ENGINE - IGNITION - INTRODUCTION OF IMPROVED IGNITION LEAD, COOLING SHROUD AND THE IGNITION COOLING BOX - CATEGORY CODE 5 - MOD.ENG-74-0002

1. Planning Information

A. Effectivity

(1) Aircraft: (a) Airbus A320
(b) Airbus A321
(c) McDonnell Douglas MD-90

(2) Engine : (a) V2500 - A1 Engines prior to serial number V0361
(b) V2500 - A5 Engines prior to serial number V10098*
(c) V2500 - D5 Engines prior to serial number V20018*

* The serial number data shown are of a preliminary nature and are provided for advanced planning only. A future revision to this Service Bulletin will confirm final serial number effectivity.

(3) Concurrent Requirements:

(a) Vendor Service Bulletin No. 74-48 Revision 2 requires to be incorporated concurrently with IAE Service Bulletin No. V2500-ENG-74-0002.

(b) IAE Service Bulletin No. V2500-ENG-74-0003 requires to be incorporated concurrently with or subsequent to IAE Service Bulletin No. V2500-ENG-74-0002.

B. Reason

(1) Condition

Many Ignition Leads have been removed because of arcing damage.

(2) Background

The materials of Ignition Lead inner cable deteriorates with time because of high temperature of the Ignition Lead near to the Ignitor Plug contact.

(3) Objective

To increase the cooling effectiveness in the Ignition System and to improve dielectric strength of the Ignition Lead itself.

(4) Substantiation

The changes introduced by this Service Bulletin have successfully been substantiated in the development engine.

(5) Effects of Bulletin on Workshop Procedures:

Removal/Installation	Affected
Disassembly/Assembly	Not affected
Cleaning	Not affected
Inspection/Check	Not affected
Repair	Not affected
Testing	Not affected

(6) Supplemental Information

None

C. Description

(1) The changes introduced by this Service Bulletin are as follows:

(a) To apply modified spring/retainer and ferrule/adapter assemblies in the Ignition Lead.

(b) To add teflon gasket, studs and locking washer-nuts in the Front and Rear Cooling Boxes.

(c) To introduce extended configuration of Cooling Shroud for Ignitor End with four stopper plates.

(d) To apply one piece Cooling Shroud and support adapter at Exciter End.

D. Approval

The Part Number changes and part modifications described in Section 2 and 3 of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model listed.

E. Compliance

Category Code 5

Accomplish when the engine is disassembled sufficiently to afford access to the affected subassembly (i.e., modules, accessories, components, build groups) and to all affected spare subassemblies.

F. Manpower

Estimated Manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
(1) In Service	Total: 56 Minutes
(a) To Gain Access	
1. Install Warning Notices	3 Minutes
2. Open the Cowls	7 Minutes
3. Disassemble the parts	15 Minutes
	Total: 25 Minutes
(b) To Return to Flyable Status	
1. Assemble the Parts	20 Minutes
2. Close the Cowls	8 Minutes
3. Remove Warning Notices	3 Minutes
	Total: 31 Minutes
(2) At Overhaul	Not Affected

NOTE: The parts affected by this Service Bulletin are accessible at overhaul.

Remarks: The times for the V2500-A1 and -A5 Models are the same as those for the V2500-D5 Model.

G. Material - Price and Availability

(1) Modification kit

Refer to Service Bulletin No. 74-48 issued by Unison Industries.

(2) See "Material Information" section for prices and availability of future spares.

H. Tooling - Price and Availability

Special tools are not required to accomplish this Service Bulletin.

I. Weight and Balance

(1)	Weight change	None
(2)	Moment arm	No effect
(3)	Datum	Engine front mount centerline (Power Plant Station (P.P.S) 100)

J. Electrical Load Data

This Service Bulletin has no effect on the aircraft electrical load.

K. References

(1) Internal Reference No.

93VJ126

93VJ126C

93VJ126D

(2) Other References

V2500 Engine Illustrated Parts Catalog, Chapter/Section 74-11-38 and 74-21-43.

V2500 Power Plant Illustrated Parts Catalog, Chapter/Section 74-11-38 and 74-21-43.

SPM TASK 70-41-00-400-501, General Torque Tightening Technique.

UNISON Industries Service Bulletin No. 74-43.

UNISON Industries Service Bulletin No. 74-46.

UNISON Industries Service Bulletin No. 74-48.

IAE Service Bulletin No. V2500-ENG-70-0250.

IAE Service Bulletin No. V2500-ENG-70-0260.

Airbus A320/A321 Aircraft Maintenance Manual, TASK 71-13-00-010-010.

Airbus A320/A321 Aircraft Maintenance Manual, TASK 78-32-00-010-010.

SPM TASK 70-43-00, Connection of Electrical Plugs.

Airbus A320/A321 Aircraft Maintenance Manual, TASK 71-00-00-710-017.

Airbus A320/A321 Aircraft Maintenance Manual, TASK 71-13-00-410-010.

Airbus A320/A321 Aircraft Maintenance Manual, TASK 78-32-00-410-010.

McDonnell Douglas MD-90 Aircraft Maintenance Manual, 71-13-00 Page 201.

McDonnell Douglas MD-90 Aircraft Maintenance Manual, 78-32-00 Page 201.

McDonnell Douglas MD-90 Aircraft Maintenance Manual, 71-01-03 Page 201.

IAE Service Bulletin No. V2500-ENG-74-0003.

L. Other Publications affected:

(1) V2500 Engine Illustrated Parts Catalog, Chapter/Section 74-11-38 and 74-21-43 will be revised to incorporate the new parts.

(2) V2500 Power Plant Illustrated Parts Catalog, Chapter/Section 74-11-38 and 74-21-43 will be revised to incorporate the new parts.

(3) V2500 Engine Manual (E-V2500-1IA), 72-00-40 Installation -08, -09, Config -01, Installation -09 Config -02, Removal -02 Config -01, -02 and -03.

(4) V2500 Engine Manual (E-V2500-3IA), 72-00-40 Installation -08, 09, Removal -02 and -03.

(5) V2500 Component Maintenance Manual (CMM-MECH-V2500-1IA), 74-11-38 Cleaning and Inspection/Check.

(6) V2500 Component Maintenance Manual (CMM-MECH-V2500-3IA), 74-21-43 Cleaning and Inspection/Check.

(7) V2500 Engine Maintenance Manual (M-V2500-1IA and M-V2500-3IA), 74-11-00 Description and Operation, 74-11-38 Removal/Installation, 74-21-00 Description and Operation, 74-21-41 Removal/Installation and 74-21-43 Removal/Insallation.

2. Accomplishment Instructions

CAUTION: DO NOT BEND THE IGNITION LEAD TOO MUCH WHEN YOU DISCONNECT/CONNECT THE ELECTRICAL CONNECTOR. THE IGNITION LEAD CAN BE DAMAGED AND CAN CAUSE ELECTRICAL CIRCUIT DEFECTS.

NOTE: Make sure the engine 1 (2) has been shutdown for at least 5 minutes.

NOTE: There are two sets of Ignition Leads, Cooling Shrouds and Ignition Cooling Boxes on each engine. This instruction gives the procedures to remove and install one set of Ignition Lead, Cooling Shrouds and Ignition Cooling Box halves. Use the same procedure to remove and install the second set of Ignition Lead, Cooling Shrouds and Ignition Cooling Box halves.

A. Removal Instructions

For V2500-A1 and -A5 models (See Figures 1 thru 4)

WARNING: DO NOT TOUCH THE IGNITION SYSTEM COMPONENTS FOR AT LEAST ONE MINUTE AFTER THE APPLICABLE CIRCUIT BREAKERS ARE OPEN. THE ELECTRICAL DISCHARGE OF THE HIGH ENERGY UNIT IS DANGEROUS AND CAN KILL.

(1) On the panel 115VU:

(a) Put a warning notice to tell persons not to start the engine 1 (2).

(2) On the panel 50VU:

(a) Make sure that the ON legend of the ENG FADEC GND PWR pushbutton switch is off.

(b) Install a warning notice.

(3) Open the cowls by 1.K.(9) and (10).

(4) Remove the Cooling shroud for Ignitor End (See Figure 2, Detail C)

(a) Loosen the clamps (8) and (10) and move them away from the Cooling Shrouds (9).

(b) Remove the Cooling Shrouds (9) (74-21-43, 01-070 and 01-075 or 02-070 and 02-075, PN 5U0017 and 5U0018).

(5) Remove the Cooling Shroud for Exciter End (See Figure 2, Detail B)

(a) Loosen the clamps (3) and (5) and move away from the Cooling Shrouds (4).

(b) Remove the Cooling Shrouds (4) (74-21-43, 01-030 and 01-035 or 02-030 and 02-035, PN 5U0015 and 5U0016).

(6) Disconnect the connectors of the Ignition Lead (See Figure 2, Details B and C)

(a) Disconnect the both connectors of each end of the Ignition Lead (1) and (6).

(b) Remove the clamps (3), (5), (8) and (10).

(c) Remove the grommets (2) and (7) from each end of the Ignition Lead (1) and (6).

(7) Disassemble the clipping points of the Ignition Lead (See Figures 1 thru 3)

(a) Remove the bolt (14), the washers (15) and (19), the clips (16) and (18), the spacer (17) and the nut (20) from the clipping point at Detail D.

(b) Remove the bolt (11), the washer (12) and the clip (13) from the clipping point at Detail E.

(c) Remove the bolt (22), the washer (21) and the clip (23) from the clipping point at Detail F.

(d) Remove the bolt (26), the washer (25) and the clip (24) from the clipping point at Detail G.

(e) Remove the bolt (41), the washer (42) and the clips (43) and (44) from the clipping point at Detail H.

(f) Remove the bolt (29), the washer (28) and the clip (27) from the clipping point at Detail J.

(g) Remove the bolt (37), the washer (38), the clip (39) and the nut (40) from the clipping point at Detail K.

(h) Remove the bolt (36), the washers (31) and (35), the clips (32) and (34), the spacer (33) and the nut (30) from the clipping point at Detail L.

(8) Remove the Ignition Lead from the Engine.

(9) Remove the Ignition Cooling Box (See Figure 4)

(a) Loosen the clamp (47) and disconnect the air inlet hose (48) from the Ignition Cooling box (53).

(b) Disconnect the ignition supply harness (54).

(c) Hold the Ignition Cooling Box (53) and remove the nuts (45) and the bolts (50). Remove the Ignition Cooling Box (53) with the Ignition Exciter (49).

(d) Remove the Ignition Cooling Box halves (53) (74-11-38, 01-100 and 01-102 or 01-500 and 01-502, PN 5U0010 and 5U0009 or 5U0055) from the Ignition Exciter (49).

(10) Put applicable protective covers/caps/plugs on all the openings.

For V2500-D5 Models (See Figures 5 thru 8)

WARNING: YOU MUST OPEN, SAFETY AND TAG THE CIRCUIT BREAKERS BEFORE YOU DO WORK ON THE SYSTEM. IF THE CIRCUIT BREAKERS ARE NOT SAFETIED, THEY CAN BE CLOSED AND THE SYSTEM CAN OPERATE. THIS CAN CAUSE AN INJURY AND/OR DAMAGE.

(1) Open the cowls by 1.K.(15) and (16).

(2) Remove the Cooling Shroud for Ignitor End (See Figure 6, Detail C)

(a) Loosen the clamps (8) and (10) and move them away from the Cooling shrouds (9).

(b) Remove the Cooling Shrouds (9) (74-21-43, 01-070 and 01-075 or 02-070 and 02-075, PN 5U0017 nd 5U0018).

(3) Remove the Cooling Shroud for Exciter End (See Figure 6, Detail B)

(a) Loosen the clamps (3) and (5) and move them away from the Cooling Shrouds (4).

(b) Remove the Cooling Shrouds (4) (74-21-43, 01-030 and 01-035 or 02-030 and 02-035, PN 5U0015 and 5U0016).

(4) Disconnect the connectors of the Ignition Lead (See Figure 6, Details B and C)

(a) Disconnect the both connectors of each end of the Ignition Lead(1) and (6).

(b) Remove the clamps (3), (5), (8) and (10).

(c) Remove the grommets (2) and (7) from each end of the Ignition Lead (1) and (6).

(5) Disassemble the clipping points of the Ignition Lead (See Figures 5 thru 7)

(a) Remove the bolt (11) and the clip (12) from the clipping point at Detail D.

(b) Remove the bolt (13), the spacer (14), the clips (15) and (16) and the nut (17) from the clipping point at Detail E.

(c) Remove the bolt (21), the spacer (23), the clips (22) and (25) and the nut (24) from the clipping point at Detail F.

(d) Remove the bolt (18), the clip (19) and the nut 20 from the clipping point at Detail G.

(e) Remove the bolt (27), the clips (26) and (28) and the nut (29) from the clipping point at Detail H.

(f) Remove the bolt (31), the clips (30) and (32) and the nut (33) from the clipping point at Detail J.

(g) Remove the bolt (51), the clips (50) and (52), the spacer (53) and the nut (54) from the clipping point at Detail K.

(h) Remove the bolt (35), the spacers (37) and (39), the clips (34), (36), (38) and (40) and the nut (41) from the clipping point at Detail L.

(i) Remove the bolt (42), the clips (43), (45), (46), (47) and (48), the spacer (44) and the nut (49) from the clipping point at Detail M.

(6) Remove the Ignition Leads from the Engine.

(7) Remove the Ignition Cooling Box (See Figure 8)

(a) Loosen the clamp (56) and disconnect the air inlet hose (55) from the Ignition Cooling Box (60).

(b) Disconnect the ignition supply harness (61).

(c) Hold the Ignition Cooling Box (60) and remove the nuts (62) and the bolts (57). Remove the Ignition Cooling Box (60) with the Ignition Exciter (58).

(d) Remove the Ignition Cooling Box halves (60) (74-11-38, 01-100 and 01-102 or 01-500 and 01-502, PN 5U0010 and 5U0009 or 5U0055) from the Ignition Exciter (58).

(8) Put applicable protective covers/caps/plugs on all the openings.

B. Installation instructions

NOTE: Before connection of the improved Ignition Lead, clean the mating face. (Refer to 1.K.(11))

NOTE: After this Instruction, do a test of the Ignition System by 1.K. (12) for V2500-A1 and -A5 Models or 1.K.(17) for V2500-D5 Model.

For V2500-A1 and -A5 Models

(1) Remove all covers/caps/plugs from the openings.

(2) Install the improved Ignition Cooling Box

(a) Install the Ignition Cooling Box halves (See Figures 9 and 10)

1. Install the improved Cooling Box (3) (74-11-38, 01-100 and 01-102 or 01-500 and 01-502, PN 5U0058 and 5U0059 or 5U0066 and 5U0067) on the Ignition Exciter.

2. Install the Support Brackets (2) on to the side of Ignition Cooling Box (3).

3. Install the nuts (1).

4. TORQUE the twelve (12) nuts (1) to between 20 and 26 lbfin (2.26 and 2.94 Nm) (Refer to 1.K.(3)).

(b) Install the Ignition Exciter and the Ignition Cooling Box (See Figure 4)

1. Put the Ignition Exciter (49) and the Ignition Cooling Box (53) in position on the mounting bracket (46).

2. Install the bonding strap (51) on to the lower forward bolt (50).

3. Install the bolts (50) and the nuts (45).

4. TORQUE the bolts (50) to between 36 and 45 lbfin (4.1 and 5.0 Nm) (Refer to 1.K.(3)).

(c) Connect the air inlet hose (48).

1. Connect the air inlet hose (48) to the Ignition Cooling Box (53) and install the clamp (47).

2. Tighten the clamp (47) by hand.

(d) Connect the ignition supply harness (54) to the Ignition Exciter (49).

(3) Install the Ignition Lead (See Figure 2, Details B and C)

(a) Install the improved Ignition Lead (1) and (6) (74-21-43, 01-100 or 02-100, PN 5U0068) through the clamps (3), (5), (8) and (10).

(b) Set the improved Cooling Shroud (74-21-43, 01-030 or 02-030, PN 5U0062) to Exciter End (4).

(c) Connect the Lead to the Ignition Exciter and the Ignitor Plug.

(d) TORQUE the connectors of the Ignition Lead (1) and (6) to between 140 and 160 lbfin (15.8 and 18.0 Nm) (Refer to 1.K.(3)).

(4) Assemble the clipping points on the Ignition Lead (See Figures 1 thru 3)

(a) Install the bolt (14), the washers (15) and (19), the clips (16) and (18), the spacer (17) and the nut (20) to the clipping point at Detail D.

(b) Install the bolt (11), the washer (12) and the clip (13) to the clipping point at Detail E.

(c) Install the bolt (22), the washer (21) and the clip (23) to the clipping point at Detail F.

(d) Install the bolt (26), the washer (25) and the clip (24) to the clipping point at Detail G.

(e) Install the bolt (41), the washer (42) and the clips (43) and (44) to the clipping point at Detail H.

(f) Install the bolt (29), the washer (28) and the clip (27) to the clipping point at Detail J.

(g) Install the bolt (37), the washer (38), the clip (39) and the nut (40) to the clipping point at Detail K.

(h) Install the bolt (36), the washers (31) and (35), the clips (32) and (34), the spacer (33) and the nut (30) to the clipping point at Detail L.

(i) TORQUE the bolts (11), (14), (22), (26), (29), (36), (37) and (41) to between 36 and 45 lbfin (4.0 and 5.0 Nm) (Refer to 1.K.(3)).

(5) Install the improved Cooling Shrouds for Ignitor End (See Figure 2, Detail C)

(a) Install the improved Cooling Shrouds (9) (74-21-43, 01-070 and 01-075 or 02-070 and 02-075, PN 5U0065) onto the connections between the Ignitor Plug and the Ignition Lead.

(b) Set the clamps (8) and (10) to the Cooling Shrouds (9).

(c) TORQUE the clamp screws (8) and (10) to between 20 and 25 lbfin (2.22 and 2.82 Nm) (Refer to 1.K.(3)).

(6) Install the improved Cooling Shroud for Exciter End (See Figures 9 and 10).

(a) Install the Cooling Shroud (5) onto the connection between the Ignition Exciter and the Ignition Lead.

(b) Set the clamps (4) and (6) to the Cooling Shroud for Exciter End.

(c) TORQUE the clamp screws (4) and (6) to between 20 and 25 lbfin (2.26 and 2.82 Nm) (Refer to 1.K.(3)).

(7) Close the cowls by 1.K.(13) and (14).

For V2500-D5 Models

(1) Remove all covers/caps/plugs from the openings.

(2) Install the Ignition Cooling Box.

(a) Install the Ignition Cooling Box halves (See Figures 9 and 10)

1. Install the improved Cooling Box (3) (74-11-38,01-100 and 01-102 or 01-500 and 01-502, PN 5U0058 and 5U0059 or 5U0066 and 5U0067) on the Ignition Exciter.

2. Install the Support Brackets (2) on to the side of Ignition Cooling Box (3).

3. Install the nuts (1).

4. TORQUE the twelve (12) nuts (1) to between 20 and 26 lbfin (2.26 and 2.94 Nm) (Refer to 1.K.(3)).

(b) Install the Ignition Exciter and the Ignition Cooling Box (See Figure 8).

1. Put the Ignition Exciter (58) and the Ignition Cooling Box (60) in position on the mounting bracket.

2. Install the bonding strap (63) onto the lower forward bolt (57).

3. Install the bolts (57) and the nuts (62).

4. TORQUE the bolts (57) to between 36 and 45 lbfin (4.1 and 5.0 Nm) (Refer to 1.K.(3)).

(c) Connect the air inlet hose (55).

1. Connect the air inlet hose (55) to the Ignition Cooling Box (60) and install the clamp (56).

2. Tighten the clamp (56) by hand.

(d) Connect the ignition supply harness (61) to the Ignition Exciter (58).

(3) Install the Ignition Lead (See Figure 6)

(a) Install the improved Ignition Lead (1) and (6) (74-21-43, 01-100 or 02-100, PN 5U0069) through the clamps (3), (5), (8) and (10).

(b) Set the improved Cooling Shroud (74-21-43, 01-030 or 02-030, PN 5U0062) to Exciter End (4).

(c) Connect the Lead to the Ignition Exciter and the Ignitor Plug.

(d) TORQUE the connectors of the Ignition Lead (1) and (6) to between 140 and 160 lbfin (15.8 and 18.0 Nm) (Refer to 1.K.(3)).

(4) Assemble the clipping points on the Ignition Lead (See Figures 5 thru 7)

(a) Install the bolt (11) and the clip (12) to the clipping point at Detail D.

(b) Install the bolt (13), the spacer (14), the clips (15) and (16) and the nut (17) to the clipping point at Detail E.

(c) Install the bolt (21), the clips (22) and (25) and the nut (24) to the clipping point at Detail F.

(d) Install the bolt (18), the clip (19) and the nut (20) to the clipping point at Detail G.

(e) Install the bolt (27), the clips (26) and (28) and the nut (29) to the clipping point at Detail H.

(f) Install the bolt (31), the clips (30) and (32) and the nut (33) to the clipping point at Detail J.

(g) Install the bolt (51), the clips (50) and (52), the spacer (53) and the nut (54) to the clipping point at Detail K.

(h) Install the bolt (35), the clips (34), (36), (38) and (40), the spacers (37) and (39) and the nut (41) to the clipping point at Detail L.

(i) Install the bolt (42), the clips (43), (45), (46), (47) and (48), the spacer (44) and the nut (49) to the clipping point at Detail M.

(j) TORQUE the bolts (13), (18), (21), (27), (31), (35), (42) and (51) to between 36 and 45 lbfin (4.0 and 5.0 Nm) (Refer to 1.K.(3)).

(5) Install the improved Cooling Shrouds for Ignitor End (See Figure 6, Detail C).

(a) Install the improved Cooling Shrouds (9) (74-21-43, 01-070 and 01-075 or 02-070 and 02-075, PN 5U0065) onto the connections between the Ignitor Plug and the Ignition Lead.

(b) Set the clamps (8) and (10) to the Cooling Shrouds (9).

(c) TORQUE the clamp screws (8) and (10) to between 20 and 25 lbfin (2.22 and 2.82 Nm) (Refer to 1.K.(3)).

(6) Install the improved Cooling Shroud for Exciter End (See Figures 9 and 10)

(a) Install the Cooling Shroud (5) onto the connection between the Ignition Exciter and the Ignition Lead.

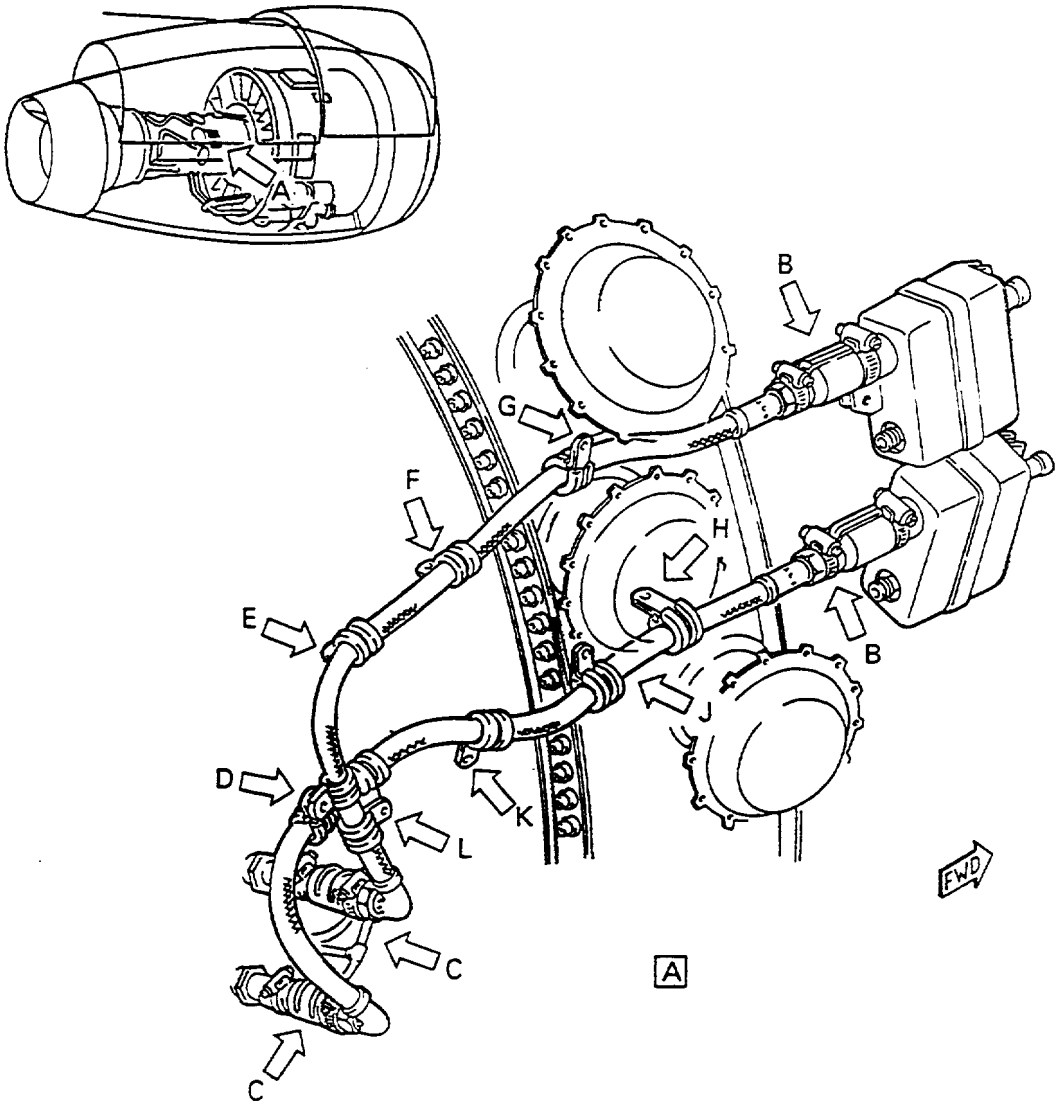
(b) Set the clamps (4) and (6) to the Cooling Shroud for Exciter End.

(c) TORQUE the clamp screws (4) and (6) to between 20 and 25 lbfin (2.26 and 2.82 Nm) (Refer to 1.K.(3)).

(7) Close the cowls by 1.K.(15) and (16).

C. Recording Instructions

A record of accomplishment is necessary.



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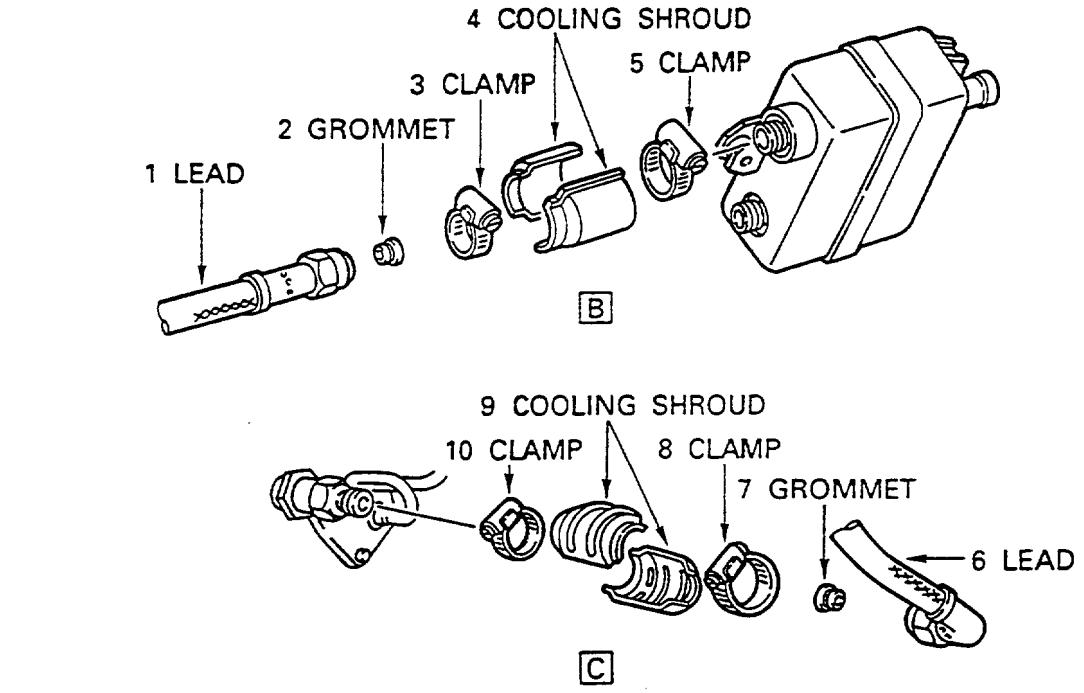
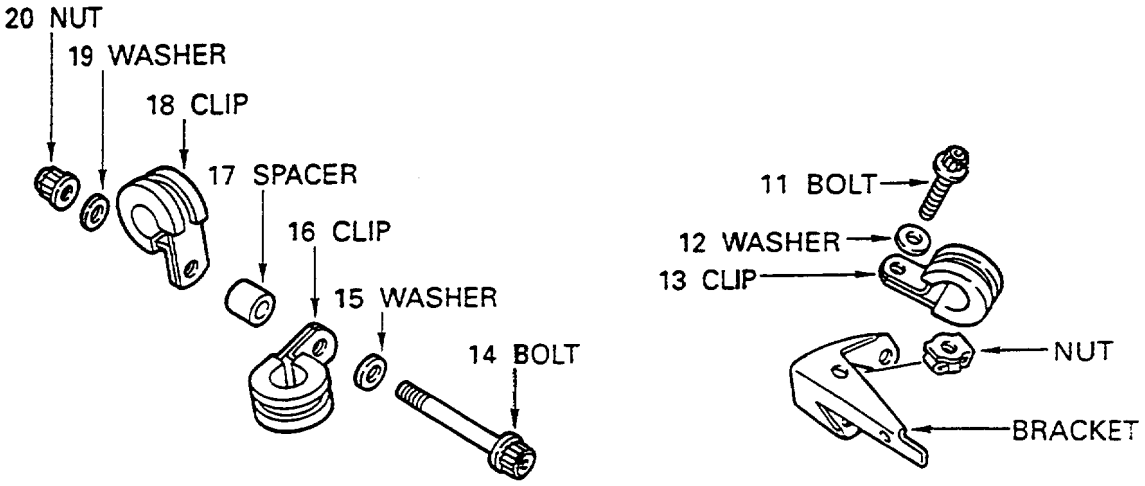
Removal/Installation of the Ignition Lead (V2500-A1, -A5)
Fig.1





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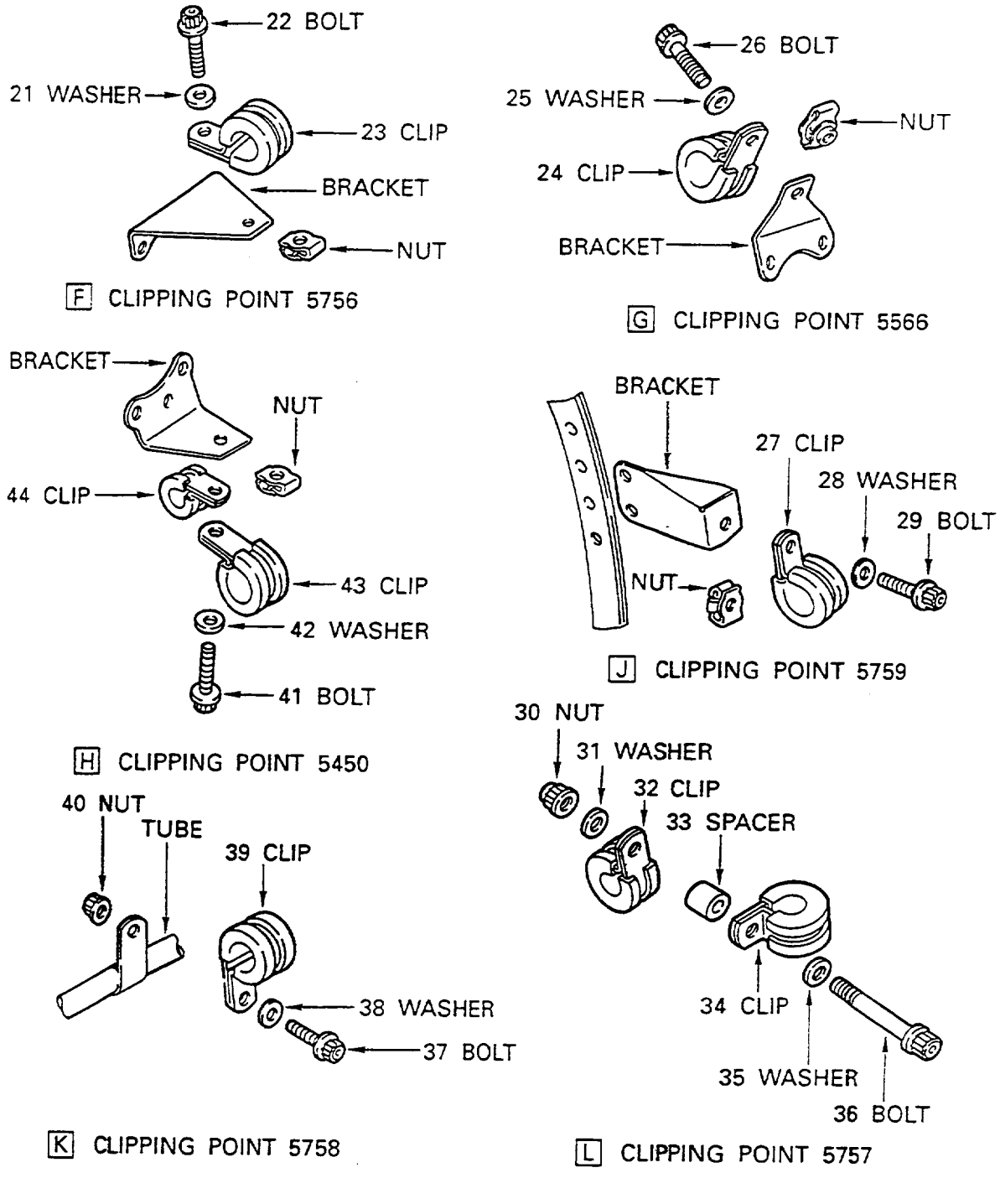
Removal/Installation of the Ignition Lead, Ignition Cooling Box and Cooling Shroud
(V2500-A1, -A5)
Fig.2



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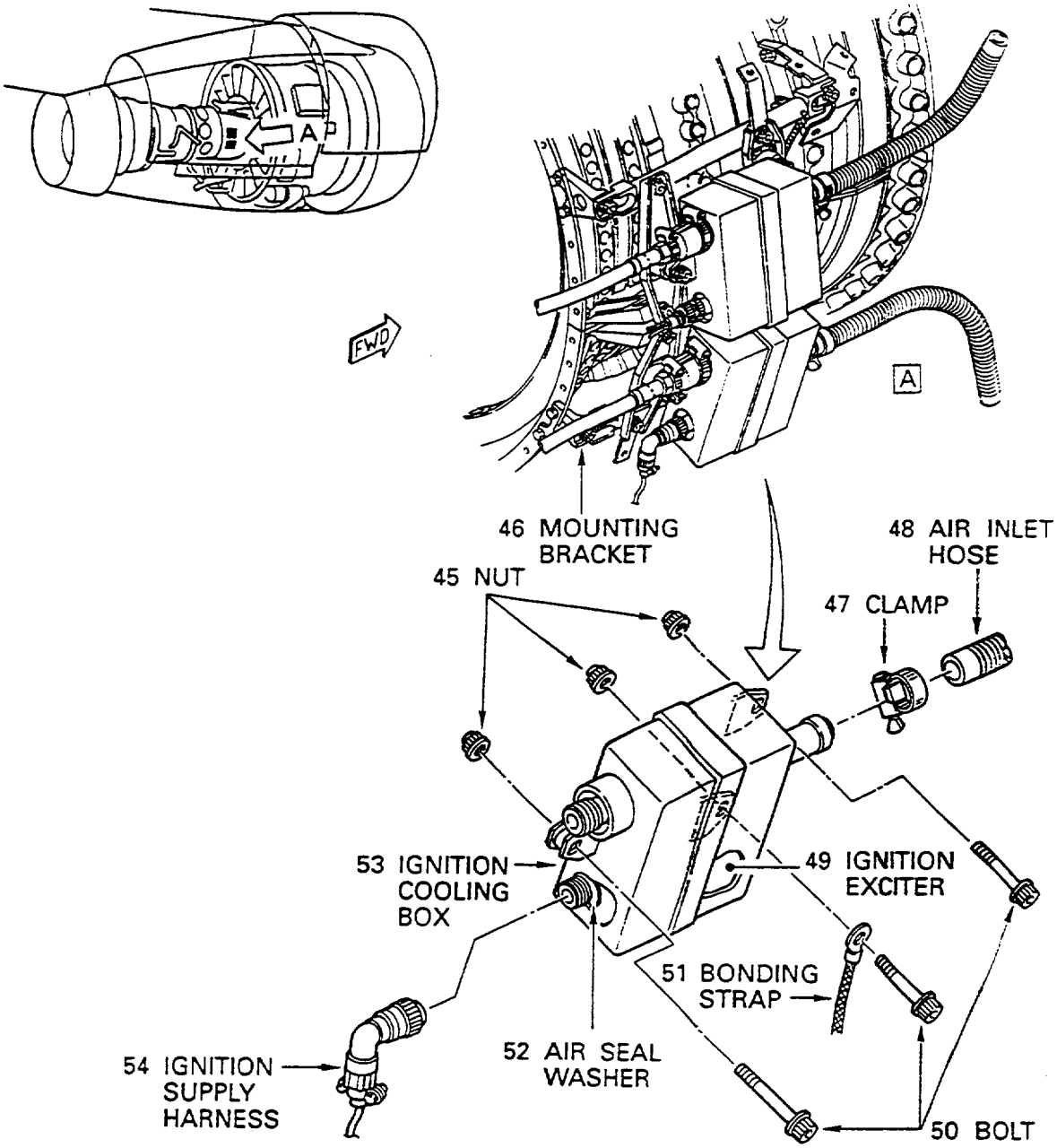
Removal/Installation of the Ignition Lead (V2500-A1, -A5)
Fig.3



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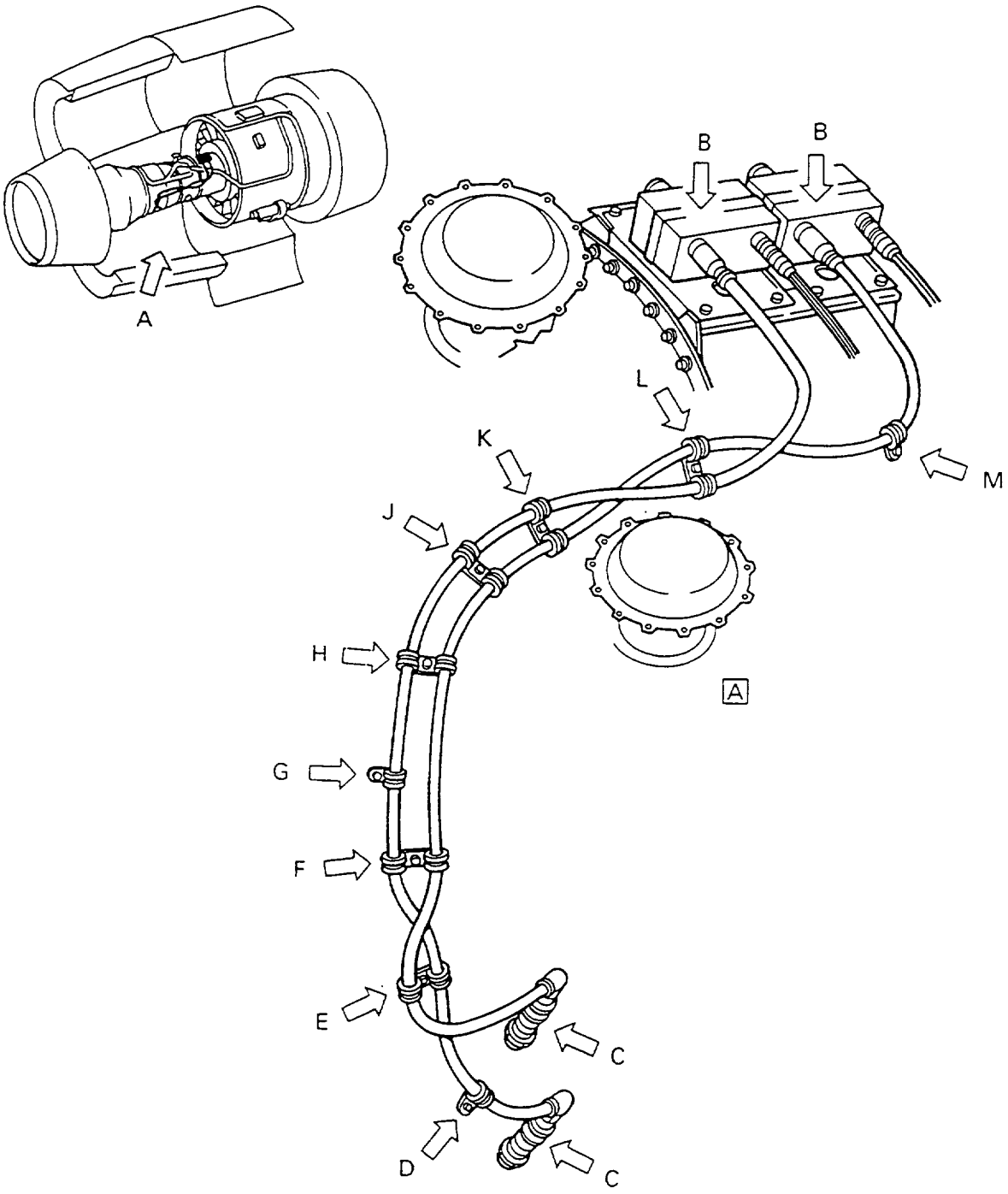
Removal/Installation of the Ignition Cooling Box (V2500-A1, -A5)
Fig.4



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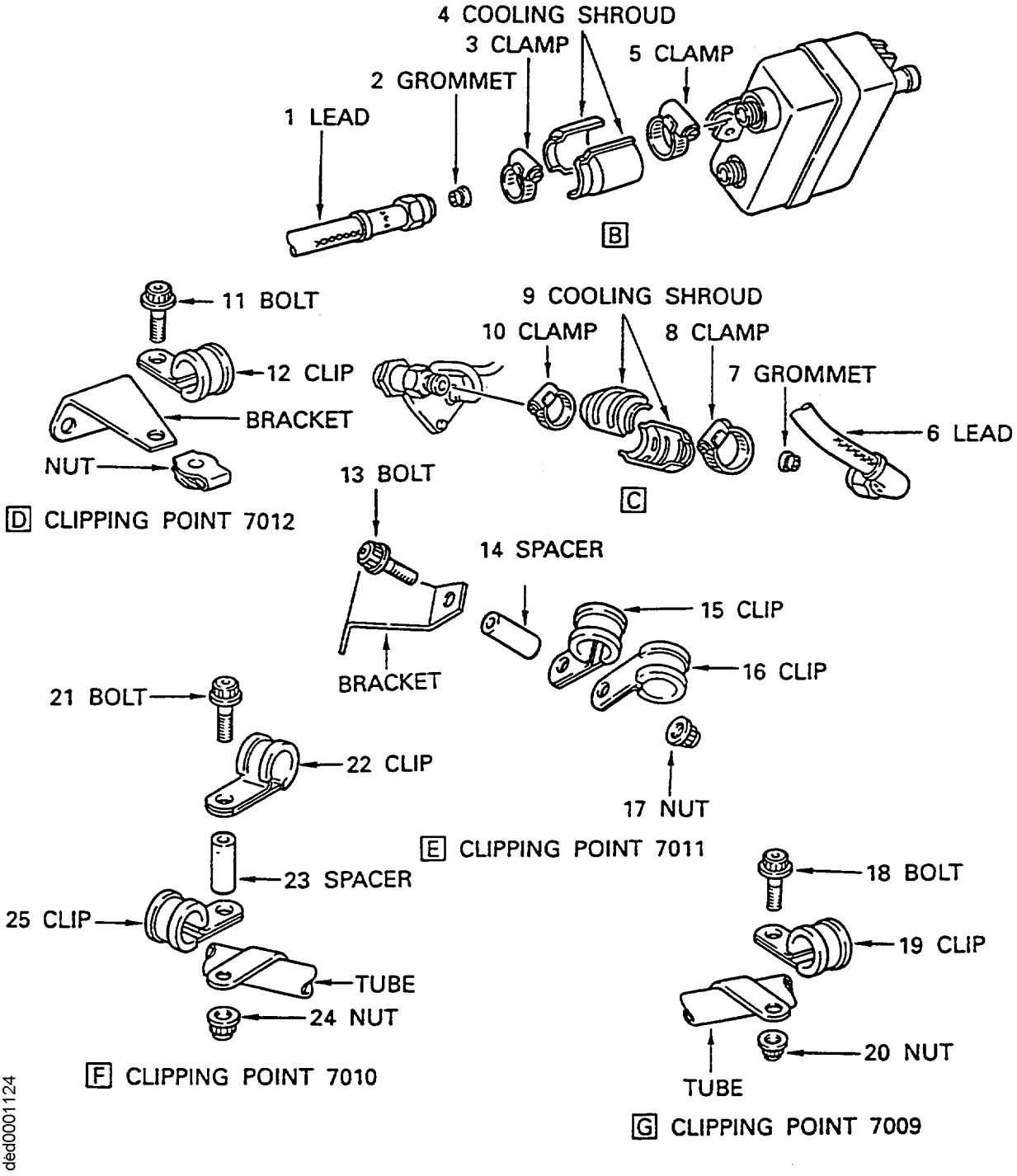
Removal/Installation of the Ignition Lead (V2500-D5)
Fig.5



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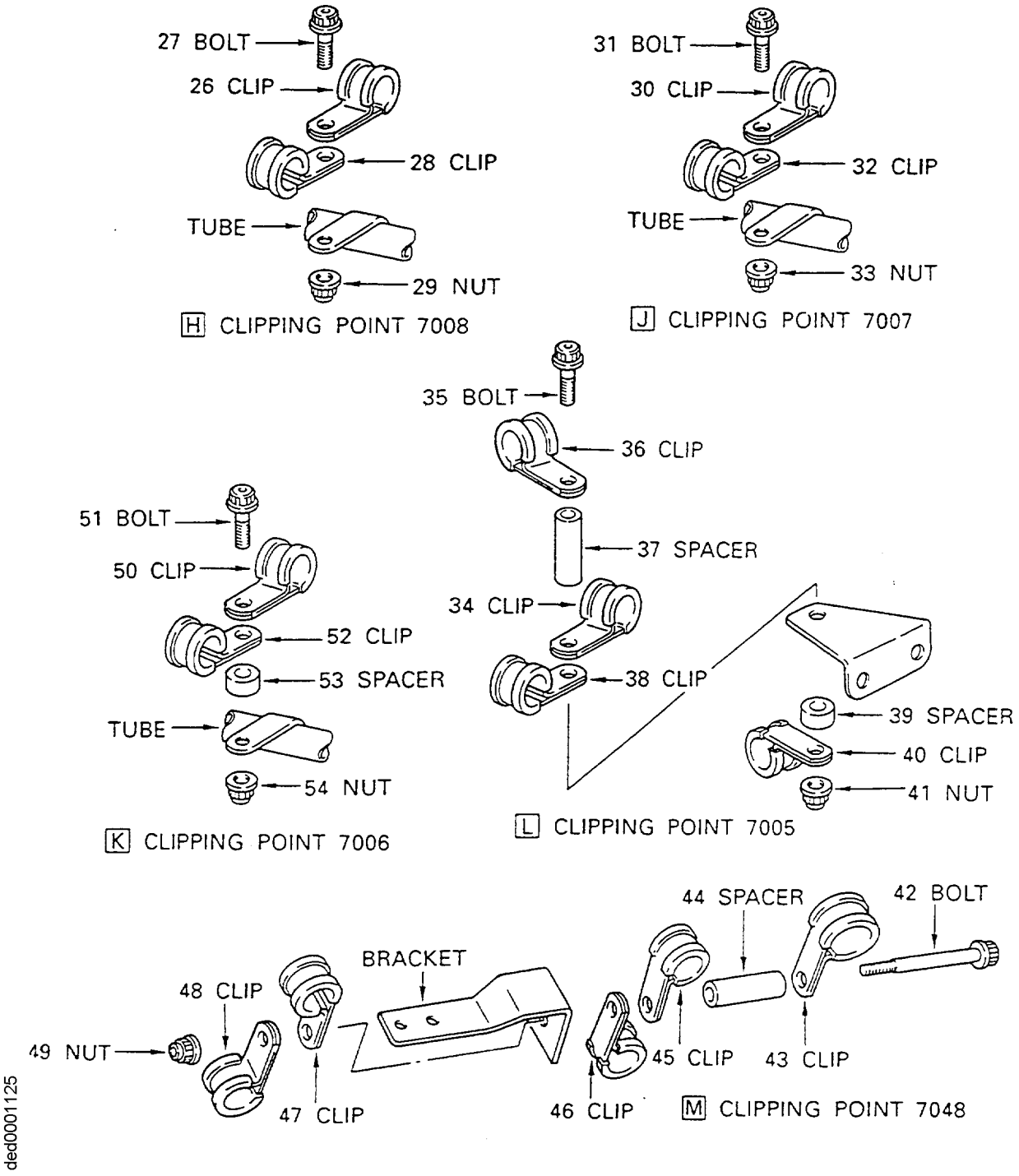
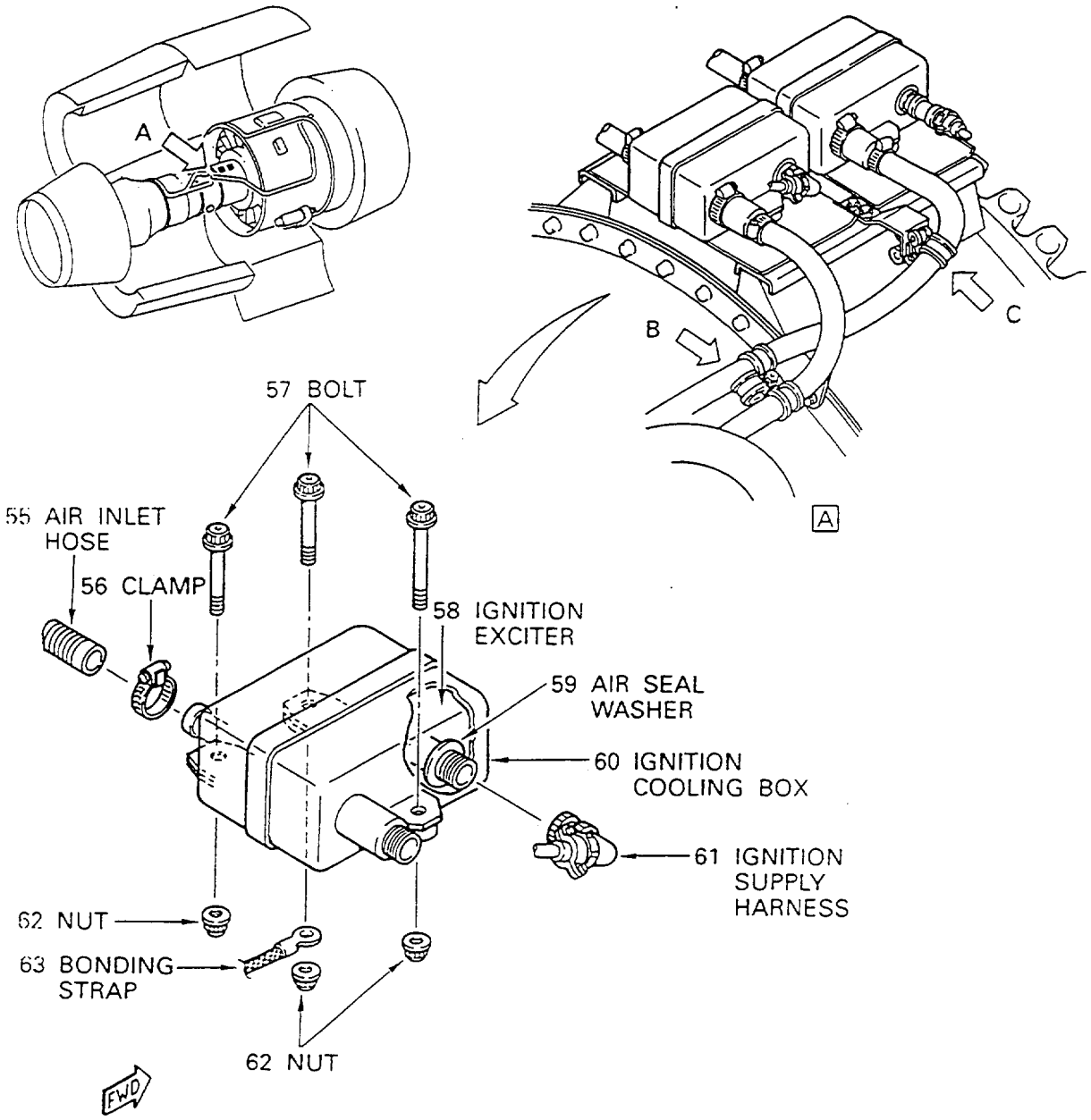
Removal/Installation of the Ignition Lead, Ignition Cooling box and Cooling Shroud (V2500-D5)
Fig.6



Removal/Installation of the Ignition Lead (V2500-D5)
Fig.7



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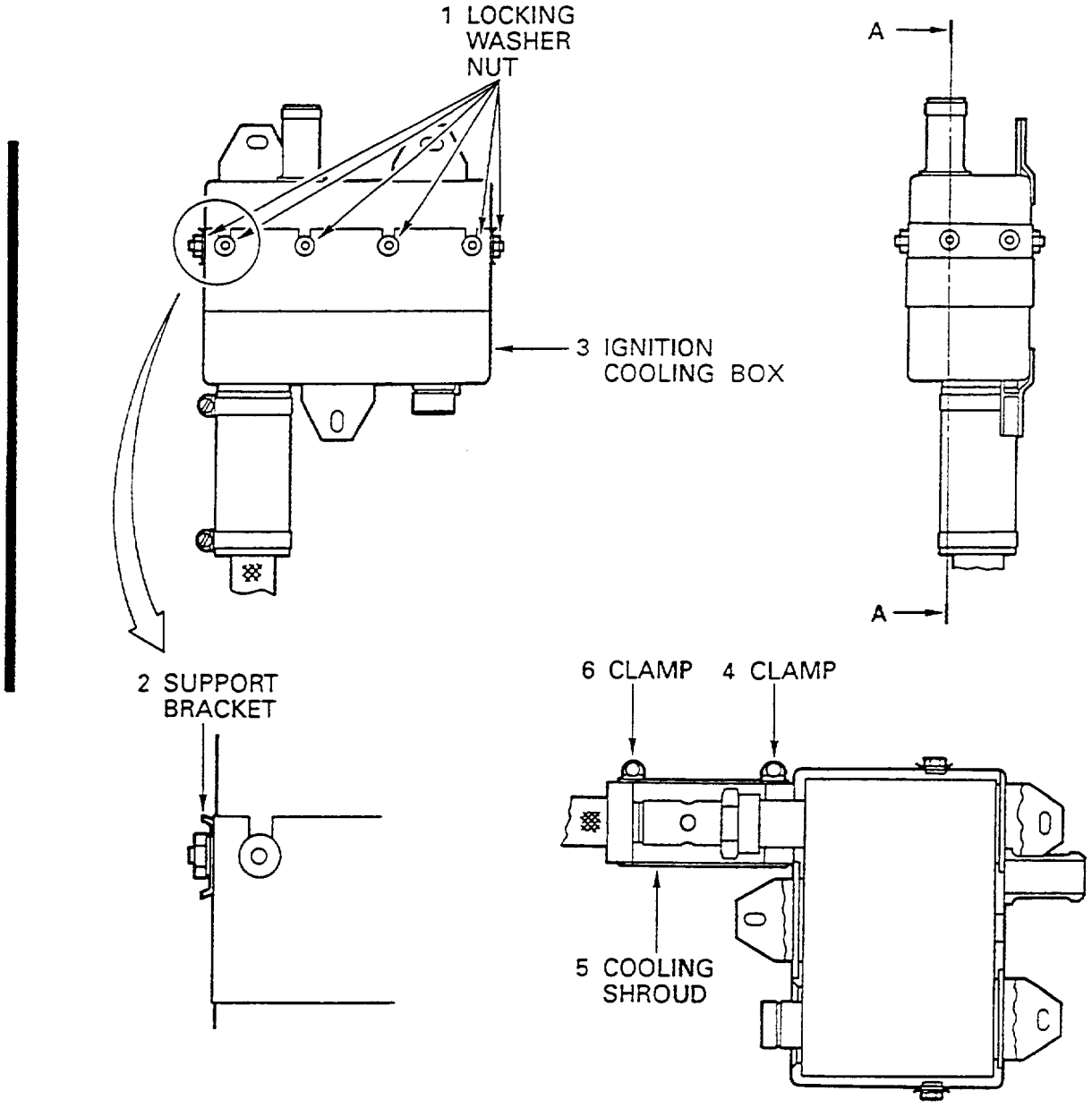
Removal/Installation of the Ignition Cooling Box (V2500-D5)
Fig.8



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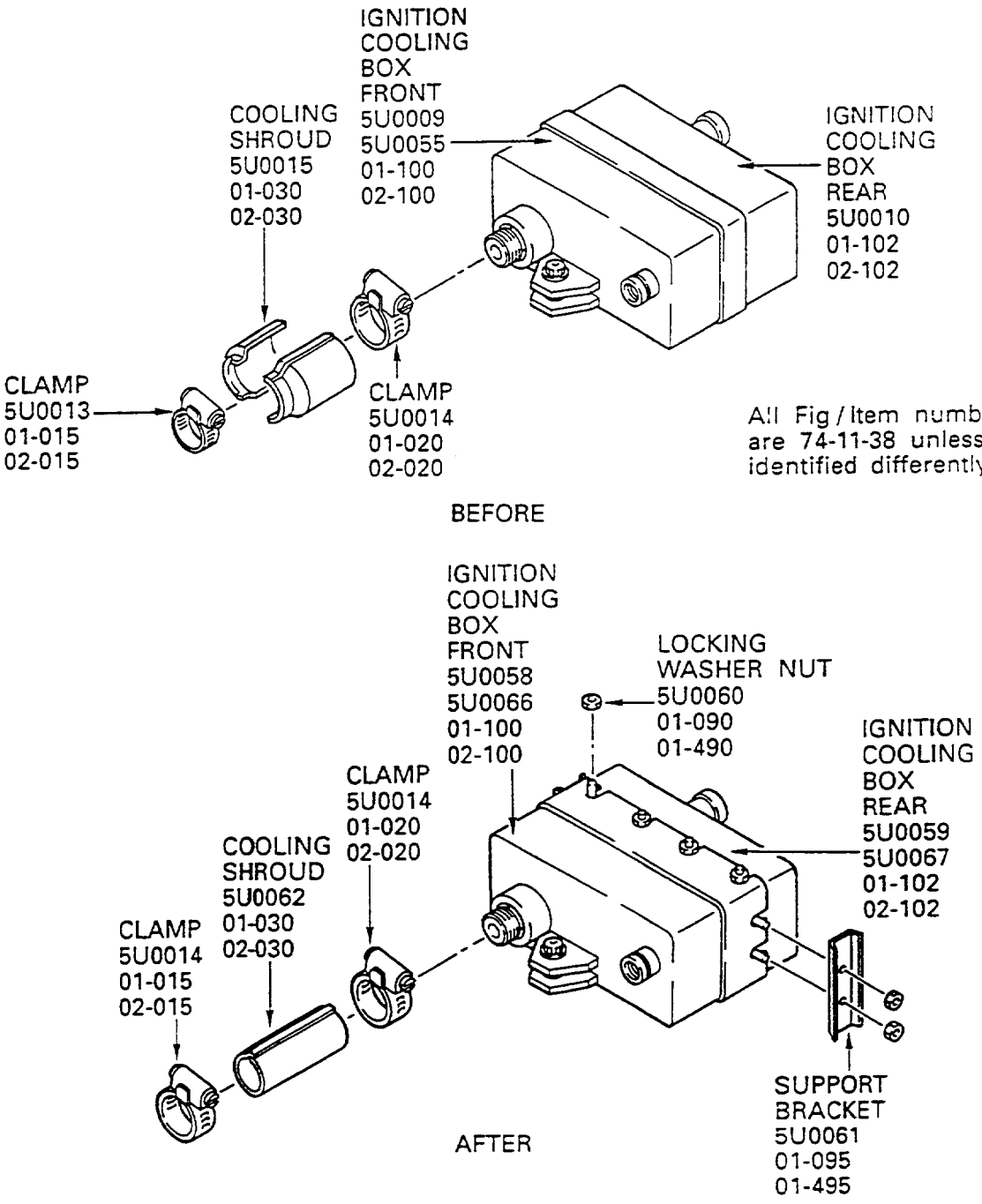
Installation of the improved Ignition Cooling Box and the improved Cooling Shroud for Exciter End (V2500-A1, -A5 and -D5)
Fig.9



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Before and after the modification of the Ignition Cooling Box and the Cooling Shroud for Exciter End (V2500-A1, A5 and -D5)
Fig.10

3. Material Information

Applicability: For each V2500 Engine to incorporate this Bulletin.

A. Kits associated by this Bulletin:

(1) For V2500-A1 and -A5 Models

Vendor Kit Number is P/N 9043853.

(2) For V2500-D5 Model

Vendor Kit Number is P/N 9043854.

Note: For details, refer to Service Bulletin No. 74-48 issued by Unison Industries.

B. Parts affected by this Bulletin:

New Part No. (Vendor P/N) (ATA No.)	Qty.	Est'd Unit Price($)	Keyword	Old Part No. (Vendor P/N) (IPC No.)	Instructions Disposition
For V2500-A1 and V2500-A5 Models					
5U0060 (9048464) (74-11-38)	12		.Nut, Locking Washer	- (01-090)	(A)(S1)
5U0061 (9048465) (74-11-38)	2		.Bracket, Support	- (01-095)	(A)(S1)
5U0060 (9048464) (74-11-38)	12		.Nut, Locking Washer	- (01-490)	(A)(S1)
5U0061 (9048465) (74-11-38)	2		.Bracket, Support	- (01-495)	(A)(S1)
5U0066 (9048457) (74-11-38)	1		.Box, Cooling Ignition Front	5U0009 (9045428) (01-100)	(A)(B)(C) (E)(F)(S1)
5U0058 (9048467) (74-11-38)	1		.Box, Cooling Ignition Front	5U0055 (9054840) (01-100)	(A)(B)(C) (E)(S1)

5U0066 (9048457) (74-11-38)	1	.Box, Cooling Ignition Front	5U0055 (9054840) (01-100)	(A)(B)(C) (E)(F)(S1)
5U0059 (9048466) (74-11-38)	1	.Box, Cooling Ignition Rear	5U0010 (9045429) (01-102)	(A)(B)(C) (E)(S1)
5U0067 (9048462) (74-11-38)	1	.Box, Cooling Ignition Rear	5U0010 (9045429) (01-102)	(A)(B)(C) (E)(F)(S1)
5U0066 (9048457) (74-11-38)	1	.Box, Cooling Ignition Front	5U0009 (9045428) (01-500)	(A)(B)(C) (E)(F)(S1)
5U0058 (9048467) (74-11-38)	1	.Box, Cooling Ignition Front	5U0055 (9054840) (01-500)	(A)(B)(C) (E)(S1)
5U0066 (9048457) (74-11-38)	1	.Box, Cooling Ignition Front	5U0055 (9054840) (01-500)	(A)(B)(C) (E)(F)(S1)
5U0059 (9048466) (74-11-38)	1	.Box, Cooling Ignition Rear	5U0010 (9045429) (01-502)	(A)(B)(C) (E)(S1)
5U0067 (9048462) (74-11-38)	1	.Box, Cooling Ignition Rear	5U0010 (9045429) (01-502)	(A)(B)(C) (E)(F)(S1)
5U0014 (9045456-3) (74-21-43)	1	.Clamp	5U0013 (9045456-2) (01-015)	(A)(B)(C) (E)(S1)
5U0014 (9045456-3) (74-21-43)	1	.Clamp	5U0013 (9045456-2) (02-015)	(A)(B)(C) (E)(S1)
5U0062 (9048431) (74-21-43)	1	.Shroud, Lead Exciter End	5U0015 (9045453) (01-030)	(A)(B)(C) (E)(S1)
- (74-21-43)	-	.Shroud, Cooling Inner	5U0016 (9045454) (01-035)	(B)(E)

5U0062 (9048431) (74-21-43)	1	.Shroud, Lead Exciter End	5U0015 (9045453) (02-030)	(A)(B)(C) (E)(S1)
- (74-21-43)	-	.Shroud, Cooling Inner	5U0016 (9045454) (02-035)	(B)(E)
5U0014 (9045456-3) (74-21-43)	1	.Clamp	5U0013 (9045456-2) (01-060)	(A)(B)(C) (E)(S1)
5U0065 (9048444) (74-21-43)	1	.Shroud, Lead Plug End	5U0017 (9045458) (01-070)	(A)(B)(C) (E)(S1)
5U0065 (9048444) (74-21-43)	1	.Shroud, Lead Plug End	5U0018 (9045459) (01-075)	(A)(B)(C) (E)(S1)
5U0014 (9045456-3) (74-21-43)	1	.Clamp	5U0013 (9045456-2) (02-060)	(A)(B)(C) (E)(S1)
5U0065 (9048444) (74-21-43)	1	.Shroud, Lead Plug End	5U0017 (9045458) (02-070)	(A)(B)(C) (E)(S1)
5U0065 (9048444) (74-21-43)	1	.Shroud, Lead Plug End	5U0018 (9045459) (02-075)	(A)(B)(C) (E)(S1)
5U0068 (9045405-5) (74-21-43)	1	.Lead, Ignition	5U0052 (9045405-3) (01-100)	(A)(B)(C) (E)(S1)
5U0068 (9045405-5) (74-21-43)	1	.Lead, Ignition	5U0052 (9045405-3) (02-100)	(A)(B)(C) (E)(S1)
For V2500-D5 Model				
5U0060 (9048464) (74-11-38)	12	.Nut, Locking Washer	- (01-090)	(A)(S1)
5U0061 (9048465) (74-11-38)	2	.Bracket, Support	- (01-095)	(A)(S1)

5U0060 (9048464) (74-11-38)	12	.Nut, Locking Washer	- (01-490)	(A)(S1)
5U0061 (9048465) (74-11-38)	2	.Bracket, Support	- (01-495)	(A)(S1)
5U0066 (9048457) (74-11-38)	1	.Box, Cooling Ignition Front	5U0009 (9045428) (01-100)	(A)(B)(C) (E)(F)(S1)
5U0058 (9048467) (74-11-38)	1	.Box, Cooling Ignition Front	5U0055 (9054840) (01-100)	(A)(B)(C) (E)(S1)
5U0066 (9048457) (74-11-38)	1	.Box, Cooling Ignition Front	5U0055 (9054840) (01-100)	(A)(B)(C) (E)(S1)
5U0059 (9048466) (74-11-38)	1	.Box, Cooling Ignition Rear	5U0010 (9045429) (01-102)	(A)(B)(C) (E)(S1)
5U0067 (9048462) (74-11-38)	1	.Box, Cooling Ignition Rear	5U0010 (9045429) (01-102)	(A)(B)(C) (E)(F)(S1)
5U0066 (9048457) (74-11-38)	1	.Box, Cooling Ignition Front	5U0009 (9045428) (01-500)	(A)(B)(C) (E)(F)(S1)
5U0058 (9048467) (74-11-38)	1	.Box, Cooling Ignition Front	5U0055 (9054840) (01-500)	(A)(B)(C) (E)(S1)
5U0066 (9048457) (74-11-38)	1	.Box, Cooling Ignition Front	5U0055 (9054840) (01-500)	(A)(B)(C) (E)(F)(S1)
5U0059 (9048466) (74-11-38)	1	.Box, Cooling Ignition Rear	5U0010 (9045429) (01-502)	(A)(B)(C) (E)(S1)
5U0067 (9048462) (74-11-38)	1	.Box, Cooling Ignition Rear	5U0010 (9045429) (01-502)	(A)(B)(C) (E)(F)(S1)

5U0014 (9045456-3) (74-21-43)	1	.Clamp	5U0013 (9045456-2)	(A)(B)(C) (E)(S1)
5U0014 (9045456-3) (74-21-43)	1	.Clamp	5U0013 (9045456-2) (02-015)	(A)(B)(C) (E)(S1)
5U0062 (9048431) (74-21-43)	1	.Shroud, Lead Exciter End	5U0015 (9045453) (01-030)	(A)(B)(C) (E)(S1)
-	-	.Shroud, Cooling Inner	5U0016 (9045454)	(B)(E)
(74-21-43)			(01-035)	
5U0062 (9048431) (74-21-43)	1	.Shroud, Lead Exciter End	5U0015 (9045453) (02-030)	(A)(B)(C) (E)(S1)
-	-	.Shroud, Cooling Inner	5U0016 (9045454)	(B)(E)
(74-21-43)			(02-035)	
5U0014 (9045456-3) (74-21-43)	1	.Clamp	5U0013 (9045456-2) (01-060)	(A)(B)(C) (E)(S1)
5U0065 (9048444) (74-21-43)	1	.Shroud, Lead Plug End	5U0017 (9045458) (01-070)	(A)(B)(C) (E)(S1)
5U0065 (9048444) (74-21-43)	1	.Shroud, Lead Plug End	5U0018 (9045459) (01-075)	(A)(B)(C) (E)(S1)
5U0014 (9045456-3) (74-21-43)	1	.Clamp	5U0013 (9045456-2) (02-060)	(A)(B)(C) (E)(S1)
5U0065 (9048444) (74-21-43)	1	.Shroud, Lead Plug End	5U0017 (9045458) (02-070)	(A)(B)(C) (E)(S1)
5U0065 (9048444) (74-21-43)	1	.Shroud, Lead Plug End	5U0018 (9045459) (02-075)	(A)(B)(C) (E)(S1)

5U0069 (9045405-4) (74-21-43)	1	.Lead, Ignition	5U0043 (9045405-2) (01-100)	(A)(B)(C) (E)(S1)
5U0069 (9045405-4) (74-21-43)	1	.Lead, Ignition	5U0043 (9045405-2) (02-100)	(A)(B)(C) (E)(S1)

C. Instruction/Disposition Code Statements

(A) New parts are currently available for sale.
(B) Old parts are no longer be available for sale.
(C) Replace old parts with new one.
(E) Return old parts to vendor (UNISON).
(F) New parts are alternative parts.
(S1) New parts must be fitted as a COMPLETE SET per engine.
Missing of old and new parts is not permissible.

NOTE: The estimated 1994 unit prices shown are provided for planning purposes only and do not constitute a firm quotation. Consult the IAE Price Catalog or contact IAE's Spare Parts Sales Department for information concerning firm prices.

UNISON
SERVICE BULLETIN

JP00623

Powerplant - Ignition System - Introduction of Improved Ignition Cooling Box.

1. PLANNING INFORMATION.

A. Summary:

To provide an ignition cooling box with improved fit.

B. Effectivity:

This Service Bulletin applies to the following Unison Exciter Front Cooling Box Assembly used on IAE V2500-A1/A5/D5 engines.

Unison Part Number	IAE Part Number
9045428	5U0009

C. Reason:

In some cases, installation tolerances affecting fit of the cooling box have resulted in assembly misalignment. The new front cooling box has a redesigned mounting pad which accommodates these tolerances to provide an improved fit.

D. Description:

This service bulletin is of a product improvement nature, and provides an exchange program through Unison's repair facility to exchange/upgrade existing P/N 9045428 Front Cooling Boxes to P/N 9054840.

E. Compliance:

Compliance code 7: Accomplish when supply of superseded parts has been depleted.

F. Approval:

The part number modifications described in this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-Approved for the Cooling Box listed.

G. Manhours Required:

No additional man hours required when accomplished at routine assembly/disassembly.

H. Material Availability:

Parts listed in Material Information are available from Unison Industries, 7575 Baymeadows Way, Jacksonville, FL 32256.

I. Tooling: None.

J. Weight and Balance: Not affected.

K. Electrical Load Data: Not affected.

L. References:

IAE S.B. V2500-ENG-70-0260

M. Other Publications Affected:

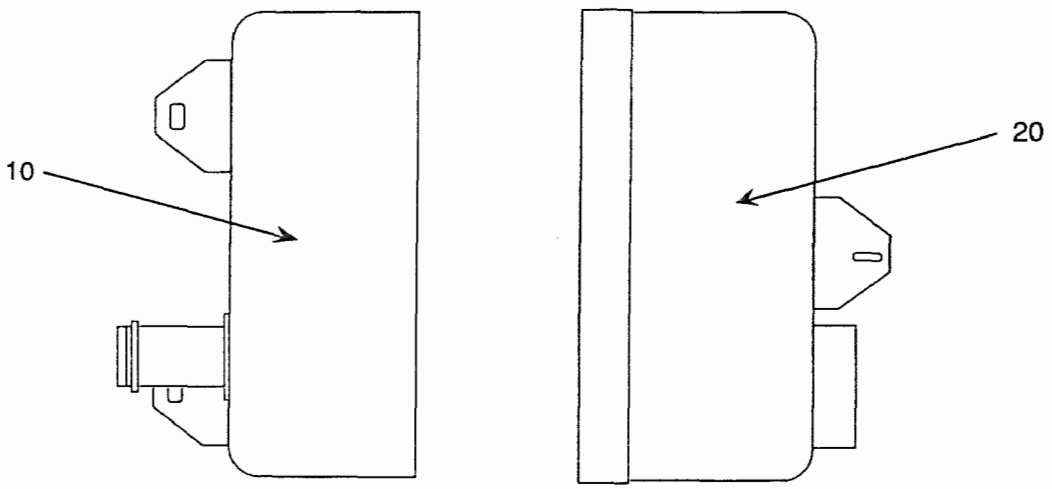
Component Maintenance Manual 74-11-38, dated Nov 01/88.

2. ACCOMPLISHMENT INSTRUCTIONS.

A. The old part cannot be modified by the operator to obtain the new configuration. Return P/N 9045428 Front Cooling Box Assembly to Unison Industries for exchange/upgrade to P/N 9054840.

B. Revise CMM 74-11-38 ILLUSTRATED PARTS LIST, page 1005, as follows:

FIGURE & ITEM NUMBER	PART NUMBER	AIRLINE PART NO.	NOMENCLATURE 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
2 -1	9045415-2		COOLING BOX Assembly	REF	A
-5	9045415-3		COOLING BOX Assembly	REF	B
10	9045429		. REAR COOLING Box	1	
-15	9045428		. FRONT COOLING Box	1	A
20	9054840		. FRONT COOLING Box	1	B



Cooling Box Assembly
Figure 2

Items preceded by a dash (-) are not illustrated.

3. MATERIAL INFORMATION.

A. The material data in the following table is per engine.

NEW P/N	QTY	EST. UNIT EXCH. PRICE*	KEYWORD	OLD P/N	DISPOSITION OF OLD PART
9054840	2 each	$230.00	Box, Cooling, Front**	9045428	Replace

* Price listed is for planning purposes only. Please check with Unison Industries for latest price.

** Rear Cooling Box Assembly P/N 9045429 (IAE P/N 5U0010) does not need to be sent for exchange with the front cooling box being returned.

Unison Industries offers factory modified cooling boxes on an exchange basis which comply with this service bulletin. These are available for immediate delivery from our Jacksonville, Florida factory. Please contact our Service Center at (904) 739-4130 (FAX 904-739-4444).