

Section

H

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M193

A.L. No. 7
(De-fuelling cock locking)

A.P.4347L, Vol. 2
Leaflet No. H.1

Hunter GA. Mk.11 Aircraft-Fuel System - De-fuelling Cock, Locking Improved

(Mod. No. Hunter/1031)

(Class B/2.)

(AB/A/14248. - 10.5.62.)

1. INTRODUCTION

To prevent the possibility of engine flame-out due to the de-fuelling cock not being fully closed, a locking latch is introduced to ensure that the cock is fully closed before final locking.

- (1) This modification does not cancel, supersede or render unnecessary any work called for by approved modifications, Naval Service modifications, S.T.I.'s or S.I.'s..
- (2) This modification is not essentially connected with any other approved modification.

2. EMBODIMENT

This modification is to be embodied in accordance with the procedure for Class 2 modifications laid down in N.A.M.M. (A.P.(N)140).

EFFECTIVE DATE

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take less than 5 man-hours.

4. DRAWINGS REQUIRED

Drawing No. A.P.4347L/H.1/62 is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

- (a) The undermentioned items comprise a Set of Parts. Demands for Sets of Parts are to be forwarded to the Director of Stores, Admiralty, London, S.W.1:-

RESTRICTED

Ref. No.	Part No.	Nomenclature	Qty.
25FX/10697	A.250121	Latch	1
26FX/10696	F.250214	Bolt	1
28P/5413	AGS.1551/3	Pin, Locking	1
28M/-	A.27.C.8	Nut, Slotted	1
28P/1006-943	SP.9.C.8	Pin, Split	1
28W/9419-475	SP.15.C	Washer	1

(b) The undermentioned materials are also required, and, if not available, are to be demanded on the appropriate R.N. Store Depot:-

Ref. No.	Part No.	Nomenclature	Qty.
32A/107	-	Cord Balloon, 8 oz.	5 in.

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. SPARES AFFECTED

No spares are affected by this modification.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Reference, Part or Assembly Numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

- (1) Remove the engine starter access door.
- (2) Locate the de-fuelling aercock, Type SP.42, Saunders Valve Co. Ltd., Part No. 42.A.10, situated aft of the main spar on the port side, and fit latch, Part No. A.250121, as shown and in accordance with the instructions on the drawing.
- (3) Replace the engine starter access door.

9. TESTING AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

RESTRICTED

10. RECORDING ACTION

When this modification has been embodied and inspected in accordance with current authorised procedure, the relevant entries are to be made in the appropriate aircraft records.

11. DISPOSAL OF REDUNDANT PARTS

No parts are rendered redundant by the embodiment of this modification.

12. EFFECT ON WEIGHT AND MOMENT

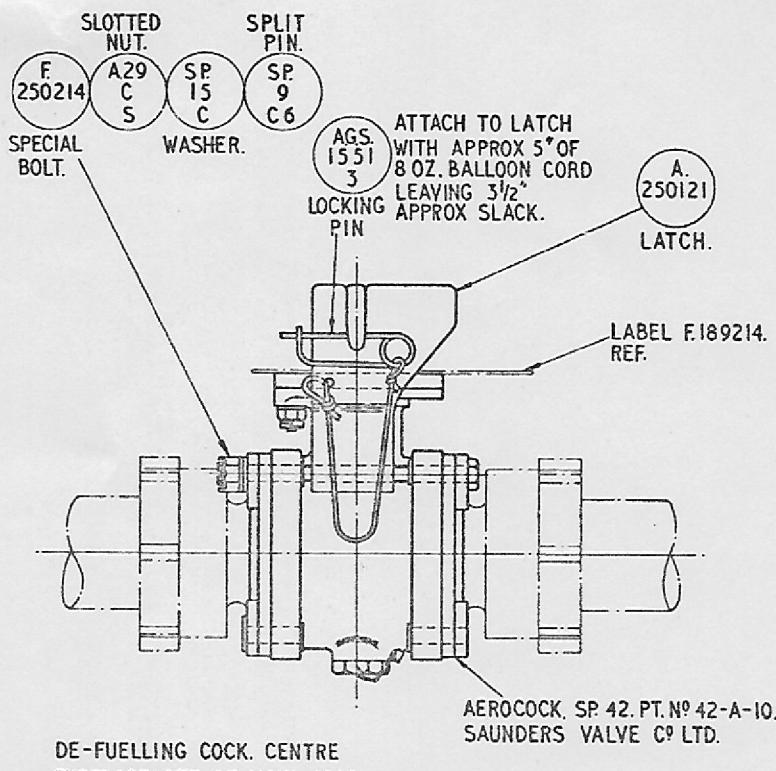
This modification has no effect on weight or moment.

RESTRICTED

IMPORTANT:-

ASSEMBLE LATCH BY SCREWING IN SPECIAL BOLT, ALLOWING LATCH TO ASSUME ANY MID-POSITION CLEAR OF EACH END OF THREADED INSERTS. ASSEMBLE SLOTTED NUT AND WASHER, ENSURING THAT BOLT IS FREE TO ROTATE. ADJUST LATCH BY TURNING BOLT SO THAT SLOT ENGAGES THE LEVER, ALLOWING NO MOVEMENT OF LEVER WITH THE COCK IN THE FULLY CLOSED POSITION.

NOTE: LOCKING OF BOLT TO LATCH IS UNNECESSARY AS NYLON THREAD IS PROOF AGAINST VIBRATION.



DE-FUELLING COCK. CENTRE
FUSELAGE AFT OF MAIN SPAR
PORT SIDE.

DRG. NO. AP4347L/H1/62

RESTRICTED

A.L. No. 29
(Single Palmer filter introduced)

AP. 101B-1311-2
Leaflet No. H.2
(Alteration 1)

Hunter GA Mk. 11 Aircraft. Fuel System, Single Filter Part No. D.10721 (27VC/89) introduced in place of two filters 26 FX/8582 To protect pressure reducing valves.

(AB/A/16659 - 31.1.67)

1. A.P.101B-1311-2 Leaflet No.H.2 (Hunter Mod. 1057) is amended as follows:-

Para. 5. (NAVY) "PARTS AND SPECIAL TOOLS REQUIRED"

Sub-para. (1) (a) (i),

ADD:-

<u>Ref. No.</u>	<u>Part No.</u>	<u>Nomenclature</u>	<u>Qty.</u>
27VC/	D.10723	Filter, Air (Palmer Aero Products Ltd.) as alternative to D.10721	1

2. Para. 8. "SEQUENCE OF OPERATIONS"

At Sub-para. 5 "Fit air filter, Palmer Aero Products Ltd.,
Pt. No. D.10721 (Ref. 27VC/89)"

ADD:-

"or Pt. No. D.10723 (Ref. 27VC/)".

RESTRICTED

747/89992/250/2.67/S(P&D)L.

1193
1

A.L. No. 13
(Single Palmer filter introduced)

A.P.4347L, Vol. 2
Leaflet No. H. 2

Hunter G.A. Mk. II Aircraft - Fuel System, Single Filter,
Part No. D.10721 (Ref. No. 27VC/89) introduced in place of
Two Filters (Ref. No 26FX/8582) to Protect Pressure
Reducing Valves

(Mod. No. Hunter/1057.)

(Class B/2.)

(AB/A/16659. - 7.5.63.)

1. INTRODUCTION

A single air filter, Part No. D.10721 (Ref. No. 27VC/89) has been introduced into the fuel system in place of the two existing air filters, to increase protection against dirt particles damaging the hydraulic pressure reducing valves.

- (1) This modification does not cancel, supersede or render unnecessary any work called for by approved modifications, Naval Service Modifications, S.T.I.s or S.I.s.

2. EMBODIMENT

This modification is to be embodied in accordance with the procedure for Class 2 modifications laid down in N.A.M.M. (A.P.(N) 140).

Effective Date:

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 28 man-hours, plus E.C.U. removal and replacement time.

4. DRAWINGS REQUIRED

Drawing No. A.P.4347L/H.2/63 is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED

- (1) Parts and Materials

RESTRICTED

(a) The undermentioned items comprise a Set of Parts.
Demands for Sets of parts are to be forwarded to
the Director of Stores, Admiralty, London, S.W.6:-

Ref. No.	Part No.	Nomenclature	Qty.
28FX/-	B.251080	Pipe	1
28FX/-	A.251081	Pipe, Branch	1
28FX/-	A.251082	Pipe	2
	AGS.1142.H	Nipple	2
	AGS.1170.F	Nipple	4
27VC/89	D.10721	Filter, Air (Palmer Aero Products Ltd.)	1

(b) The undermentioned materials are also required and,
if not available, are to be demanded on the appropriate
R.N. Store Depot:-

Ref. No.	Part No.	Nomenclature	Qty.
34B/9437518	-	Compound, Anti-Seize (Specn. D.T.D.5530)	As reqd.
	-	Stainless Steel Wire, 22 s.w.g. (Specn. D.T.D.189 or D.T.D.161)	As reqd.

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the
embodiment of this modification.

6. MODIFICATION OF SPARES

No spares are affected by this modification.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Reference, Part or Assembly Numbers as
a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

Note:- Before any electrical circuit is disturbed or disconnected,
all electrical power supplies in, to or from the aircraft
are to be disconnected. Power supplies are to be reconnected
only when the person responsible for embodying or inspecting
the modification is satisfied that all action has been taken
to make the aircraft safe for reconnection.

RESTRICTED

Where nuclear safety may be affected, the prescribed routing of electric cables must be strictly followed.

- (1) Remove the E.C.U. (A.P. 4347, Vol. 1, Sect. 4, Chap. 1 refers).
- (2) Refer to the drawing and disconnect and remove the Dunlop air filters, Part No. B.218125, port and starboard, and replace with link pipes, Part No. A.251082, using new connecting nipples, Part No. AGS.1170.F.
- (3) Disconnect and remove air pipe, Part No. B.201122 between frames 28 and 33, and branch pipe, Part No. B.201042/2, between frames 33 and 36.
- (4) Fit new air pipe, Part No. B.251080 between frames 28 and 33 and new branch pipe, Part No. A.251081 between frames 34 and 36.
- (5) Fit air filter, Palmer Aero Products Ltd., Part No. D.10721 (Ref. No. 27VC/89) between new pipes, Part Nos. B.251080 and A.251081, using nipples Part No. AGS.1142.H.

Note:- All pipe threads must be lubricated with anti-seize compound (Ref. No. 34B/9437518) before assembly.
All pipe connections must be locked with 22 s.w.g. stainless steel wire, Specn. D.T.D.189 or D.T.D.161.

- (6) Replace the E.C.U. (A.P. 4347, Vol. 1, Sect. 4, Chap. 1 refers).

9. SPECIAL TESTS AFTER EMBODIMENT

When this modification has been embodied and inspected the following special tests are to be carried out:-

pressure test the fuel system in accordance with A.P. 4347, Vol. 1, Sect. 4, Chap. 2.

10. RECORDING ACTION

When this modification has been embodied and inspected in accordance with current authorised procedure, the relevant entries are to be made in the appropriate aircraft records.

11. DISPOSAL OF REDUNDANT PARTS

- (1) The undermentioned part rendered redundant by the embodiment of this modification is to be returned to No. 16 Maintenance Unit, Stafford:-

Ref. No.	Part No.	Nomenclature	Qty.
26FX/8582	B.218125	Filter, air RESTRICTED	2

(2) The undermentioned parts rendered redundant by the embodiment of this modification are to be disposed of locally as scrap in accordance with current authorised procedure:-

Ref. No.	Part No.	Nomenclature	Qty.
26FX/-	B.201042/2	Pipe, Branch	1
26FX/-	B.201122	Pipe	1

12. EFFECT ON WEIGHT AND MOMENT

This modification causes a change in weight of minus 0.25 lb. and a change in moment of plus 45 lb. in.

13. EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

This modification does not affect the operation or handling of the aircraft or equipment.

RESTRICTED

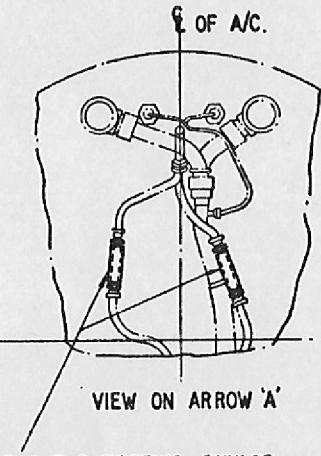
RESTRICTED

DRG. NO. AP4347L/H2/63

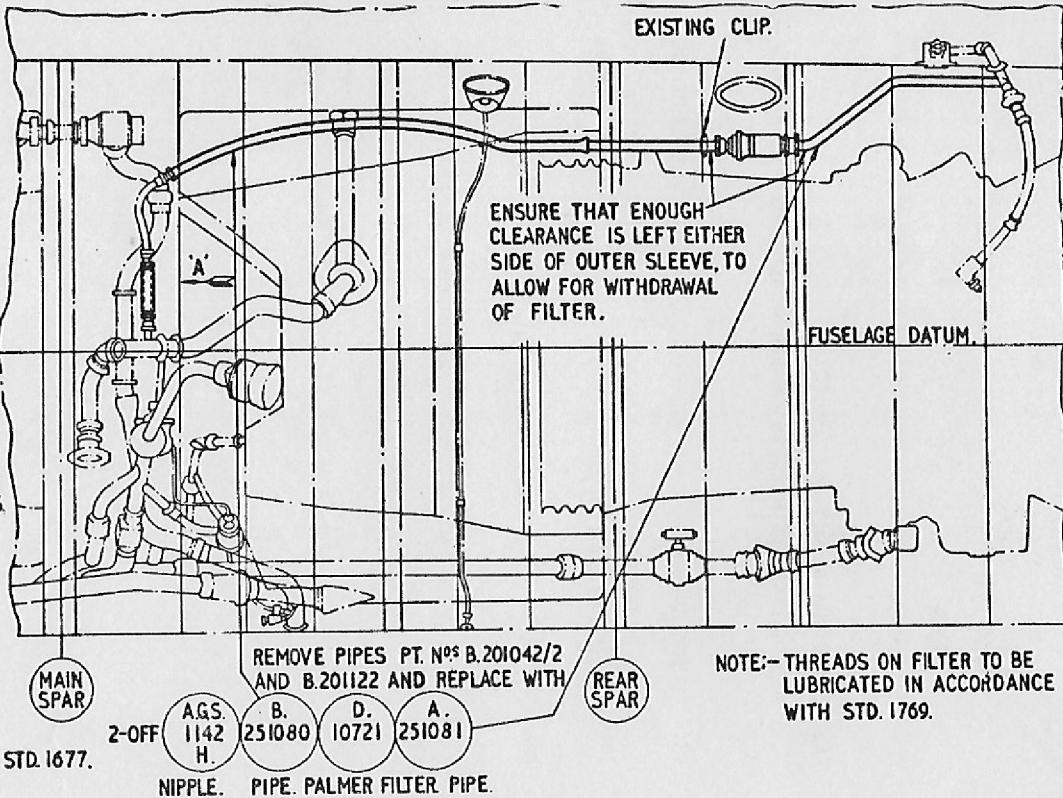
REMOVE 2 EXISTING DUNLOP
FILTERS PART NO. B.218125 & NIPPLES.
AND REPLACE WITH:-

A. 251082 A.G.S. 1170
LINK NIPPLE.
PIPE. 4-OFF.
2-OFF.

PIPE COUPLINGS TO BE WIRE LOCKED TO STD.1677.



VIEW ON ARROW 'A'



M193 SF
A.L.No.56
(Intro. Non-return valve -
708AA25/B)

A.P.101B-1309-2
Leaflet No.H.3

Hunter G.A.Mk.11 and P.R.Mk.11 Aircraft-Fuel System-Air Supply-To introduce Non-Return Valve, Part No. 708AA25/B (Ref.No.27FC/145562) in lieu and by conversion of NRV. Part No. 708AA17/B/1 (Ref.No. 27F/7869). Part A: In Air Pressure Line to Engine. Part B: In Air Pressure Lines to Wing Tanks.

(Mod.No.HUNTER 1325)

(Class: PartA:- B/2. PartB: C/3 on replacement)

(AB/A/22133.- 20.3.69)

1. INTRODUCTION

To avoid the possibility of the stem and valve plate breaking with consequent ingestion of the parts into the engine, and improved valve incorporating a strengthened spindle with improved locking and disc springs is introduced. The modification is written in two parts as shown in the title.

(1) This modification does not supersede, partially supersede or satisfy the work called for by any Modification, Naval Service Modification, S.T.I., or S.I.

2. EMBODIMENT

This modification is to be embodied in accordance with the procedure for Class 2 and 3 modifications laid down in N.A.M.M.(A.P) (N)140).

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work can be affected in normal replacement time.

4. DRAWINGS REQUIRED

No drawings for Parts A or B are required for the embodiment of this modification.

5. PARTS AND SPECIAL TOOLS REQUIRED PARTS (A) & (B)

(1) Parts and Materials

(a) The undermentioned items comprise a Set of Parts. Demands for Sets of Parts are to be forwarded to the Director of Stores, Empress State Building London. S.W.6.

<u>Part No.</u>	<u>Nomenclature</u>	<u>Qty.</u>
<u>Per Valve</u>		
14471	Housing Assy.	1
SVS.105/1	Label	1
SVS.120/1	P.K. Screw	2

NOTE: Part A, One valve per A/C is affected.
Part B, Two valves per A/C are affected.

(b) The undermentioned materials are also required,
and if not available are to be demanded on the
appropriate R.N. Stores Depot:-

<u>Ref. No.</u>	<u>Part No.</u>	<u>Nomenclature</u>	<u>Qty.</u>
30A/9437135		22G. Stainless Steel locking wire, Specn. DTD. 189A	As Req'd.
34B/1417	SQ.32L	Jointing compound Specn. DTD. 900/ 456.	As Req'd.
		Acheson Colloids Dispersion 80	As Req'd.

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. MODIFICATION OF SPARES

The following list shows the spares affected and the parts required to modify them:-

<u>Ref. No.</u>	<u>Part No.</u>	<u>Nomenclature</u>
27F/7869	708AA17/B/1	Non return valve

Parts required:-

As listed at Para.5 (1), (a), (i) & (c)
RAF; 1 (a) & (c) - F.A.A.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

This modification changes Reference, Part and Assembly Numbers as follows:-

<u>Ref. No.</u>	<u>OLD Part/Assy. No.</u>	<u>Nomenclature</u>	<u>Ref. No.</u>	<u>NEW Part/Assy. No.</u>
27F/7869	708AA17/B/1	Non return valve	27FC/1455562	708AA25/B

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations

Part (A)

(1) Remove access panel, port side, below spine fairing and adjacent to frames 36 and 37.

(2) Locate non-return valve, Part No. 708AA17B between pipes, Part Nos. B.200688 and B.213266 or B.230427 adjacent to top of frame 36 port side.

Disconnect and remove valve from aircraft.

(3) Remove locking wire from valve and remove and retain bolts and washers joining the inlet and outlet connections of the valve.

(4) Remove and discard the complete housing assembly Part No. 13893 from the valve and remove all traces of jointing compound from matching faces of both inlet and outlet connections.

(5) Lightly smear contacting faces of inlet connection, outlet connection and both contacting faces of new housing assembly, Part No. 14471 with jointing compound SQ.32L, Stores Ref. 34B/1417.

(6) Fit the new housing assembly to the outlet connection ensuring that bolt holes are aligned and valve plate enters the bore. Ensure that no jointing compound contacts the valve face or seating.

(7) Fit the inlet connection ensuring correct alignment using existing bolts and washers. Tighten up bolts progressively in opposing pairs taking care not to distort the valve flanges. Tighten bolts to a torque load of 75 - 80 lbs.ins.

(8) Test the modified valve in accordance with A.P.4340, Vol.1 Book 2, Sect.6, Chap.3, Paras.10 to 16 inclusive.

NOTE: Test details are as for valve, Part No. 708AA06/B (27F/5174) and other valves bracketed together in Table 1.

(9) Wire lock bolts in pairs with 22G stainless steel locking wire, Specn. D.T.D.189A.

(10) Remove existing label. Stamp new label, Part No. SVS.105/1 with valve Part No. 708AA25/B and Ref. No. 27FC/1455562. Alter prefix of serial number from "H" to "B". Fit label to valve using P.K. screws, Part No. SVS.120/1 (2 off) Treat threads of end connections with Acheson Colloids Dispersion 80.

(11) Fit modified valve, Part No. 708AA25/B to aircraft ensuring that markers are in direction of flow. Wire lock connections using 22G stainless steel locking wire, Specn. D.T.D.189A.

(12) Re-fit access doors.

Part (B)

(1) With engine removed, locate non-return valves, port and starboard at aft face of frame 26 situated between pipes, Part Nos. B.201042/9 (or B.201042/18 Mk.50) and B.201082 (Port), B.201042/10 (or B.201041/19- Mk.50) and B.201083 (Starboard).

(2) Disconnect and remove valves from aircraft.

(3) Remove locking wire from valve and remove and retain bolts and washers joining the inlet and outlet connections of the valve.

(4) Remove and discard the complete housing assembly, Part No. 13893 from the valve and remove all traces of jointing compound from matching faces of both inlet and outlet connections.

(5) Lightly smear contacting faces of inlet connection outlet connection and both contacting faces of new housing assembly Part No. 14471 with jointing compound SQ.32L, Stores Ref. 34B/1417.

(6) Fit the new housing assembly to the outlet connection ensuring that bolt holes are aligned and valve plate enters the bore. Ensure that no jointing compound contacts the valve face or seating.

(7) Fit the inlet connection ensuring correct alignment using existing bolts and washers. Tighten up bolts progressively in opposing pairs taking care not to distort the valve flanges. Tighten bolts to a torque load of 75 - 80 lbs. ins.

(8) Test the modified valve in accordance with A.P. 4340, Vol.1, Book 2, Sect.6, Chap.3, Paras.10 to 16 inclusive.

NOTE: Test details are as for Valve, Part No. 708AA06/B (27B/5174) and other valves bracketed together in Table 1.

(9) Wire lock in pairs with 22G stainless steel locking wire, Specn. D.T.D.189A.

(10) Remove existing label. Stamp new label Part No. SVS.105/1 with valve Part No. 708AA25/B and Ref. No. 27FC/1455562 Alter prefix of serial number from "H" to "B". Fit label to valve using P.K. screws, Part No. SVS.120/1 (2 off) Treat threads of end connections with Acheson Colloids Dispersion 80.

(11) Fit the modified valves, Part No. 708AA25/B to the aircraft (one port and one starboard) ensuring that markers are in direction of flow. Wire lock connections using stainless steel locking wire, Specn. D.T.D.189A.

9. SPECIAL TESTS AFTER EMBODIMENT

When this modification has been embodied and inspected, the following special test is to be carried out:-

Pressure test the fuel system in accordance with A.P.4347 or H.A.P., Vol.1, Sect.4, Chap.2.

10. RECORDING ACTION

When this modification has been embodied and inspected in accordance with current authorised procedure, the relevant entries are to be made in the appropriate aircraft records.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by the embodiment of this modification are to be disposed of:-

<u>Part No.</u>	<u>Nomenclature</u>	<u>Qty.</u>
13893	Housing Assy.	1
SVS.105/1	Label	1
SVS.120/1	P.K. Screws	2

12. EFFECT ON WEIGHT AND MOMENT

This modification has no effect on weight or moment.

13. EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

This modification does not affect the operation or handling of the aircraft or equipment.

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