CONTEMPORARY MEDICAL CERTIFICATION

P. V. Siegel, M.D.
Chief, Aeromedical Certification Division
Aviation Medical Service
Federal Aviation Agency

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One of the major missions of the Federal Aviation Agency is the promotion of Aviation Safety.

This mission is of primary concern to the Aviation Medical Service. Under the direction of the Civil Air Surgeon, the Aeromedical Certification Division is specifically charged with the responsibility to plan, direct and supervise the operation of an airman medical examination system.

On June 15, 1962, the Aeromedical Certification Division relocated from Washington, D. C. to Oklahoma City where we work in a close relationship with the Aeromedical Research Division and the Aeromedical Standards Division to accomplish our mission.

The Aeromedical Certification Division is one of the most important divisions of the entire Agency. It is the only division in the Agency with which every active airman has a regular and required contact.

Historically, the problem of medical certification of airmen has not changed drastically since Dr. Louis Bauer resigned his commission in the Medical Corps of the United States Army in November 1926 to become the first Medical Director of the then new Aeronautics Branch of the Bureau of Air Commerce.

The problems were then three-fold:

1. Convincing the powers-that-be that Aviation Medicine is a distinct speciality;

2. Formulating physical standards for the medical certification of civil airmen;

3. Selection of qualified physicians to conduct the examination.

Dr. Bauer, the first disciple of aviation medicine--and there are indications that he had to do considerable crying in the wilderness. He recognized the exacting requirements of this new field--or specialty of aviation medicine--and realized that although the physician may be fully qualified in his particular field of medicine, with few exceptions most needed additional training in aviation medicine.

Those of us who are today concerned with the medical certification of pilots are still confronted with the problem of convincing a segment of the aviation industry and the flying public that we have something worthwhile--that aviation medicine is and can be important to them in many ways: safety-wise, economic wise, engineering-wise.

While it is true the examination required has become more detailed and complete over the years, the actual standards have basically changed little. For instance, visual requirements have remained constant--20/20--as have standards for hearing, blood pressure, pulse, etc., except for minor changes, and these have all been to the benefit of the airman.

Although the strictly medical factors pertaining to the medical certification of airmen have remained with little change, the problem of numbers of airmen to be certified has increased tremendously (Table 1). Our records go back to 1928 when 13,705 applications were processed.

Through the 1930's there was a steady increase in the airman population and in 1939 our records indicate 73,212 applications were recorded.

World War II gave aviation in general a tremendous boost. During the decade of the forties applications reached a peak in 1948 when 233,438 were received. We believe this peak was reached because many service pilots returned to civilian life and validated their airman certificate by obtaining a medical certificate. However, many were unable to continue active in aviation and by 1950 the number of applications had decreased to 150,680.

Since the 1950's there has been a gradual steady increase in the airman population and in 1961 the Aviation Medical Service processed 239,542 applications. In calendar 1962 we anticipate 260,000 applications.

Medicine is not an exact science--it cannot be practiced by the numbers. Therefore, there are many functions of the flight surgeon which are difficult to define or substantiate to the satisfaction of everyone concerned.

If we are called upon to present valid statistics that an airman with a particular condition is a hazard--or a greater hazard to the safety of flight--than an airman without the condition, we are often hard put to do so and again must fall back into the realm of possibility or probability.

By the very fact that we are a regulatory division we are often viewed askance by the airman. Consequently we do and will always be on the receiving end of criticism--verbal and written brickbats thrown by

individuals and organizations with a dull axe to grind. We accept these as a calculated risk of our business--and accept them with dignity since we do base our decisions on honest sound medical judgment.

This is, after all, just plain good medicine. When your physician treats your pneumonia with penicillin or tetracycline he is also considering the possibility and probability that you are much more apt to recover after receiving the drug. Before the advent of these drugs patients did survive pneumonia, but many more do now and he has the facts and figures to prove it. Civil aviation medicine has not yet reached this stage of progress.

With the addition of a Biometrician to our family, we all, with an open and unclouded mind, hope to come up with answers statistically acceptable and adjust our certification procedures accordingly. We feel that many of the answers will be of benefit to the airman.

A discussion of contemporary medical certification would not be complete without a word concerning the aviation medical examiners who perform the basic examinations.

The designated aviation medical examiner is the heart of our certification system. We make no claim that it is, at the present time, developed to the optimum. It is, however, the best under the circumstances.

We believe that except for a few instances, there is a designated examiner within convenient traveling distance of every airman. Our ultimate goal is that no airman will have to travel more than 50 miles

to a designated examiner. In this modern day 50 miles is not an unreasonable distance.

We must depend on the individual airman to inform us of those areas lacking an examiner. We encourage him to recommend to us a physician in such an area and if he is interested and qualified we are most happy to designate him.

While we are unable to provide accurate statistics at this moment, surveys done at our seminars indicate that well over half of our aviation medical examiners are former Flight Surgeons who have had formal training in aviation medicine in the Service, or are themselves pilots with an active interest in aviation.

Examiners with this background can most certainly determine the state of an airman's health and physical fitness as it relates to flying better than a physician with no knowledge, and frequently no interest, in aviation.

For instance, the effects of decreased oxygen tension on airmen who have certain diseases such as emphysema or arteriosclerotic cardiovascular disease may not be considered by the physician with no interest, training or indoctrination in aviation medicine.

Physicians who are not designated examiners have a loyalty and obligation only to their patient. Previous to the designated examiner system it was often impossible for us to obtain additional information from a physician concerning a defect or condition an airman may have had, because of this loyalty and obligation. The designated examiner

has an additional obligation to the public which takes precedence.

We now receive more detailed and complete examinations to evaluate and base our judgment as to the applicant's physical condition as it relates to flying. We are, therefore, able to certify more airmen, to issue more certificates of demonstrated ability, or special time-limited certificates, to airmen who previously would have been denied.

At the present time we receive few and isolated complaints concerning the designated examiner system; on specific complaints regarding unavailability of an examiner or excessive fees, we are now in a position to take positive action in either instance.

We do not consider we are infringing on the right and freedom of choice. Most industries require a preemployment examination by a designated physician. Insurance companies who require an examination invariably use the designated examiner system. Those who do not, require a signed statement concerning the state of the applicant's health at the time of the application, or they issue a policy only to a select group or segment of the population who have already been screened by a physical examination for another purpose.

As a matter of fact, most aviation policies requiring no physical examination are issued on the basis that the applicant possesses a valid airman medical certificate. We think this speaks well of our designated examiner system.

In February 1927 Dr. Louis Bauer announced the names of the first 37 designated aviation medical examiners located in 21 states. In this

area we have progressed and we now have over 5,500 examiners in 50 states and 5,300 throughout the world protecting the interest of the flying public (about 57,000,000 passengers each year).

Dr. Louis Bauer, through a series of regular conferences with his aviation medical examiners, conducted the first aviation medical seminars. We have, in effect, reinstituted his concept of seminars for training some 30-odd years later. Our present goal is that each of our 5,000 plus AME's must attend one seminar every three years in order to be considered qualified. We have already accomplished much in this area. Although administrative procedures tend to be relegated to the secondary by most physicians, we are not the ones to say which is most important. When we are able to know that we can depend on the professional quality of the examination, these administrative factors do become secondary.

There were individual problem cases back in those days. One conscientious AME wrote Dr. Bauer a question, "Suppose an applicant with one eye, one arm, and one leg presented himself for certification. What should I do?" Dr. Bauer had all the answers (we wish we could give such direct instructions), "Discourage the applicant from taking the examination with such serious and obvious limitations. In such cases, when possible, please mail us a memo giving the name, address and reason for not examining the applicant." Today, we would, I am sure, issue such an applicant an authorization for a medical flight test.

We know of no other instance where the individual has available to him so many avenues of appeal, or reconsideration, as the airman today who

is denied certification by the Aviation Medical Examiner. They are:

1. Aeromedical Certification Division or Regional Flight Surgeon
2. Civil Air Surgeon
3. Civil Air Surgeon's Medical Review Board
4. Administrator's Medical Advisory Panel
5. Civil Aeronautics Board
6. Courts.

All applications are reviewed by the Aeromedical Certification Division. On the basis of the information recorded on the application, the Division may issue the certificate. If, however, additional information is needed before a decision may be made, the application is referred to the appropriate Regional Flight Surgeon who may, after review of the additional information, issue the certificate.

If. however, the Division or the Regional Flight Surgeon sustain the denial, the airman may request reconsideration of the denial by the Civil Air Surgeon. Since the Civil Air Surgeon promulgates all certification policy, he may, after review, issue the certificate or refer it to his Medical Review Board for decision.

The Medical Review Board is made up of members of the Civil Air Surgeon's staff within the Aviation Medical Service. Specialists in internal medicine or cardiology, neurology, ophthalmology, and psychiatry, who are also well versed in aviation medicine, review each request for reconsideration. The airman is invited to appear in person and informally present any new or additional information. Each request is considered on an individual basis. The Board may recommend sustaining

the denial or issue the certificate. Frequently the Board recommends that special limitations be applied and may require more frequent examinations or special reports.

If the Medical Review Board recommends sustaining the denial the applicant has two additional avenues of appeal. If he agrees he has a defect which under the regulations renders him ineligible for certification, he may contend that in his case it does not represent a hazard to his safe operation of an aircraft and petition the Administrator for an exemption from the Federal Aviation Regulations. In effect, he requests the Administrator to set aside a specific part of the regulations for him.

To advise him in these medical matters, the Administrator has appointed a panel of consultants who meet every 60 days to consider the requests. They are recognized specialists in all fields of medicine who are also familiar with the special problems of aviation medicine. They have no official position or connection with the Aviation Medical Service. Each petition is considered on an individual basis by the Board. They may recommend to the Administrator that he grant or deny the petition for exemption.

If the applicant who has been denied certification contends he does not have a disqualifying condition, or that the diagnosis is in error, he may request the Civil Aeronautics Board to review the denial. This procedure in effect removes the decision from the medical field. A hearing is held before a Civil Aeronautics Board Hearing Examiner.

call witnesses. If the examiner's decision is unfavorable for the applicant he may then request a review by the entire Civil Aeronautics Board.

If the denial is sustained through all these avenues, the applicant may then bring suit in Federal Court. However, we know of no instance when this has been done.

Medical certification of airmen is not an attitude nor a state of mind. The decision to certify or deny is always based on sound medical judgment. As in any non-exact science, honest differences of opinion will always be encountered and it is our sincere effort to resolve them with the interest of safety of flight foremost in our minds.

In furtherance of this premise we avail ourselves to--yes, actively seek--the advice and guidance of our consultant groups. These are eminent physicians throughout the country who are recognized as outstanding specialists in their particular fields of medicine, and most of whom are knowledgeable in the field of aviation as well as aviation medicine. They have no official connection with the Federal Aviation Agency or the Aviation Medical Service, except as consultants.

As a brief review of past certification procedures, we formerly operated with a manual system of review. All examinations were sent to the Aeromedical Certification Division for review, both professional and administrative, and for the compilation of those few statistics which our limited staff could accomplish. Applications requiring further professional investigation were referred to the appropriate regional flight

surgeon for decision. After his decision they were returned to the Division for filing in a central records section.

Applicants who revealed or demonstrated a defect, past or present, that did or could affect their eligibility for certification, were assigned a special number. This number, together with their name, was inserted in a file. Each application received was checked against this file and if the name was matched the entire record was attached for review. Clear or normal files were retained for a period of three years and then, with permission of the Archives, were destroyed.

Under this system we had on file at all times about three quarters of a million clear files and about 200,000 records with significant pathology.

It became apparent a tremendous amount of raw medical data concerning a statistically acceptable segment or sample of our population was not being utilized. Since manual accumulation of these statistics was not in the realm of possibility, far-thinking individuals in the Aviation Medical Service advocated a feasibility study to determine justification for an automatic data processing system.

This study was instituted over three years ago. About one year ago it was determined that routine medical certification procedures were adaptable to an automatic data processing system and that the tremendous amount of raw medical data could be made available for biometric purposes on magnetic tape.

Since the problem of converting almost 3/4 million medical records on file was outside the capabilities of the Aviation Medical Service, the actual conversion was done on contract by the Bureau of the Census in Jeffersonville, Indiana. Work commenced in February 1962. Working closely with the Flight Standards Computer Service personnel a program was developed utilizing a 1401 computer. Our first daily certification run was done essentially on schedule August 25, 1962.

The conversion project in itself was of considerable magnitude. It consisted of (1) editing, coding, and verifying over 750,000 records for the years 1959, 1960, 1961, and 1962; (2) coding 30,000 inactive cases for the years prior to 1959; (3) editing, coding, verifying, and assigning pathology codes to about 200,000 pathology cases; (4) punching and verifying 1,755,000 IBM cards generated by the above.

The information on the cards was then transferred to magnetic tape, creating an active master tape consisting of the last current application, and a master historical tape. It will be indicated later how the active master tape is utilized in the daily processing of new applications. All other examinations on each airman, other than the current one, were recorded on a master historical tape. Consequently, on many airmen we have consecutive examinations extending back over a period of 10 years. These records will prove invaluable for use in future biometric studies.

We view automatic data processing equipment as a tool in assisting us to do a better and faster job in processing applications. The computer merely replaces one step in the procedure that formerly was done manually.

As applications are received they are assigned a medical identification number and passed on to the preliminary review and code section (Table 2). This section edits and codes the application in preparation for the card punch section. Here, four IBM cards are punched and verified. These cards contain all the data on the application and physical examination plus other information such as pathology codes, examiner control data and suspense dates. (Table 3). At the close of each work day the cards are delivered to the computer services section for the daily computer run.

The daily input is sequenced and converted to magnetic tape. This tape is matched with the active master tape and against the standards programmed in the computer. If the new application is professionally and administratively correct, the computer accepts the record. If, however, there are professional or administrative errors, or the data does not fall within the accepted standards, it is printed out for review (Table 4).

For instance, if an application for first class certification has a recorded uncorrected distant vision of 20/40 and no correction was indicated, the record would be printed out for review. If, however, the application indicated the visual defect was correctable to 20/20, and certificate with the proper glasses limitation had been issued, the computer would accept the record. Similarly, blood pressure, pulse rates and auditory acuity are programmed in as hard numbers.

The printout consists of all the data on both the current application and the immediate past application (from the active master tape) on a

preprinted form with a transaction code indicating why it was printed out.

The daily printout goes to our medical review specialists for review. Should any application require professional review it is referred to a physician in the Division or to the appropriate regional flight surgeon. All military and overseas applications are handled within the Certification Division; all others are referred to the regional flight surgeon.

In order to obviate a tremendous storage problem, we are in the process of microfilming our two hundred thousand pathological files utilizing a specially developed three channel IBM Tabjac film holder. These records are updated as additional applications and reports are received.

In all instances when the application reveals administrative errors or some professional action is taken, the tape is updated or corrected by submitting a file maintenance card with the proper transaction code indicating to the computer the specific spot to insert the corrected data.

At the present time the only airman having a requirement for ECG on a regular basis is the first class ATR. Each must submit a base line ECG with the first application after his 35th birthday, and annually after his 40th birthday. Presently we receive from 1,500 to 2,000 per month or a total of 18 to 20,000 yearly. These are microfilmed and inserted, updated, on a daily basis, and referred to the cardiology section of our Clinical Research Branch at Georgetown University for interpretation.

That section has developed a coding system for their own biometric use. We receive reports on the abnormal grams only and take whatever action may be necessary.

Tables 3 and 4 present statistical data pertaining to applications for reconsideration considered by the Civil Air Surgeon's Medical Review Board. Tables 5, 6, and 7 present statistical data on actions by the Administrator's Medical Advisory Panel. Table 8 represents a sampling of waivers or certificates of demonstrated ability issued. Table 9 indicates overall certification statistics for 1961.

We realize we have covered a seemingly complicated certification procedure rather sketchily in a very short time. I will be happy to discuss our system at greater length with anyone who is interested, later in the day.

In closing, the Certification Division makes every attempt to operate a lean, clean, right and rapid Division.

We endeavor to keep as many pilots flying as many hours as many years as possible--SAFELY.

P. V. Siegel, M.D., Chief
Aeromedical Certification Division
Aviation Medical Service

10-1-62

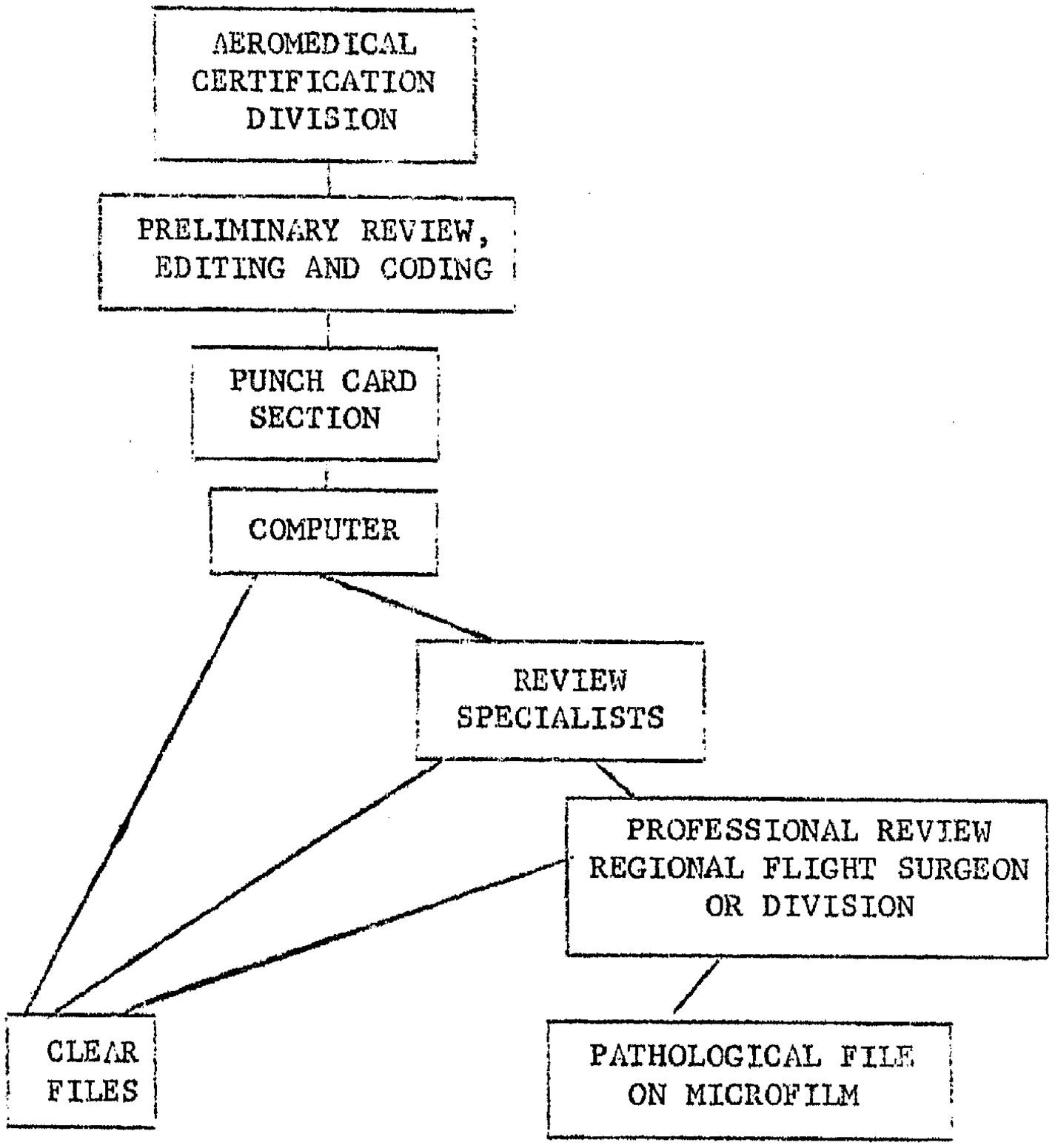
TABLE 1

APPLICATIONS FOR MEDICAL CERTIFICATION
PROCESSED YEARLY FROM 1928 THROUGH 1961

1928	13,705	1945	154,594
1929	28,479	1946	202,060
1930	36,769	1947	201,467
1931	39,914	1948	233,438
1932	35,508	1949	162,515
1933	33,554	1950	150,680
1934	33,404	1951	163,946
1935	32,769	1952	145,739
1936	39,126	1953	139,369
1937	42,010	1954	156,789
1938	46,533	1955	168,791
1939	73,212	1956	196,002
1940	134,352	1957	228,066
1941	172,181	1958	227,049
1942	161,579	1959	244,450
1943	102,717	1960	228,422
1944	113,845	1961	239,542

TABLE 2

PROCESSING FLOW OF APPLICATIONS FOR MEDICAL CERTIFICATION



XXX IBM CARDS SHOWING FORMAT OF INFORMATION RECORDED ON EACH APPLICATION

Table 3

FAA FORM 2173.4 (5-62) AIRMAN MEDICAL DATA — FILE MAINTENANCE

Col.	1	2	3	4–18	19	20–21	22–23	24–25	26	27–28	29–30	31–32	33	34	35–80
	TRANSACTION NUMBER			LAST NAME	FIRST INITIAL	DATE OF BIRTH MO.	DAY	YR.	SEX	DATE OF EXAMINATION MO.	DAY	YR.	BY PASS	
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

M-C Z 2746

NAME CARD

Col.	1	2	3	4–10	11–27	28–40	41–49	50–51	52–57	58–59	60–61	62–63	64	65	66–67	68–69	70–71	72–80
	TRANSACTION NUMBER		MEDICAL IDENTIFICATION NUMBER YEAR		LAST NAME	FIRST NAME	SOCIAL SECURITY NUMBER	CLASS OF MED CERTIF ISSUED	DATE OF BIRTH	HEIGHT (INCHES)	WEIGHT (POUNDS)	COLOR OF HAIR / COLOR OF EYES	SEX	RESTRICTIONS	DATE OF EXAMINATION MO.	DAY	EXAMINER SERIAL NUMBER	
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

ADDRESS CARD

Col.	1	2	3	4–10	11–59	60–62	63	64	65–68	69–71	72–80
	TRANSACTION NUMBER		MEDICAL IDENTIFICATION NUMBER YEAR		ADDRESS	STATE CODE	CLASS OF MED CERTIF APPLIED FOR / OCCUPATION		EMPLOYER	KIND OF AIRMAN CERTIF HELD	AIRMAN CERTIFICATE NUMBER
	9	9	9	9	9	9	9	9	9	9	9

M-C Z 2744

COMPUTER PRINTOUT ON PREPRINTED FORMAT FOR REVIEW

Table 4

AIRMAN MEDICAL RECORD

CODE	NAME	MEDICAL ID NO.	SOCIAL SECURITY NO.
MI		60111610	000-00-0000
EI		62167700	

DATE OF BIRTH	SEX	HEIGHT	WEIGHT	EYE COLOR	HAIR COLOR	PATH FILE NO.	OCCUPATION	EMPLOYER
07-22-16	1	65	142	0	0	✓274921	0	0000
07-22-16	1	65	150	3	1	274921	5	SELF

ADDRESS — STATE: MO

AIRMAN CERTIFICATE		DATES		PATH	VISION	DISTANT	NEAR	HEARING		PULSE		OTHER TESTS
HIGHEST HELD	0 0 0 / 1 – –	EXAM	06 00 60 / 08 31 62	141 / 141	RIGHT EYE UNCORRECTED	020 / 020	000 / 200	RIGHT EAR	15 / 15	RESTING	084 / 076	2 / –
APPLIED FOR	1 / 2	RECEIVED	00 00 / 10 15 62	683	LEFT EYE UNCORRECTED	020 / 020	000 / 200	LEFT EAR	15 / 15	AFTER EXERCISE	096 / 096	STUDIES REC. 0 / –
CLASS ISSUED	00 12 / 02 21	LAST EXAM	09 58 / 06 60		RIGHT EYE CORRECTED	– / –	000 / 050	AM	2 / 2	2 MINUTES AFTER	080 / 084	ATTACHMENTS
NUMBER	-0341298P / -0341298P	ECG	06 60 / – –		LEFT EYE CORRECTED	– / –	000 / 050	URINALYSIS		BLOOD PRESSURE		0
								SUGAR	2 / 2	SYSTOLIC	126 / 130	PREVIOUS DENIAL
								ALBUMIN	2 / 2	DIASTOLIC	080 / 090	2 / 2

FLIGHT INFORMATON					ACC	SUSPENSE	AME	AE	PE	ABNORMALITIES	MEDICAL HISTORY	IT	FOV	ESO	EXO	RH	LH
TOTAL TIME	06400 / 09000	SIX MO.	350 / 175	%	2 / 1	COCC000 / COCC000	01084 00404 / 01048 02403	0	0	28 / 44	VW / AUVW	0 / 2	0 / 2	0 / 0	0 / 0	0 / 0	0 / 0

AA Form 2173-5 (5-62)

AIRMAN MEDICAL RECORD

CODE	NAME	MEDICAL ID NO.	SOCIAL SECURITY NO.
MH		61167992	000-00-0000
EH		62167799	

DATE OF BIRTH	SEX	HEIGHT	WEIGHT	EYE COLOR	HAIR COLOR	PATH FILE NO.	OCCUPATION	EMPLOYER
06-30-11	1	74	195	0	0	✓280247	0	0000
06-30-11	1	75	200	5	1	280247	–	XXXX

ADDRESS — STATE: TEX / TEX

AIRMAN CERTIFICATE		DATES		PATH	VISION	DISTANT	NEAR	HEARING		PULSE		OTHER TESTS
HIGHEST HELD	0 0 0 / 2 – –	EXAM	09 00 61 / 09 03 62	484 / 141	RIGHT EYE UNCORRECTED	070 / 070	000 / 200	RIGHT EAR	15 / 15	RESTING	090 / 084	– / –
APPLIED FOR	2 / 2	RECEIVED	00 00 / 10 15 62	854	LEFT EYE UNCORRECTED	070 / 100	000 / 200	LEFT EAR	15 / 15	AFTER EXERCISE	110 / 120	STUDIES REC. 0 / –
CLASS ISSUED	00 24 / 01 22	LAST EXAM	09 60 / 09 61	411	RIGHT EYE CORRECTED	015 / 020	000 / 050	AM	2 / 2	2 MINUTES AFTER	088 / 088	ATTACHMENTS
NUMBER	-0514599P / -0514599P	ECG	00 00 / – –	2	LEFT EYE CORRECTED	020 / 020	000 / 050	URINALYSIS		BLOOD PRESSURE		0
								SUGAR	2 / 2	SYSTOLIC	18+ / 140	PREVIOUS DENIAL
								ALBUMIN	2 / 2	DIASTOLIC	090 / 080	2 / 2

FLIGHT INFORMATON					ACC	SUSPENSE	AME	AE	PE	ABNORMALITIES	MEDICAL HISTORY	IT	FOV	ESO	EXO	RH	LH
TOTAL TIME	12000 / 10000	SIX MO.	200 / 250	%	2 / 2	COCC000 / COCC000	05476 04201 / 02764 04201	0	0	– / –	– / –	0 / 2	0 / 2	0 / 0	0 / 0	0 / 0	0 / 0

AA Form 2173-5 (5-62)

TABLE 5

REQUESTS FOR RECONSIDERATION
CONSIDERED BY THE
CIVIL AIR SURGEON'S
MEDICAL REVIEW BOARD

October 1, 1961 through June 30, 1962

First Class	54
Second Class	125
Third Class	320
TOTAL	499

Certified	110
Denied	295
Deferred	94
TOTAL	499

TABLE 6

DIAGNOSIS, BY BROAD CATEGORIES,
OF APPLICATIONS CONSIDERED BY THE
CIVIL AIR SURGEON'S MEDICAL REVIEW BOARD

October 1, 1961, through June 30, 1962

Cardiovascular	178
Psychiatric	98
Ophthalmological	57
Hypertension	40
Hemological	37
Diabetes	19
Renal	7
Asthma	5
Alcoholism	5
Peptic Ulcer	3
Miscellaneous	28

TABLE 7

PETITIONS FOR EXEMPTIONS FROM
PART 29, CIVIL AIR REGULATIONS,
CONSIDERED BY THE
ADMINISTRATOR'S MEDICAL ADVISORY PANEL

Total	183
Recommended Grant	58
Recommended Denial of Grant	119
Referred to CAS for Action	6

TABLE 8

DIAGNOSIS OF APPLICANTS GRANTED EXEMPTIONS
FROM PART 29, CIVIL AIR REGULATIONS,
BY THE ADMINISTRATOR

Diagnosis	Total	First Class	Second Class	Third Class
Myocardial Infarction	46	3	3	40
History of Psychosis	8		1	7
Mitral Stenosis	1			1
Hypertension	1			1
Defective Vision	2			2

TABLE 9

DIAGNOSIS OF APPLICANTS DENIED EXEMPTIONS
FROM PART 29, CIVIL AIR REGULATIONS
BY THE ADMINISTRATOR

Diagnosis	Total	First Class	Second Class	Third Class
Myocardial Infarction	57	10	13	34
History of Psychosis	22	5	4	13
Diabetes Mellitus	15	2	3	10
Aortic Stenosis	3			3
Epilepsy	2			2
Emphysema	1	1		
Multiple Myeloma	1	1		
Rheumatic Heart Disease	2			2
Ophthalmological	9	2	5	2
Cerebral Thrombosis	2		1	1
Cerebral Insufficiency	2		1	1
Alcoholism	1		1	
Albuminuria	1			1
Multiple Vascular Disease	1		1	

TABLE 10

A SAMPLE OF 200 FAA FORM 779,
CERTIFICATE OF DEMONSTRATED ABILITY,
ISSUED FOR THE FOLLOWING CONDITIONS

April, May, June 1962

Defective Distant Vision		156
Defective Hearing		18
Color Vision		13
Deformities		5
Contact Lens		5
Loss of Limb		2
Loss of Speech		1
	TOTAL	200
First Class		8
Second Class		140
Third Class		52

TABLE 11

CERTIFICATION STATISTICS FOR 1961

Applications Received	240,000
Cases Referred to Regional Flight Surgeons for Professional Review	21,000
Denials by Regional Flight Surgeons	950
Denials by Aviation Medical Examiners	2,900
Certificates of Demonstrated Ability	3,450