

## Temporary Maintenance Instruction TMI 139-558

### IGB INPUT SLIDING ADAPTOR - MAINTENANCE PROCEDURES

#### All AW139 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: June 20<sup>th</sup> 2023.*

**2022-06-20**

## Introduction

This TMI provides the instructions and requirements to perform the removal or replacement of IGB Input Sliding Adaptor and to perform the dimensions check of the Input Sliding Adaptor Ring.

The following procedures contained in this TMI update and supersede the contents of the following Data Modules:

<b>ANNEX</b>	<b>DATA MODULE CODE</b>	<b>DATA MODULE TITLE</b>
Annex 1	39-A-65-21-01-01A-242A-A	Input sliding adaptor (intermediate gearbox) - Grease

The following procedure contained in this TMI is not included in any existing DM

<b>ANNEX</b>	<b>DATA MODULE CODE</b>	<b>DATA MODULE TITLE</b>
Annex 2	39-A-65-21-01-01A-361A-A	Input sliding adaptor ring (intermediate gearbox) - Dimensions check

The content of this TMI will be endorsed within the applicable Maintenance Manual at the earliest opportunity.

**Input sliding adaptor (intermediate gearbox) - Grease**

**Table of contents**

References ..... 1

Preliminary requirements ..... 2

Procedure ..... 3

Requirements After Job Completion ..... 5

**List of tables**

1 References ..... 1

2 Access points ..... 2

3 Zones ..... 2

4 Required Conditions ..... 2

5 Support Equipment ..... 2

6 Supplies ..... 3

7 Spares ..... 3

**List of figures**

1 Input sliding adaptor (intermediate gearbox) - Grease ..... 6

**References**

*Table 1 References*

Data Module	Title
39-A-00-00-00-00A-02AA-D	Maintenance publication - List of effectivity codes
39-A-00-20-00-00A-120A-A	Helicopter safety - Pre-operation (make helicopter safe for maintenance)
39-A-00-60-00-00A-010A-A	Critical parts - General data
39-A-65-11-05-00A-520A-A	Number 2 flexible coupling - Remove procedure
39-A-65-11-05-00A-720A-A	Number 2 flexible coupling - Install procedure
39-A-65-11-06-00A-520A-A	Number 3 flexible coupling - Remove procedure
39-A-65-11-06-00A-720A-A	Number 3 flexible coupling - Install procedure
39-A-65-21-01-01A-361A-A	Input sliding adaptor ring (intermediate gearbox) - Dimensions check

*Table 1 References*

Data Module	Title
39-B-65-11-05-00A-520A-A	Number 2 flexible coupling - Remove procedure
39-B-65-11-05-00A-720A-A	Number 2 flexible coupling - Install procedure
39-B-65-11-06-00A-520A-A	Number 3 flexible coupling - Remove procedure
39-B-65-11-06-00A-720A-A	Number 3 flexible coupling - Install procedure

*Table 2 Access points*

Access Panel / Door Id	Data Module
No Access Point	

*Table 3 Zones*

Access Panel / Door Id	Data Module
No Zones	

## ***Preliminary Requirements***

### **Required Conditions**

*Table 4 Required Conditions*

Conditions	Data Module/Technical Publication
The helicopter must be safe for maintenance	<a href="#">39-A-00-20-00-00A-120A-A</a>
The access door 360BL must be opened	<a href="#">39-A-06-41-00-00A-010A-A</a>

### **Support Equipment**

*Table 5 Support Equipment*

Nomenclature	Identification No.	Qty
<a href="#">Platform, right</a>	<a href="#">GG-02-00</a>	1

## Supplies

*Table 6 Supplies*

Nomenclature	Identification No.	Qty
Lint-free cloth	<a href="#">C011</a>	AR
Cleaning solvent	<a href="#">C010</a>	AR
Grease	<a href="#">C328</a>	AR
Oil	<a href="#">C007</a>	AR

## Spares

*Table 7 Spares*

Nomenclature	Identification No.	Qty
Packing, preformed	<a href="#">65-21-00-01 -002</a>	1
Packing, preformed	<a href="#">65-21-00-01 -009</a>	1
Half ring	<a href="#">65-21-00-01 -009H</a>	2
Ring	<a href="#">65-21-00-01 -009S</a>	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:

- [Cleaning solvent \(C010\)](#)
- [Grease \(C328\)](#)
- [Oil \(C007\)](#).

### **CAUTION**

This component is a critical part. Be careful when you do work on this component after removal from the helicopter. A damage to the component can occur if you are not careful.

Before you install the component on the helicopter, examine it for signs of structural damage. Refer to [39-A-00-60-00-00A-010A-A](#).

## ***Procedure***

### **Note**

To know the meaning of the effectivity code (or codes) shown in this data module, refer to [39-A-00-00-00-00A-02AA-D](#)

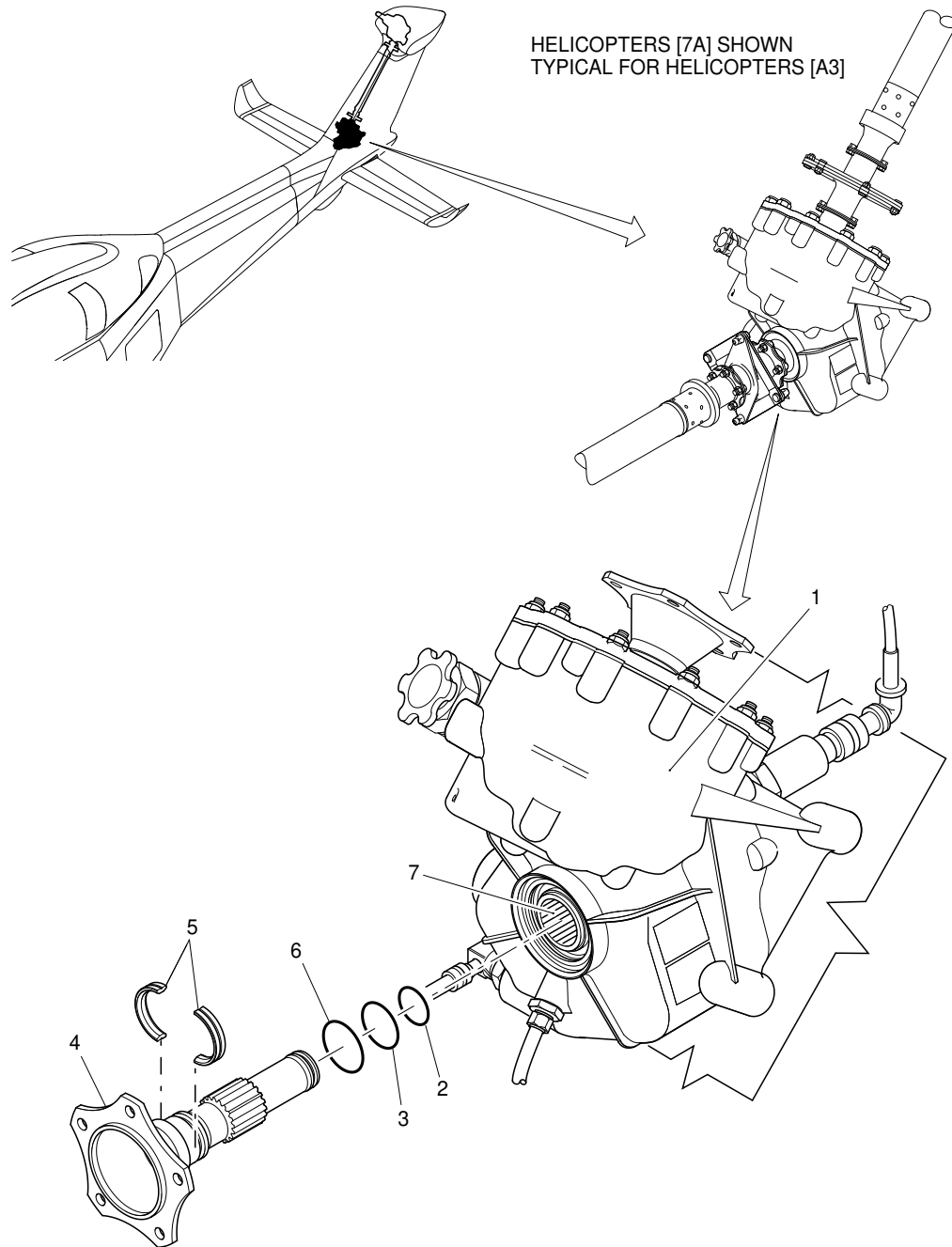
- 1 Put the [Platform, right \(GG-02-00\)](#) adjacent to the right side of the tail section.

- 2 Remove the Number 3 flexible coupling. Refer to the data modules that follow:
  - (Helicopters [7A]) [39-A-65-11-06-00A-520A-A](#)
  - (Helicopters [A3]) [39-B-65-11-06-00A-520A-A](#).
- 3 Remove the Number 2 flexible coupling. Refer to the data modules that follow:
  - (Helicopters [7A]) [39-A-65-11-05-00A-520A-A](#)
  - (Helicopters [A3]) [39-B-65-11-05-00A-520A-A](#).
- 4 Carefully, remove the input sliding adaptor (4, [Figure 1](#)) from the intermediate gearbox (1).
- 5 Remove the packings (2) and (3) from the input sliding adaptor (4). Discard the packings.
- 6 If installed, remove the ring (6) that safety the two half rings (5) to the input sliding adaptor (4). Discard the ring.
- 7 If installed, remove the two half rings (5) from the input sliding adaptor (4).
- 8 Do a visual inspection of the two half rings (5), if damaged discard the half rings. Light fretting signs on outer diameter faces of them are permitted.
- 9 Do the dimensions check of the two half rings (5). Refer to [39-A-65-21-01-01A-361A-A](#) (See Annex 2 of of this TMI). If the dimensions of the two half rings (5) do not obey the given limits, discard them.
- 10 Clean the input sliding adaptor (4) with the [Lint-free cloth \(C011\)](#) and the [Cleaning solvent \(C010\)](#) .
- 11 Remove the remaining grease from the inner splines of the input pinion (7) with the [Lint-free cloth \(C011\)](#) .
- 12 Lubricate the inner splines of the input pinion (7) with the [Grease \(C328\)](#) .
- 13 **If discarded, install the two new [Half ring \(65-21-00-01 -009H\)](#) (5) on the relative groove of the input sliding adaptor (4). If removed only, install the two half rings (5) on the relative groove of the input sliding adaptor (4).**
- 14 Safety the two half rings (5) to the input sliding adaptor (4) with the new [Ring \(65-21-00-01 -009S\)](#) (6).
- 15 Lubricate the two half rings (5) with the [Grease \(C328\)](#) .
- 16 Install the new [Packing, preformed \(65-21-00-01 -002 \)](#) (2) and [Packing, preformed \(65-21-00-01 -009 \)](#) (3) on the input sliding adaptor (4).
- 17 Lubricate the packings (2) and (3) with the [Oil \(C007\)](#) .
- 18 Lubricate the splines and the surface between the two packings of the input sliding adaptor (4) with the [Grease \(C328\)](#) .
- 19 Put the input sliding adaptor (4) in its seat of the intermediate gearbox (1). Make sure that you align the splines of the input sliding adaptor (4) with the grooves of the input pinion (7).

- 20 Carefully, push the input sliding adaptor (4) in the intermediate gearbox (1) until it stops.
- 21 Install the Number 3 flexible coupling. Refer to the data modules that follow:
  - (Helicopters [7A]) [39-A-65-11-06-00A-720A-A](#)
  - (Helicopters [A3]) [39-B-65-11-06-00A-720A-A](#).
- 22 Install the Number 2 flexible coupling. Refer to the data modules that follow:
  - (Helicopters [7A]) [39-A-65-11-05-00A-720A-A](#)
  - (Helicopters [A3]) [39-B-65-11-05-00A-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 360BL. Refer to [39-A-06-41-00-00A-010A-A](#)
- 3 Remove the platform from the right side of the tail section.



ICN-39-A-652101-G-00001-12509-A-004-01

Figure 1 Input sliding adaptor (intermediate gearbox) - Grease

End of Data Module



**Input sliding adaptor ring (intermediate gearbox) - Dimensions check**

**Table of contents**

References ..... 1

Preliminary requirements ..... 2

Procedure ..... 3

Requirements After Job Completion ..... 4

**List of tables**

1 References ..... 1

2 Access points ..... 2

3 Zones ..... 2

4 Required Conditions ..... 2

5 Support Equipment ..... 2

6 Supplies ..... 3

7 Spares ..... 3

**List of figures**

1 Input sliding adaptor ring (intermediate gearbox) - Dimensions check ..... 5

**References**

*Table 1 References*

Data Module	Title
39-A-00-00-00-00A-02AA-D	Maintenance publication - List of effectivity codes
39-A-00-20-00-00A-120A-A	Helicopter safety - Pre-operation (make helicopter safe for maintenance)
39-A-65-11-02-00A-520A-A	Number 2 drive shaft - Remove procedure
39-A-65-11-02-00A-720A-A	Number 2 drive shaft - Install procedure
39-A-65-21-01-01A-920A-A	Input sliding adaptor (intermediate gearbox) - Replacement
39-B-65-11-02-00A-520A-A	Number 2 drive shaft - Remove procedure

*Table 1 References*

Data Module	Title
39-B-65-11-02-00A-720A-A	Number 2 drive shaft - Install procedure

*Table 2 Access points*

Access Panel / Door Id	Data Module
No Access Point	

*Table 3 Zones*

Access Panel / Door Id	Data Module
No Zones	

## ***Preliminary Requirements***

### **Required Conditions**

*Table 4 Required Conditions*

Conditions	Data Module/Technical Publication
The helicopter must be safe for maintenance	<a href="#">39-A-00-20-00-00A-120A-A</a>
The access panels/doors 360CL and 360BL must be removed/ opened	<a href="#">39-A-06-41-00-00A-010A-A</a>
(Helicopters [7A]) The Number 2 drive shaft must be removed	<a href="#">39-A-65-11-02-00A-520A-A</a>
(Helicopters [A3]) The Number 2 drive shaft must be removed	<a href="#">39-B-65-11-02-00A-520A-A</a>
The input sliding adaptor (intermediate gearbox) must be removed	<a href="#">39-A-65-21-01-01A-920A-A</a>

### **Support Equipment**

*Table 5 Support Equipment*

Nomenclature
No Support Equipment

## Supplies

*Table 6 Supplies*

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

### ***Procedure***

#### **Note**

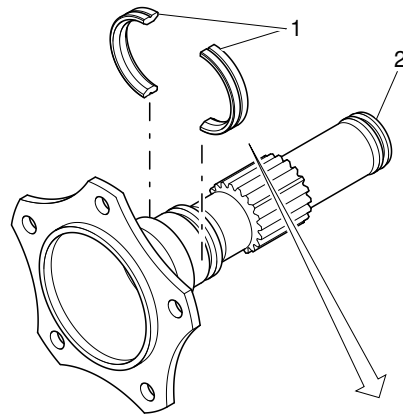
The input sliding-adaptor ring is referred to in this procedure as the two half rings.

- 1 Make sure that the ring (that safety the two half rings) and the two half rings (1, [Figure 1](#)) are removed from the input sliding adaptor (2). Refer to [39-A-65-21-01-01A-920A-A](#).
- 2 Put the two half rings (1) on an applicable clean work table.
- 3 Carefully clean the two half rings (1) with the [Lint-free cloth \(C011\)](#) and the [Cleaning solvent \(C010\)](#) .
- 4 Do a visual check on the outer diameter surface of the two half rings (1) to find damage. Light fretting signs are permitted.
- 5 Measure the inner diameter of the two half rings assembled (1) (ref. A of [Figure 1](#)) as follows:
  - 5.1 Put the faces of the two half rings (1) against each other to make a circle to simulate their installation on the sliding adaptor (2).

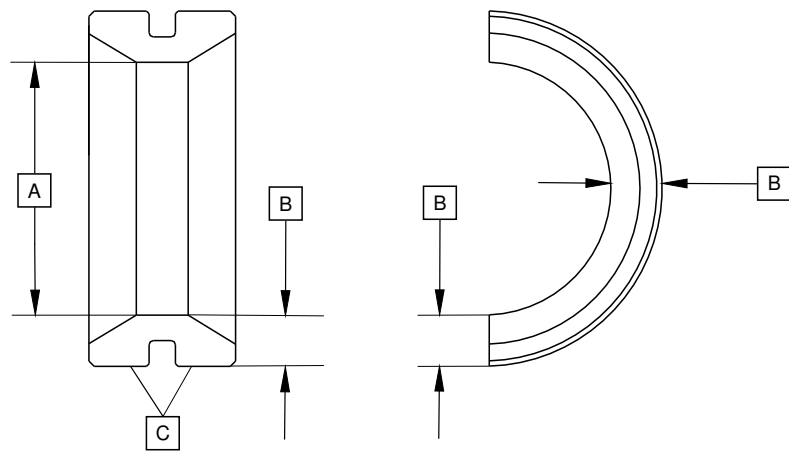
- 5.2 Measure the inner diameter in three positions at approximately 120° to each other and record the three found values. Calculate the average of the three recorded values.
- 5.3 Compare the average value to the permitted dimension (for Dimension A) shown in the table of [Figure 1](#).
- 6 Measure the thickness of the two half rings (1) (ref. B of [Figure 1](#)) along their circumference. Record the maximum found value during this check.
- 7 Compare the recorded value to the permitted dimension (for Dimension B) shown in the table of [Figure 1](#).
- 8 Discard the two half rings (1) if you find them damaged or that the found dimensions are not in the given limits.

### ***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 access doors 360CL and 360BL. Refer to [39-A-06-41-00-00A-010A-A](#)
- 3 Install the input sliding adaptor. Refer to [39-A-65-21-01-01A-920A-A](#)
- 4 (Helicopters [7A]) Install the Number 2 drive shaft. Refer to [39-A-65-11-02-00A-720A-A](#)
- 5 (Helicopters [A3]) Install the Number 2 drive shaft. Refer to [39-B-65-11-02-00A-720A-A](#)



INPUT SLIDING ADAPTOR RING  
P/N 3T6521A07551



REF	DESCRIPTION	NOMINAL DIMENSION (mm / in)		PERMITTED DIMENSION (mm / in)
		MINIMUM	MAXIMUM	
A	Inner dia ID	23.980 / 0.9440	24.010 / 0.9452	
B	Thickness	4.855 / 0.1911	4.870 / 0.1917	
C	Outer dia surface [1]			

[1] Light fretting is permitted

ICN-39-A-652101-G-00001-36090-A-001-01

Figure 1 Input sliding adaptor ring (intermediate gearbox) - Dimensions check

THIS PAGE INTENTIONALLY LEFT BLANK

---

End of Data Module