

**TWO HUNDRED AND FIFTEENTH
REPORT
PUBLIC ACCOUNTS COMMITTEE
(1983-84)**

(SEVENTH LOK SABHA)

IMPORT OF A TRAINER AIRCRAFT

MINISTRY OF DEFENCE



Presented in Lok Sabha on 30.4.1984

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**LOK SABHA SECRETARIAT
NEW DELHI**

April, 1984/Vaisakha, 1906 (S)

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<u>Page</u>	<u>Para</u>	<u>Line</u>	<u>For</u>	<u>Read</u>
1	1.2	5	'Ki'	'K'
2	1.5	10	impost	import
3	1.10	1	which	with
4	1.10	5	logical	logistical
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4	1.12	15	uncertain in	uncertain
5	1.14	26	available for this	available for
9	footnote		devotes	denotes
16	1.47	1	Deputy Chief of Air Staff	Deputy Chief of Air Staff
24	1.72	1-2	contractor	contract
27	1.73	7	contingency	contingency
27	<u>foot note</u>		devotes	denotes
28	1.82	14	have to	have
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3.2.1984

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* Ceased to be members of the Committee consequent upon their retirement from Rajya Sabha w.e.f. 2.4.1984.

INTRODUCTION

1. I, the Chairman of the Public Accounts Committee as authorised by the Committee, do present on their behalf this Two Hundred and Fifteenth Report on Paragraph 6 of the Report of the Comptroller and Auditor General of India for the year 1981-82, Union Government (Defence Services) on Import of a trainer aircraft.

2. The Report of the Comptroller and Auditor General of India for the year 1981-82, Union Government (Defence Services) was laid on the Table of the House on 15th April, 1983.

3. In this Report, the Committee have expressed surprise that orders for the import of aircraft 'L' and associated ground equipment at a total cost of Rs. 14.61 crores were placed without fully exploring the possibility of meeting the increased requirements of trainer aircraft by augmenting the production of aircraft 'K' which was being indigenously manufactured by Hindustan Aeronautics Ltd., a public sector undertaking.

4. In the opinion of the Committee if the order for additional requirement of trainer aircraft was placed on the HAL in 1974, it could have started meeting the entire requirements of the Air Force from the year 1977 onwards. The Committee have expressed deep concern at the manner in which the Ministry of Defence took a decision to import trainer aircraft at a cost of more than Rs. 14 crores involving scarce foreign exchange without fully utilising the indigenous capacity available. The Committee are convinced that had the training programme been drawn up realistically and indigenous capacity for manufacture of trainer aircraft been fully utilised, the need for import of trainer aircraft would not have arisen. This view is further reinforced by the fact that even later on when the utilisation rate of imported aircraft came down to 44.2% because of engine bearing difficulties, the training programme was carried on by better utilisation of indigenous aircraft 'K'.

5. The Committee have concluded that the whole expenditure of Rs. 14.61 crores in foreign exchange apart from the other expenditure incurred thereon was unnecessary and could have been avoided. According to the Committee, there appears to be a growing tendency on the part of Defence authorities to go in for imports even when the demand can be met from indigenous sources. This, to say the least, is very disturbing. The fact that Parliament is so generous in granting funds for defence needs casts an additional responsibility on the Defence authorities to act with caution parti-

cularly when a proposal involves outgo of scarce foreign exchange. The Committee have recommended that the whole matter should be examined in detail with a view to identifying the drawbacks in the system which allowed a variety of lapses to occur and to take necessary steps for obviating such lapses in future.

6. The Committee (1983-84) examined paragraph 6 at their sitting held on 3rd February, 1984 (AN). The Committee considered and finalised the Report at their sitting held on 26th April, 1984. Minutes of the sittings form Part II* of the Report.

7. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in thick type in the body of the Report and have also been reproduced in a consolidated form in the Appendix to the Report.

8. The Committee would like to express their thanks to the Officers of the Ministry of Defence for the cooperation extended and giving information to the Committee.

9. The Committee place on record their appreciation of the assistance rendered to them in the matter by the Office of the Comptroller & Auditor General of India.

NEW DELHI;
April 27, 1984
Vaisakha 7, 1906 (S)

SUNIL MAITRA,
Chairman,
Public Accounts Committee.

*Not printed. (One cyclostyled copy laid on the Table of the House and five copies placed in Parliament Library).

REPORT

Import of a trainer aircraft

Audit Paragraph

1.1 In paragraph 6 of the Audit Report (Defence Services) for 1975-76 mention was *inter alia* made of approval accorded (September 1974) by the Ministry of Defence to the import of an aircraft 'L' for delivery during September 1975—March 1976 as the public sector undertaking could not fulfil the requirement of trainer aircraft within the time-frame prescribed by the Air Headquarters (Air HQ). Some of the features noticed in the purchase of aircraft 'L' and their performance are given in subsequent paragraphs.

1.2 Advance training to fighter pilots was being imparted on aircraft 'G', 'H' and 'K'. Aircraft 'G' was being phased out by December 1974 and aircraft 'H' was not expected to be maintained beyond June 1975. On the basis of a long term training plan prepared (March 1974) for the year 1977-86 with reference to aircraft 'K', the Air HQ had assessed that, with the available assets of aircraft 'K' and further deliveries anticipated from the undertaking, there would be progressive deficiency of trainer aircraft making up to 40 per cent of the total requirement by 1977.

1.3 For the interim period 1975 to 1977, the Air HQ had formulated (March 1974) an extended contingency training plan for the courses commencing during the period as the trainees for these courses were already in the pipeline. It was felt (July 1974) that to implement this training plan the existing assets of aircraft 'K', together with the deliveries anticipated at 20 aircraft per year and with a maximum utilisation rate of 30 hours per aircraft per month, would be deficient of the progressive total requirement by 41 per cent in 1975, 39 per cent in 1976 and 40 per cent in 1977, thereby necessitating import of trainer aircraft.

1.4 Pending a decision on the import of the trainer aircraft, an Air Force team evaluated (May-June 1974) aircraft 'L' and 'M' manufactured by countries 'X' and 'Y' respectively. The team in its report stated that while aircraft 'M' excelled in certain areas of performance and was priced at Rs. 41.29 lakhs, aircraft 'L' on the other hand, was priced at Rs. 26.2 lakhs, was technologically outdated by 10 years and was neither designed nor had experienced intensive operations under tropical conditions for which suitable assurances would have to be built in the agreement. Operating and maintenance costs of aircraft 'L' were stated to be less because of its fewer and less complicated

systems. Its major overhaul costs were also stated to be significantly less. A substantial number of aircraft 'L' could be delivered in January 1975 and the balance by December 1975, which adequately met the time-frame of training requirements. Delivery of aircraft 'M' was, however, not expected to commence before the 1st quarter of 1976.

1.5 As aircraft 'L' met the technical requirements of a basic trainer to a considerable extent and also in view of its cheaper cost of acquisition and maintenance as well as the over-riding consideration of its delivery schedule meeting the time-frame requirement of the training plan, the Air HQ proposed (July 1974) the import of aircraft 'J' to make up 61 per cent of the total deficiency by mid-1975 and the balance by mid-1977. The Ministry of Defence considered the proposal in detail. Since the import proposal was made on the assumption that no reduction was possible in the intake of trainees and the utilisation rate of aircraft ('K') could not be improved further nor could the training wastages be reduced, import of aircraft 'L' to the extent of 61 per cent of the total deficiency (estimated cost - Rs. 18 crores) was approved by Government in principle in September 1974. The extended contingency training plan was also sanctioned in September 1974.

1.6 While the purchase of aircraft 'L' was being negotiated with the delegation from country 'X', the Ministry of Defence reviewed (February 1975) whether the import could not be avoided. The Ministry observed that with the existing assets of aircraft 'K' (including the anticipated deliveries), it would not be possible to impart advance training to more than 67 per cent of the trainees against the output from the Elementary Flying School. Thus, the extended contingency training plan could not be put into operation with the existing assets, inevitably leading to the suspension of advance training of the trainees meant for subsequent courses and the trainees remaining idle as a consequence.

1.7 An agreement was entered into (April 1975) with the Government of country 'X' for the purchase of a certain number of aircraft 'L' and associated ground equipment at a total cost of Rs. 14.61 crores. Three separate contracts were concluded at the same time laying down the technical specifications of aircraft 'L', etc. for the training of Air Force personnel (Rs. 32 lakhs) as well as for the purchase of spares, test equipment and training aids (Rs. 1.74 crores). The contract for purchase of spares, etc. included an optional clause for the purchase of certain armaments and ammunition (Rs. 42.40 lakhs) and test equipment (Rs. 7.43 lakhs), to be exercised not later than 15th August, 1975.

Under the agreement of April 1975, the supplier guaranteed that the aircraft supplied would be fit for operation under tropical conditions and in respect of possible defect occurring due to the utilisation of the aircraft under tropical conditions in India, necessary remedial measures would be taken by the supplier to rectify such defects/replacement of necessary components at his

own cost including transportation to and from country 'X'. Aircraft 'L' were to be delivered f.o.b. foreign port between September 1975 and March 1976. But under a supplementary contract concluded in September 1975, these aircraft (including some spare engines) and group equipment were to be despatched by air and delivered at station 'Z' in India, for which an additional payment of Rs. 68 lakhs was to be made. These aircraft were delivered in India during October 1975--June 1976 and were inducted for training from November 1975 onwards.

1.8 Against the sanctioned strength of trainees for each of the 4 courses under the extended contingency training plan commencing during the period July 1975 - January 1977, on the basis of which import of aircraft 'L' was made the average number of trainees inducted/trained in each of these courses fell short of the sanctioned strength (average peak) by 47 per cent, 20 per cent, 39 per cent and 28 per cent respectively. Owing to sufficient number of trainees not being available, aircraft 'L' were utilised much below their planned rate of utilisation, the shortfall in utilisation being 47 per cent in 1976, 42 per cent in 1977 and 32 per cent in 1978.

1.9 The engines of aircraft 'L' developed engine bearing failures prematurely bringing down the serviceability of the aircraft to 33 per cent of the fleet in the year 1978. The defects noticed in these engines were investigated (November 1977) by the supplier and the issues arising out of the defects were discussed with the representatives of the supplier. It was claimed by the supplier that the only cause of the bearing failures of the engines under operation in India was the use of lubricant 'N' of a particular batch of production which contained some unidentified additives and which did not meet the operational requirements of these engines. The representatives of the supplier, while *disclaiming* responsibility for the defects, stated that though they had carried out defect investigation and repaired/exchanged the defective engines at their cost, the problem could be solved only on the basis of a compromise in sharing the costs already incurred by both sides. The Indian side, on the other hand, claimed that the engine bearing failures were mainly caused by the incompatibility of lubricant 'N' with these engines as well as inadequacy of the bearing specifications to withstand the requirements of engines specially in tropical conditions. The Indian side added that the onus of clearing the lubricant for use in these engines rested with the supplier and it was obligatory for him to meet the contractual requirements of ensuring a trouble-free and satisfactory operation of these engines in the tropical climate of India and therefore the entire cost involved in the change of bearing in all the affected engines including their transportation to and from between India and country 'X' should be borne by the supplier.

1.10 The issues involved were negotiated (March 1980) which the representative of the supplier and it was agreed to pay a sum of Rs. 8 lakhs to the supplier in order to arrive at a fair and equitable settlement with regard to the expenses incurred by the supplier on bearing replacements, qualification test of

substitute oil etc. and by the Government of India on transport and other expenses (Rs. 57.23 lakhs). It was also noticed that after the middle of 1978 lubricant 'O' (which has a short life) from country 'X' was brought into use and there were no bearing failures of these engines. However, to eliminate the logical difficulties caused by the short life of lubricant 'O', the supplier was carrying out studies to extend its life by a year and this was yet (October 1982) to be completed. The Air HQ stated (January 1980) that due to shortage in the availability of the aircraft during 1978 training effort was made up partly by using aircraft 'K' and partly by extending the duration of training. The Air HQ also stated (February 1982) that as a consequence of the setback in the performance of aircraft 'L', due to inadequate product support and restricted supply of lubricant 'O', the number of aircraft that could be sustained operationally (since 1979) at the training establishment was only about 50 per cent of the assets held and the authorised holding of the aircraft had been reduced.

1.11 The syllabus of flying training included handling and operational use of certain armaments and firing practice. The supply of these armaments along with ammunition was included as an option under the contract (of April 1975) for the purchase of spares, etc. to be exercised before 15th August, 1975. According to the Air HQ, the option could not be exercised before the specified date due to non-availability of funds. A separate contract was, however, concluded later (May 1977) with the supplier for the procurement of these armaments and ammunition, thereby involving an extra expenditure of Rs. 1.64 lakhs. These stores were received in India during October—December 1979 and were thus not available for imparting training during 1975—1979.

1.12 While considering import of aircraft 'L' the Air HQ had stated (July 1974) that the costs of major overhaul of airframes and engines of aircraft 'L' were significantly less as compared to those of aircraft 'M'. The agreement of April 1975 for purchase of aircraft 'L' also envisaged that full assistance would be provided by the supplier to establish overhaul facilities in India. For this purpose, a project team was sanctioned (November 1975) by the Ministry of Defence. A joint study conducted for examining the feasibility of setting up of overhaul facilities for engines had revealed that the cost of overhaul in India would be higher (by about Rs. 0.03 lakh) than that in country 'X'. A contract was concluded (August 1976) with the supplier for the overhaul of engines during 1977-78 at the rate of Rs. 2.08 lakhs (representing 43 per cent of the purchase cost of this engine). Though a similar study was to be conducted for overhaul of airframes, the study was withheld by the Air HQ pending reconsideration of the long term utilisation aircraft 'L'. In view of the small fleet strength of aircraft 'L' and uncertain in product support from the supplier it was finally decided to arrange for the overhaul of the airframes also from abroad. For this purpose, a contract was concluded with the supplier in March 1980 for overhaul of airframes at the rate of Rs. 12.80 lakhs.

1.13 The Ministry of Defence stated (October 1982) that:

while the requirement of aircraft was worked out for the sanctioned strength of courses, the short-fall in the intake of trainees as well as abnormally high rate of wastage resulted in under-utilisation of aircraft 'L' ;

the exact cause of bearing failures of the engines (of aircraft 'L') could not be established (there was difference of opinion between the manufacturers and the Air HQ) ; and

only 50 per cent of aircraft 'L' could be sustained operationally since 1979 due to poor product support and logistic constraints for procurement of lubricant 'O'.

1.14 Summing up : The following are the salient points that emerge from the above :

The import of aircraft 'L' was resorted to on the consideration that with the existing assets it would not be possible to train more than 67 per cent of the trainees (in the pipeline). However, the actual number of trainees inducted/trained in the courses commencing during the period July 1975—January 1977 fell short of the sanctioned strength by 20 to 47 per cent.

As a consequence of the shortfall in the intake of trainees and on account of abnormally high rate of wastage, utilisation of aircraft 'L' fell short of the planned rate of utilisation during the period 1976-78 by 32 to 47 per cent.

Though it was claimed that the engine bearing failures were attributable to the supplier, the onus of responsibility of the supplier for the engine bearing failures could not be established and as a compromise, a sum of Rs. 8 lakhs had to be paid to the supplier in addition to incurring an expenditure of Rs. 57.23 lakhs on transportation and other expenses to and from between India and country 'X'.

As a consequence of set-back in performance of aircraft 'L' due to poor product support and inadequate supply of lubricant 'O', the number of aircraft that could be sustained operationally since 1979 was about 50 per cent of the assets held.

As the option clause in the contract of April 1975 for the supply of armaments and ammunition was not exercised before the specified date and these stores were received 4 years later under a separate contract concluded in May 1977 for this purpose, the same were not available for this imparting training during the period 1975—1979.

[Paragraph 6 of the Report of the Comptroller and Auditor General of India for the year 1981-82—Union Government (Defence Services)]

Long term training Plan

1.15 According to the Audit Paragraph the training plan for the period 1977-86 was first prepared in March, 1974. The Committee desired to know whether any long-term training plan was drawn up prior to this and if not, the reasons for the same. In reply, Defence Secretary stated before the Committee as follows :

“The necessity for a perspective plan really came to us only after the 1971 war when our resources had to be replenished as far as flying officers were concerned. Therefore, it was felt that the time had come when we should draw a perspective training programme because if we have to induct a pilot into the fighters squadron, it requires stages of training before he can, in fact, function as a fighter pilot. Apart from that, there are requirements of flying helicopters, transport planes. We have also to cater for requirements of our instructors for the Institute, take into account induction which will be from the NDA, NCC and the airmen who are directly recruited as also certain training facilities which we have to offer to foreign pilots. Therefore, it was felt that our training resources had to be mobilised in order to train our pilots so that at no time we were found deficient in that. After the 1971 war it was considered very necessary that a long term programme should be drawn up.”

1.16 The Committee enquired whether any necessity of manufacturing and acquisition of trainer aircraft for the purpose of imparting training was also felt after the 1971 war. In reply, the witness stated :

“The entire exercise is based on that our basic training was done in HT 2 which was a local aircraft, while the advance training and the applied training was being done in Harward and Vampire which were imported aircrafts. As they were phased out and indigenous production scheme also taken up, the entire idea was that by the time the Vampire and Harward got phased out, our production of trainer planes should be adequate to meet our needs. But it so happened that during that period in view of the projections that were done and the contingency programme which was operated and the extended contingency programme which was operated from 1975 a certain degree of shortfall in our training resources was felt and that is how the entire projection was made.”

1.17 Asked whether by 1986, the objectives of 10 years training programme would be fulfilled, Defence Secretary replied :

“The objectives of the training programme are being fully met. As a matter of fact the Air Force is now engaged to draw a new LTTP taking into account the total needs of induction of fighter pilots as well as pilots

who will pilot helicopters and also the transport aircraft. So far as other sources of induction are concerned, we feel that our resource planning as far as the trainer aircraft is concerned as also the needs for training are so adjusted that we will have no shortfalls in resources for trainer aircraft in the near future."

1.18 The witness further added :

"About the details of different long-term programmes, I would like to submit that after the revision in 1977, there has been another interim LTTP in 1982 which will be in operation upto 1986 and we are planning for another 10-year programme from 1986 onwards. This LTTP is proposed to be stretched upto the end of the century."

Order on HAL

1.19 According to the Audit Paragraph, in September, 1974, approval was accorded by the Ministry of Defence to the import of an aircraft ('L') for delivery during September 1975—March 1976 as the public sector undertaking could not fulfil the requirement of trainer aircraft within the time-frame prescribed by the Air Headquarters (Air HQ).

1.20 The Committee desired to know the reasons for the slippages in the production and delivery of aircraft 'K' by this undertaking to the Air Force. In reply, the Ministry of Defence have stated in a note as follows :

"The design and development of 'K' aircraft commenced in 1960 and the first aircraft flew in September, 1964. Development work continued till 1970.

The design and development of an aircraft involves preliminary design studies, wind tunnel testing, construction of mock up, evaluation of the mock up, trade off in performance, cost and fulfilment of user requirements etc. this is followed by the selection of system to be used on the aircraft in consultation with various customers (in this case the Air Force) as well as the other Government organisations like D. Aero, DTD & P (Air), ASIE, CSDO, etc. Thereafter, detailed design of a large number of components (which in case of Aircraft 'K' was about 9500) is taken up. After design each and every component had to be fabricated to make the first prototype aircraft. For all the components special tooling had to be designed and made before fabricating. In many cases, each component required several tools. (The tooling used for making prototypes is termed "soft tooling") A total of about 4 years is required for completing all the above stated activities including fabrication of components for the first prototype aircraft and its assembly, etc.

The Flight Development Programme started after the completion of the first prototype. The Flight Development Programme *inter alia*

includes proving the aircraft in regard to its performance, stability, safety, reliability. It may be mentioned here that a minimum of 500 flights are required to clear an aircraft of this type before production can commence. Even after production starts, the flight test programme is continued, and this results in a number of modifications during the production phase.

The order for the first batch of the aircraft was issued in 1963 even before the first flight of the first prototype aircraft had taken place. Even though the order was received, no production activity could be commenced until certain minimum performance characteristics were established for the aircraft under consideration. The cycle time for the manufacture of the first production aircraft is about three years. Hence the delivery of all the 24 aircraft in the first batch by 65-66 was not feasible and the delivery of the aircraft against the First Order could be commenced only in 1967-68 and had to be spread over the next 5 years.

For launching the production of 'K' aircraft, a total of about 11,300 production tools, (hard tooling) had to be completed. Only about 65% of the hard tooling required for the project, *i.e.* about 7000 out of 11,000 were fabricated upto March, 1969. In the absence of tooling, many of the jobs had to be done using manual methods which are not only time consuming but also involve longer lead time.

In addition to the fabrication of tooling, a large number of materials had to be procured. These materials include sheets and bar stocks of different specifications, standard parts, consumables and proprietary items for various systems. Most of the material required for the project had to be imported. The lead time for the import of most of the items is about two years.

In the case of forgings and castings, the raw materials for making the castings and forgings were also imported. For the manufacture of castings and forgings necessary dies and moulds had to be made, and the process proved. It may be mentioned that the material needed for the dies for making the forgings were also imported. The lead time for the import of materials, fabrication of dies and subsequently developing and proving the castings and forgings, was more than 3 years. Fabrication of aircraft components could start only after these activities were completed.

Due to teething problems mentioned above as well as the complexity and magnitude of this project, the production level was low during the earlier period."

1.21 The Ministry of Defence have further stated :

“The third order was placed in September, 1970 and these aircraft were required to be delivered during 1973-76.

It is stated that an average production rate of *A number of aircraft was maintained during this period and there was slippage of only 5 aircraft by one year.

The order for the 4th batch of aircraft was placed in September, 1974. Except for 4 aircraft, these were delivered on schedule. Adequate lead time (3 years) was not available for duplicating jigs, procuring materials, fabrication of detailed parts, assy and tests.”

1.22 The Committee desired to know as to when the additional requirement of aircraft ‘K’ based on the long term plan were projected to the undertaking. The Ministry of Defence have stated as follows :

“The need for additional requirements of aircraft similar to aircraft ‘K’ based on long term plan of Air Force, were first made known to HAL in April, 1974.”

1.23 The Committee desired to know the reasons assigned by the undertaking for not taking up production to meet additional requirements of aircraft ‘K’ within the time frame indicated by the Air HQ. The Ministry of Defence have stated as follows :

“(i) Bulk orders were not placed in the beginning of the production programme.

(ii) The order did not take into account the lead time required for production of the aircraft.

(iii) While HAL decided to and was gearing for stepping up the production rate of aircraft ‘K’ from A number of aircraft per year to 2A number of aircraft per year, the original delivery schedule was considerably reduced on the basis of the requirement of aircraft on “long term Training Plan”.

1.24 The Committee enquired if the order for production of A number of aircraft by HAL was placed under the feeling that the balance would be imported. In reply, Defence Secretary stated before the Committee :—

“The first order for K aircraft was placed in August 1963 and the delivery period was 1965-66 but actually the delivery was completed in 1971-72. In April 1965 we placed another order for K aircrafts, the delivery period was 1971-74 and it was completed in 1973-74. In September 1973

*A denotes a certain number of aircraft.

we placed an order for K aircrafts and the delivery period was 1977-81. Therefore, when I place orders for the K aircraft, I also have to give them a lead time, I also have to consider their production performance in the earlier years and the lead time they need to gear up to a production of 2 A number of aircraft. When I gave an order for A number of aircrafts, at that time they were geared to produce A number of aircrafts. Suppose I placed an order for 2A number of aircrafts in 1967, they would be delivering me 2A number aircrafts only in 1981-82.”

1.25 During their visit to the HAL complex in June, 1983 Study Group-I of PAC were informed by the Chairman, HAL that before placing the order for the supply of Trainer Aircraft on the foreign supplier, the Air Headquarters had asked the HAL if it was in a position to meet the Trainer Aircraft requirement of the Air Force. The production capacity of HAL at that time (1974) was a number of Trainer Aircraft. To meet the requirement of Air Force, production capacity of HAL had to be increased from A to 2 A number of aircraft a year which would have taken a period of three years. In other words, the HAL could have started meeting the entire requirement of the Air Force from the year 1977 onwards. The Study Group were also informed that HAL could increase production by 20 per cent a year within a relatively short time without any substantial addition to plant and machinery. When asked about their reactions to the statement, Defence Secretary stated before the Committee as follows :—

“I am merely saying that this expectation that if you had placed the order in 1974, you would have got delivery at the rate of 2A number of aircraft in 1977-78 appears to be a little to optimistic than warranted by actual performance.”

1.26 The representative of the Department of Defence Production stated as follows :—

“The capacity had to be augmented from the stabilised strength from A to 2A per annum. For this the jigs and facilities would require to be duplicated. 3 to 4 years time span would be required to reach the figure of 2A per annum.”

1.27 The Committee desired to know the cost of expanding the capacity of HAL to increase production from A Trainer aircraft to 2A aircraft a year. In a note, the Ministry of Defence have stated as follows :—

“The need for additional requirement of aircraft similar to aircraft ‘K’ based on long term plan of Air Force was first made known to HAL in April 1974. However, for not taking up production to meet additional requirements of aircraft ‘K’ within the time frame indicated by the Air Force, HAL has stated that it had already decided and was gearing for stepping up the production rate of aircraft ‘K’ from A aircraft per year to 2A aircraft per year. HAL was prepared to take up the production

but the order was not placed on it. The order for the 4th batch of aircraft was placed in September, 1974 *i.e.* after lapse of 4 years. These aircraft were delivered on schedule except 4 aircraft. In this regard it has been stated that it would have been possible to step up the rate of production for the 4th batch had adequate lead time (3 years) been given for duplicating jigs, procuring material fabricating detailed parts, etc. Had such not been given to HAL, the additional production could have been increased to 2A aircraft from 1974-75.

The cost of expanding the capacity of HAL to increase production from A trainer aircraft to 2A trainer aircraft a year would have been approx. Rs. 50 lakhs for duplicating jigs and fixtures and augmenting other facilities marginally."

1.28 The Committee desired to know the reasons for importing trainer aircraft when a public sector undertaking was already engaged in the manufacture of trainer aircraft. In reply, Defence Secretary stated :

"We are not dependent any more. I placed an order for aircrafts in 1965 which could be delivered in 1971-72, in 1972-73 and in 1973-74. If this is the situation in 1973-74 when I am planning my requirements for jet trainer aircraft for the period from 1974 to 1977, on what basis can I place order for supplying more than A? Considering their capacities, consider their preparation, considering capabilities and performance as evidenced in delivery from year to year, it was felt that they could not deliver more than A aircrafts at that point of time. If you ask me that in 1977 they would have been prepared to deliver 2A aircrafts, I will say yes, but these 2A aircraft would have been delivered only from 1981-82 onwards."

1.29-1.30 The Committee desired to know as to why it was not deemed necessary initially to evaluate in consultation with HAL as to how and in what manner HAL's capacity should be raised from A to 2A. The Defence Secretary explained as follows :

"As a matter of fact, I would like to submit to you that this is the statement of HAL itself that in 1974 their production capacity of a trainer aircraft was fully taken into account while planning for jet aircraft in the period from 1975 to 1977."

1.31 He further added :—

"As a matter of fact, in our planning of jet aircraft we took into account 2A Jet aircraft from 1977-78 to 1979-80. But what happened is, as I explained to you, we had imported certain number and meanwhile our training requirements fell and the number, as revised was brought down and therefore, we had to take an account of stock of the trainer aircraft we have on ground and in the skies at that particular moment and there-

fore, we have to tell the HAL that instead of delivering to us 2A aircraft, they should deliver at the rate A only."

1.32-1.33 Asked whether HAL was now in a position to meet the requirements for training aircraft, the Defence Secretary stated as follows :—

"As a matter of fact, we have done a complete survey of our trainer sources and you will be pleased to know that for our basic training we have asked HAL to develop an aircraft called HT-32 which they have developed and which will phase out HT-2. We have also asked HAL to develop K Mark-II. They have already developed K Mark-I for which we have already placed order. Our entire planning is that K Mark-II shall take the place K Mark-I once we get adequate number of K Mark-II."

1.34 The Defence Secretary confirmed that their present demand for trainer aircraft was being fully met by HAL.

1.35 In reply to a question, the Ministry of Defence have stated that aircraft Division, HAL Bangalore Complex, started working in 2 shifts from 1974 onwards.

1.36 The Committee desired to know the average increase in manufacture of aircraft as a result of introduction of second shift. The Ministry of Defence have stated as follows :—

"There were 3 different types of aircraft viz : M, K and G/A being manufactured by the Aircraft Division in the years 1971-77. The manufacturing programme is drawn up depending upon the orders placed by IAF and the capacities established for each type of aircraft especially in the sub-assembly and final assembly phases of production. The A aircraft was productionised and deliveries commenced in 1976-77. In view of this, it is difficult to quantify the increase in the manufacture of aircraft due to the introduction of second shift because of the variation in tasks for different types of aircraft and the difficulty in immediately increasing the capacity in the assembly phase of production for aircraft for which orders existed."

1.37 Asked whether the installed capacity of the undertaking for production of aircraft 'K' was being fully utilised, the Ministry of Defence have stated as follows :

"Due to revised delivery schedule for aircraft 'K', the installed capacity of aircraft 'K' could not be fully utilised."

1.38 The Committee desired to know whether this spare capacity was utilised for some other purpose or it was not utilised at all. The Commit-

tee also enquired as to how the manpower earmarked for the aforesaid purpose was utilised during this period. In a note, the Ministry of Defence have stated as follows :—

“The spare capacity of about 10 lakhs manhours per year could not be utilised towards other projects due to the phasing out of M aircraft and hold up in the production in the A Trainer aircraft due to defective Hobson Units (imported).

The surplus manpower had to be booked idle for want of work during the period 1977-78 to 1979-80.”

1.39 As aircraft ‘L’ could not be fully utilised, the Committee desired to know whether the Ministry was not feeling in retrospect that it would have been better to expand the capacity of HAL and meet the entire or part of the demand indigenously. In reply, the Ministry of Defence have stated in a note :

“Looking back in retrospect, the actual requirement of trainer aircraft for the number of trainees actually inducted during 1975-77, can be calculated. It is found that there would still have been a shortage of about certain number of trainer aircraft for different courses of the Extended Contingency Training Plan. HAL was not in a position to meet the full requirements in time.”

1.40 The Study Group I of the Public Accounts Committee which visited HAL in June, 1983 were informed that at present, HAL had been laden with excess idle capacity though the precise extent thereof could not be indicated. The Committee, therefore, desired to know as to how the Government and HAL proposed to make fuller utilisation of the installed capacity of HAL. The Ministry of Defence have stated as follows :—

“HAL’s steps to utilise surplus capacity include, inter alia, production of D aircraft in Kanpur to utilise the surplus capacity there and diversification, where possible also. To the extent feasible, action has been initiated for work sharing. The facilities at Barrackpore Branch Factory are also proposed to be used for manufacturing Ground Handling Equipment to meet the needs of all the Divisions.”

1.41 In reply to a question, the Ministry of Defence have stated that at present trainer aircraft were not being imported in the country.

Utilisation of aircraft for training purpose

1.42 The Committee desired to know the capacity utilisation in terms of hours per day or per month for the trainer aircraft. The Defence Secretary stated :—

"I have got the figures with me. There are two things, the serviceability and the utilisation. So far as Kiran is concerned, in 1975, it was 44 per cent and the utilisation was 20 hours per month, per aircraft."

When asked if this was the maximum capacity, the witness replied that the maximum capacity was 30 hours per month.

1.43 Asked as to why it could not be used for more than 30 hours per month, the Defence Secretary explained :—

"There are three factors. One is the training plan and the training needs; the second is the maintenance requirements and the third is the spares which are available for keeping the aircraft flying. Taking all that into consideration, what has been prescribed is 30 hours a month. That is the average for every trainer aircraft".

1.44 Asked further if there was any technical barrier to utilise it for a longer period, the representative of Air-Headquarters stated as follows :—

"During the peak period of training, the utilisation comes to 5 to 7 hours per aircraft per day. A course is of a 5-month duration. In the beginning, they do not fly, they get ground training. Towards the end of the course, there is the final test. The flying is done for 3-1/2 to 4 months. But the total flying hours are worked out over a 5-month period. That is why it comes to 30 hours per aircraft per month. If you take the peak months, sometimes, they fly for 50 hours or 60 hours or even 70 hours. 30 hours is an average for the course."

1.45 In a subsequent note furnished to the Committee, the Ministry of Defence have stated as follows :—

"The pilot training conforms to the following pattern :

(a) Basic Stage	—22 weeks duration
Break period	—4 weeks „
Advanced stage	—22 weeks „
Break period	—4 weeks „

Commencement and termination dates are usually around 10 January/10 July and 10 June and 10 December, respectively. The break periods are then from 10 June to 10 July and 10 December to 10 January.

(b) The above durations cannot be changed as these are based on taking the following factors into account :—

- (i) The flying training syllabus.
- (ii) The flying days actually likely to be available.
- (iii) The output from NDA which constitutes the bulk of trainees in each course which is once in six months.

(c) Very little flying can be carried out during the monsoon period (mid June to mid August) and hence this period in the main has to be devoted to a break and ground training. This period cannot be considered for inclusion as one of regular training for it will have many non-flying days and doing this would only mean extension in periods of training with its consequent snow-balling effect on subsequent courses.

(d) At the Basic Stage, about 3 weeks in the beginning is not utilised for flying as the trainees are on academics, etc., concerning their commencement of flying, and about 2 weeks at the end of the course is not utilised for flying due to the tests, passing-out parades. In the Advanced Stage, it is 1 week and 2 weeks respectively.

(e) Once flying commences, peak flying is carried out from dawn to dusk, fully utilising the maximum number of aircraft, the airspace and maximum runway loading. All plans, and Govt. sanction, are based on this. There is, therefore, no possibility of flying any more sorties per day as there is no cushion in terms of airspace or runway loadings even additional aircraft will not help due to this.

(f) If another course was to be scheduled during the lean periods, it would have to commence (say) by, end-May to make use of the 2 week lean period at the end of course and 3 week period from the beginning of the next course. During this period the monsoon would not permit uninterupted flying training. Therefore, such a course would inevitably run into the period of the next "course with its attendant problems of disturbance. Thereafter, such a course would again have to do a 22 week training (to complete its next stage) and the same problem would again occur. Such a process would keep training in a continuous state of flux instead of it being a regular and stable activity which is absolutely essential".

1.46 The Committee pointed out that in the early 2-3 months, the aircraft were not utilised at all and there was bunching of utilisation in the remaining 2-3 months. The Committee desired to know if the training programme could not be planned in such a manner so as to ensure uniform utilisation of the aircraft. In reply, the representative of the Air Headquarters stated as follows :

"It cannot be planned otherwise. It is a 5-month course. There are monsoons coming in between. During that period, we cannot allow them to fly. He has to do dual sorty. He goes solo in the months of June, July and August. If he does dual, he cannot do solo. So, that is wasted. Our training programme is for 5 months, there is a break for a month and there is another training programme for 5 months. In between the two training programmes of 5 months each, there is a month's break".

1.47 The Deputy Chief of Air Staff further elaborated as follows :

“The training itself is in phases. There is one phase which lasts for five months. There is another phase which lasts for five months. It is in two phases.”

1.48 The Committee further enquired if it was possible to so plan the training programme that it would result in increasing rate of utilisation of the aircraft. In reply, the representative of the Air-Headquarters stated as follows :

“We have tried to do this. But our main intake is dovetailed with the NDA and that is dovetailed with University examinations. They come out every June and December, every six months. Our dates of commencement of training are always in June and December.”

1.49 The witness further added :

“We have two major entrance into the flying. One is the NDA and the other is the NCC. They have to pass out in June and the NDA in December. They get a break of three to four weeks. And then they start in January. So, for the NDA they start in July and in January. That is obvious. What you are talking of is this. Second stream is the direct entry. There, we have the N.C.C. In the N.C.C. they are all graduates. The courses are dovetailed with the University Examination. They are available to us only in June. If we start in June or July, the course, that is, after five to six months, again, we will start it in January.”

1.50 Elaborating further, the Defence Secretary stated as follows :

“The point is this. There were two courses actually. The training, as you would have seen is in three stages—stage 1 is basic ; stage 2 is advanced ; stage 3 is what we call Applied. After that, of course, they go to a further training for the fighter squadron or the converted course. As far as the NDA and NCC are concerned, these are the principal sources of intake. Apart from that, we have ex-airmen who are available in certain numbers. We project a certain number of intake from the foreign source—it may materialise or may not materialise. It all depends on how many are actually available. When we are planning a course from one to the other, it is not as if one course finishes, the other commences. Some courses are also continuous. For example before Stage 2 is over Stage 3 of the earlier batch comes. What I am saying is this. Actually what we are doing is what you have suggested, There is a continuous over-lapping. It is not that the same batch of trainees at any point of time will be going to different courses. There are different terminal timings that these courses are running. Therefore, these courses are so structured that our training resources is in terms of aircraft and in terms of ground facilities. They go at a point of time for training. Only some men are put in. If we do anything more than this, it may

lead to not only a certain degree of confusion but also under utilisation of the training facilities”.

Shortfall of trainer aircraft

1.51 It was stated by the Ministry of Defence in February 1975 that with the existing assets of aircraft ‘K’ (including the anticipated deliveries) it would not be possible to impart training to more than 67 per cent of the output from the Elementary Flying School. When asked about the basis of this conclusion, the Ministry of Defence have stated in a note :

“The anticipated jet trainer aircraft requirement was worked out for training certain number of pupils per course who were expected to complex to their training on piston trainer aircraft during 1975 and 1976 (116 PC to 119 PC). The total yearly jet trainer requirement of the Air Force (including all units using these aircraft and allowing for the Maintenance Reserve and anticipated Strike Off Wastage) was worked out. Against this expected requirement, the K assets were expected to build up to the extent of only 61%, 67% and 68% of the actual requirement. It was, therefore, observed by the Ministry of Defence in February 75 that, with the existing assets of aircraft (including anticipated deliveries from HAL), it would not be possible to impart training to more than 61% of the trainees output from the Elementary Flying School.

Air HQ had formulated a long term training plan for pilots (1977-86) in 1973-74. This long term training plan envisaged an increased intake per year from 1977 onwards. However, in the interim period i.e. during 1974-76 it was planned to gradually increase the intake to finally reach the long term training plan figure. The contingency training plan and the extended contingency training plan were the interim training plans and the aircraft for this showed a deficiency of jet trainers during 1975 and 1976. The review of this requirement by Ministry of Defence in Feb 75 for the extended contingency training plan period was based on the number of trainees who were already in the pipeline”.

1.52 It was stated in August 1974 by the Air HQ that the trainees under the extended contingency training plan for 4 courses commencing during the period July 1975—January 1977 were already in the pipeline. But, actually the number of trainees inducted/trained in these courses fell short of the sanctioned strength by 20 to 47 per cent. When asked about the reasons for not taking into account this fact at the time of review conducted in Feb. 1975 by the Ministry of Defence on the basis of which import of aircraft ‘L’ was allowed, the Ministry of Defence have stated in a note as follows :

“The trainee intake figures forecast for the period Jul. 75 to Jan. 77 were based on the actual wastage rates of the immediate past as noted in August 74. The actual wastage rates for the courses in 1976 and

1977 happened to be more than planned. This could not be foreseen in 1975 when the decision for import was taken”.

1.53 The Committee enquired as to whether an analysis has been made as to why the actual wastage rates for the Courses in 1976-77 were more than planned. The Ministry of Defence have stated as follows :

“Analysis of wastage rates in flying training is a continuing process. The ability of a trainee to become a service grade pilot cannot be ascertained in advance. Pilot aptitude tests, covering physical co-ordination and psychological suitability, are an integral part of the selection process but these are only a general guide. For planning purposes, there is no option but to allow for an anticipated wastage which is empirically derived from the averages of previous years. The unexpectedly higher actual wastage rate for these courses in 1976-77 could not be attributed to any specific cause. Therefore, necessity for a detailed analytical Study in this matter was not felt”.

1.54-1.55 The Committee desired to know the reasons for the intake in the above cases being much less than planned. In a note, the Ministry of Defence stated as follows :

“The actual intake from Airmen and NCC sources were less than planned as a much lower number of candidates came up to the requisite standards against the figures that was anticipated”.

Procurement of aircraft 'L'

1.56 An agreement was entered into in April 1975 with the Government of country 'X' for the purchase of a certain number of aircraft 'L' and associated ground equipment at a total cost of Rs. 14.61 crores. Three separate contracts were concluded at the same time laying down the technical specifications of aircraft 'L' etc. for the training of Air Force personnel (Rs. 32 lakhs) as well as for the purchase of spares, test equipment and training aids (Rs. 1.74 crores). The contract for purchase of spares etc. included an option clause for the purchase of certain armaments and ammunition (Rs. 42.40 lakhs) and test equipment (Rs. 7.43 lakhs), to be exercised not later than 15th August, 1975.

1.57 Under the agreement of April 1975, the supplier guaranteed that the aircraft supplied would be fit for operation under tropical conditions and in respect of possible defects occurring due to the utilisation of the aircraft under tropical conditions in India, necessary remedial measures would be taken by the supplier to rectify defects/replacement of necessary components at his own cost including transportation to and from country 'X'.

It has been pointed out in the Audit Para that an Air Force Team had evaluated in May-June, 1974, aircraft 'L' and 'M' manufactured by countries 'X' and 'Y' and the Team in its Report had stated that while aircraft 'L' was

priced at Rs. 26.2 lakhs against a price of Rs. 41.29 lakhs of aircraft 'M', aircraft 'L' was technologically outdated by 10 years and was neither designed nor had experienced intensive operations under tropical conditions.

1.58 The Committee desired to know the reasons for selecting aircraft 'L' (manufactured by country 'X') which was technologically outdated by 10 years and was neither designed nor had experienced intensive operations under tropical conditions. The Ministry of Defence have stated as follows :

"Although 'L' aircraft, manufactured in 'X' was technologically 10 years old and was not designed to operate under tropical conditions it was selected for the following reasons :

- (a) The other aircraft 'M' was not available in adequate numbers in the required time-frame.
- (b) 'L' aircraft was a proven trainer and met the Air Force requirement.
- (c) 'L' aircraft was cheaper by Rs. 15.09 lakhs per piece as compared to the other aircraft.
- (d) The manufacturers of 'L' had given the following assurance for tropicalisation and maintenance support in India :

The supplier shall ensure that aircraft, aero-engines and aggregates to be supplied to purchaser are manufactured in accordance with technical specification of the supplier. The supplier hereby guarantees that the aircraft supplied will be fit for operation under tropical conditions and meet the performance indicated in Annexure 2 to this Agreement. In respect of possible defects occurring due to utilisation of the aircraft under tropical conditions in India, necessary remedial measures will be taken by the supplier to rectify such defects/replace the necessary components at his own cost, including transportation costs to and from Country 'X' if necessary. For this purpose, the supplier may depute adequate specialist staff at his expense. In addition, modification kits in respect of safety modification will be supplied free of cost by the supplier".

1.59 The Committee enquired why aircraft 'L' was purchased when the same was technologically outdated. In reply, Defence Secretary stated before the Committee during evidence :

"We have comparatively evaluated it by our team of Air Force officers headed by Air Marshal. I have got the comparative data in terms of design and technology. It is said here that 'M' design is a basically advanced jet trainer on the specification given in 1967. But, the production commenced in 1973. It is not that aircraft of Country 'X' were defective. 'L' was designed in 1955. Its production was from 1964. The aircraft is a basic trainer aircraft whereas here the system is of an older

type. It is a fact that M was an aircraft of the later design. But, what we were looking for was one which was capable of being supplied at a given point of time to fill our shortfalls in trainer resources. It is the expert's opinion that the basic performance of 'L' met the quality requirements under which the purchases were made. At no stage it has been questioned by anybody that the basic design features or the basic systems of 'L' did not conform to the specifications or the assessment which was made by us. Secondly, the maintenance of aircraft was much cheaper and even the price of this aircraft was half. The most important thing was that this aircraft was available in April, 1975 while M was not available till the middle of 1976. As it was a purchase to meet a shortfall which was foreseen in the period from 1975 to 1977, the basic rationale of the purchase would have possibly not been met if this aircraft was not chosen.

Again, I would like to submit to the Committee that the impression that this aircraft is not a good aircraft is not borne out by facts. As a matter of fact, this aircraft on every point has been found to be satisfactory and this aircraft is to be kept for training upto 1995.

I would also like to submit certain facts which will possibly remove the impression that this aircraft is not a good aircraft. As a matter of fact, my Air Force officers will tell you that this aircraft is not only a good aircraft but it has functioned very adequately for the purpose for which it was purchased.

You, take, for example, 'L' Aircraft. The serviceability in 1976 was 75.4 per cent ; in 1977, it was 70.6 per cent and it dropped in 1978 because of bearing failures to 44.2 per cent ; but in 1979, it picked upto 69 per cent ; in 1980, it was 63.3%, in 1981 it was 76.2 per cent and in 1982, it was 64.57 per cent".

1.60 The Committee desired to know which out of the aircraft 'L' or 'M' would have been preferred, if the prices of both the aircraft were the same. The Defence Secretary stated as follows :

"If the prices were the same, same maintenance schedule, same delivery period, I would have gone for the other aircraft. I have gone for the aircraft because of four factors--it conforms to our basic requirements ; it was half the price compared to the other one ; maintenance was 1/5th cheaper and delivery was in April, 1975".

1.61 The Committee enquired whether the Indian Air Force accept the assurances given by foreign suppliers in such matters without themselves testing the plane intensively. In a note, the Ministry of Defence have stated as follows :

"Any aircraft which is considered for acquisition by the IAF is flight evaluated to ascertain that the aircraft performance meets the operational

requirement (QRs). However, if the aircraft is offered for evaluation in the country of manufacture only, the assurances given by the Manufacturers are accepted and to cater for any deviations later or any unforeseen problems that may arise at a later date, the associated contract is provided with suitable provision to safeguard the interests of the Government".

1.62 An expert team was sent to the foreign country to have the evaluation of the particular aircraft. The Committee enquired whether this aircraft was then exposed to the tropical conditions of the country. In reply, Defence Secretary stated before the Committee :

"There was an undertaking or a guarantee taken that it will be tropicalised. On that guarantee we did it. I can tell you that tropicalisation has been no problem with this aircraft at all".

1.63 Asked whether the tropical conditions were responsible for the bearing failure, the Defence Secretary explained as follows :

"The oil intake pipe which was there in the original design allowed intake of very little oil. So when they changed the bearings, they have modified the design and the base through which the oil passes through has been slightly enlarged".

Failure of Engines

1.64 According to the Audit Paragraph, the engines of aircraft 'L' developed engine bearing failures prematurely bringing down the service ability of the aircraft to 33 per cent of the fleet in the year 1978. The defects noticed in these engines were investigated in November 1977 by the supplier and the issues arising out of the defects were discussed with the representatives of the supplier. It was claimed by the supplier that the only cause of the bearing failures of the engines under operation in India was the use of lubricant 'N' of a particular batch of production which contained some unidentified additives and which did not meet the operational requirements of the engines.

1.65 The Committee desired to know whether lubricant 'N' was got cleared from the manufacturer before use. The Ministry of Defence have stated as follows :

"The lubricant oil (Aeroshell 307) was not got cleared from the manufacturer of engine, as this is not the normal practice followed for clearing of the lubricant oil before use. The normal procedure is to check the specification of the oil and if these conform to the recommended oil in use, then the oil is cleared. This fact was confirmed from the oil manufacturers before use. After the engine manufacturers stated that some unidentified additives in the lubricant oil (Aeroshell 307) caused the engine bearing failures, the same oil was repeatedly tested, both in India and in Country 'X', and it was found to be fully conforming to the recommended specification".

1.66 It has been stated in the Audit para that it was agreed to pay a sum of Rs. 8 lakhs to the supplier in order to arrive at a fair and equitable settlement with regard to the expenses of Rs. 57.23 lakhs incurred by the supplier.

1.67 The Committee desired to know the specific grounds on which the compromised amount of Rs. 8 lakhs was paid to the supplier of aircraft 'L' when it was claimed by the Indian side that the engine bearing failures and its rectifications were the responsibility of the supplier. In reply, the Ministry of Defence have stated in a note :

"The problem posed by a large number of bearing failure was first discussed with the engine manufacturer in June 1979. The Indian delegation brought out that the responsibility for establishing compatibility of Aero-shell 307 oil with SO-3 engine rested with the manufacturers. The manufacturer should have visualised changes in maintenance procedures required for operating these engines with this oil, specially in tropical conditions. The statistics to prove, that the cause of engine failure, was not due to the use of a particular batch of oil (1976 batch) as claimed by the delegation of country 'X' were brought out by the Indian side. In fact, a number of engines run on this oil, had behaved normally, for their full life during time between overhaul, while at the same time only a few engines had experienced bearing failure.

The suppliers based their argument on various tests carried out by them and blamed some unnamed contaminant in the 1976 batch of oil. Since the actual cause of bearing failures could not be conclusively established both sides, stood by their respective view point. The delegation of country 'X' pointed out the large financial effect to them in supplying 6 new engines, repair of 20 engines, extensive laboratory tests on Aero-shell 307 oil, etc., while the Indian side brought out the high cost of transportation of engines as well as the recurring cost of importing the substitute oil AW 30 which has a short shelf life. During fresh discussions held at New Delhi on 22 March 80, it was decided between the two delegations that, to arrive at a fair and equitable settlement in regard to expenses incurred by both sides, India would agree to pay US \$ 100,000 only while the balance was to be borne by country 'X'. This latter amount was estimated by suppliers as US \$ 7,84,000 while the Indian estimates for the same were US, \$ 5.98,000".

1.68 It is seen from the Audit Paragraph that to eliminate the logistical difficulties caused by the short life of lubricant 'O' the supplier was carrying out studies to extend its life by a year. The Committee, enquired whether this study has been completed and with what outcome. The Ministry of Defence have stated as follows :

"As a result of the study the suppliers have been able to extend the life of Lubricant 'O' from six months to one year".

1.69 After the middle of 1978 lubricant 'O' (which has a short life) from country 'X' was brought into use and there were no bearing failures of these engines. The Committee desired to know the recurring extra expenditure incurred in transporting lubricant 'O' by air from country 'X' and also whether this lubricant was still being used. The Ministry of Defence have stated as follows :

"The replacement lubricant AW-30 (Lubricant 'O') is still being used and the recurring expenditure for transporting the lubricant is Rs. 22.73 per litre. The year-wise total recurring expenditure for transporting lubricant is as follows :

Year	Cost in US \$	in Rs	Rate per US \$
1978	13756.34	Rs. 1, 17, 272, 79	Rs. 8.525
1979	38556.04	Rs. 3, 16, 159, 52	Rs. 8.20
1980	43880.40	Rs. 3, 51, 043, 20	Rs. 8.00
1981	7140.00	Rs. 59, 119. 20	Rs. 8.28
1982	14280.00	Rs. 1, 34, 803. 20	Rs. 9.44
1983	19634.50	Rs. 1, 91, 436. 37	Rs. 9.75

(till May)

1.70 It is seen from the Audit Paragraph that as a consequence of the set back in the performance of aircraft 'L' due to inadequate product support and restricted supply of lubricant 'O', the number of aircraft that could be sustained operationally (since 1979) at the training establishment was only about 50 per cent of the assets held and the authorised holding of the aircraft had been reduced. The Committee, therefore, enquired about the extent to which the training programme at the training establishment was adversely affected. In reply, the Ministry of Defence have stated in a note :

" 'L' aircraft were utilised as a supplement to K jet trainers. The reduced availability of Aircraft 'L' was compensated by K aircraft and the training programme was not adversely affected".

1.71 Asked as to why timely corrective measures were not taken in the matter, the Ministry of Defence have stated as follows :

"The inadequate product support mainly related to the supply of engine oil ex-country X. The problem arose because of the short shelf life of the oil (6 months). Due to normal delivery time of 2-3 months the effective life left for utilisation of oil in India was further reduced. To overcome this problem oil Aeroshell-307 of different foreign origin to the same specification as of country 'X' origin oil was substituted with the manufacturers concurrence. However, following introduction of this A oil some

engines experienced bearing failure which was attributed by the manufacturers as due to the presence of some unidentified additives in the 1976 batch of A oil. Although this was contested by the Indian side, as a precautionary measure, the use of A oil was discontinued and reverted to the use of country 'X' origin oil (Lubricant 'O'). Simultaneously the manufacturers were asked to carry out extensive tests with a view to increase the shelf life of lubricant 'O'. As a result the shelf life of lubricant 'O' has now been increased from six months to one year.

The supply of another essential item i.e. PC-750 converters, AG=D+1 transmitter and 12V 28 SAM batteries was also not very regular. Country 'X' side could not maintain steady supply of these items and did not adhere to the time schedule since they had come difficulties in the production line due to internal problems. Now we have established supply of the item 12 SAM battery) through indigenous production. The availability of converters and AG Transmitters has also become satisfactory".

Extra Expenditure due to not exercising the option in time

1.72 According to the Audit Paragraph, as the option clause in the contractor of April 1975 for the supply of armaments and ammunition was not exercised before the specified date and these stores were received 4 years later under a separate contract concluded in May 1977 for this purpose, the same were not available for imparting training during the period 1975-76. The Committee, therefore, desired to know as to why the aforesaid option was not exercised before 15th August 1975, as provided in the contract and how far the non-availability of the aforesaid armaments had affected the training. In reply, the Ministry of Defence have stated in a note as follows :

"The delay in exercising the option for armaments stores had become inescapable due to the following reasons :

- (a) The main contract for the purchase of aircraft 'L' was finalised on 10 April 75 and the armament stores could not be paid for under the main contract due to paucity of funds.
- (b) Before exercising the option it was necessary to finalise the armament training scale to avoid any excess provisioning of armaments. As the procedure for finalising the scales is involved, it was not possible to exercise the option within the stipulated period.
- (c) Aircraft 'L' were to be utilised as a supplement to the K Trainer which was also not an armed version. Although armament training could not be carried out till 1979, the training was uniform for all courses, and the trainees carried out this phase in subsequent fighter training stages. In any case even if the option of armament stores had been exercised before 15 Aug 75, the stores would not have been delivered before the second half of 1978."

Overhauling of engines and airframes

1.73 While considering import of aircraft 'L' the Air HQ had started in July 1974 that the costs of major overhaul of airframes and engines of aircraft 'L' were significantly less as compared to those of aircraft 'M'. The agreement of April 1975 for purchase of aircraft 'L' also envisaged that full assistance would be provided by the supplier to establish overhaul facilities in India. For this purpose, a project team was sanctioned in November 1975 by the Ministry of Defence. A joint study conducted for examining the feasibility of setting up overhaul facilities for engines had revealed that the cost of overhaul in India would be higher (by about Rs. 0.03 lakh) than that in country 'X'. A contract was concluded in August 1976 with the supplier for the overhaul of engines during 1977-78 at the rate of Rs. 2.08 lakhs (representing 43 per cent of the purchase cost of this engine). Though a similar study was to be conducted for overhaul of airframes, the study was withheld by the Air HQ pending reconsideration of the long term utilisation of aircraft 'L'. In view of the small fleet strength of aircraft 'L' and uncertain product support from the supplier it was finally decided to arrange for the overhaul of the airframes also from abroad. For this purpose, a contract was concluded with the supplier in March 1980 for overhaul of airframes at the rate of Rs. 12.80 lakhs.

1.74 The Committee desired to know whether the engines and air frames of aircraft 'L' were still being overhauled abroad and if so, the total expenditure incurred on overhaul of these engines and airframes abroad. The Ministry of Defence have stated as follows :

"The engines and airframes of 'L' aircraft are still being overhauled abroad. The total expenditure incurred till June 1983 was US \$ 38,31800.00 or (in Rs. 3,73,60,050) The contract-wise break-up of expenditure incurred since 1976 is given below :

AEROENGINE

Contract No. and Date	Qty. Overhauled	Total amount in US \$
1	2	3
12655 31.8.76	44	1144000.00
12920 27.7.79	40	1316600.00
Supplement 1 to Contract No. 12920	2	39100.00
41212 09.06.82	42	1784720.00
		Total 1.355.70000
		Confirmation has been received Qty, 4 ready after overhaul.

1	AIRFRAME	
	2	3
12921	39*	7134700.00
28.3.80		

*Note : Out of 39 Air frame Qty. 20 was overhauled upto Dec. 83.

- (ii) The feasibility of establishment of overhauling facilities for both the aeroengine and the airframe of aircraft 'L' in India is under consideration in consultation with country 'X' specialists. The final decision will be taken after considering the economic viability of the project."

1.75 The Committee further enquired as to why efforts were not so far made in creating indigenous over-hauling facilities for these aircraft and how much financial savings would have been effected had these facilities been set up in India. In reply, the Ministry of Defence have stated in a note as follows :

"(i) The overhaul facilities were not created in this country because of the following :

- (a) Uncertainty regarding long term utilisation of these aircraft.
- (b) Bearing failures experienced in the year 1977-78. It was not definite whether aircraft operation would stabilise.
- (c) Looking to the long term use envisaged for these aircraft now the feasibility of establishing these facilities is under examination both in respect of air frame and aeroengines. The final decision will be taken after considering the economic viability of the project.

- (ii) There was no saving possible so far as the overhaul of engines was concerned. As no complete financial study was undertaken for the airframe overhaul earlier, it is not possible to indicate whether any saving would have accrued and, if so, to what extent".

1.76 The Committee further enquired whether there was any change in the training programme since the authorised holding of aircraft 'L' were reduced due to poor serviceability of the aircraft. The Ministry of Defence have stated as follows :

"There was no change in the training programme in the flying training establishments. The number of trainees were accordingly adjusted and K. aircraft were used for the training of the balance of the trainees in the Applied Stage".

1.77 The Committee desired to know whether in view of a number of accidents of training aircraft, it was felt that the present training aircraft

available in the country were technologically satisfactory. The Ministry of Defence have stated as follows :

“There was three types of trainer aircraft currently in use (the HT-2, ‘K’ and ‘L’). A few HT-2 have been re-engined and the majority of the old HT-2 aircraft will soon be replaced by the indigenously-developed HPT-32 piston trainer aircraft. Along with the K, and aircraft ‘L’, these will be suitable for training purposes till 1990. K and ‘L’ were considered technologically satisfactory”.

1.78 Till 1974, advance training to fighter pilots was being imparted on aircraft ‘G’, ‘H’ and ‘K’. Aircraft ‘G’ was proposed to be phased out by December 1974 and aircraft ‘H’ was not expected to be maintained beyond June 1975. In March 1974, a long term pilot training plan was prepared for the years 1977-86, with reference to indigenously manufactured aircraft ‘K’. Simultaneously, for the interim period 1975 to 1977, the Air Headquarters had formulated an extended contingency training plan for the courses commencing during this period. This training programme was drawn up as after the 1971 war it was considered necessary that there should be a long term programme for mobilising the pilot training resources of the country so that at no time the country was found deficient in this field.

1.79 In July 1974, it was felt that to implement this training plan the existing assets of aircraft ‘K’, together with the deliveries anticipated at *A number of aircraft per year and with a maximum utilisation rate of 30 hours per aircraft per month, would be deficient of the requirement by 41 per cent in 1975, 39 per cent in 1976 and 40 per cent in 1977. Accordingly, an agreement was entered into in April 1975 with the Government of country ‘X’ for the purchase of a certain number of aircraft ‘L’ and associated ground equipment at a total cost of Rs. 14.61 crores.

1.80 The Committee are surprised that orders for the import of aircraft ‘L’ were placed without fully exploring the possibility of meeting the increased requirements of trainer aircraft by augmenting the production of aircraft ‘K’ which was being indigenously manufactured by Hindustan Aeronautics Ltd., a public sector undertaking. The design and development work of aircraft ‘K’ was undertaken by HAL in 1950 and the first aircraft flew in September 1964. Though the production level was low during the earlier years from 1967-68 to 1972-73 due to teething trouble and complexity and magnitude of the project, the average annual production rate of A number of aircraft was maintained during the period from 1973-74 to 1976-77. According to the Chairman of the HAL, the undertaking would have taken a period of three years for increasing its production capacity from A number to $2 \times A$ number of aircraft a year with an additional investment of only about 50 lakhs.

Further, the HAL, according to its Chairman, was in a position to increase production by 20 per cent a year within a relatively short-time without any

*A denotes certain number.

substantial addition to plant and machinery. From a note furnished by the Ministry of Defence, the Committee find that "HAL was prepared to take up the production, but the order was not placed on it" and further "Had such notice (lead time of 3 years) been given to HAL, the additional production could have been increased to 2×A number of aircraft from 1974-75".

1.81 The Committee are of the opinion that if the order for additional requirement of trainer aircraft was placed on the HAL in 1974, it could have started meeting the entire requirements of the Air Force from the year 1977 onwards. Had the HAL been contemporaneously apprised of the enhanced requirements, necessity for which was felt after 1971, it would have in fact been in a position to meet the enhanced requirements right from the year 1974-75. The Committee cannot but express their deep concern at the manner in which the Ministry of Defence took a decision to import trainer aircraft at a cost of more than Rs. 14 crores involving scarce foreign exchange without fully utilising the indigenous capacity available. The Committee are convinced that had the training programme drawn up realistically and indigenous capacity for manufacture of trainer aircraft been fully utilised, the need for import of trainer aircraft would not have arisen. This view is further reinforced by the fact that even later on when the utilisation rate of imported aircraft came down to 44.2% because of engine bearing difficulties, the training programme was carried on by better utilisation of indigenous aircraft 'K'.

1.82 While HAL was engaged in stepping up the production rate of aircraft from A number of aircraft per year to 2×A number of aircraft per year, the original delivery schedule for the years 1977-78 to 1980-81 was revised and reduced to almost half. Due to this revision in delivery schedule, the capacity of HAL for about 10 lakh manhours per year could not be utilised. The Committee view it with grave concern as due to lack of proper planning on the part of the Ministry of Defence, the surplus capacity had to remain idle for want of work during the period 1977-78 to 1979-80. In the opinion of the Committee it needs to be enquired as to why the order was not placed on HAL and instead, an order of over Rs. 14 crores was placed for import of a foreign aircraft which did not match the indigenous aircraft in performance, when the HAL were all set to meet the requirements of the Air Head-quarters for trainer aircraft. The explanation given by the Defence Secretary in this regard that HAL could not have to met the increased demand is far from convincing.

1.83 The Committee have also been informed that even at present HAL are laden with excessive idle capacity. The Committee strongly recommend that capacity of the HAL, which has been developed over the years with huge public investments for meeting the requirements of Air Force for different aircraft should be utilised optimally.

1.84 The Committee note that before a decision on the import of the trainer aircraft was taken, the Air Force team had evaluated in May-June 1974, aircraft 'L' and 'M' manufactured by countries 'X' and 'Y' respectively. This

team in its Report had stated that while aircraft 'M' excelled in certain areas of performance, aircraft 'L' was technologically outdated by 10 years and was neither designed for nor had experienced intensive operations in tropical conditions. The Committee are surprised that in spite of such an adverse report about aircraft 'L', the authorities decided to go in for it. According to the Defence Secretary, their decision to import aircraft 'L' was based on the facts that "it was half the price compared to the other one; maintenance was 1/5th cheaper and delivery was in April, 1975". The Committee are not convinced with this argument particularly in view of the fact that the utilisation of these aircraft had been far from satisfactory and its suitability for the tropical conditions of this country has not been established.

1.85 The Committee note that the proposal for import of trainer aircraft was made on the assumption that no reduction was possible in the intake of trainees. In [the review conducted in February, 1975, it was observed by the Ministry of Defence that the extended contingency training plan could not be put into operation with the existing assets. Against the sanctioned strength of trainees for each of the 4 courses under the extended contingency training plan commencing during the period July 1975 - January 1977, on the basis of which import of aircraft 'L' was made, the average number of trainees inducted/trained in each of these courses fell short of the sanctioned strength by 47 per cent, 20 per cent, 39 per cent and 28 per cent respectively. Owing to shortfall in the intake of trainees and on account of abnormally high rate of wastage, utilisation of aircraft 'L' fell short of the planned rate of utilisation during the period 1976-78 by 32 to 47 per cent.

1.86 It has been stated by the Ministry of Defence that the trainer intake figures forecast for the period July 1975 to January 1977 were based on the actual wastage rates of the immediate past as noted in August 1974. However, the actual wastage rates for the courses in 1976 and 1977 happened to be more than planned, a fact which could not be foreseen in 1975 when the decision for import was taken. The Committee are not convinced with this argument for, as they observe, even during the year 1973 when the wastage rate of trainees was much less than that in 1974, there was considerable shortfall in utilisation of aircraft 'L'. The Committee would like to express their concern at the lack of realistic estimation parameters in working out the requisite details which had first led to the import of aircraft 'L' and later on to its gross under-utilisation. The Committee recommend that the Ministry of Defence should revise their estimation norms and parameters so that in future such details can be worked out more realistically.

1.87 The Committee note that the engines of aircraft 'L' developed engine bearing failures prematurely which resulted in bringing down the serviceability of the aircraft just to 43.2 per cent of the fleet in the year 1978. During the succeeding years also the serviceability of these aircraft was unsatisfactory due to poor product support and inadequate supply of lubricant 'O'. According to Audit para, the number of aircraft that could be sustained operationally since

1975 was about 50 per cent of the assets held. But according to the Defence Secretary, the serviceability of these aircraft was 69 per cent in 1979, 63.3 per cent in 1980, 76.2 per cent in 1981 and 64.57 per cent in 1982.

1.88 According to the suppliers, the only cause of the bearing failures of the engines was the use of lubricant 'N' of a particular batch of production which contained some unidentified additives. But it was claimed by the Ministry of Defence that the engine bearing failures were attributable to the suppliers, as the same oil was repeatedly tested both in India and country 'X' and it was found to be fully conforming to the recommended specifications. For tropicalisation and maintenance support of aircraft 'L' in India, the suppliers had, *inter alia*, guaranteed that "In respect of possible defects occurring due to utilisation of the aircraft under tropical conditions in India, necessary remedial measures would be taken by the suppliers to rectify such defects/replace the necessary components at their own cost including transportation costs to and from country 'X', if necessary". It is surprising that in spite of the aforesaid categorical guarantee, the Ministry of Defence agreed to pay a sum of Rs 8 lakhs to the supplier for removal of bearing defects in the engines in addition to incurring an extra expenditure of Rs 57.23 lakhs on transportation and other expenses to and fro between India country 'X'. In the opinion of the Committee, it was wrong on the part of the Ministry of Defence to have incurred the aforesaid expenditure of Rs. 65.23 lakhs, as according to the guarantee given by the suppliers, it was obviously their responsibility to meet this expenditure. The Committee deprecate this lack of concern for public funds on the part of the Ministry of Defence.

1.89 The Committee note that alongwith the main agreement of April, 1975, entered into with the Government of country 'X' for the purchase of aircraft 'L', another contract for purchase of spares, test equipment and trainging aids (Rs 1.74 crores) was concluded with them. This included an option clause for the purchase of certain armaments and ammunition costing Rs, 42.40 lakhs and test equipment costing Rs. 7.43 lakhs which was to be exercised not later than 15th August, 1975. The Committee are deeply concerned to note that the Air-Headquarters failed to exercise the requisite option before the stipulated date and a separate contract was concluded with the suppliers in May 1977 for the procurement of these armaments and ammunition, which had resulted in extra expenditure of Rs. 1.64 lakhs. Due to this failure on the part of the Air Headquarters the receipt of these stores was delayed upto October-December 1979. The Committee do not agree with the plea of non-availability of funds for not exercising the option in time. According to the Committee, as the cost of the stores, *viz.*, Rs. 50 lakhs was just a small part of the main contract for Rs 14.61 crores, there should not have been any difficulty for arranging the necessary funds for these imports. Owing to this lapse on the part of Defence authorities, the trainees of the earlier batches could not be imparted training in the vital field of armaments and the training had to be imparted to them in subsequent years. In the view of the Committee, this is yet another instance of lack of proper planning on the part of the Defence authorities.

1.90 Another disquieting feature of the contract is failure on the part of the Defence authorities to establish indigenous facilities for overhauling of engines and airframes of the imported trainer aircraft although it was envisaged in the Agreement that full assistance would be provided by the suppliers to establish overhaul facilities in India. In the absence of indigenous overhauling facilities, the engines and airframes of these aircraft are still being got overhauled from abroad involving huge expenditure in foreign exchange, apart from the fact that these engines and the airframes remain out of use for considerable periods. Upto June, 1983 an expenditure of U.S. \$3831800 or (in Rupees 3,73,60,050) has been incurred on the overhauling of engines and airframes of aircraft 'L' from abroad which the Committee feel is an avoidable drain on the scarce foreign exchange resources of the country.

1.91 According to the Ministry of Defence, the indigenous overhaul facilities could not be created due to uncertainty regarding long term utilisation of these aircraft and the uncertainty whether the operation of these aircraft would stabilise due to the bearing failures experienced in the year 1977-78. The Committee do not see force in this argument as the Defence authorities have now themselves realised, although belatedly, the need for establishing these facilities indigenously and the matter is stated to be under examination. The Committee recommend that the examination of the matter should be expedited so that at least now on the outgo of foreign exchange could be avoided.

1.92 The facts narrated above abundantly prove that the whole expenditure of Rs. 14.61 crores in foreign exchange apart from the other expenditure incurred thereon was unnecessary and could have been avoided. There appears to be a growing tendency on the part of Defence authorities to go in for imports even when the demand can be met from indigenous sources. This, to say the least, is very disturbing. The fact that Parliament is so generous in granting funds for defence needs casts an additional responsibility on the Defence authorities to act with caution particularly when a proposal involves outgo of scarce foreign exchange. The Committee recommend that the whole matter should be examined in detail with a view to identifying the drawbacks in the system which allowed a variety of lapses to occur and to take necessary steps for obviating such lapses in future. The Committee would like to be apprised of the action taken in this regard within six months.

NEW DELHI;
April 27, 1984
 Vaisakha 7, 1906(S)

SUNIL MAITRA
Chairman,
Public Accounts Committee

APPENDIX

Conclusions and Recommendations

S.No.	Para No.	Ministry concerned	Conclusions/Recommendations
1	2	3	4
1	1.78	Defence	Till 1974, advance training to fighter pilots was being imparted on aircraft 'G', 'H' and 'K'. Aircraft 'G' was proposed to be phased out by December 1974 and aircraft 'H' was not expected to be maintained beyond June 1975. In March 1974, a long term pilot training plan was prepared for the years 1977-86, with reference to indigenously manufactured aircraft 'K'. Simultaneously, for the interim period 1975 to 1977, the Air Headquarters had formulated an extended contingency training plan for the courses commencing during this period. This training programme was drawn up as after the 1971 war it was considered necessary that there should be a long term programme for mobilising the pilot training resources of the country so that at no time the country was found deficient in this field.
2	1.79	Do	In July 1974, it was felt that to implement this training plan the existing assets of aircraft 'K', together with the deliveries anticipated at *A number of aircraft per year and with a maximum utilisation rate of 30 hours per aircraft per month, would be deficient of the requirement by 41 per cent in 1975, 39 per cent in 1976 and 40 per cent in 1977. Accordingly, an agreement was entered into in April 1975 with the Government of country 'X' for the purchase

*A denotes certain number.

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			of a certain number of aircraft 'L' and associated ground equipment at a total cost of Rs. 14.61 crores.
3	1.80	Defence	<p>The Committee are surprised that orders for the import of aircraft 'L' were placed without fully exploring the possibility of meeting the increased requirements of trainer aircraft by augmenting the production of aircraft 'K' which was being indigenously manufactured by Hindustan Aeronautics Ltd., a public sector undertaking. The design and development work of aircraft 'K' was undertaken by HAL in 1960 and the first aircraft flew in September 1964. Though the production level was low during the earlier years from 1967-68 to 1972-73 due to teething trouble and complexity and magnitude of the project, the average annual production rate of A number of aircraft was maintained during the period from 1973-74 to 1976-77. According to the Chairman of the HAL, the undertaking would have taken a period of three years for increasing its production capacity from A number to 2×A number of aircraft a year with an additional investment of only about 50 lakhs.</p> <p>Further, the HAL, according to its Chairman, was in a position to increase production by 20 per cent a year within a relatively short-time without any substantial addition to plant and machinery. From a note furnished by the Ministry of Defence, the Committee find that "HAL was prepared to take up the production, but the order was not placed on it" and further "Had such notice (lead time of 3 years) been given to HAL, the additional production could have been increased to 2×A number of aircraft from 1974-75".</p>
4	1.81	Do	<p>The Committee are of the opinion that if the order for additional requirement of trainer aircraft was placed on the HAL in 1974, it could have started meeting the entire requirements of the Air Force from the year 1977 onwards. Had the HAL been contemporaneously apprised of the enhanced requirements, necessity for which was felt after 1971, it would have in fact been in a position to</p>

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meet the enhanced requirements right from the year 1974-75. The Committee cannot but express their deep concern at the manner in which the Ministry of Defence took a decision to import trainer aircraft at a cost of more than Rs. 14 crores involving scarce foreign exchange without fully utilising the indigenous capacity available. The Committee are convinced that had the training programme drawn up realistically and indigenous capacity for manufacture of trainer aircraft been fully utilised, the need for import of trainer aircraft would not have arisen. This view is further reinforced by the fact that even later on when the utilisation rate of imported aircraft came down to 44.2% because of engine bearing difficulties, the training programme was carried on by better utilisation of indigenous aircraft 'K'.

1.82 Defence

While HAL was engaged in stepping up the production rate of aircraft from A number of aircraft per year to 2×A number of aircraft per year, the original delivery schedule for the years 1977-78 to 1980-81 was revised and reduced to almost half. Due to this revision in delivery schedule, the capacity of HAL for about 10 lakh manhours per year could not be utilised. The Committee view it with grave concern as due to lack of proper planning on the part of the Ministry of Defence, the surplus capacity had to remain idle for want of work during the period 1977-78 to 1979-80. In the opinion of the Committee it needs to be enquired as to why the order was not placed on HAL and instead, an order of over Rs. 14 crores was placed for import of a foreign aircraft which did not match the indigenous aircraft in performance, when the HAL were all set to meet the requirements of the Air Head-quarters for trainer aircraft. The explanation given by the Defence Secretary in this regard that HAL could not have met the increased demand is far from convincing.

6 1.83 Do

The Committee have also been informed that even at present HAL are laden with excessive idle

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capacity. The Committee strongly recommend that capacity of the HAL, which has been developed over the years with huge public investments for meeting the requirements of Air Force for different aircraft should be utilised optimally.

7 1.84 Defence

The Committee note that before a decision on the import of the trainer aircraft was taken, the Air Force team had evaluated in May-June 1974, aircraft 'L' and 'M' manufactured by countries 'X' and 'Y' respectively. This team in its Report had stated that while aircraft 'M' excelled in certain areas of performance, aircraft 'L' was technologically outdated by 10 years and was neither designed for nor had experienced intensive operations in tropical conditions. The Committee are surprised that in spite of such an adverse report about aircraft 'L', the authorities decided to go in for it. According to the Defence Secretary, their decision to import aircraft 'L' was based on the facts that "it was half the price compared to the other one; maintenance was 1/5th cheaper and delivery was in April, 1975". The Committee are not convinced with this argument particularly in view of the fact that the utilisation of these aircraft had been far from satisfactory and its suitability for the tropical conditions of this country has not been established.

8 1.85 Do

The Committee note that the proposal for import of trainer aircraft was made on the assumption that no reduction was possible in the intake of trainees. In the review conducted in February, 1975, it was observed by the Ministry of Defence that the extended contingency training plan could not be put into operation with the existing assets. Against the sanctioned strength of trainees for each of the 4 courses under the extended contingency training plan commencing during the period July 1975—January 1977, on the basis of which import of aircraft 'L' was made, the average number of trainees inducted/trained in each of these courses fell short of the sanctioned strength by 47 per cent, 20 per cent, 39 per cent and 28 per cent respectively. Owing to

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			<p>shortfall in the intake of trainees and on account of abnormally high rate of wastage, utilisation of aircraft 'L' fell short of the planned rate of utilisation during the period 1976-78 by 32 to 47 per cent.</p>
9	1.86	Defence	<p>It has been stated by the Ministry of Defence that the trainer intake figures forecast for the period July 1975 to January 1977 were based on the actual wastage rates of the immediate past as noted in August 1974. However, the actual wastage rates for the courses in 1976 and 1977 happened to be more than planned, a fact which could not be foreseen in 1975 when the decision for import was taken. The Committee are not convinced with this argument for, as they observe, even during the year 1978 when the wastage rate of trainees was much less than that in 1974, there was considerable shortfall in utilisation of aircraft 'L'. The Committee would like to express their concern at the lack of realistic estimation parameters in working out the requisite details which had first led to the import of aircraft 'L' and later on to its gross under-utilisation. The Committee recommend that the Ministry of Defence should revise their estimation norms and parameters so that in future such details can be worked out more realistically.</p>
10	1.87	Defence	<p>The Committee note that the engines of aircraft 'L' developed engine bearing failures prematurely which resulted in bringing down the serviceability of the aircraft just to 44.2 per cent of the fleet in the year 1978. During the succeeding years also the serviceability of these aircraft was unsatisfactory due to poor product support and inadequate supply of lubricant 'O'. According to Audit para, the number of aircraft that could be sustained operationally since 1975 was about 50 per cent of the assets held. But according to the Defence Secretary, the serviceability of these aircraft was 69 per cent in 1979, 63.3 per cent in 1980, 76.2 per cent in 1981 and 64.57 per cent in 1982.</p>
11	1.88	Defence	<p>According to the suppliers, the only cause of the bearing failures of the engines was the use of lubricant 'N' of a particular batch of production</p>

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which contained some unidentified additives. But it was claimed by the Ministry of Defence that the engine bearing failures were attributable to the suppliers, as the same oil was repeatedly tested both in India and country 'X' and it was found to be fully conforming to the recommended specifications. For tropicalisation and maintenance support of aircraft 'L' in India, the suppliers had, *inter alia*, guaranteed that "In respect of possible defects occurring due to utilisation of the aircraft under tropical conditions in India, necessary remedial measures would be taken by the suppliers to rectify such defects/replace the necessary components at their own cost including transportation costs to and from country 'X', if necessary". It is surprising that in spite of the aforesaid categorical guarantee, the Ministry of Defence agreed to pay a sum of Rs. 8 lakhs to the supplier for removal of bearing defects in the engines in addition to incurring an extra expenditure of Rs. 57.23 lakhs on transportation and other expenses to and fro between India and country 'X'. In the opinion of the Committee, it was wrong on the part of the Ministry of Defence to have incurred the aforesaid expenditure of Rs. 65.23 lakhs, as according to the guarantee given by the suppliers, it was obviously their responsibility to meet this expenditure. The Committee deprecate this lack of concern for public funds on the part of the Ministry of Defence.

12 1.89 Defence

The Committee note that alongwith the main agreement of April, 1975, entered into with the Government of country 'X' for the purchase of aircraft 'L', another contract for purchase of spares, test equipment and training aids (Rs. 1.74 crores) was concluded with them. This included an option clause for the purchase of certain armaments and ammunition costing Rs. 42.40 lakhs and test equipment costing Rs. 7.43 lakhs which was to be exercised not later than 15th August, 1975. The Committee are deeply concerned to note that the Air-Headquarters failed to exercise the requisite option before the stipulated date and a separate contract was concluded with the suppliers in May 1977

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for the procurement of these armaments and ammunition, which had resulted in extra expenditure of Rs. 1.64 lakhs. Due to this failure on the part of the Air Headquarters the receipt of these stores was delayed upto October-December 1979. The Committee do not agree with the plea of non-availability of funds for not exercising the option in time. According to the Committee, as the cost of the stores, viz., Rs. 50 lakhs was just a small part of the main contract for Rs. 14.61 crores, there should not have been any difficulty for arranging the necessary funds for these imports. Owing to this lapse on the part of Defence authorities, the trainees of the earlier batches could not be imparted training in the vital field of armaments and the training had to be imparted to them in subsequent years. In the view of the Committee, this is yet another instance of lack of proper planning on the part of the Defence authorities.

13 1.90 Defence

Another disquieting feature of the contract is failure on the part of the Defence authorities to establish indigenous facilities for overhauling of engines and airframes of the imported trainer aircraft although it was envisaged in the Agreement that full assistance would be provided by the suppliers to establish overhaul facilities in India. In the absence of indigenous overhauling facilities, the engines and airframes of these aircraft are still being got overhauled from abroad involving huge expenditure in foreign exchange, apart from the fact that these engines and the airframes remain out of use for considerable periods. Upto June, 1983 an expenditure of U.S. \$ 3831800 or (in Rupees 3,73.60,050) has been incurred on the overhauling of engines and airframes of aircraft 'L' from abroad which the Committee feel is an avoidable drain on the scarce foreign exchange resources of the country.

14 1.91 Defence

According to the Ministry of Defence, the indigenous overhaul facilities could not be created due to uncertainty regarding long term utilisation of these aircraft and the uncertainty whether the operation of these aircraft would stabilise due to the bearing failures experienced in the year 1977-78. The Com-

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mittee do not see force in this argument as the Defence authorities have now themselves realised, although belatedly, the need for establishing these facilities indigenously and the matter is stated to be under examination. The Committee recommend that the examination of the matter should be expedited so that at least now on the outgo of foreign exchange could be avoided.

15 1.92 Defence

The facts narrated above abundantly prove that the whole expenditure of Rs. 14.61 crores in foreign exchange apart from the other expenditure incurred thereon was unnecessary and could have been avoided. There appears to be a growing tendency on the part of Defence authorities to go in for imports even when the demand can be met from indigenous sources. This, to say the least, is very disturbing. The fact that Parliament is so generous in granting funds for defence needs casts an additional responsibility on the Defence authorities to act with caution particularly when a proposal involves outgo of scarce foreign exchange. The Committee recommend that the whole matter should be examined in detail with a view to identifying the drawbacks in the system which allowed a variety of lapses to occur and to take necessary steps for obviating such lapses in future. The Committee would like to be apprised of the action taken in this regard within six months.

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