THE WELL TRAINED PILOT

some countries, though not in Britain, the air force is a major source of pilots. Israeli pilots fly for both the national airline and the air force.

But the college-trained civil pilot is good too. There is usually no difference between an ex-military pilot and an ab initio civil colleague within three or four years. Military pilots have previously been in combat rather than in transport squadrons.

SIMULATORS have become a technology of their own, capable of duplicating not only the cockpit layout but also motion, turbulence, sink rate, wind shear, terrain, approach lights, snow and ice on the runway, engine note, and even the acceleration of the wheels and braking deceleration on touchdown.

The simulator is so like the real thing, and so readily capable of “action replay,” that airlines and safety authorities now accept it as a better trainer in most respects than the aircraft.

Simulators are a good safety investment, taking pilots to performance limits such as a double engine cut which, in the air, would risk structural failure or loss of control. The simulator can actually give the pilot a more realistic impression of the asymmetric control forces; idling thrust after a power cutback in the air produces less of a shock than a real power failure.

The first man to set foot on the Moon, Neil Armstrong, afterwards said that the approach and landing were “just like the simulator.” The final airline type-conversion flight, especially engine-out take-offs and landings, gives the pilot confidence and adjusts him psychologically to the fact that it is indeed “just like a simulator.”

PILOT INCAPACITATION In the USA, where records are kept, 16 airline pilots of average age 44 died in flight in 15 years. All deaths were caused by heart attacks. Three of the 16 deaths occurred during the approach and landing, when heart-beat rates are relatively high. Seven took place soon after landing. In the world as a whole only two fatal accidents involving passengers can definitely be attributed to pilot heart attacks.

All the best airline pilot-training drills include incapacitation simulations—and particularly since the BEA Trident crash at Heathrow in 1972—a simulation of the “subtle incapacitation.” The findings of the inquiry into the BEA Trident crash at Heathrow soon after take-off were that the crew made an error of judgement, perhaps as a result of the captain’s abnormal heart condition.

There is a tendency for the number of in-flight incapacitations to increase as the air-transport business grows, and as the percentage of pilots in their fifties increases. In 1972 just over 25 per cent of American airline pilots (5,600) were in their fifties; in 1987 this figure may be over 40 per cent (8,600).

Incapacitation is one of the safety drills carried out by the best airlines during simulator training, especially with two-man crews. The worst case was thought before the Trident accident to be a pilot falling on to the controls or throttles in a two-crew aircraft during the landing or, potentially even more dangerous, during an overshoot. The “subtle” incapacitation is now seen to be potentially just as dangerous.

There is evidence to suggest that heart disease is less common among airline pilots than it is among other men. The statutory regular medical examination, and the prospect of losing licence and livelihood, are incentives to pilots to keep themselves fit.

The commonest causes of complete incapacitation, according to a survey of 5,000 members of the International Federation of Air Line Pilots Associations, is not heart disease but stomach complaints and other alimentary disorders. The well trained pilot is not least the one who recognises impending incapacitation in himself and his colleagues.