



**Instructions for Continued  
Airworthiness**

Project Reference  
**STC-006**

ICA-STC-006







REV. 01

# Instructions for Continued Airworthiness and Installation Instructions

for BERINGER wheels and brakes on  
ROBIN DR300/400 & HR100/200 aircrafts

Document Reference(\*)  
**ICA-STC-006**

Project Reference  
**STC-006**

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(\*) I.a.w. the numbering system defined in the APDOA manual.

(\*\*) Authorised signatories shall be as defined in the APDOA manual.

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## 1 LOG OF REVISIONS

Rev. No	Rev. date	Description
<b>00</b>	05.10.2012	Initial edition
<b>01</b>	22 Oct. 2021	Administrative change: MM-STC-006 becomes ICA-STC-006. New maintenance document structure.

## 2 INTRODUCTION

### 2.1 Purpose of the document

This manual gives removal and installation instructions of BERINGER wheels and brake system STC on the ROBIN DR300/400 & HR100/200 aircrafts and guide you toward BERINGER maintenance system for continued airworthiness instructions.

**NOTE:** These BERINGER products have been fully tested and certified on the aircraft.

**CAUTION:** Substitution of parts by other than originally certified parts may cause failure of brake system. BERINGER quality process assures that replacement parts are produced and controlled with the same quality level as originally certified.

### 2.2 Applicable Certification Requirements

- CS-23
- FAR part 23,

### 2.3 Effectivity

Type: ROBIN

Models: DR300, DR400, HR100, HR200

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### 3 GENERAL

#### 3.1 Components list

This STC scope includes brakes system (caliper, lines...) as replacement parts to original equipment. All the assemblies are listed in NP-STC-006, at the latest revision.

For the assembly detailed composition to piece part, refer to the BERINGER Illustrated Part Catalogues (IPC) that are available in the maintenance documents MM-0x-001, sorted per product family, see §6.

#### 3.2 Weight and Balance

BERINGER Assembly Name	Weight (Kg)	Weight (Lbs)
Main wheel and brake	1,99	4,38

*(Weights are given without tires, per wheel)*

Refer to local regulation requirements to determine if mass and balance must be updated.

#### 3.3 Torque

All torques for BERINGER product assembly are specified in the installation instructions in this document or in the maintenance working cards.

For interface parts with aircraft, unless otherwise specified by BERINGER, all fasteners should be torqued as per Aircraft Manual.

#### 3.4 Standard product and tools

- Tire lubricant : Tire lubricant or liquid soap
- Hydraulic fluid : Mineral
- Tire mounting tool: Refer to MM-02-002.
- Bearing grease
- Torque wrench
- Paint marker

## 4 REMOVAL AND INSTALLATION

### 4.1 Removal and modification of the old system

Remove of the old system:

- fairing
- wheel and brake
- flexible brake line

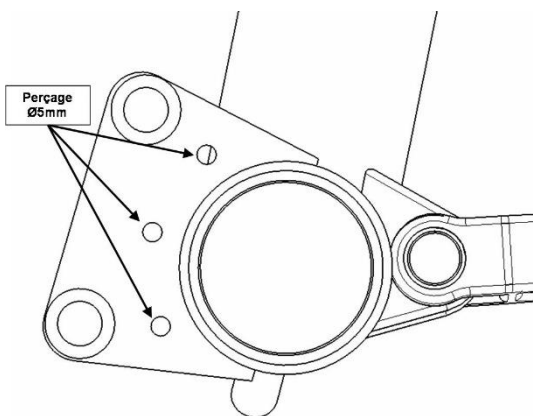


Landing gear leg before modification

Modification of the brake fixing plate :

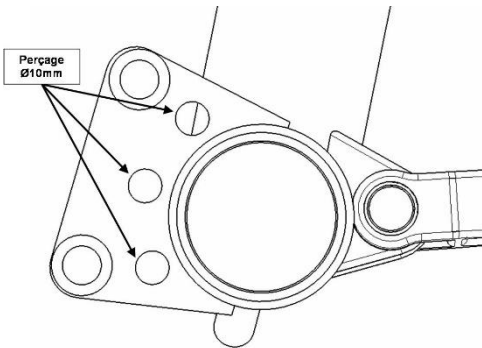


- a) Insert the drill template AV-ROB-006 onto the axle and position the small holes as per next drawing :

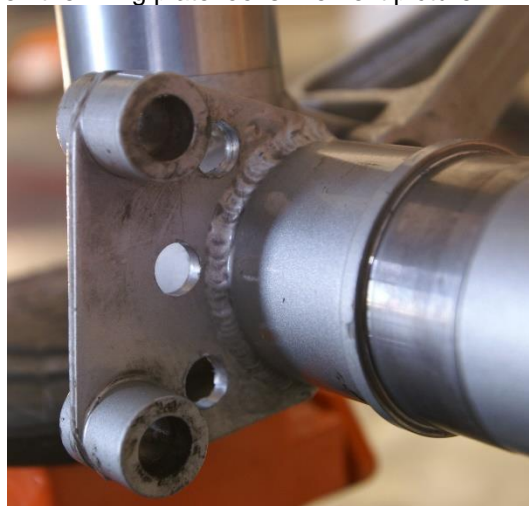


- b) Drill the 3 holes Ø5mm

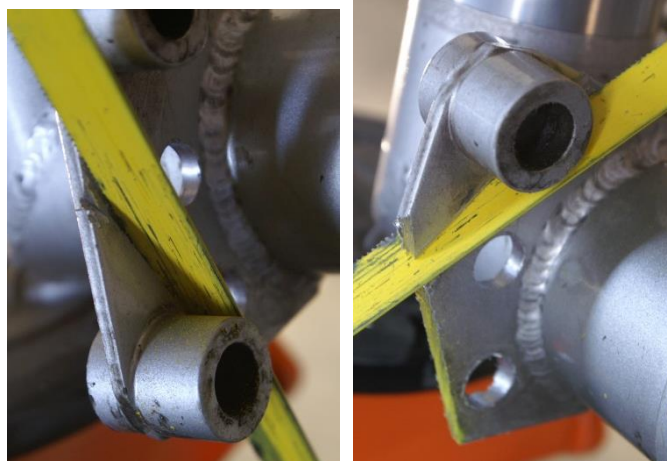
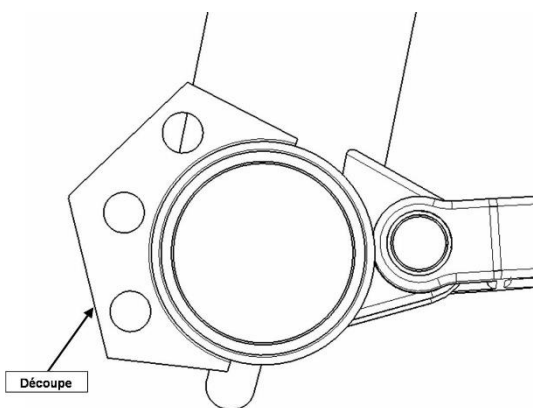
c) Turn the drill template AV-ROB-006 onto the axle and position the bigger holes as per next drawing :



d) Drill the 3 holes Ø10mm, then the fixing plate looks like next picture:



e) Cut the steel plate with a metal saw as per next drawing and pictures:



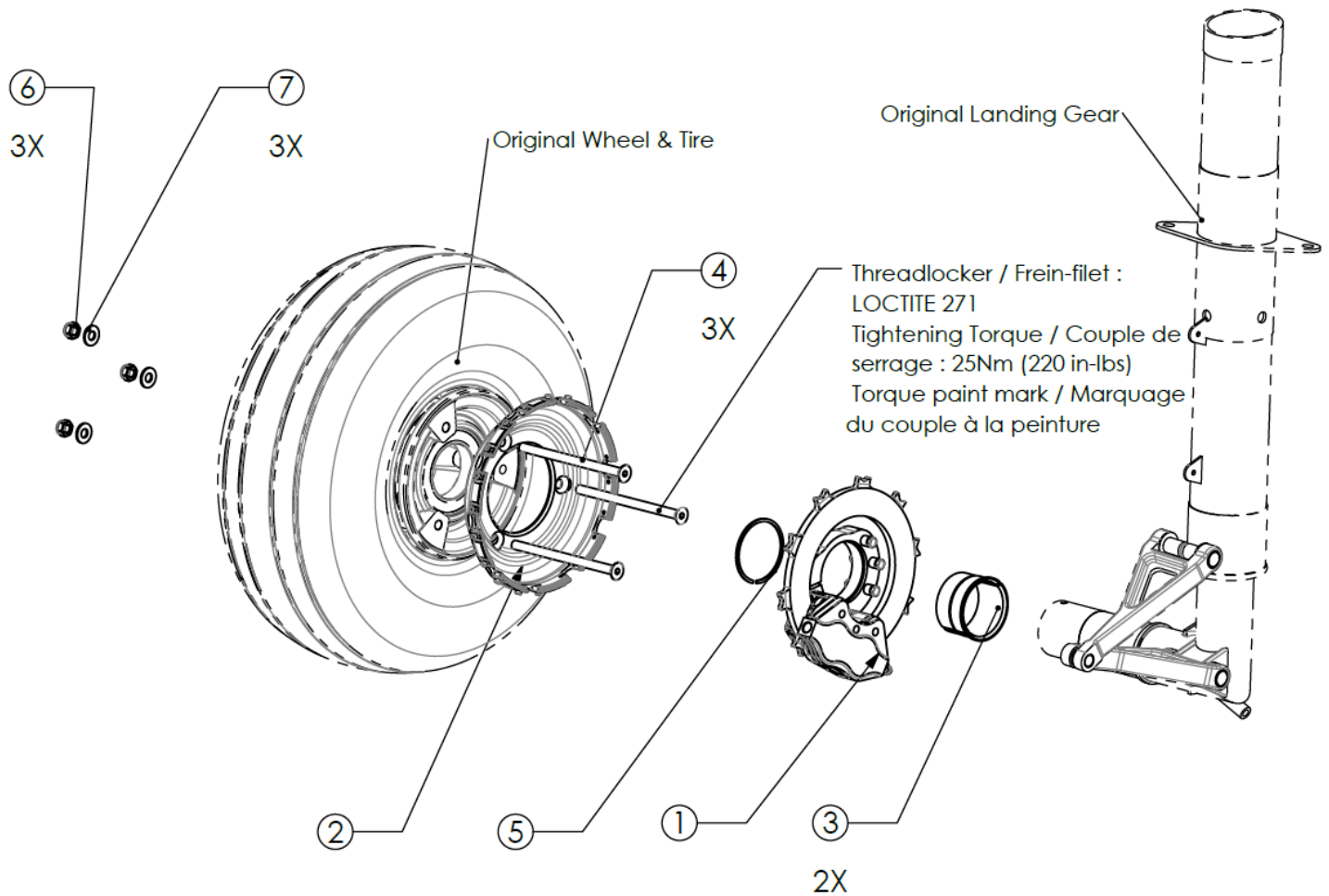
f) Remove burr and prepare for paint.

g) Apply primer and paint on the areas where original paint has been removed as on the picture next :



h) The landing gear is now ready for receiving the new brake system.

## 4.2 Wheel and brake installation

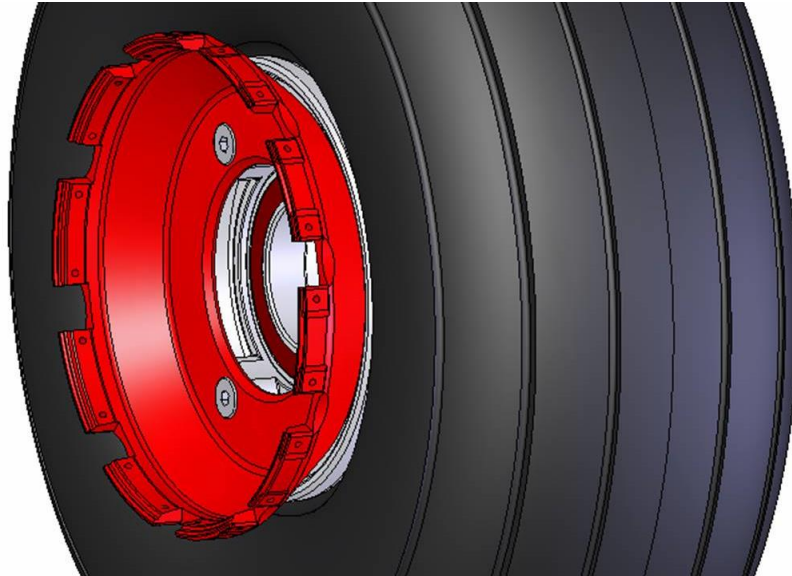


7	R-AP-013	M8_Washer/Rondelle	3
6	E-HN-004	Self-locking Nut M8/ Ecrou NL M8	3
5	C-AR-005	Ø53_Clip / Segment d'arrêt	1
4	VIS-005	M8x130_Screw / Vis FHC	3
3	AV-ROB-004	Robin _ Half Bushing / Demi Bague	2
2	JI-018.10	5"HL (DR400)_Inner Wheel Half Assy / S-ENS Jante Interieure	1
1	EA-007N	2P32-5-7.2_Left Brake Caliper/ Etrier de frein gauche	1
<b>REP</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY.</b>

**AV-ROB-020**



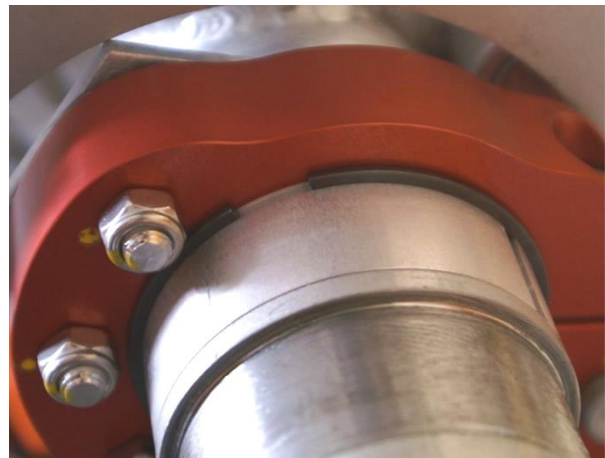
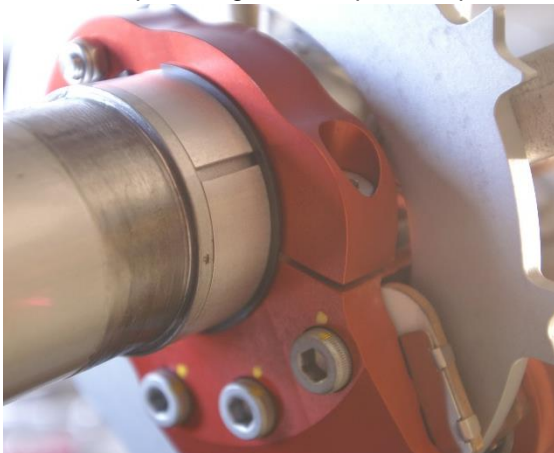
- a) Deflate tire and tube
- b) Remove the steel disc from the wheel
- c) Present the new Drive hub on the wheel and insert the 3 screws (P/N:VIS-005) delivered in the kit.
- d) Use appropriate nuts and washers and torque tighten to required torque. Refer to the aircraft maintenance manual.
- e) Check that Drive hub is turning properly without unbalanced defect. If necessary place washers between wheel and drive hub to compensate the defect.



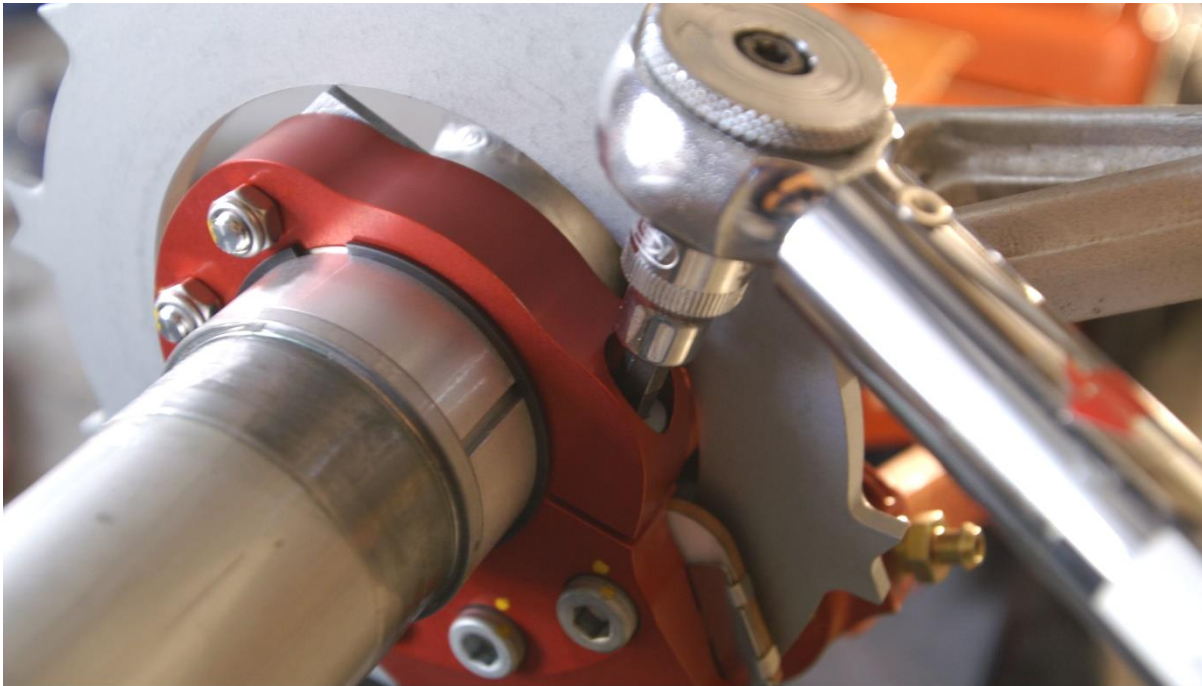
- a) Place the 2 half shells (P/N: AV-ROB-004) onto the axle
- b) Insert the caliper onto the axle and slide it around the 2 half shells.

**NOTE:** Calipers are not identical; one is for left gear and the other for right gear.

- c) Place the Circlip in the groove as per next pictures:

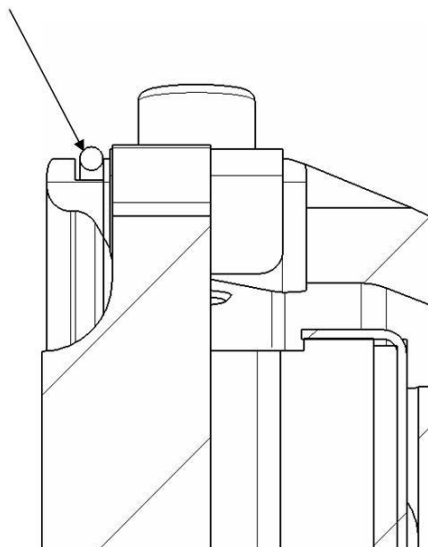


- d) The brake must be as close as possible to the wheel bearing.
- e) Torque tighten the Brake retaining screw to 25 N.m as per next picture:



- f) Apply a thin coat of grease on the wheel bearings  
**WARNING:** The grease prevent from corrosion between the axle and the wheel.
- g) Insert the wheel onto the axle and locate the disc in the slots.
- h) Check that disc is in place as on the picture next and then place the safety wire.

Safety wire  
Ø1mm (0.040 in)



**CAUTION:** The safety wire prevents the disc from going out the slots and must be in place.

- i) Place and screw the part retaining the wheel as per the aircraft maintenance manual.
- j) Then install the hydraulic brake line AV-ROB-007.1 as per next pictures:



- k) Torque the banjo bolt to 5 Nm + 90° (45 in-lbs +90°)
- l) Bleed the system as per the BERINGER procedure MM-00-03 with fire resistant fluid MIL-PRF-87257; do not use the standard MIL-H-5606 fluid.
- m) The inner fairing must be cut around the caliper. A clearance of 5 to 10mm is recommended all around the caliper as on the picture next:



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## 5 INITIAL USE

BERINGER brakes need to be bled and conditioned prior to use.

For procedure instructions, refer to the following manuals available on BERINGER website:

- BRAKE BLEEDING procedure MM-00-003
- BRAKE CONDITIONING procedure MM-01-002

Completing the procedure conforms the brakes to the STC requirements. However, note that the brake performance will continue to improve during the first few hours of use.

## 6 INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

All instructions for continued airworthiness are provided through the Servicing Manuals (SM) and Maintenance Manual (MM) of BERINGER.

- The Servicing Manuals (SM) sums-up the parts replacement scheme, the maintenance intervals, troubleshooting and the Maintenance Working Cards to be used for each BERINGER assembly.
- The Maintenance Manual (MM) describes each maintenance step for all BERINGER products.

Refer to the maintenance guide **SM-00** for **general guidance**.

The SM breakdown structure is as follows:

Servicing Manual Reference	Product Type	Product Reference
<b>SM-01</b>	Brake Assembly	EA-xxx
<b>SM-02</b>	Nose/Tail wheel	RA-xxx
<b>SM-02</b>	Main wheel	RF-xxx
<b>SM-03</b>	Control-stick Master-Cylinders	MM-xxx
<b>SM-03</b>	Longitudinal Master-Cylinders	MP-xxx
<b>SM-04</b>	Parking Brake	FP-xxx
<b>SM-05</b>	Brake Pressure regulator	RE-xxx
<b>SM-06</b>	Brake Pressure limiter	LM-xxx
<b>SM-07</b>	Shock Wheel	LL-xxx
<b>SM-08</b>	SensAIR device	TP-xxx
<b>SM-09</b>	Tyre 5x2.00-3.7 & 6x2.00-3.7	PAR-xxx
<b>SM-10</b>	Carbon Fairing	CR-xxx

**All documents are all available on:**



BERINGER website: [www.beringer-aero.com/Support](http://www.beringer-aero.com/Support)  
Go to Support section.

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## 7 ASSOCIATED DOCUMENTS

Document reference	Document title
NP-STC-006	Part Nomenclature
MM-00-003	BRAKE BLEEDING procedure
MM-01-002	BRAKE CONDITIONING procedure
SM-00	BERINGER PRODUCTS MAINTENANCE GUIDE

*Refer to the latest revision.*