover, and hence the number of syndicates and companies specialising in this form of cover is relatively small.

2. The market

From the aviation department of a major broker in the London market we were advised of following premium and claims figures in million USD:

	1985	1986	1989
1) worldwide airline premium	1,000	1,350	350
2) worldwide products premium	950	1,200	360
3) worldwide all other premium	975	1,275	355
4) worldwide total premium	2,925	3,825	1,065
5) worldw.tot. airline losses	1,056	281	1,121

The evolution of the premium figures indicates that in 1989 the bottom of the downward cycle was nearly reached due to exacerbated competition in times of overcapacity. The lowest

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[8]For a short introduction on Aviation Insurance see: Egbert Tobi, "The Insurer's Point of View", (1986) XI Air Law 84; for more comprehensive documents: Rod Margo, Aviation Insurance, 2d ed. (London: Butterworths, 1989); M.J. Spurway, Aviation Insurance, The Market and Underwriting Practice (London: Witherby, 1991); B.G. Jervis, Aviation Underwriting (London: Study Course 190A, The CII Tuition Service, 1981).

[9]Rod Margo, Aviation Insurance, 2d. ed. (London: Butterworths, 1989) at 193.

level of airline premiums since more than 15 years of about 300 USD million was reached in 1990 while major claim including small or attrition losses totalled about USD 700 million. Since then massive rate increases between 100% and 200% were charged upon the world airlines as a result of reduced capacity[10]. Manufacturers were also faced with rate increases but at a lower level than the airlines.

Much of the worldwide business is placed on a co-insurance basis by one of the international brokers across the world markets. Many foreign insurers representing all the world markets have offices or representatives in London were they can be easily and physically visited by brokers to ensure their participation in this spread[11]. According to a major broker in London the worldwide manufacturers markets in 1992 represented by split available capacity based on a 1,000 Million USD limit is: 100% London, USA 50%, French Market 20%, Polygon 5%, Skandia 5% and Rest of World 20%[12].

3. Aerospace products liability losses

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[10]See Ian Verchère, "Insurers loose from, high risk-deals", Interavia Aerospace Review April 1992 p. 45; Richard Lapper, "Taking Cover", Airline Business April 1992 p. 62; James Ott, "Insurance Losses Hike Airline Rates" AWST July 26, 1993.

[11]M.J. Spurway, op. cit.at 2.

[12]This illustrates that on the basis of this limit there is enough capacity to place a risk entirely in the London market. In practice this is never done for major risks. Specialist brokers let the different markets compete against each other in order to obtain the best quotes for their clients.

As opposed to manufacturers of mass-produced goods, like the Pharmaceutical- and the Automobile industry, the aerospace industry is not so exposed to multiple or serial liability losses due to the limited number of aircraft. On the other hand the catastrophic nature of the risk exposes them to cumulative losses per accident eg. the tragedy of the Japan Airlines flight on August 12, 1985 where a single accident, resulting from the failure in flight of the aft bulkhead due to a faulty repair by the manufacturer, destroyed a B747 and caused 520 fatalities. In July 1992 insurers had paid more than 454,287,000 USD for this loss and still had about 22 million USD outstanding. Another accident probably due to a defective part is the crash of a Lauda Air B7676 in Thailand on May 26, 1991 killing all 223 people on board. This accident is supposedly due to the failure of a thrust reverser which deployed during the climb fifteen minutes after take-off[13]. The cost of the hull was 80,000,000 USD. The liability reserve as of July 1992 was set at about 30,000,000 USD and the manufacturer had in addition to that reserved 50,000,000 USD. For the Air Inter accident at Mt. St. Odile on 20.01.1992 the figures in July 1992 were 37,088,000 USD outstanding for the hull and 77,500,000 FRF for the liability.

Those examples illustrate the fact that one accident can expose the manufacturers and their product liability insurers to very high claims if the accident results from a defect. Another very important risk is the so-called grounding risk or sistership

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[13]Lloyd's Weekly Loss Reports of May 31, 1991 and September 9, 1991.

liability, for example when, as a result of the American Airlines accident at O'Hare International Airport, Chicago on May 25th, 1979[14] causing 271 fatalities and the total loss of an American Airlines DC10, the worldwide DC10 fleet was grounded for several days[15].

Another important risk factor for the insurers is also that the useful life of an airliner, if properly maintained, is more than fifteen years. Smaller aircraft used in general aviation of more than 20 years are not an exception! This means that often a very long time-lag may exist between the causation and the damage. The state of the art technology at the time of manufacturing may be outdated when the third or fourth operator of the aircraft encountered a loss. On the other hand many parts have a limited lifetime and are replaced during regular overhauls.

While in the aviation insurance market it has long be maintained that every airline loss is a potential products liability loss, a study produced by a leading broker in London shows that there is little evidence to support this evidence if the historical record is looked at[16]. There are a number of very significant products liability settlements arising from airline accidents, but as a

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[14]Separation of Number 1 Engine and pylon assembly due to failure of the pylon structure.

[15]See G. Richard, "The DC-10 Chicago Crash and the Legality of SFAR 40" (1981) 6 A.A.S.L. 195; J. Mercier, "Le point de vue des assureurs sur la responsabilité des constructeurs de matériel aéronautique et spatial" (1980) R.F.D.A. 25 at 31.

[16]Aerospace Review (London: Sedgwick James, 1991), CH. 2 at 8.

ratio to the number of airline accidents, the figure is very small. This study indicates also that while the trend for airline losses over a period from 1984 to 1990 is increasing, the pattern of products liability claims is relatively stable[17]. Another study[18] reports that the share of liability of the manufacturers from 1977 to 1987 in relation to 35 major aircraft accidents amounting to losses of 2.750.000.000 USD was only 535.000.000 USD or 19.49%.

4. Insurable parts of the business risk

a) standardized policies v. tailor made policies

Most product liability policies offered to single manufacturers in London and the other markets in Europe and the United States will generally be tailored to the individual needs of the insured. Standard forms exist and are used for smaller undertakings or as basis for 'manuscript' policies[19]. Some of them will be briefly described hereafter.

In the London Market the Ariel syndicate prepared in 1972 an "Airport Owners and Operators Liability Insurance Policy"[20](hereafter 'Ariel Form'). It is a comprehensive policy

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[17]Aerospace Review, op. cit., at 17.

[18]Claudine Laborde-Barbanegre, "The Liability of the Aviation Manufacturer - The Financial Risk", paper presented at the 3rd International Symposium on Aviation and Space Safety, Toulouse 20-22 Sept. 1988, at 12.

[19]See R. Margo, op. cit., at 184.

[20]The Ariel form as amended in 1986 is reproduced by R. Margo, op. cit., in Annex at 432; For a discussion see: M.J. Spurway, Aviation Insurance, The Market and Underwriting Practice (London: Witherby, 1991) at 64.

covering premises liability (section 1), hangar keepers liability (section 2) and finally the liability of suppliers of defective products or defective services(section 3) to customers at an airport. More recently, in 1990, the Joint Technical and Clauses Committee of the LAUA[21] and the AIOA[22] issued the "Aviation Product Liability Policy Wording AVN 66". The new wording is a specific policy to indemnify the insured for legal liability for bodily injury, property damage, and grounding caused by an accident connected with an aviation product[23]. A products liability insurance form for US manufacturers also exists in the London market and is known as the N.M.A. 188. This form is rarely used[24].

In Germany the HUK-Verband has established the "Allgemeine Versicherungsbedingungen für die Haftpflichtversicherung" (AHB) which have been modified over the years[25]. The Deutscher LuftPool has established special conditions specific for aviation product liability: "Besondere Bedingungen für die Luftrahrt-

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[21]LAUA: The Lloyd's Aviation Underwriters Association.

[22]AIOA: Aviation Insurance Offices Association.

[23]See discussion in Robert Wilkinson: "Aviation Insurance: Some Developments" (1992) XVII Air Law 4/5 p. 211; M.J. Spurway, Aviation Insurance, op.cit, at 70. This policy is a pure manufacturers products liability policy. It does not apply to repairers, servicers, suppliers or refuellers.

[24]See M.J. Spurway, Aviation Insurance, op.cit., at 70; The Form N.M.A. 188 is reproduced in Margo, op.cit, at 511.

[25]See AHB form H 31/09 of the Allianz ref 550.1.86; AHB is the German abbreviation of 'General Insurance Conditions for Liability Insurances'.

Produktehaftpflichtversicherung"[26]. Those conditions are combined with the AHB form and the special manuscript conditions of the individual manufacturer to form his product liability policy[27]. In France no specific aviation product liability insurance form seems to exist[28]. In the USA we can quote for example the USAIG[29] "Aviation Products/Completed Operations Liability Policy - Occurrence Form PCO US 37 12 85". The AAU[30] has a similar policy covering aircraft manufacturers products liability. Both companies also provide liability insurance for products and completed operations to commercial aircraft and airport owners, operators and lessors under an "Airports and Fixed Base Operator's Liability Policy".

(1) mainframe manufacturers

Major manufacturers in Europe, as in the USA, have specific tailor made policies. Their wordings are drafted in close cooperation between the insured, their specialist broker(s) and

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[26]DLP Form 229/00.

[27]See Müller-Rostin, "Produkthaftpflicht im Luftverkehr und ihre Versicherbarkeit" (1983) 32 Z.L.W. 225 at 237; Wolf-Dieter Dietz, "Versicherungsrechtliche Aspekte" in K.H. Böckstiegel ed., Product Liability in Air and Space Transportation (Köln: Carl Heymans Verlag KG, 1978) 143.

[28]See M. De Juglart, op. cit, T.II at p. 667; Jean-Michel Gicquel, "L' Assurance et la Vie de l' Appareil de Transport Aérien" in P. Vellas, ed., La Vie de l' Avion Commercial (Paris: Pédone, 1990) 224 at 232; French manuscript policies draw from Aviation Forms D.A. 1.12.1982 "Contrat d' Assurance Aéronef-Conditions générales communes" and D.A. 01.01.1985 "Contrat d' Assurance Responsabilité Civile Professionnelle Aéronautique" and its Annex B "Risques Responsabilité Civile liée aux biens confiés".

[29]United States Aircraft Insurance Group.

[30]Associated Aviation Underwriters.

the world aviation insurance market. In the Airbus Policy, for example, product liability insurance is one section among others. After a general section with general conditions applicable to all the insured risks, we find sections covering the risk of assembly, the manufacturers hulls, the manufacturers aircraft liabilities, the personnel accidents due to aircraft and finally the product liability. Some annexes contain special conditions relating to the product liability risk, extensions to the global policy and the manufacturers hull war insurance. Provisions also deal with the co-insurance and arbitration. The global limit of this policy evolved from 550 million USD in 84/85 to 1,100 million USD in 90/91. It can be noted that the premium paid in 90/91 was less than what was paid for in 84/85!

The Airbus policy is an 'umbrella'-policy which means that subcontractors for Airbus have the possibility to be insured under the Airbus policy against payment of a premium based on their turnover. The French company Aerospatiale, which is one of the Airbus partners, refers in its contracts with its subcontractors to their obligation to insure the goods under their custody and control and their products and grounding liability. The subcontractors can be insured either via the insurance policies of Aerospatiale itself or, through Aerospatiale, be covered under the Airbus policy. They can also take out their own insurances but have to comply with the contractual stipulations and deliver an insurance certificate evidencing the type of cover, limits, insurer and/or broker. Between the mainframe manufacturer and the subcontractors hold

harmless agreements exist up to certain limits and subject to detailed contractual conditions.

(2) component part manufacturers

Since many years specific insurance facilities (Schemes and line slips[31]) exist in the London market and the other markets to cover the aviation or space products liability of component part manufacturers or subcontractors. Facilities to cover the product liability risk of specific programs can be found as well. We will mention hereafter some of the most well known schemes.

The ABC-scheme

The ABC scheme[32] was created in 1955 by the Aircraft Builder's Council Inc.[33] to cover United States aircraft manufacturers and to provide them a stable and knowledgeable insurance market. It is open to any type of aerospace or aircraft product manufacturer, whether a component parts supplier or primary supplier. The cover is provided in the London market by means of a line slip and is supervised by a committee consisting of representatives from the principal broking houses in the aviation

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[31]The difference between a scheme and a line slip is described by Margo, op.cit. at 187 fn. 40 as follows: under a scheme the terms of the authority to write policies are to be found in the scheme itself, whereas under a line slip facility, all the relevant terms of the authority to write policies under it are to be found in the slip, although the slip may incorporate by reference certain provisions of the scheme. A line slip, therefore, is more flexible than a scheme because new terms can be proposed and negotiated by brokers from year to year.

[32]For a description see: R. Margo, op. cit, at 187.

[33]There is also an ABC Space Products Liability Policy Wording. For a discussion see Margo, op. cit, ch. 21 at 273.

market[34]. The ABC scheme has evolved a standard policy wording. This wording is issued, with appropriated adjustments, to the insured who participates in the scheme. The maximum insurable amount under the ABC Policy is 500 million USD.

The SBAC Scheme

The SBAC Scheme[35] was established in 1961, as a result of the success of the ABC scheme. It is available to the aircraft manufacturers in the United Kingdom and is specially designed for manufacturers and component manufacturers/suppliers who are members of the SBAC. The Scheme is renewable each year on the 1st April. In 1987 the scheme provided a total limit of 350 million UKP. Any member organization is able to purchase any amount of coverage they desire - based upon their own individual product range, criticality, sales area, claims experience etc...

The MNCP Scheme

The Minor Component Part Manufacturers scheme[36] is principally designed to provide aviation and grounding liability coverage for suppliers and sub-contractors to the aerospace industry. Despite its name this scheme is not necessarily restricted to manufacturers of "Minor" components, where those suppliers and sub-contractors are not Member Companies of the S.B.A.C..

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[34]R. Margo, op. cit, ibidem.

[35]SBAC = Society of British Aerospace Companies. For a description of the SBAC Scheme see R. Margo, op.cit, at 184; also SBAC Product Liability Seminar 1987 (London: Willis Faber Printing Services, 1987).

[36]The MNCP scheme is also known as AVN 116E.

Subject to insurers agreement, this scheme is also open to non-U.K. manufacturers.

In 1986 the scheme, which renews on the 1st July, had a limit of 50 million UKP. Individual declarations to the scheme can be for any selected limit up to the total stated. For products coverage the limit is in the aggregate and the minimum limit at that time was 5 million UKP. Before 1986 the scheme was subject to a scale of premiums depending on sales and limits chosen. This has been changed to certain guideline premium provisions.

The F16-Scheme

This scheme is limited to a specific military aircraft, the F16, which was co-produced by five nations[37] following the terms of a Memorandum of Understanding between them of June 1975. It covers the manufacturers liabilities of the European participants of this program[38]. It is a joint products liability insurance scheme written in conjunction with other products liability policies for the F16 project. The policies for subscribers to the scheme are issued by or on behalf of insurance companies in The Netherlands, Belgium, Denmark, Norway and the United Kingdom and/or Lloyd's Underwriters. It insures their liability for personal injury and property damage arising out of the products hazard in respect of occurrences occurring anywhere in the world

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[37]The U.S.A., Belgium, The Netherlands, Norway and Denmark.

[38]For a detailed history and the structure of the F16 program see W. Spreen, International Cooperation in the Aerospace Industry: Objectives, Structure, Performance (Doctoral Thesis, Institut D' Administration et de Gestion, UCL - Belgium, 1986)[unpublished] at 125.

during the policy period in respect of their contracts with General Dynamics and /or the Government of the United States of America and/or Fokker VFW and/or SABCA and/or Fairey S.A. and/or FN and/or others in connection with the F16 project. The limit of liability in 1980 was 100 million USD any one occurrence and in the aggregate during the policy period.

The ESPLS Scheme

The European Space Products Liability Insurance Scheme is a master line slip set up in 1987 at the initiative of the French market. Its purpose is to cover the bodily injury and/or property damage sustained by any person and/or entity and caused by an occurrence arising out of a defective space product sold or supplied by the assured under the scheme. The ESPLS scheme is geared to component manufacturers and subcontractors of space products[39]. The limit available in 1991 was 100 million ECU any one occurrence and in the aggregate.

b) common conditions and exclusions

As indicated above most aviation product liability policies are made specifically for one manufacturer with his very special range of products and insurance needs. As in other areas of manufacturing, product liability insurance has never been subject to a tariff and there is therefore no standardization on rating or cover. Between various insurers there is much competition for business, not only on price, but on the breath and width of the

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[39]ABC and SBAC also provide space products liability insurances in their schemes. For space products liability insurance see Margo, op. cit, at 273.

policy cover[40]. Because of the international nature of aerospace products and the liability risk attached to them, common features can be found in the policies issued by the different insurers in the various markets. Most aviation product liability insurers are also reinsured with the same reinsurers! The insurance clause will usually set out the cover of the policy along the following lines:

"The Company will, subject to the terms exceptions and conditions (of this policy), indemnify the Insured against all sums which the Insured shall become legally liable to pay as damages in respect of
(1) accidental bodily injury (including death or disease) to any person
(2) accidental loss of or damage to property
happening anywhere in the world elsewhere than at premises owned or occupied by the Insured during the Period of Insurance and caused by any Goods sold or supplied, repaired, altered, treated or serviced by or on behalf of the Insured."[41]

Property damage may include damages for loss of use. They will then usually include all sums which the insured shall be legally

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[40]Peter Madge,"On Product Liability Insurance" in G. Janner,ed., Janner's Complete Product Liability (London: Gower, 1988) 179 at 182.

[41]See for a comment of the most important words of this insurance clause: P. Madge, op.cit., at 187:
- legally liable: The policy does not spell out the specific ways in which liability must attach. It covers all forms of liability: negligence, breach of contract or breach of statute. Changes in existing laws or Acts of Parliament in the U.K. or elsewhere, such as the Consumer Protection Act 1987 implementing the EC Products Liability Directive are automatically included in this expression.
- as damages: This is the amount of money given to the claimant as compensation for the injury, loss or damage he has sustained. Two types of damages can be distinguished: Special damages are those which have to be specially pleaded and proved before they are paid eg. in case of injury: damage to clothing, doctors' bills and other medical expenses. General damages are those which cannot be assessed precisely and have to be negotiated or agreed by the court eg. an amount of money to cover pain and suffering and the loss of future earnings. Insurers using the word 'compensation' instead of 'damages' do not intend to cover punitive damages. Many policies specifically exclude punitive damages.

liable to pay as damages to the owner, operator, or lessee of aircraft lost, damaged or destroyed, for the loss of use of similar aircraft owned, operated or leased by such owner, operator or lessor of such lost, damaged, or destroyed aircraft, occasioned by or as a result of any lawful act or order of any civil aviation authority which act or order forbids or restricts the use of similar aircraft[42].

Policies will also usually obligate the insurers to defend on behalf of the insured all suits alleging loss, injury , death, damage, destruction or loss of use and seeking damages in consequence thereof, even if any such suit is groundless, false or fraudulent[43]. A litigation cost and expenses clause will specify whether costs and expenses payable by insurers are included within the limit of indemnity or not. If this is the case, this is effectively a reduction of the cover.

The risk excluded by the product liability policies vary from one insurer to the other. Lot of negotiation goes into those exclusion clauses. Usually risks are excluded because they are covered or can be covered by other policies (eg. employment liability/liability for damage to the product itself); because the risk is a hazardous one or one which the insurer is not prepared to cover without making further underwriting enquiries

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[42]Margo, op. cit., at 184. This is also called grounding or sistership liability; For an underwriter's comment on the grounding liability cover see Graham Lilley, in SBAC - Product Liability Seminar 1987, op. cit., at 58.

[43]Margo, op.cit., at 184.

(eg. contractual liability/exports to the USA or Canada) or because the risk is uninsurable (eg. war risks, noise and pollution, radioactive contamination, electrical and electromagnetic interference)[44].

c) limitations of cover

Policies are usually issued for one year. On the renewal date, they are normally renewed for a further year. The terms[45] of the policy may be changed during the renewal negotiations. Aviation products liability cover will normally be written on a 'losses occurring basis'[46] as opposed to 'claims made'[47] policies. The insurer is thus on risk for goods which may have been sold or supplied before he issued his policy, provided the injury or damage takes place during the currency of his policy. Conversely

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[44]See for discussion of exclusions in general: P. Madge, op.cit., ch. 30, at 200; In the ABC and SBAC schemes: Margo, op.cit., at 184.

[45]Rates, limits, policy conditions and exclusions.

[46]See AVN 66: the insuring agreement states that the insurers agree to indemnify the insured in respect of an occurrence or a grounding resulting from an occurrence which takes place during the policy period and which arises out of the products hazard. The term 'occurrence' is defined in the policy as "an accident which is neither expected or intended including injurious exposure to conditions (other than grounding) occurring during the policy period and which arises out of the products hazard and causes bodily injury including care and loss of services, sickness or disease, including death at any time resulting therefrom, or damage to or destruction of property, including the loss of use thereof. A series of related occurrences shall be treated as a single occurrence hereunder."

[47]Here the criterion for the policy to apply is the actual claim by the insured. This clearly limits the extent of cover in the future. The insurer however is exposed to the preceding risk, i.e. losses caused and having occurred before inception of the cover without a claim having already been made against the insured. See Products Liability - Risk and Coverage, 1st. Part, (Zurich: Swiss Reinsurance Company, 1976) 52.

the underwriter is not on risk for injury or damage caused by goods which take place after his policy has lapsed, even though the policy may have been in force at the time the goods were manufactured or put into circulation[48].

Cover can also be geographically[49] limited. In the F16 scheme mentioned above we have seen that the products liability is covered worldwide but only in respect of the products manufactured by the non-american participants to the program. Sometimes when manufacturers have branches in the USA or Canada the product liability of products manufactured there will be specifically excluded. It is however possible to arrange a 'master policy' covering all the insured's activities on a worldwide basis. In most local territories, however, the policy will be issued to the locally domiciled subsidiary to provide local day-to-day service or to comply with local legislation[50].

Over the years there is a constant trends towards ever higher cover limits. The maximum available limits depend on available capacity worldwide and the insurance needs of the insureds. In the case of the major risks the cover is frequently splitted into

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[48]Magde, op. cit., at 195.

[49]See Rapport sur L' Assurance RC Produits II, Comité Européen des Assurances - Groupe de Travail R.C. Générale (Paris, 1976) Ch. 4 Limitations Territoriales de la Garantie, p. 29; Products Liability - Risk and Coverage, op.cit., at 46; See also supra: Hague Convention on the Law applicable to products liability of 1973 at II.B.3.

[50]Madge, op.cit, at 197.

several layers which are placed in various markets[51]. For the insurance period 1991/1992 the Boeing policy had a first layer up to 350 million USD, a second layer of 950 million USD up to 1.300 million USD, and a third layer of 200 million USD up to 1.500 million USD. With such big limits of liability the risk are shared among many co-insurers in the various markets worldwide. Insurers also use 'aggregate' limits for any one period of insurance to protect themselves and their reinsurers. This means that the cover is not a limit of indemnity for any one accident[52]. If the total claims against the insured exceed the aggregate limit, claims in excess of the aggregate limit must be met by the insured himself. Certain policies may also contain deductibles. They will specify an amount or a percentage of each claim for which the insured is responsible before the insurer's liability to indemnify will comes into operation[53].

Note: The Aecma Products Catastrophe Scheme[54]

During the consultations leading to the draft EEC Products Liability Directive and the Strasbourg Convention 1977 an Aecma Working Group on Products Liability presented on October 26, 1977 its final report to their national Government Departments concerned. A request that an inter-Governmental joint Government/Industry Working Party would be established to

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[51]Products Liability - Risk and Coverage, op.cit., at 41.

[52]See Madge, op. cit., at 198; Products Liability - Risk and Coverage, op. cit., at 42.

[53]See Margo, op.cit., at 72.

[54]Aecma, Products Liability - Catastrophe Scheme, October 1977, Recommendation Number CE/RC/77/7008/O and E.

consider the 'products liability' of the aerospace industry was joined to their report. This was some months after the Tenerife Disaster of 27th March 1977. A KLM B747 had struck a taxying Pan Am B747 during take-off at Santa Cruz Airport, destroying both aircraft by fire and resulting in 578 fatalities. At that time in the USA the Anderson Bill[55], or the proposed "Air Travel Protection Act of 1977", was discussed in order to cope with so-called "extraordinary aircraft occurrences" were it was feared that insurance protection would not suffice to compensate the victims. The Aecma Scheme, later renamed "Aecma - Consumer Protection Scheme", is in essence a means of providing a "last resort" protection for the member companies of AECMA in the event that claims against those companies, arising out of a catastrophe or a series of catastrophes, exceed the reasonable amount of cover of individual companies or the total capacity of the Aviation Insurance Market. It provides that above a defined catastrophe level, to be determined by the government(s) involved, the financial consequences of the accident should be exclusively regulated by a new regime. This regime would consist of a channelled or unified liability for all co-liable parties: carriers, manufacturers, etc... The claims would be paid by the relevant insurance markets, up to the available insurance level. Above that level a government indemnification would intervene[56]. This scheme has been discussed in November 1986 again, with other

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[55]H.R. 7298.

[56]See Aecma Report, op.cit., at 12.

alternatives[57], at a meeting of the Aecma Product Liability Working Group with representatives from European Governments. It is doubted that this proposed scheme will ever be adopted.

5. Underwriting procedures

a. Assessing the risk

The complexity and high risk exposure related to the insurance of aviation products liability requires on behalf of the insurers an individual risk assessment[58] based on full knowledge of all relevant facts. This is usually done by asking the manufacturers to complete detailed proposal forms[59]. Those forms sometimes contain a specific questionnaire in respect of exports to the USA/Canada. If needed surveys are conducted on behalf of the underwriters at the manufacturer's premisses. The main features which will be taken into account are: the type of product and the dangers attaching to it, the manufacturing process and the conditions of sale, the past record of claims[60], the total turnover[61], the experience of the manufacturer in the business,

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[57]For example a Convention along the lines of the Warsaw Convention limiting the liability of aerospace manufacturers!

[58]See Comité Européen des Assurances, Rapport sur L' Assurance RC Produits II, op.cit., Ch. 3 at 16; Products Liability - Risk and Coverage, op. cit., at 38.

[59]See for a specimen proposal form: P. Madge, op.cit., Appendix B at 231; See also David S. McCollum, Liability Insurance (London: The CII Tuition Service Study Course 220), Ch. 8.

[60]Usually claims experience is required over the last 5 years in terms of number and cost.

[61]Turnover will normally be divided per type of products eg. aviation (military, non-military) / space and per geographical area eg. Europe / USA-Canada.

the limit of cover required. Sometimes, the insurers will seek an expert opinion on the information received. They will compare the individual claims experience of the manufacturer to statistical information, if available.

b. Rating

The premium charged is usually based on total turnover of the business and frequently differential rates of premium are charged on products exported to USA-Canada and on the home sales. The rate is expressed as a figure pro mille on the turnover. Normally a minimum and deposit premium will be calculated on the projected turnover of the year. When the actual turnover is known a premium adjustment will be charged. As opposed to other products no tariffs[62] exist for aerospace products. Companies calculate their premiums from case by case, based sometimes on internal premium guidelines, their assessment of the individual risk and the state of the market[63].

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[62]During the negotiation process of the EC Directive on Products Liability the Comité Européen des Assurance produced an indication of guide rates for selected products as a result of the introduction of the Directive. For example: domestic appliances 0.60 - 3.00 per mille; motor cars 1.50 - 3.00 per mille; see Gordon Sanders, Product Liability - Insuring against the risk, op. cit., p. 28; for the rating practice in the USA see: Products Liability - Insuring against the Risk, op.cit.,n° 5.2.5. at 39 and Department of Commerce Report on Product Liability Insurance Ratemaking: Executive Summary, Conclusions and Recommendations, (1980) Insurance Law Journal 578.

[63]See Products Liability - Risk and Coverage, op. cit., at 39; David McCallum, op.cit., at 8/4; Comité Européen des Assurances, op.cit., at 21; Müller-Rostin, op.cit., at 214; For a comparative summary of major aviation product liability renewals from 1984 to 1991 specifying the Leader of the policies, the limits and the premiums in USD see Aerospace Review, op.cit., Appendix.

6. Claims handling

An international airline accident involving many casualties will always get maximum publicity and the public reputation of all potential defendants will depend largely on the efficient and speedy indemnification of the victims. In the following lines we will only highlight the peculiarities of the defense of the aviation products manufacturers[64].

a) Accident investigations

In the majority of cases, and almost certainly if a loss of life has been involved, the civil aviation authorities will undertake an investigation to discover the cause and take action where possible to prevent a recurrence. The legal foundation for the technical investigation of aircraft accidents is Article 26 of the Chicago Convention[65] and Annex 13 which contains standards and recommended practices[66]. The International Civil Aviation Organization has also issued a Manual on Aircraft Accident Investigation[67] to facilitate the work of investigators and to

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[64]For a general discussion of the handling of aviation claims see: Lee Kreindler, Aviation Accident Law rev'd ed. (New York: Matthew Bender, 1993); Margo, op.cit., Ch. 22; M.J. Spurway, Aviation Law and Claims (London: Witherby, 1992); B.G. Jervis, Aviation Claims (London: The CII Tuition Service, Study Course 200A, 1981, Reprinted 1984).

[65]Convention on International Civil Aviation, signed at Chicago on 7 December 1944, ICAO Doc. 7300/6.

[66]Annex 13 to the Convention on International Civil Aviation, International Standards and Recommended Practices Aircraft Accident Investigation, Seventh edition - May 1988, Reprinted August 1992, Incorporating Amendments 1 to 8.

[67]ICAO (Doc 6920) 4th Edition, 1970. Reprinted September 1989, incorporating Amendments 1-10.

provide a guide for members of investigating teams who may be participating in an investigation within their own territories or those of another Contracting State. National legislation may vary from the standards prescribed by Annex 13 to the Chicago Convention. In this case those Contracting States have the obligation to notify any differences between their regulations and practices and the prescribed standards. In the EEC the Council of the European Communities has adopted on 16 December 1981 Directive 80/1266 'on future co-operation and mutual assistance between the Member States in the field of air accident investigation'[68]. This Directive entered into effect on the first of July 1981 but has had little practical effect so far. In 1989 four studies were commissioned by the Commission[69]. As a follow up the Commission then issued on 04 September 1991 a Communication to the Council on community initiatives concerning Air Transport incidents and accidents[70]. In its conclusion the Commission proposed, among other actions to be taken, the possible creation of a disaster fund[71].

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[68]O.J.E.C. L375 31.12.1980, p. 32; See commentary prepared by John Balfour in Butterworths European Law Service, Air Transport, L121, 15.02.1993.

[69]The reports concerned: 1) the problems raised by the double enquiry into air accidents, 2) co-operation and shared utilization of available resources in aircraft accident investigation, 3) Community air safety information systems and 4) legal problems likely to arise as a result of the implementation of a voluntary reporting system.

[70]C. Sec(91)1419. See Bull. EC-9-1991, p.22.

[71]See supra Note on the Aecma Consumer Protection Scheme.

The insured has a duty to give immediate notice of any event likely to give rise to a claim under his insurance to the person named for that purpose in his policy (usually his broker) who will in turn advise the underwriters. Most policies will specify that such notice shall contain particulars sufficient to identify the Insured and also all reasonably obtainable information respecting the time, date, place and circumstances of the occurrence or grounding[72]. On this basis the underwriters will normally appoint a qualified surveyor[73] to act on their behalf and represent their interests in the investigation. If third party damage has occurred or passengers are involved the underwriters may also instruct lawyers to handle the liability aspects and subrogation issues[74]. Many policies contain clauses specifying which surveyors and lawyers have to be appointed depending on the location of the accident. In case of large risks placed internationally with many co-insurers the insurers may agree among themselves who will be in charge of the claims handling.

b) Manufacturer's participation in the investigation

Where the possibility exists of the airplane itself having contributed to the accident, or even of a claim to this effect to

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[72]See AVN 66 under Conditions: 2. Notice of Occurrence/Grounding.

[73]In aviation products liability claims, the adjuster representing the insurers will possess and advanced knowledge of the manufacturing techniques and materials used in the construction of the aircraft or component in respect of which the claim is being brought; See Margo, op. cit, at 282.

[74]M.J. Spurway, op.cit, at 47.

be made, the manufacturer is likely to participate to the extent it feels necessary to protect and advance its interests. In major airline crash investigations the aircraft manufacturer is invariably a party to the investigation[75]. The manufacturer may be asked by the authorities to perform exhaustive tests and investigations in its facilities, under supervision of officials. In many cases the design criteria and the manufacturing process will be reviewed. The detailed findings and engineering reports are of immeasurable value to the lawyers handling the cases arising out of the accident since the aircraft manufacturer and/or the manufacturer of major components will often be joined in the litigation[76].

c) New approach to claims handling with multiple-defendants

After the difficulties experienced by the parties involved in the DC-10 Paris Crash of March 3, 1974[77] a total different approach was taken in major disasters. Much publicised were the cases resulting from the Tenerife Disaster of March 27, 1977[78]. Here the insurers defending Pan Am and KLM almost immediately

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[75]See Kreindler, op.cit., Vol. 3, Ch. 32.

[76]See Kreindler, op. cit., Vol. 2, Ch. 25.

[77]For a description of difficulties during the litigation resulting from this disaster see: A. Lowenfeld, Aviation Accident Law, 2d. Ed. (New York: Matthew Bender, 1981) at 7.21; As reported by Judge Hall there were 1123 suits filled on behalf of 340 of the 346 occupants. After a deadlock of several years most cases were finally settled. The process took over three years. The total settlement paid in death claims was 62,268,750 USD. The lawyers' fee (for plaintiffs and defendants) are believed to be about 10.5 million USD.

[78]See Gerald C. Stern, "Air crash cases in the United States", N.J. 52 (1977) 1109; also Lowenfeld, op. cit., at 7.22.

established a settlement fund, without waiting for determination of relative responsibility. A 4:3:2:1: sharing formula for contributions to the fund was agreed attributable respectively to the insurers of KLM, Pan Am, the Spanish Government and Boeing. Within three weeks of the accident all the families of the Pan Am Boeing were offered substantial cash compensation by the U.S.A.I.G.[79]. Subsequently comparable offers were made to the families of the KLM passengers, albeit somewhat lower than to the American families. The defense strategy was coordinated with a single lead counsel and a single Defense Fund. Difficult questions as conflict of laws, apportionment of fault, measure of damages were almost completely avoided. By the fall of 1978 three quarters of the claims were settled. Only few cases went to trial on damages only or preliminary issues. As a result of this approach the total cost of the litigation were substantially reduced.

In the fall of 1980 A. Lowenfeld questioned whether this new system would catch up with the "real world"[80]. About ten years later, in June 1990, during the 50th Annual General Meeting of the International Union of Aviation Insurers in Stockholm, the Chairman reported that the funding approach to resolving difficulties seemed to be accepted and well received by insurers

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[79]United States Aviation Underwriters Group. THis company was the primary insurer of the liability insurer for Pan Am.

[80]Lowenfeld, op.cit., at 7-201.

worldwide[81]. He welcomed those arrangements as a positive attempt at reducing the cost of litigation and said that these measures were to be encouraged for the future. The above mentioned recent disasters at Mont St. Odile in France and Bijlmermeer in The Netherlands indicate that this approach works and that the airlines, the manufacturers and their insurers are more and more familiar with these methods[82].

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[81]See Minutes of the Annual General Meeting of the I.U.A.I. held at the Grand Hotel, Stockholm, 5-7 June 1990 [unpublished]; During the AGM of the I.U.A.I. in Williamsburg in 1986 guidelines for claims handling following a major accident with the potential involvement of multi-defendants were brought to the delegate's attention. The stated objective was for the leading aviation insurers 'to co-operate fully in order to compensate innocent third parties, including passengers and their dependents, fully, fairly and as quickly as possible.' A further objective was 'keeping defence and other claims handling costs down to an absolute minimum'. We quote the most important points of the proposed procedure:
Stage 1:(within 48 hr of the accident) The leading insurer in whose area the accident occurred would offer immediate 'first-aid' assistance to the insurer of the airline liability policy responsible for claims control. The airline insurers would then institute post accident procedure, appoint Defence Attorneys, and generally master-mind the fulfillment of insurer's obligations to the airline.
Stage 2:(within 7 days of the accident) Meeting of the leading insurers of the potential defendants to discuss a joint defence. Consideration of a non-aggression pact between all main defendants. Release of a statement to the media indicating that the defendants and their insurers, whilst not admitting liability would not contest any claims for compensatory damages other than with regard to the quantum thereof.
Stage 3:(within 30 days of the accident) Meeting of the leading insurers to arrange the terms and provisional percentages appropriate to a sharing agreement. This would include the funding arrangements and the creation of a settlement fund and the interest figure to be applied in the event that the final percentage differed from the provisional funding percentages.
Stage 4:Frequent liaison and periodic review of the sharing agreement percentages and replenishment of the fund.
Stage 5:Final apportionment between the parties to the sharing agreement as soon as possible.

[82]In the above mentioned JAL disaster of August 12, 1985 the insurers of JAL and Boeing, their respective insureds and co-insureds reached an agreement in January 1987 on the final percentage of contributions to the liability payments and

d) Negotiating a sharing agreement between an operator and manufacturer

We have seen that since the Tenerife disaster a new approach to claims handling has emerged were sharing agreements between insurers are essential. In those agreements the parties will agree to deal with the passenger claims on a cooperative basis. This is only possible when the insurers of the operator and the manufacturer are convinced that there is a need for such sharing agreement for them and their insureds. Factors contributing to this approach could include the early filing of a suit against operator and manufacturer and/or investigation results which imply responsibility on both operator and manufacturer[83].

Ingredients of such agreements would include:

- mutual non-aggression principles
- methods of settlement and funding of passenger claims
- provisions to deal with trials and/or appeals on damages
- apportionment of claims and expenses between the parties and means for determining final apportionment if the proportions were provisional
- usually, the exclusion of punitive damages from the agreement
- any formal reservation of rights.

Optional elements could be:

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expenses, covered by an agreement between them of November 13, 1985, whereby the Boeing insurers would pay 82.5% and the JAL insurers would pay 17.5%.

[83]See Harold Caplan, "Negotiation of a sharing agreement between an operator and manufacturer", Notes prepared for the American Bar Association, Section of Tort and Insurance Practice, Aviation and Space Law Committee, Sixth National Institute on Litigation in Aviation, Los Angeles May 5-6, 1987 [unpublished].

- recourse against third parties
- third party claims
- restricting disclosure of the existence and contents of the agreement
- dealing with failure to pay by any party for any reason
- accounting and supervision and treatment of funds
- controlling public statements by any party[84].

e) Compensation of air accident victims

Generally speaking there are for the insurers no more problems involved to compensate passenger liability claims resulting from airline accidents than the customary ones which are inherent in any insurance situation where the insurance policy defines the insurers' exposure as "legal liability". Those policy wordings cover not only claims, which fall within the limits imposed by the law, but also the additional exposure that may result from the carrier's contractual commitments in excess of legal limits or from excess settlement determined by a Court. In practice this covers also out of court settlement made by airlines "ex gratia", but with the insurers consent, to avoid adverse publicity[85].

Elements sought will be the identity of the passenger, his contract of carriage with the carrier, if any, as evidenced by

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[84]See Harold Caplan, op. cit., at 2.

[85]See Sven Brise, "Study on the Status and Future of the Warsaw System", Submitted to the Commission of Air Transport of the International Chamber of Commerce in December 1988 [unpublished] at 49.

his passenger ticket, the regime of liability under which he is to be compensated, the nature and extent of his injuries, the cause of such injuries, reports from medical practitioners detailing the nature and extent of treatment required, the prospect of recovery and the nature of any permanent disability. Personal information will also be obtained about the passenger's age, occupation, and salary. In the case of a deceased passenger details of his occupation, salary, prospects for promotion, and dependents will be gathered[86]. Each and every case must be decided on the facts and a particular set of circumstances.

When another co-liable party like the manufacturer of the aircraft is involved specific problems arise. As discussed, the liability of the aircraft or aircraft component manufacturer is not subject to any limit worldwide. The effect of a "co-liability" situation is, that the protective value that limits might otherwise have had to the airline involved is wiped out. Insurers will have to allocate the aggregate loss between several parties with different insurance policies[87]. We have seen that the market leaders of those policies will tend to conclude a sharing agreement whereby the respective liabilities of their insureds will be apportioned and a settlement fund will be set up.

The compensation actually paid to the victims or their next of kin is the result of an individual negotiation or Court decision

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[86]See Margo, op.cit., at 281.

[87]See Sven Brise, op.cit., at 50.

and varies from jurisdiction to jurisdiction, from court to court, and even within the same court, from judge to judge[88]. It will reflect the living standards but also the basic social and legal structure of the societies involved[89]. In difficult cases settlements are reached on so-called 'transatlantic' or 'transpacific' figures.

When the quantum of damages has been agreed an alternative to 'lump sum compensation' can be agreed: e.g. a structured settlement. A structured settlement makes use of one or more annuities bought at the time of settlement from a life insurance company but so structured as to give periodic payments[90]. This form of settlement originated from the U.S.A. in the aftermath of the Thalidomide cases during the 1960 's. For the defendants the costs of providing for future needs using annuities is lower than lump sum compensation. For the plaintiffs security and favorable tax treatment are important advantages. In the recent aviation disasters structured settlement have also been negotiated in the London market. They are very advantageous in cases involving

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[88]See A. Tobolewski, Monetary Limitations of Liability in Air Law (Montreal: De Daro Publishing, 1986) at 52 and 124; P. Jacobs and B.F. Kiker, "Accident Compensation for Airline Passengers: An Economic Analysis of Liability Rules under the Warsaw Convention" (1986) 51 J.A.L.C. 589 at 605.

[89]For the USA see: James S. Kakalik et al., Costs and Compensation Paid in Aviation Accident Litigation, Rand Corporation, Institute of Civil Justice (Santa Monica: Rand Corporation, 1988); For the twelve EEC countries see: David McIntosh and Marjorie Holmes, Personal Injury Awards in the EC Countries - An Industry Report (London: Lloyd's of London Press, 1990).

[90]M.J. Spurway, Aviation Law and Claims, op. cit., at 58.

severe disability, mental incompetency, financial ineptitude and minors.

B. Reinsurance

We have seen that aviation products liability insurance is a large industrial risk which requires a special technique for placing. The risk is spread internationally by way of co-insurance[91][92][93] among the specialist aviation insurers. They in turn need the support from the reinsurance market to limit their own exposure and balance their accounts. In the limited scope of this study we will only briefly touch upon specific aspects of aviation products liability[94].

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[91]See supra III.A.1.

[92]Since the London market remains of paramount importance as reinsurance market but also as specialist direct insurance market attention should be paid to the evolutions towards a common market in insurance in the EEC. For a discussion see William Pool, "Moves towards a Common Market in Insurance" (1984) C.M.L.R. 123; L' Assurance et la C.E.E. - Introduction générale à son cadre légal et réglementaire (Bruxelles: U.P.E.A., 1990).

[93]On 22.06.1988 the EEC Council has issued the so-called Second non-life Directive. EEC Council Directive 88/357 (O.J.E.C. L 172/11 of 04.07.1988 forms part of the programme for completion of the internal market. It came into force on 1 July 1990. According to this Directive the insurers of "large risks" can offer cross-border services without local authorization, and do not have to seek approval of policy conditions and premium rates. The definition of "large risks" in Article 5 of the Directive appears to include air transport services and the insurance of aviation products liability.

[94]For a more detailed discussion on aviation reinsurance in general see: Margo, op. cit, Ch. 22; R.L. Carter, Reinsurance, 2d. Ed. (Brentford: Kluwer Publishing, 1983), Ch. 12.II at 457; Klaus Gerathewohl, Reinsurance - Principles and Practice, Vol. II (Karlsruhe: Verlag Versicherungswirtschaft e.V., 1982), Ch. 20 at 433.

As noted by Sven Brise[95], the aviation insurers have become increasingly dependent on reinsurance, particularly since the aviation insurance business itself has been too competitive to generate the funds which would have been required for retaining mounting risk exposures for own account. As a result the aviation insurance market has become more closely interlinked to other branches of insurance which are supported by the same catastrophe reinsurance market. They are therefore greatly influenced by the general willingness of the non-aviation specialists to supply reinsurance capacity in branches which, in their opinion, are of marginal importance. Airline liability and aviation products liability rates are thus nowadays more influenced by changes in the availability and pricing of excess liability insurance coverage, than of actuarially calculated changes in aviation risk exposure. The erratic 'reactive' pattern of the rate cycles is largely explicable by this fact.

There are considerable differences between companies engaged in the underwriting of aviation business. Their reinsurance programmes therefore vary considerably. Generally companies operating in the major international markets tend to divide their aviation business into separate accounts e.g. hull and liability combined, products liability, hull war risks, excess of loss reinsurances, personal accident insurances etc... Typically separate reinsurance arrangements are made to protect each

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[95]Sven Brise, Study on the Status and Future of the Warsaw System, op. cit., at 37.

account[96]. The major share is reinsured by obligatory treaties. Different variants are:

- quota share treaties
- surplus treaties
- catastrophe excess of loss treaties

Facultative reinsurance is also of great importance. It serves to cover risks which either exceed the capacity of an obligatory treaty or which, as special risks, are excluded from the scope of the obligatory cover[97].

For purposes of reinsurance an crucial concept is the 'accumulation of policies'. An aviation risk will comprise the hull, third party liability, hull war, cargo legal liability policies and personnel accident covers for passenger and crew. When the manufacturer of the aircraft involved or a major component is sued or faces the threat of a legal action the loss resulting from the accumulation of all the policies involved is increased. Generally the reinsurer will be aware of the accumulation and the elements contributing to it, even if he is not involved in all the policies (known accumulation). Fortuitous and unforeseeable concurrence of several risks in one and same occurrence (unknown accumulation) have to be considered as well.

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[96]See Carter, op. cit., at 460.

[97]See Gerathewohl, op. cit., at 445.

In case of loss the claims are handled by the direct underwriter not only on his own behalf but on that of his reinsurers as well according to the 'follow the fortunes' principle. Settlement will then be done in accordance with a full reinsurance clause[98]. In the London market variations to this principle are possible. With the Claims Cooperation Clause[99] the negotiation and settlement of the claim is left in the hands of the reinsured underwriter. He must however advice his reinsurers within a specific period of any loss or losses and cooperate with them in the adjustment and settlement thereof. In case of a Claims Control Clause[100] the reinsurer will take control of all negotiations and settlements. He will then act both on his own part and on that of the reinsured underwriter[101].

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[98]See N.M.A. Clause 416 of 3.06.1943 "Reinsurance Warranty Clause (/full R/I. Clause N° 1)" reprinted in Spurway, op. cit., at 59.

[99]AV 21.

[100]AV 25.

[101]See Spurway, op. cit., at 59.

IV. Conclusion

The adoption, and still incomplete implementation in the national legislation of the Member States, of the European Directive on Liability for Defective Products (Council Directive 85/374) and the European General Product Safety Directive (Council Directive 92/59) is, for the time being, the culmination of the legislative activities at the EEC and at the national level in order to impose some form of strict liability in case of loss resulting from defective products. The negotiation process was very long and intense lobbying was done by many actors. The two key issues have undoubtedly been the development risk and the limits of liability. Many industry spokesmen have argued that the industry would be unable to carry the cost of the product liability reform. In all sectors of the industry fears of unavailability, or too costly product liability insurance were raised. During the consultation phase of the European Directive on Liability for Defective Products the economic effects were much discussed[102]. The Comité Européen des Assurances (CEA) has been able to estimate the amount of premiums payable in 35 different sectors of the European industry. It officially informed the Commission the European Communities that abolishing the limit of liability would have no effect on costs. On the premisses that development risks were excluded, and that an excess which would exclude cover for minor material damage the estimates were that there would be a limited increase in premiums

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[102]See Discussion paper on the economic consequences of the draft product liability Directive of 25.05.1984, Commission of the European Communities, SEC(84) 832.

up to maximum 0.013% on turnover. The Directive does not mention insurance at all, but is clearly predicated on the availability and the affordability of product liability insurance. Today this still holds true[103].

The review of the status of the implementation of the Directive in national legislation, including the draft legislation in France and Spain, shows that on the issue of development risks 10 out of 12 Member States have chosen not to exclude the "state of the art" defense. Only Luxembourg did. Spain is believed to exclude it only with respect to food and pharmaceutical products. On the issue of limit of liability only 3 Member States (Greece, Portugal and Germany) took this option. Spain is likely to follow.

The effect of the Directive in European product liability litigation today is difficult to judge. It is still too early to see it in reported case law in view of the long time the Member States took to translate the Directive into their national legislation. Most commentators agree that Europe will not see an equivalent of a US product liability crisis. The main reason of that has more to do with social attitudes and the structure of the legal environment than with the lack of legal remedies[104].

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[103]See for example the articles written by John Cowell, Deputy Secretary General, Comité des Assurances: "Insurance: The Silent Partner - Will the Directive bring changes?" Product Liability International, September 1986 at 140 and "The European Product Liability Directive - Some first impressions" Product Liability International, August 1985 at 114.

[104]See Neil McGilchrist, "The EEC Directive on product liability" Lloyd's Aviation Law, February 1, 1988, 1 at 3.

In addition to the existing remedies which existed prior to the Directive the consumers have now, together with the 1968 Brussels Convention on Jurisdiction and Enforcement of Judgments in Civil and Commercial Matters, a more or less uniform system of Products Liability Law which can be readily enforced in whatever is the most convenient jurisdiction to the plaintiff.

Despite its efforts, the European Aerospace Industry did not succeed to be kept outside the scope of the Products Liability Directive. Aircraft manufacturing is a very regulated activity and closely scrutinized by the Governments through the certification process. Harmonization in this field at the European level is being done through the efforts of the Joint Aviation Authorities. Aircraft manufacturers are not protected like the operators by the limited liability regimes of the 1929 Warsaw Convention (liability to passengers, baggage and cargo)[105] and the 1952 Rome Convention (damage caused by foreign aircraft to third parties on the surface)[106]. Will victims of aviation accidents with the Directive find it easier to sustain a cause of action against the aircraft manufacturer[107]? We think that this question must be answered in a balanced way. Whilst it is true that a new strict liability regime has been created by law in addition to the existing product liability regimes, a 'de

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[105]As the case may be: as amended by the 1955 Hague Protocol, in combination or not with the 1966 Montreal Intercarrier Agreement or increased limits following the so-called 1974 Malta Agreement.

[106]As amended by the 1978 Montreal Protocol.

[107]See Colm Mannin, "The effects in aviation of the EEC Directive on product liability" (1986) Air Law 248.

facto' strict liability regime existed already in most Member States via liberal interpretations by the courts. Manufacturers still have in most Member States the possibility to invoke the "state of the art" defense and the compliance with mandatory regulations. As indicated difficult questions of interpretation will undoubtedly arise with respect to important terms of the Directive as who is the 'producer', the notion of 'defect', 'compliance with mandatory regulations'. Increased claims consciousness will certainly result in additional defense costs for the manufacturers and their insurers.

Even now in times of a 'hardening' aviation insurance market capacity to cover airline hulls and liabilities and aviation products manufacturers remain readily available and affordable. The view is widely held that at present the markets can provide whatever covers clients are likely to call for.

(August 1993)

Appendix: EEC Directive 85/374 of 25 July 1985

COUNCIL DIRECTIVE

of 25 July 1985

on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products

(85/374/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission (1),

Having regard to the opinion of the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas approximation of the laws of the Member States concerning the liability of the producer for damage caused by the defectiveness of his products is necessary because the existing divergences may distort competition and affect the movement of goods within the common market and entail a differing degree of protection of the consumer against damage caused by a defective product to his health or property;

Whereas liability without fault on the part of the producer is the sole means of adequately solving the problem, peculiar to our age of increasing technicality, of a fair apportionment of the risks inherent in modern technological production;

Whereas libility without fault should apply only to movables which have been industrially produced; whereas, as a result, it is appropriate to exclude liability for agricultural products and game, except where they have undergone a processing of an industrial nature which could cause a defect in these products; whereas the liability provided for in this Directive should also apply to movables which are used in the construction of immovables or are installed in immovables;

Whereas protection of the consumer requires that all producers involved in the production process should be made liable, in so far as their finished product, component part or any raw material supplied by them was defective; whereas, for the same reason, liability should extend to importers of products into the Community and to persons who present themselves as producers by affixing their name, trade mark or other distinguishing feature or who supply a product the producer of which cannot be identified;

Whereas, in situations where several persons are liable for the same damage, the protection of the consumer requires that the injured person should be able to claim full compensation for the damage from any one of them;

whereas, to protect the physical well-being and property of the consumer, the defectiveness of the product should be determined by reference not to its fitness for use but to the lack of the safety which the public at large is entitled to expect; whereas the safety is assessed by excluding any misuse of the product not reasonable under the circumstances;

Whereas a fair apportionment of risk between the injured person and the producer implies that the producer should be able to free himself from liability if he furnishes proof as to the existence of certain exonerating circumstances;

Whereas the protection of the consumer requires that the liability of the producer remains unaffected by acts or omissions of other persons having contributed to cause the damage; whereas, however, the contributory negligence of the injured person may be taken into account to reduce or disallow such liability;

Whereas the protection of the consumer requires compensation for death and personal injury as well as compensation for damage to property; whereas the latter should nevertheless be limited to goods for private use or consumption and be subject to a deduction of a lower threshold of a fixed amount in order to avoid litigation in an excessive number of cases; whereas this Directive should not prejudice compensation for pain and suffering and other non-material damages payable, where appropriate, under the law applicable to the case;

Whereas a uniform period of limitation for the bringing of action for compensation is in the interests both of the injured person and of the producer;

(1) OJ No C 241, 14. 10. 1976, p. 9 and OJ No C 271, 26. 10. 1979, p. 3.
(2) OJ No C 127, 21. 5. 1979, p. 61.
(3) OJ No C 114, 7. 5. 1979, p. 15.

Whereas products age in the course of time, higher safety standards are developed and the state of science and technology progresses, whereas, therefore, it would not be reasonable to make the producer liable for an unlimited period for the defectiveness of his product, whereas, therefore, liability should expire after a reasonable length of time, without prejudice to claims pending at law;

Whereas, to achieve effective protection of consumers, no contractual derogation should be permitted as regards the liability of the producer in relation to the injured person;

Whereas under the legal systems of the Member States an injured party may have a claim for damages based on grounds of contractual liability or on grounds of non-contractual liability other than that provided for in this Directive; in so far as these provisions also serve to attain the objective of effective protection of consumers, they should remain unaffected by this Directive; whereas, in so far as effective protection of consumers in the sector of pharmaceutical products is already also attained in a Member State under a special liability system, claims based on this system should similarly remain possible;

Whereas, to the extent that liability for nuclear injury or damage is already covered in all Member States by adequate special rules, it has been possible to exclude damage of this type from the scope of this Directive;

Whereas, since the exclusion of primary agricultural products and game from the scope of this Directive may be felt, in certain Member States, in view of what is expected for the protection of consumers, to restrict unduly such protection, it should be possible for a Member State to extend liability to such products;

Whereas, for similar reasons, the possibility offered to a producer to free himself from liability if he proves that the state of scientific and technical knowledge at the time when he put the product into circulation was not such as to enable the existence of a defect to be discovered may be felt in certain Member States to restrict unduly the protection of the consumer; whereas it should therefore be possible for a Member State to maintain in its legislation or to provide by new legislation that this exonerating circumstance is not admitted; whereas, in the case of new legislation, making use of this derogation should, however, be subject to a Community stand-still procedure, in order to raise, if possible, the level of protection in a uniform manner throughout the Community;

Whereas, taking into account the legal traditions in most of the Member States, it is inappropriate to set any financial ceiling on the producer's liability without fault; whereas, in so far as there are, however, differing traditions, it seems possible to admit that a Member State may derogate from the principle of unlimited liability by providing a limit for the total liability of the producer for damage resulting from a death or personal injury and caused by identical items with the same defect, provided that this limit is established at a level sufficiently high to guarantee adequate protection of the consumer and the correct functioning of the common market;

Whereas the harmonization resulting from this cannot be total at the present stage, but opens the way towards greater harmonization; whereas it is therefore necessary that the Council receive at regular intervals, reports from the Commission on the application of this Directive, accompanied, as the case may be, by appropriate proposals;

Whereas it is particularly important in this respect that a re-examination be carried out of those parts of the Directive relating to the derogations open to the Member States, at the expiry of a period of sufficient length to gather practical experience on the effects of these derogations on the protection of consumers and on the functioning of the common market,

HAS ADOPTED THIS DIRECTIVE:

Article 1

The producer shall be liable for damage caused by a defect in his product.

Article 2

For the purpose of this Directive 'product' means all movables, with the exception of primary agricultural products and game, even though incorporated into another movable or into an immovable. 'Primary agricultural products' means the products of the soil, of stock-farming and of fisheries, excluding products which have undergone initial processing. 'Product' includes electricity.

Article 3

1. 'Producer' means the manufacturer of a finished product, the producer of any raw material or the manufacturer of a component part and any person who, by putting his name, trade mark or other distinguishing feature on the product presents himself as its producer.

2. Without prejudice to the liability of the producer, any person who imports into the Community a product for sale, hire, leasing or any form of distribution in the course of his business shall be deemed to be a producer within the meaning of this Directive and shall be responsible as a producer.

3. Where the producer of the product cannot be identified, each supplier of the product shall be treated as its producer unless he informs the injured person, within a reasonable time, of the identity of the producer or of the person who supplied him with the product. The same shall apply, in the case of an imported product, if this product does not indicate the identity of the importer referred to in paragraph 2, even if the name of the producer is indicated.

Article 4

The injured person shall be required to prove the damage, the defect and the causal relationship between defect and damage.

Article 5

Where, as a result of the provisions of this Directive, two or more persons are liable for the same damage, they shall be liable jointly and severally, without prejudice to the provisions of national law concerning the rights of contribution or recourse.

Article 6

1. A product is defective when it does not provide the safety which a person is entitled to expect, taking all circumstances into account, including:

(a) the presentation of the product;

(b) the use to which it could reasonably be expected that the product would be put;

(c) the time when the product was put into circulation.

2. A product shall not be considered defective for the sole reason that a better product is subsequently put into circulation.

Article 7

The producer shall not be liable as a result of this Directive if he proves:

(a) that he did not put the product into circulation; or

(b) that, having regard to the circumstances, it is probable that the defect which caused the damage did not exist at the time when the product was put into circulation by him or that this defect came into being afterwards; or

(c) that the product was neither manufactured by him for sale or any form of distribution for economic purpose nor manufactured or distributed by him in the course of his business, or

(d) that the defect is due to compliance of the product with mandatory regulations issued by the public authorities; or

(e) that the state of scientific and technical knowledge at the time when he put the product into circulation was not such as to enable the existence of the defect to be discovered; or

(f) in the case of a manufacturer of a component, that the defect is attributable to the design of the product in which the component has been fitted or to the instructions given by the manufacturer of the product.

Article 8

1. Without prejudice to the provisions of national law concerning the right of contribution or recourse, the liability of the producer shall not be reduced when the damage is caused both by a defect in product and by the act or omission of a third party.

2. The liability of the producer may be reduced or disallowed when, having regard to all the circumstances, the damage is caused both by a defect in the product and by the fault of the injured person or any person for whom the injured person is responsible.

Article 9

For the purpose of Article 1, 'damage' means:

(a) damage caused by death or by personal injuries;

(b) damage to, or destruction of, any item of property other than the defective product itself, with a lower threshold of 500 ECU, provided that the item of property:

(i) is of a type ordinarily intended for private use or consumption, and

(ii) was used by the injured person mainly for his own private use or consumption.

This Article shall be without prejudice to national provisions relating to non-material damage.

Article 10

1. Member States shall provide in their legislation that a limitation period of three years shall apply to proceedings for the recovery of damages as provided for in this Directive. The limitation period shall begin to run from the day on which the plaintiff became aware, or should reasonably have become aware, of the damage, the defect and the identity of the producer.

2. The laws of Member States regulating suspension or interruption of the limitation period shall not be affected by this Directive.

Article 11

Member States shall provide in their legislation that the rights conferred upon the injured person pursuant to this Directive shall be extinguished upon the expiry of a period of 10 years from the date on which the producer put into circulation the actual product which caused the damage, unless the injured person has in the meantime instituted proceedings against the producer.

Article 12

The liability of the producer arising from this Directive may not, in relation to the injured person, be limited or excluded by a provision limiting his liability or exempting him from liability.

Article 13

This Directive shall not affect any rights which an injured person may have according to the rules of the law of contractual or non-contractual liability or a special liability system existing at the moment when this Directive is notified.

Article 14

This Directive shall not apply to injury or damage arising from nuclear accidents and covered by international conventions ratified by the Member States.

Article 15

1. Each Member State may:

(a) by way of derogation from Article 2, provide in its legislation that within the meaning of Article 1 of this Directive 'product' also means primary agricultural products and game;

(b) by way of derogation from Article 7 (e), maintain or, subject to the procedure set out in paragraph 2 of this Article, provide in this legislation that the producer shall be liable even if he proves that the state of scientific and technical knowledge at the time when he put the product into circulation was not such as to enable the existence of a defect to be discovered.

2. A Member State wishing to introduce the measure specified in paragraph 1 (b) shall communicate the text of the proposed measure to the Commission. The Commission shall inform the other Member States thereof.

The Member State concerned shall hold the proposed measure in abeyance for nine months after the Commission is informed and provided that in the meantime the Commission has not submitted to the Council a proposal amending this Directive on the relevant matter. However, if within three months of receiving the said information, the Commission does not advise the Member State concerned that it intends submitting such a proposal to the Council, the Member State may take the proposed measure immediately.

If the Commission does submit to the Council such a proposal amending this Directive within the aforementioned nine months, the Member State concerned shall hold the proposed measure in abeyance for a further period of 18 months from the date on which the proposal is submitted.

3. Ten years after the date of notification of this Directive, the Commission shall submit to the Council a report on the effect that rulings by the courts as to the application of Article 7 (e) and of paragraph 1 (b) of this Article have on consumer protection and the functioning of the common market. In the light of this report the Council, acting on a proposal from the Commission and pursuant to the terms of Article 100 of the Treaty, shall decide whether to repeal Article 7 (e).

Article 16

1. Any Member State may provide that a producer's total liability for damage resulting from a death or personal injury and caused by identical items with the same defect shall be limited to an amount which may not be less than 70 million ECU.

2. Ten years after the date of notification of this Directive, the Commission shall submit to the Council a report on the effect on consumer protection and the functioning of the common market of the implementation of the financial limit on liability by those Member States which have used the option provided for in paragraph 1. In the light of this report the Council, acting on a proposal from the Commission and pursuant to the terms of Article 100 of the Treaty, shall decide whether to repeal paragraph 1.

Article 17

This Directive shall not apply to products put into circulation before the date on which the provisions referred to in Article 19 enter into force.

Article 18

1. For the purposes of this Directive, the ECU shall be that defined by Regulation (EEC) No 3180/78 (1), as amended by Regulation (EEC) No 2626/84 (2). The equivalent in national currency shall initially be calculated at the rate obtaining on the date of adoption of this Directive.

2. Every five years the Council, acting on a proposal from the Commission, shall examine and, if need be, revise the amounts in this Directive, in the light of economic and monetary trends in the Community.

(1) OJ No L 379, 30. 12. 1978, p. 1.
(2) OJ No L 247, 16. 9. 1984, p. 1.

Article 19

1. Member States shall bring into force, not later than three years from the date of notification of this Directive, the laws, regulations and administrative provisions necessary to comply with this Directive. They shall forthwith inform the Commission thereof (1).

2. The procedure set out in Article 15 (2) shall apply from the date of notification of this Directive.

Article 20

Member States shall communicate to the Commission the texts of the main provisions of national law which they subsequently adopt in the field governed by this Directive.

Article 21

Every five years the Commission shall present a report to the Council on the application of this Directive and, if necessary, shall submit appropriate proposals to it.

Article 22

This Directive is addressed to the Member States.

Done at Brussels, 25 July 1985.

For the Council

The President

J. POOS

(1) This Directive was notified to the Member States on 30 July 1985.

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