



Civil Aviation Authority
**MANDATORY PERMIT
DIRECTIVE**



Number: 2020-006

Issue date: 28 September 2020

In accordance with 41(1) of Air Navigation Order 2016 as amended the following action required by this Mandatory Permit Directive (MPD) is mandatory for applicable aircraft registered in the United Kingdom operating on a UK CAA Permit to Fly.

Type Approval Holder's Name: Vickers Supermarine	Type/Model Designation(s): Vickers Supermarine Spitfire and Seafire aeroplanes
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Supersedure:	This MPD supersedes MPD 1999-009 dated 8 July 1999.
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Title:	Main Landing Gear Pintle Mount Studs Inspection
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Manufacturer:	Vickers Supermarine / Westland Aircraft Ltd
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Applicability:	Vickers Supermarine / Westland Aircraft Spitfire and Seafire aeroplanes (All marks and serial numbers).
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Reason:	<p>In 1999, an incident was reported of an in-service failure of upper pintle studs resulting in undercarriage collapse. MPD 1999-009, which is now superseded, was issued requiring the visual inspection of the upper pintle studs at every 300 landings, with further investigation required dependant on any findings during the visual inspection.</p> <p>Considering the elapsed time since the first issue of the MPD and with further in-service data and experience gathered from both maintenance organisations and aircraft operators, this MPD has been raised in order to supersede MPD 1999-009 and to clarify and update the requirements stipulated in the original MPD, with revised intervals more relevant to the types of operation and in-service experience to date.</p>
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Effective Date:	12 October 2020
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Compliance/Action:	<p><u>Affected Part(s):</u> Original Equipment Manufacturer (OEM) or newly manufactured Upper, Mid and Lower Pintle Mount Studs.</p> <p><u>Serviceable Part(s):</u> OEM or newly manufactured Upper, Mid and Lower Pintle Mount Studs, having satisfactorily passed a materials assessment (1) and subsequent Non-Destructive Testing (NDT) inspection.</p>
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**Compliance/Action
(contd.):****Accomplishment Instructions:**

From the effective date of this MPD, at the next scheduled Pintle Mount Inspection, or next Annual, whichever comes first:

- (1) Confirm from Table 1 below that the material specification for the upper, mid and lower pintle mount studs is correct in accordance with the original manufacturers' design requirements or approved modern equivalent.

Table 1:

Stud Position	Merlin Engine Aeroplanes	Griffon Engine Aeroplanes
Upper	S65 (S97)	S65 (S97)
Mid	S2 (S154)	S2 (S154)
Lower	S2 (S154)	S65 (S97)

- (2) Confirm from the aircraft records that all studs have been:
- Cadmium plated and de-embrittled in accordance with an approved standard; and
 - Subject to an appropriate NDT inspection prior to installation or at last inspection; and
 - Wet assembled with an appropriate non-setting jointing compound to mitigate the onset of corrosion.

- (3) Carry out an NDT examination of all Pintle Mount Studs in accordance with an approved technique (See Remarks 2 & 3).

Depending on the type of runway surface utilized, at the following landing intervals thereafter, accomplish either (4) or (5) below:

- (4) For aircraft operating from predominantly hard runway surfaces (80% or more landings in last 1-year period), every 300 landings carry out an NDT examination of all installed pintle mount studs in accordance with an approved technique; or
- (5) For aircraft operating from grass surfaces (20% or more landings in the last 1-year period), every 150 landings carry out an NDT examination of all installed pintle mount studs in accordance with an approved technique.

In the event of any recorded hard landing, before further flight, carry out an NDT examination of all installed pintle mount studs in accordance with an approved technique.

Replace any pintle mount stud and complete a Mandatory Occurrence Report (MOR) where:

- (6) Documentary evidence of incorrect material specification or pre-installation requirements are found; or

Compliance/Action (contd.):	<p>(7) Evidence of correct material, cadmium plating and pre-installation requirements as specified in paragraphs (1) and (2) above is not available or is inconclusive; or</p> <p>(8) NDT examination in accordance with paragraphs (3), (4) or (5) detect fault conditions or an inconclusive return.</p> <p>From the effective date of this MPD, do not install an affected part on any aeroplane unless paragraphs (1) and (2) have been complied with satisfactorily,</p>
ENSURE COMPLIANCE WITH THIS MPD IS RECORDED IN THE AIRCRAFT/ENGINE LOGBOOK	
Reference Publications:	CAP562: Civil Aircraft Airworthiness Information and Procedures (CAAIPs), Chapter F: <i>'Non-Destructive Examinations'</i>
Remarks:	<ol style="list-style-type: none"> 1. This MPD was originally published as Proposed MPD 20-04 and closed for consultation on 17 September 2020. 2. An NDT technique is considered approved when drafted and approved by a level 3 certified NDT specialist with the authorisation and scope to cover the subject method. 3. It is permissible to carry-out the NDT inspection on-wing or by first removing the pintle studs from the aircraft. 4. If requested and appropriately substantiated, CAA can approve Alternative Methods of Compliance for this MPD. 5. Enquiries regarding this Mandatory Permit Directive should be referred to: GA Unit, Safety and Airspace Regulation Group, Civil Aviation Authority, Aviation House, Beehive Ring Road, Crawley, West Sussex RH6 0YR. <p>Tel: +44 (0) 330 138 3495 E-mail: ga@caa.co.uk</p>