

undertaken this repair activity at Air-India's engineering facilities at Bombay with a turnaround time of 12 weeks, and see good potential to offer this service to foreign airlines.

HAL and Indian Airlines have jointly carried out SB 228 Modifications for its Airbus A-300 aircraft. This major modification was introduced by Airbus Industrie to improve the fatigue resistance of the A-300 airframe structure. Repairs have already been completed on three aircraft at Indian Airlines' engineering facilities in Bombay, with a turnaround time of 6 weeks.

HAL has also successfully repaired the damaged nose cowl of an Indian Airlines A-320, and the damaged landing gear door and spoiler of an Air-India A-310. HAL has undertaken the repair and servicing of fan thrust reversers for the CF6-50C2 engine. In collaboration with Indian Airlines and Air-India, HAL has developed plans to jointly establish thrust reverser, landing gear and heavy maintenance overhaul facilities certified by the aircraft manufacturers to provide engineering support for the aircraft flown by India's national airlines. HAL has also carried out a detailed study to set up a third party repair and overhaul complex for other airlines in the region. Such a joint venture would aim to get at least 15% of the USD 2.5 billion business in jetliner refurbishing and overhauling as Singapore is the only other place in the region with such a facility.

As a result of the suppression of private airlines and corporate aircraft activity in India for 30 years or more, there are very few maintenance/service/overhaul facilities catering to the civil market, other than those of the national carriers. Air India and Indian Airlines have large and adequate maintenance facilities. Air-India and Indian Airlines are presently operating Boeing 747-200 and 737-200, and Airbus A-300 and A-320 aircraft. Repair work for these aircraft is being undertaken at the airlines' engineering facilities in Bombay and Delhi. The upgrading of maintenance facilities requires high-tech equipment which has not been procured so far. There has been greater dependence on maintenance facilities abroad. Unserviceable aircraft assemblies and parts are sent abroad for repair and overhaul or manufacturers specialists come from abroad for repairs. However, they have not, and show no signs of wanting, to take in maintenance for India's private airlines. In fact, the government has placed restrictions on "air taxi" operators use of Indian Airlines' maintenance and training facilities.

While there are a small number of private maintenance companies (see Appendix O for details) supporting the limited number of private and corporate owners, the private airlines generally have the size of aircraft (Boeing 737) that these established maintenance companies are unaccustomed to handling. The majority of the private airlines are, therefore, forced to go abroad for their major servicing requirements, particularly C and D checks, while carrying out line maintenance on the airport terminal ramps. In a recent development, however, HAL completed a C check of an East West Airlines B-737 in April, after receiving DGCA approval to carry out major inspections. The work was completed in two weeks with 65 personnel at the Aircraft Division, which is hoping to receive FAA repair station approval.

There is one exception to this: Air Works in Bombay have contracted with Jet Airways to service their Boeing 737-300 (4 are in the country at present). Jet Airways has a technical co-operation agreement with Ansett Airlines of Australia and Air Works personnel have been to Melbourne for training while Ansett have a number of staff on temporary contract at Air Works facility.

Interestingly enough, The Raymond Woollen Mills (chairman - Vijaypat Singhania, pilot and aviation enthusiast) had looked at starting an air taxi-airline. Mr. Singhania has flown as part time flight crew for both East West Airlines and Damania Airways and this experience perhaps led him to conclude that there may be opportunities in aviation maintenance and engineering in India. Consequently The Raymond Woollen Mills are now considering setting up a maintenance base in South India (possibly in Bangalore), and they have plans to add a simulator division, aiming initially at the Boeing 737 market as Indian Airlines will not lease their Boeing 737 simulator. (see The Raymond Woollen Mills under Air Taxi NOC Holders - Not Operating in Appendix I).

There is no doubt that there is a great need for and great scope for maintenance facilities in India, particularly for servicing the private airlines. The International Airports Authority of India (IAAI), which controls the five international airports (Bombay, Delhi, Calcutta, Madras, and Trivandrum), and the National Airports Authority (NAA) have both stated that they are willing to rent out space for hangars where available, even though their past record of such willingness has not been exemplary.

However, in certain cases, Bombay in particular, there is an extreme shortage of space available and in other cases the military or another public sector organization (such as HAL in Bangalore) may control the airport