

Temporary Maintenance Instruction TMI 189-039

Generator exhaust hoses (Number 1 engine access door) – Replacement procedure

All AW189 Helicopters

The technical content of this document is approved under the authority of DOA nr. EASA.21J.005.

The present TMI will be evaluated for its introduction in the standard set of Technical Publication.

*If no further notice is received, the present document expires on: **December 31^h 2019.***

2019-04-12

Introduction

The purpose of this Temporary Maintenance Instruction is to give you the evidence of the new replacement procedure of the Generator Exhaust Hoses of the Number 1 Engine Access Door.

All the information reported in Table 1 and in the subsequent pages will be embodied within the IETP revision 18 Data Modules:

Table 1

Pub. Code or DMC	DM or Maintenance Procedure Title	Annex N°
• 89-A-71-11-02-01A-520A-A	<i>Panels (Number 1 engine access door) – Remove procedure</i>	ANNEX 1
• 89-A-71-11-02-01A-720A-A	<i>Panels (Number 1 engine access door) – Install procedure</i>	ANNEX 2
• 89-A-71-11-02-02A-921A-B	<i>Generator exhaust hoses (Number 1 engine access door) – Replacement (remove and install a new item)</i>	ANNEX 3

Generator exhaust hoses (Number 1 engine access door) – Replacement procedure

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ANNEX 1

Panels (Number 1 engine access door) - Remove procedure

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Table 1 References

Data Module	Title
89-A-00-20-00-00A-120A-A	Helicopter safety - Pre-operation (make helicopter safe for maintenance)
89-A-71-11-02-00A-520A-A	Number 1 engine access door - Remove procedure
89-A-71-11-02-01A-720A-A	Panels (Number 1 engine access door) - Install procedure

Table 2 Access points

Access Panel / Door Id	Data Module
461A	89-A-06-41-00-00A-010A-A

Table 3 Zones

Zone ID	Data Module
460	89-A-06-30-00-00A-010A-A

Preliminary Requirements

Required Conditions

Table 4 Required Conditions

Conditions	Data Module/Technical Publication
The helicopter must be safe for maintenance.	89-A-00-20-00-00A-120A-A
The access door 461A must be opened.	89-A-06-41-00-00A-010A-A

Support Equipment

Table 5 Support Equipment

Nomenclature	Identification No.	Qty
Platform	GG-01-00	1

Supplies

Table 6 Supplies

Nomenclature	Identification No.	Qty
Cleaning solvent	C010	AR
Lint-free cloth	C011	AR

Spares

Table 7 Spares

Nomenclature
No Spares

Safety Conditions

WARNING

The **Cleaning solvent (C010)** is a dangerous material. Before you do this procedure, make sure that you know all the safety precautions and first aid instructions for the cleaning solvent.

Procedure

Note

In this procedure the Number 1 engine access door is referred to as the engine access door.

- 1 Put the **Platform (GG-01-00)** adjacent to the left side of the fuselage.
- 2 Do the applicable step:
 - To remove the access panel 461B (2, **Figure 1**), do the **step 3**
 - To remove the access panel 461C (3), do the **step 3** for the access panel 461C (3)
 - To remove the access panel 461D (4), do the **step 4**
 - To remove the access panel 461E (6), do the **step 3** for the access panel 461E (6)
 - To remove the lower internal panel (5), do the **step 5**.

Note

This step is typical for these access panels:

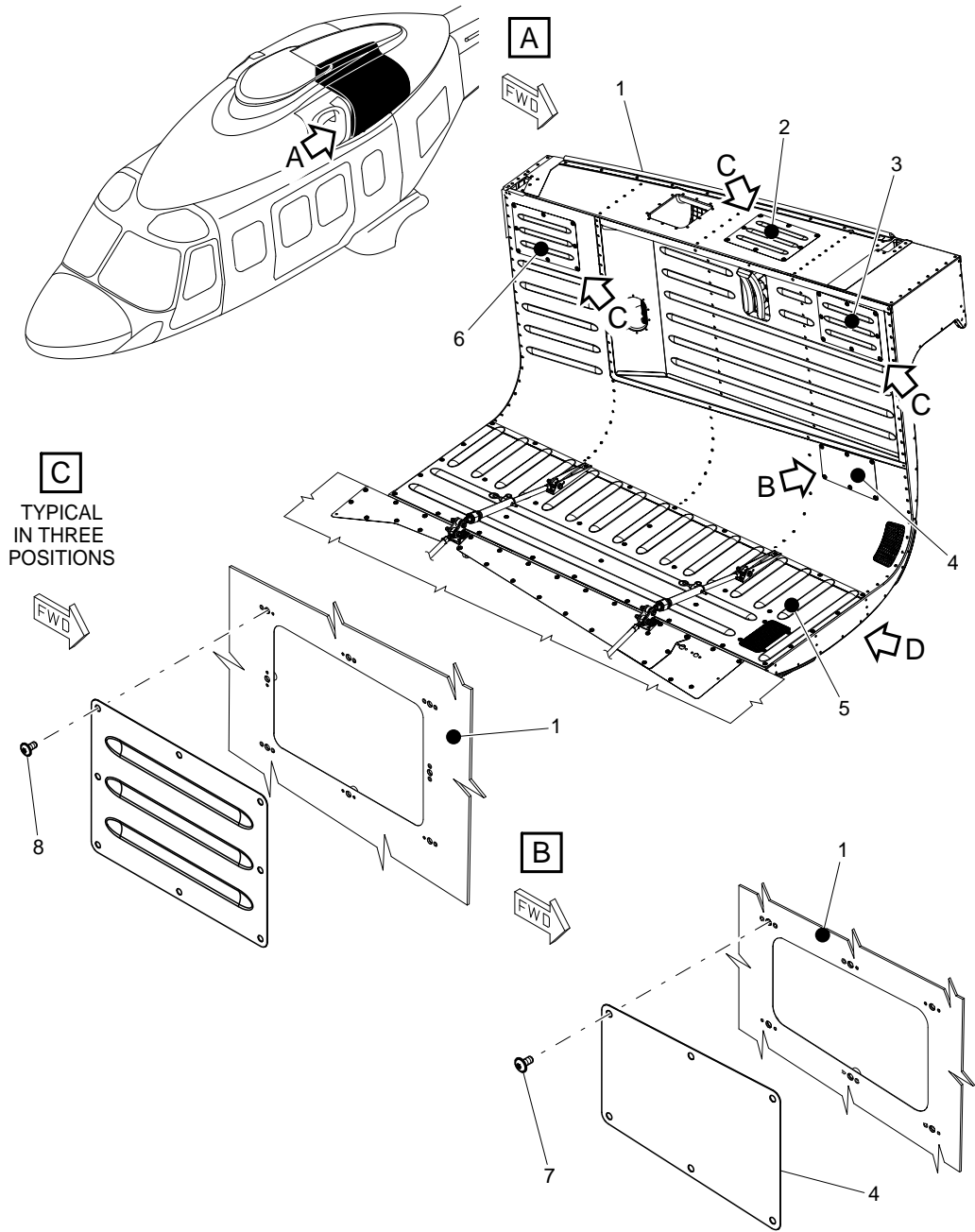
- The access panel 461B (2)
- The access panel 461C (3)
- The access panel 461E (6).

- 3 **Access panel 461B (2) remove procedure**
 - 3.1 Remove the corrosion inhibitor from the exposed surface of the eight screws (8) with the **Lint-free cloth (C011)** and the **Cleaning solvent (C010)** .
 - 3.2 Remove the eight screws (8) that attach the access panel 461B (2) to the engine access door (1).
 - 3.3 Remove the access panel 461B (2) from the engine access door (1).
- 4 **Access panel 461D (4) remove procedure**

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- 4.1 Remove the corrosion inhibitor from the exposed surface of the six screws (7) with the [Lint-free cloth \(C011\)](#) and the [Cleaning solvent \(C010\)](#) .
- 4.2 Remove the six screws (7) that attach the access panel 461D (4) to the engine access door (1).
- 4.3 Remove the access panel 461D (4) from the engine access door (1).
- 5 **Lower internal panel (5, [Figure 2](#)) remove procedure**
- 5.1 Remove the engine access door (1). Refer to [89-A-71-11-02-00A-520A-A](#).
- 5.2 Put the engine access door (1) on an applicable work table.
- 5.3 Remove the corrosion inhibitor from the exposed surface of the screw (8) and the tow screws (7) with the [Lint-free cloth \(C011\)](#) and the [Cleaning solvent \(C010\)](#) .
- 5.4 Remove the screw (8) and the two screws (7) that attach the bracket (6) to the lower internal panel (5).
- 5.5 Remove the bracket (6) from the lower internal panel (5).
- 5.6 Do again the [step 5.3](#) thru [step 5.5](#) for the other bracket (6).
- 5.7 Remove the corrosion inhibitor from the exposed surface of the four screws (4) with the [Lint-free cloth \(C011\)](#) and the [Cleaning solvent \(C010\)](#) .
- 5.8 Remove the four screws (4) that attach the forward lower air-intake (2) to the lower internal panel (5).
- 5.9 Remove the seal (3) and the forward lower air-intake (2) from the engine access door (1).
- 5.10 Remove the corrosion inhibitor from the exposed surface of the 33 screws (9) with the [Lint-free cloth \(C011\)](#) and the [Cleaning solvent \(C010\)](#) .
- 5.11 Remove the 33 screws (9) that attach the lower internal panel (5) to the engine access door (1).
- 5.12 Remove the lower internal panel (5) from the engine access door (1).

Requirements After Job Completion

- 1 Remove all the tools and the other items from the work area. Make sure that the work area is clean.
- 2 Install the panels. Refer to [89-A-71-11-02-01A-720A-A](#) (See ANNEX 2 of this TMI)



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Figure 1 Access panels - Remove procedure

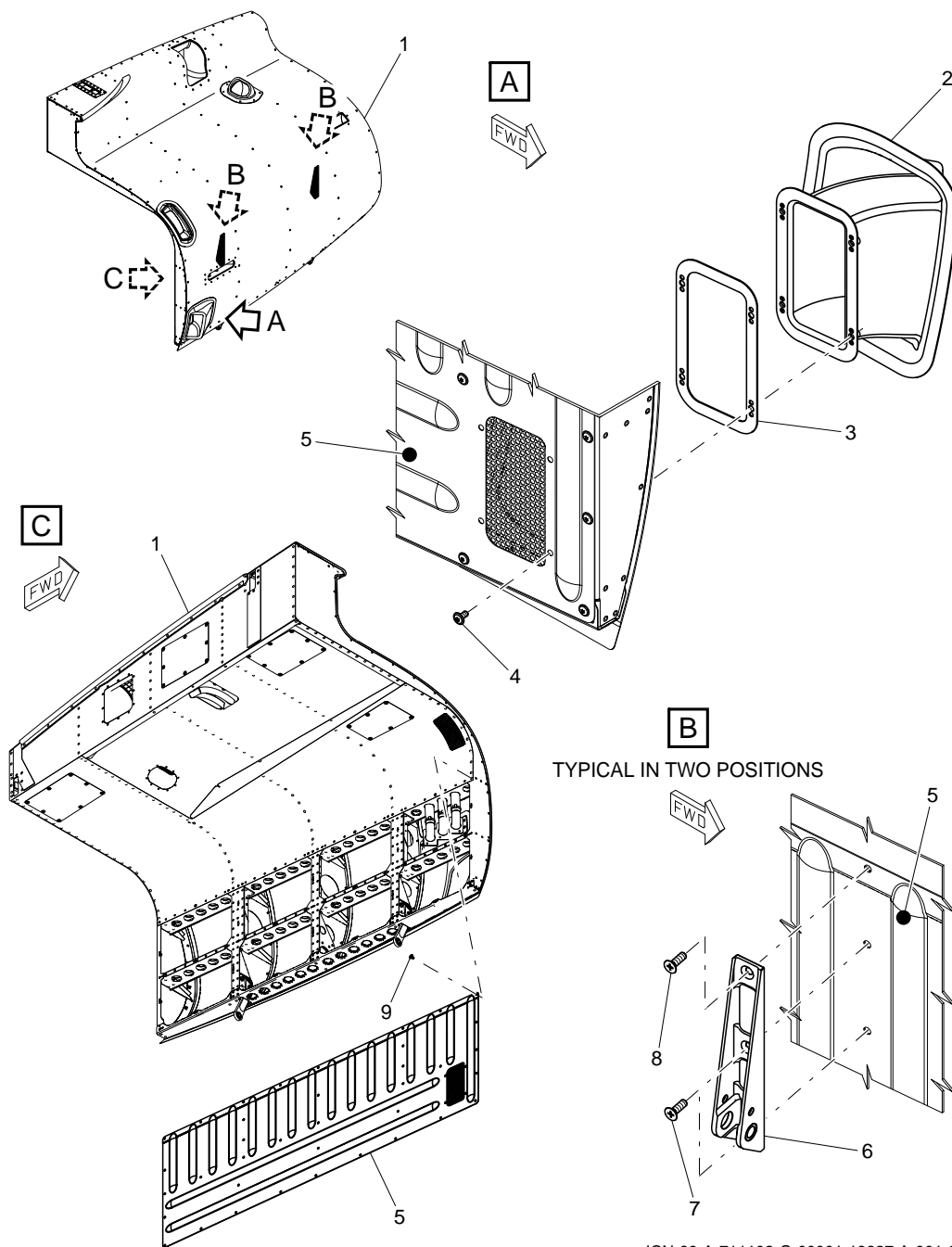


Figure 2 Lower internal panel - Remove procedure

End of Data Module

ANNEX 2

Panels (Number 1 engine access door) - Install procedure

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Table 1 References

Data Module	Title
89-A-00-20-00-00A-120A-A	Helicopter safety - Pre-operation (make helicopter safe for maintenance)
89-A-20-00-00-00A-711A-A	Threaded fasteners - Tighten procedure
89-A-71-11-02-00A-720A-A	Number 1 engine access door - Install procedure

Table 2 Access points

Access Panel / Door Id	Data Module
None	

Table 3 Zones

Zone ID	Data Module
460	89-A-06-30-00-00A-010A-A

Preliminary Requirements

Required Conditions

Table 4 Required Conditions

Conditions	Data Module/Technical Publication
The helicopter must be safe for maintenance.	89-A-00-20-00-00A-120A-A

Support Equipment

Table 5 Support Equipment

Nomenclature	Identification No.	Qty
Torque wrench	ZZ-00-00	1

Supplies

Table 6 Supplies

Nomenclature	Identification No.	Qty
Cleaning solvent	C010	AR
Lint-free cloth	C011	AR
Sealing compound	C095	AR
Corrosion inhibitor	C551	AR

Spares

Table 7 Spares

Nomenclature	Identification No.	Qty
Access panel 461B	71-11-03-01 -016	AR

Table 7 Spares

Nomenclature	Identification No.	Qty
Access panel 461C	71-11-03-01 -016	AR
Access panel 461D	71-11-03-01 -014	AR
Access panel 461E	71-11-03-01 -016	AR
Lower internal panel	71-11-03-01 -007	AR
Seal	71-11-03-01 -003	1

Safety Conditions

WARNING

The materials that follow are dangerous. Before you do this procedure, make sure that you know all the safety precautions and first aid instructions for these materials:

- The **Cleaning solvent (C010)**
- The **Sealing compound (C095)**
- The **Corrosion inhibitor (C551)** .

Procedure

Note

In this procedure the Number 1 engine access door is referred to as the engine access door.

- 1 Get access to the engine access door (1, [Figure 1](#)).
- 2 Do the applicable step:
 - To install the access panel 461B (2), do the [step 3](#)
 - To install the access panel 461C (3), do the [step 3](#) for the access panel 461C (3)
 - To install the access panel 461D (4), do the [step 4](#)
 - To install the access panel 461E (6), do the [step 3](#) for the access panel 461E (6)
 - To install the lower internal panel (5), do the [step 5](#).

Note

This step is typical for these access panels:

- The access panel 461B (2)
- The access panel 461C (3)
- The access panel 461E (6).

- 3 **Access panel 461B (2) install procedure**
 - 3.1 Clean these parts with the [Lint-free cloth \(C011\)](#) and the [Cleaning solvent \(C010\)](#) :
 - The eight screws (8)

- The mating surface between the access panel 461B (2) and the engine access door (1).
- 3.2 Apply the [Sealing compound \(C095\)](#) on the mating surface between the access panel 461B (2) and the engine access door (1).
- 3.3 Put the access panel 461B (2) in its position on the engine access door (1).
- 3.4 Apply the [Sealing compound \(C095\)](#) on the shank and under the head of the eight screws (8).
- 3.5 Install the eight screws (8) that attach the access panel 461B (2) to the engine access door (1).
- 3.6 Tighten the eight screws (8) to the standard torque value with the [Torque wrench \(ZZ-00-00\)](#) . Refer to [89-A-20-00-00-00A-711A-A](#).
- 3.7 Apply the [Corrosion inhibitor \(C551\)](#) on the exposed surface of the eight screws (8).

4 **Access panel 461D (4) install procedure**

- 4.1 Clean these parts with the [Lint-free cloth \(C011\)](#) and the [Cleaning solvent \(C010\)](#) :
- The six screws (7)
 - The mating surface between the access panel 461D (4) and the engine access door (1).
- 4.2 Apply the [Sealing compound \(C095\)](#) on the mating surface between the access panel 461D (4) and the engine access door (1).
- 4.3 Put the access panel 461D (4) in its position on the engine access door (1).
- 4.4 Apply the [Sealing compound \(C095\)](#) on the shank and under the head of the six screws (7).
- 4.5 Install the six screws (7) that attach the access panel 461D (4) to the engine access door (1).
- 4.6 Tighten the six screws (7) to the standard torque value with the [Torque wrench \(ZZ-00-00\)](#) . Refer to [89-A-20-00-00-00A-711A-A](#).
- 4.7 Apply the [Corrosion inhibitor \(C551\)](#) on the exposed surface of the six screws (7).

5 **Lower internal panel (5, Figure 2) install procedure**

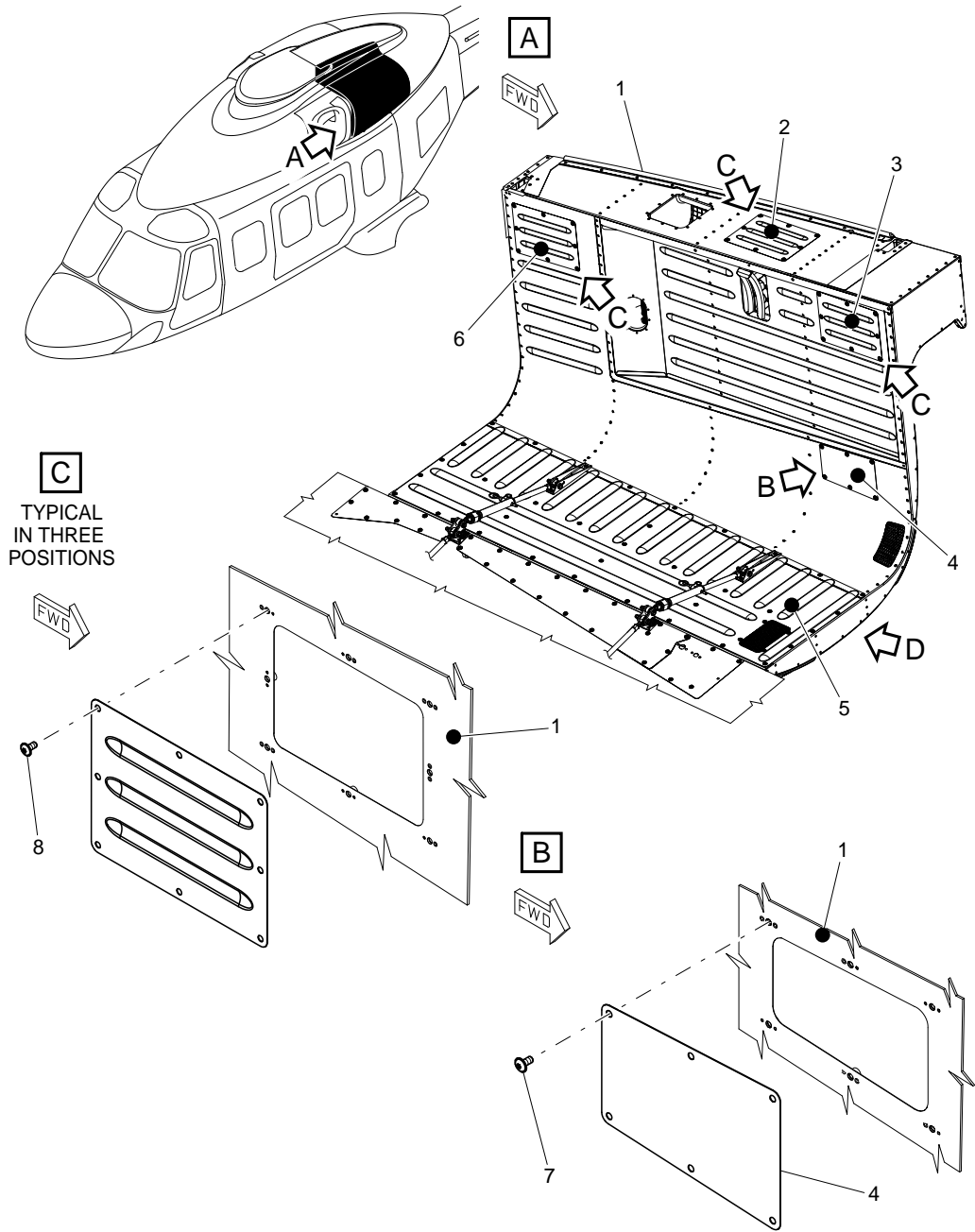
- 5.1 Make sure that the engine access door (1) is on an applicable work table.
- 5.2 Clean these parts with the [Lint-free cloth \(C011\)](#) and the [Cleaning solvent \(C010\)](#) :
- The 33 screws (9)
 - The two screws (8)
 - The four screws (7)
 - The four screws (4)
 - The mating surface between the forward lower air-intake (2) and the engine access door (1)
 - The mating surface between the bracket (6) and the lower internal panel (5)

- The mating surface between the lower internal panel (5) and the engine access door (1).
- 5.3 Apply the [Sealing compound \(C095\)](#) on the mating surface between the lower internal panel (5) and the engine access door (1).
- 5.4 Put the lower internal panel (5) in its position on the engine access door (1).
- 5.5 Apply the [Sealing compound \(C095\)](#) on the shank and under the head of the 33 screws (9).
- 5.6 Install the 33 screws (9) that attach the lower internal panel (5) to the engine access door (1).
- 5.7 Tighten the 33 screws (9) to the standard torque value with the [Torque wrench \(ZZ-00-00\)](#) . Refer to [89-A-20-00-00-00A-711A-A](#).
- 5.8 Apply the [Corrosion inhibitor \(C551\)](#) on the exposed surface of the 33 screws (9).
- 5.9 Apply the [Sealing compound \(C095\)](#) on the mating surface between the forward lower air-intake (2) and the engine access door (1).
- 5.10 Put the new [Seal \(71-11-03-01 -003 \)](#) (3) and the forward lower air-intake (2) in their position on the lower internal panel (5).
- 5.11 Apply the [Sealing compound \(C095\)](#) on the shank and under the head of the four screws (4).
- 5.12 Install the four screws (4) that attach the forward lower air-intake (2) to the lower internal panel (5).
- 5.13 Tighten the four screws (4) to the standard torque value with the [Torque wrench \(ZZ-00-00\)](#) . Refer to [89-A-20-00-00-00A-711A-A](#).
- 5.14 Apply the [Corrosion inhibitor \(C551\)](#) on the exposed surface of the four screws (4).
- 5.15 Apply the [Sealing compound \(C095\)](#) on the mating surface between the bracket (6) and the lower internal panel (5).
- 5.16 Put the bracket (6) in its position on the lower internal panel (5).
- 5.17 Apply the [Sealing compound \(C095\)](#) on the shank and under the head of the screw (8) and the two screws (7).
- 5.18 Install the screw (8) and the two screws (7) that attach the bracket (6) to the lower internal panel (5).
- 5.19 Tighten the screw (8) and the two screws (7) to the standard torque value with the [Torque wrench \(ZZ-00-00\)](#) . Refer to [89-A-20-00-00-00A-711A-A](#).
- 5.20 Apply the [Corrosion inhibitor \(C551\)](#) on the exposed surface of the screw (8) and the two screws (7).
- 5.21 Do again the [step 5.15](#) thru [step 5.20](#) for the other bracket (6).

5.22 Install the engine access door (1). Refer to [89-A-71-11-02-00A-720A-A](#).

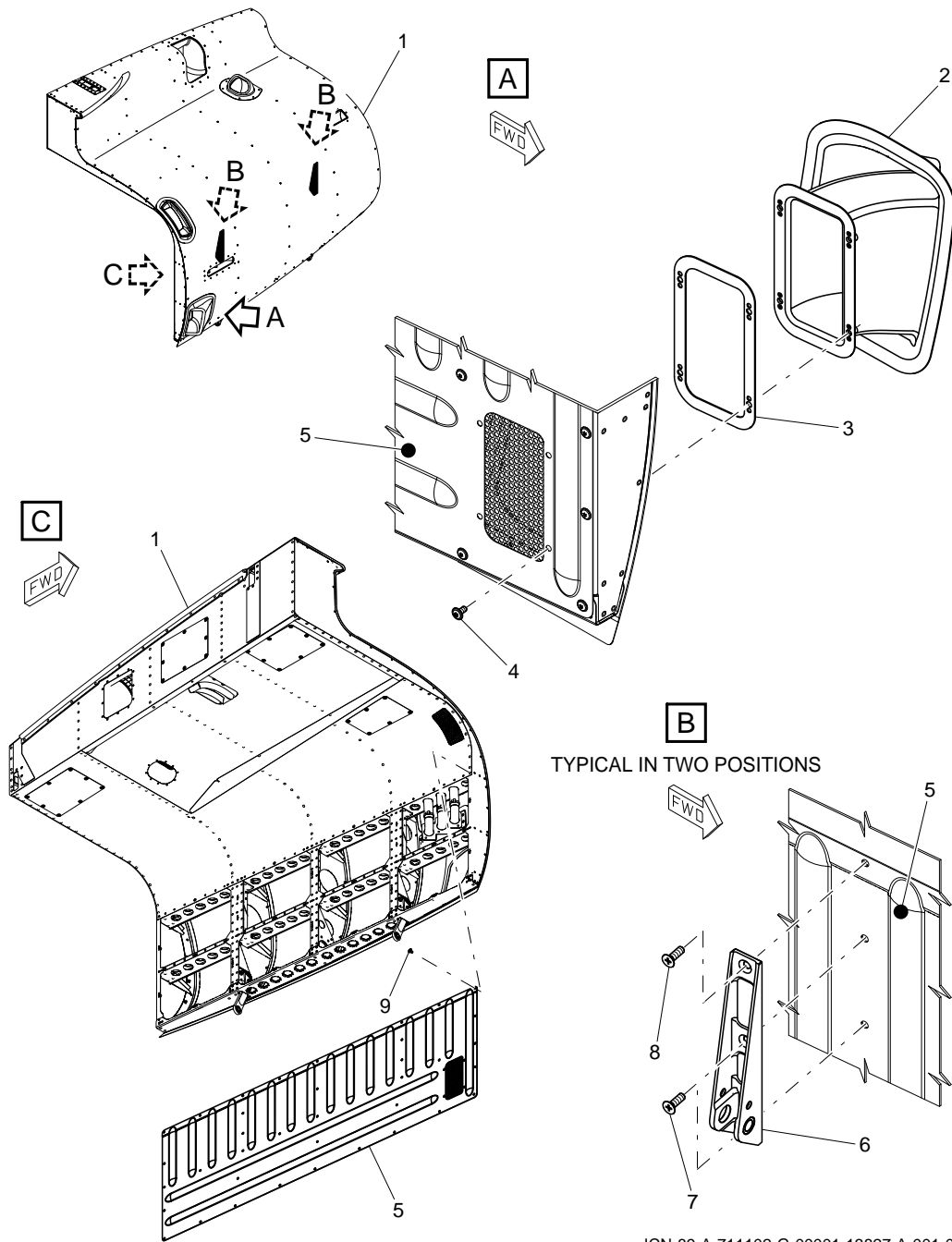
Requirements After Job Completion

- 1 Remove all the tools and the other items from the work area. Make sure that the work area is clean.
- 2 Close the access door 461A. Refer to [89-A-06-41-00-00A-010A-A](#)
- 3 Remove the platform from the left side of the fuselage.



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Figure 1 Access panels - Install procedure



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Figure 2 Lower internal panel - Install procedure

End of Data Module

ANNEX 3

**Generator exhaust hoses (Number 1 engine access door) - Replacement
(remove and install a new item)**

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Table 1 References

Data Module	Title
89-A-71-11-02-00A-520A-A	Number 1 engine access door - Remove procedure
89-A-71-11-02-00A-720A-A	Number 1 engine access door - Install procedure
89-A-71-11-02-01A-520A-A	Panels (Number 1 engine access door) - Remove procedure
89-A-71-11-02-01A-720A-A	Panels (Number 1 engine access door) - Install procedure

Table 2 Access points

Access Panel / Door Id	Data Module
461A, 461B, 461C, 461D	89-A-06-41-00-00A-010A-A

Table 3 Zones

Zone ID	Data Module
None	

Preliminary Requirements

Required Conditions

Table 4 Required Conditions

Conditions	Data Module/Technical Publication
The access door/panel 461A, 461B, 461C and 461D must be opened/removed.	89-A-06-41-00-00A-010A-A
The Number 1 engine access door must be removed.	89-A-71-11-02-00A-520A-A
The lower internal panel must be removed.	89-A-71-11-02-01A-520A-A (See ANNEX 1 of this TMI)

Support Equipment

Table 5 Support Equipment

Nomenclature
No Support Equipment

Supplies

Table 6 Supplies

Nomenclature
No Supplies

Spares

Table 7 Spares

Nomenclature	Identification No.	Qty
Generator exhaust hose	71-11-03-01 -023	1

Table 7 Spares

Nomenclature	Identification No.	Qty
Generator exhaust hose	71-11-03-01 -024	1
Generator exhaust hose	71-11-03-01 -025	1
Plastic straps	71-11-03-01 -022	15

Safety Conditions

No Safety Condition

Procedure

Note

In this procedure the generator exhaust hoses are referred to as the hoses.

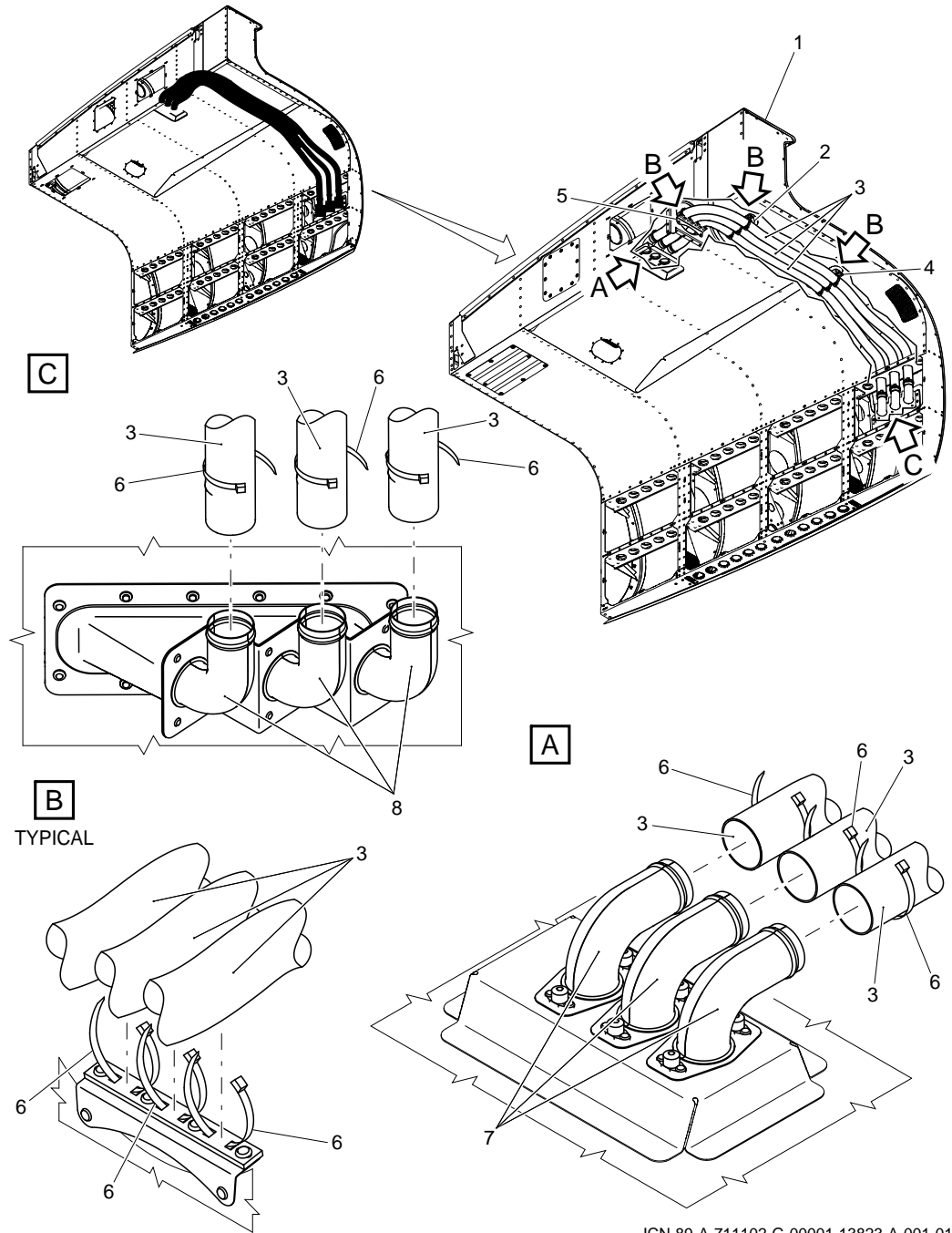
- 1 Put the Number 1 engine access door (1, [Figure 1](#)) on an applicable work table.
- 2 Remove the three hoses (3) as follow:
 - 2.1 Get access to the three upper fittings (7) through the opening of the removed access panel 461B.
 - 2.2 Cut and remove the three plastic straps (6) that attach the three hoses (3) to the three upper fittings (7).
 - 2.3 Remove the three hoses (3) from the three upper fittings (7).
 - 2.4 Get access to the three hoses (3) through the opening of the removed access panel 461C.
 - 2.5 Cut and remove the three plastic straps (6) that attach the three hoses (3) to the bracket (5).
 - 2.6 Cut and remove the three plastic straps (6) that attach the three hoses (3) to the bracket (2).
 - 2.7 Get access to the three hoses (3) through the opening of the removed access panel 461D.
 - 2.8 Cut and remove the three plastic straps (6) that attach the three hoses (3) to the bracket (4).
 - 2.9 Get access to the three lower fittings (8).
 - 2.10 Cut and remove the three plastic straps (6) that attach the three hoses (3) to the three lower fittings (8).
 - 2.11 Remove the three hoses (3) from the three lower fittings (8).
- 3 Install the three hoses (3) as follow:
 - 3.1 Put these new hoses (3) in their correct position on the Number 1 engine access door (1):

- The [Generator exhaust hose \(71-11-03-01 -023 \)](#)
- The [Generator exhaust hose \(71-11-03-01 -024 \)](#)
- The [Generator exhaust hose \(71-11-03-01 -025 \)](#) .

- 3.2 Get access to the three lower fittings (8).
- 3.3 Install the three hoses (3) on the three lower fittings (8).
- 3.4 Install the three new [Plastic straps \(71-11-03-01 -022 \)](#) (6) that attach the three hoses (3) to the three lower fittings (8).
- 3.5 Get access to the three hoses (3) through the opening of the removed access panel 461D.
- 3.6 Install the three new [Plastic straps \(71-11-03-01 -022 \)](#) (6) that attach the three hoses (3) to the bracket (4).
- 3.7 Get access to the three hoses (3) through the opening of the removed access panel 461C.
- 3.8 Install the three new [Plastic straps \(71-11-03-01 -022 \)](#) (6) that attach the three hoses (3) to the bracket (2).
- 3.9 Install the three new [Plastic straps \(71-11-03-01 -022 \)](#) (6) that attach the three hoses (3) to the bracket (5).
- 3.10 Get access to the three upper fittings (7) through the opening of the removed access panel 461B.
- 3.11 Install the three hoses (3) from the three upper fittings (7).
- 3.12 Install the three new [Plastic straps \(71-11-03-01 -022 \)](#) (6) that attach the three hoses (3) to the three upper fittings (7).

Requirements After Job Completion

- 1 Remove all the tools and the other items from the work area. Make sure that the work area is clean.
- 2 Install the lower internal panel. Refer to [89-A-71-11-02-01A-720A-A](#) (See ANNEX 2 of this TMI)
- 3 Install the Number 1 engine access door. Refer to [89-A-71-11-02-00A-720A-A](#)
- 4 Install the access panel 461B, 461C and 461D. Refer to the applicable steps of [89-A-71-11-02-01A-720A-A](#) (See ANNEX 2 of this TMI)
- 5 Close the access door 461A. Refer to [89-A-06-41-00-00A-010A-A](#).



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Figure 1 Generator exhaust hoses (Number 1 engine access door) - Replacement (remove and install a new item)

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