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Structures and Materials

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GROUND HANDLING OF TRANSPORT AIRCRAFT

1 In recent years there have been a number of occurrences involving nose undercarriage failure on transport aircraft. These failures can be attributed, at least in part, to loads induced during towing or push-back. Such loads have, in a number of cases, resulted in the initiation of fatigue cracking, leading to subsequent failure under operational loads.

2 Aircraft constructors specify suitable ground handling equipment, compatible with the aircraft type, designed to avoid overloading, eg employing shear pins which fail at predetermined loads. However, it is possible to induce overloading by rapid acceleration or braking, especially when employing large powerful tractors to move the smaller types of aircraft. Furthermore, certain manoeuvres now commonly employed, such as 'push-back' were not anticipated in the design of some older aircraft.

3 Operators should ensure that the correct ground handling equipment is always employed, that it is adequately and regularly maintained and that particular care is taken when using large powerful tractors. Operators should also check with the constructors that their ground handling procedures are compatible with the aircraft design.

This Circular is issued for information, guidance and necessary action.