



Instructions for Continued Airworthiness

Project Reference
STC-021

ICA-STC-021

REV. 03

Instructions for Continued Airworthiness and Installation Instructions

for BERINGER wheels and brakes on
DIAMOND DA 62 aircraft

Document Reference^(*)

ICA-STC-021

Project Reference

STC-021

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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
00	17 Dec 2020	Initial release
01	20 May 2021	Update based on FAA comments
02	11 Jul 2024	Administrative change: MM-STC-002 becomes ICA-STC-002. New maintenance document structure and addition of SensAIR system as an option.
03	05 Mar 2025	Administrative update for TCCA validation (§7)

2 INTRODUCTION

2.1 Purpose of the document

This manual gives removal and installation instructions of BERINGER wheels and brake system STC on the DIAMOND DA 62 aircraft and guide you toward BERINGER maintenance system for continued airworthiness instructions.

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

NOTE: Wheels and brake assemblies are TSO C26/ETSO C26 approved, for detailed maintenance and overhaul procedures, please refer to the Servicing Manuals of BERINGER, in §6.

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, Amendment 4, issued 15-Jul-2015
- FAR part 23, effective January 1, 2002.

2.3 Effectivity

Type: DIAMOND

Models: DA 62

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3 GENERAL

3.1 Components list

This STC scope includes Main and Nose wheels, brakes (master cylinder, caliper, lines...) and axles as replacement parts to original equipment.

Refer to the assembly drawings in this document below and to the part list document BOM-STC-021 for complete components list included in the assemblies.

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

In option, BERINGER pressure measurement device is available for this STC:

Assembly / Product Name	BERINGER Reference number
6" wheel SensAIR (option)	TP-006

BERINGER Main wheel and brake is certified by EASA ETSO n° EASA.210.10059770 rev.B.

BERINGER Nose wheel is certified by EASA ETSO n° EASA.210.10063237

3.2 Weight and Balance

This table below gives the total weight of BERINGER equipment without tires:

BERINGER Assembly Name	Weight (Kg)	Weight (Lbs)
Main wheels and brake	15.19	33.48
Nose wheel	2.48	5.47

NOTE: The data in the table above is given for information only and do not include fasteners not provided by BERINGER.

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

3.3 Tires

Tires	Size	Type	Minimum Ply rating	Minimum speed rating	Inflation pressure
Main	6.00-6	Tubeless	8 ply	160 mph	Refer to the aircraft manual
Nose	6.00-6	Tubeless	8 ply	160 mph	Refer to the aircraft manual

3.4 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.



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3.5 Standard product and tools

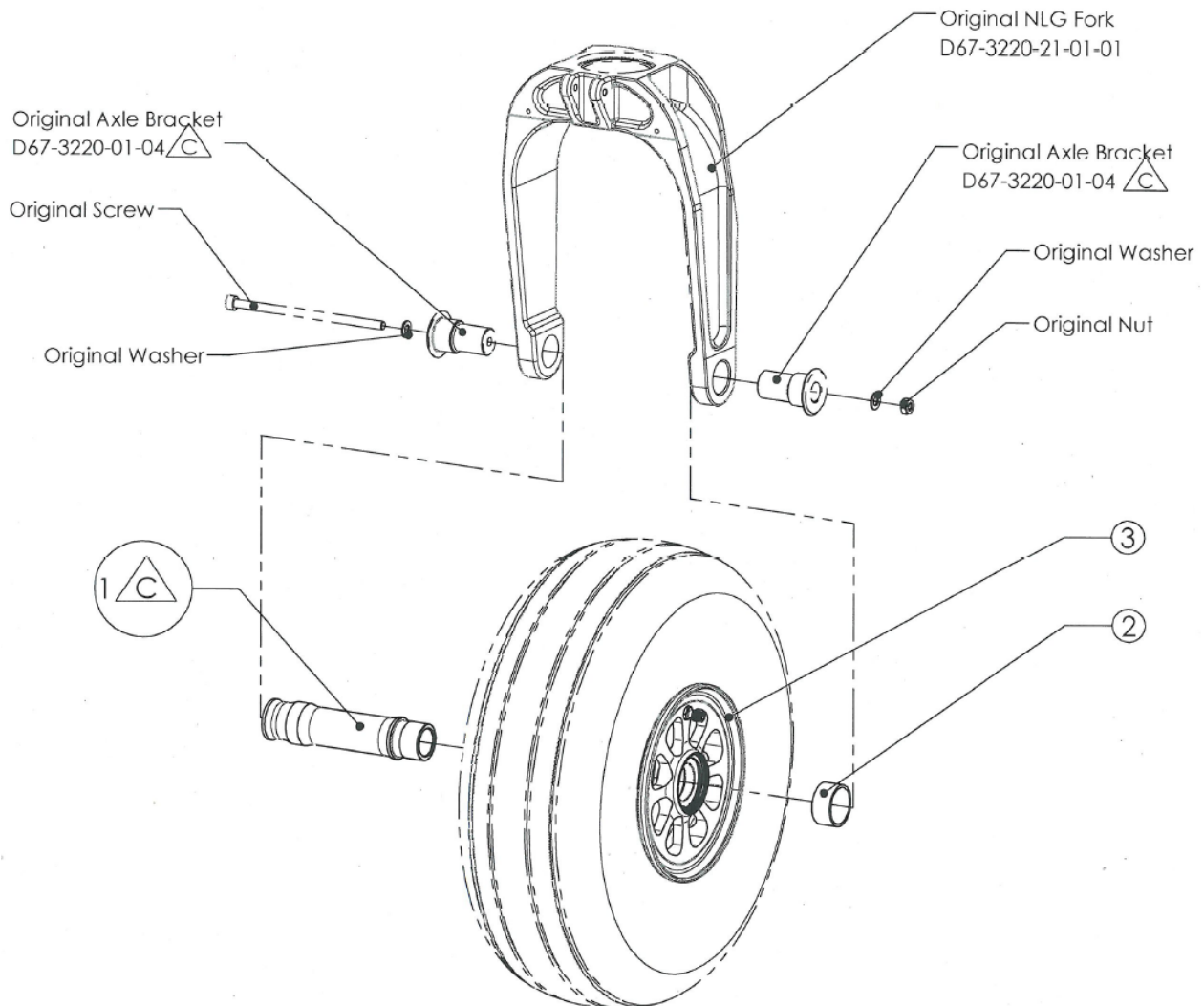
- Tire lubricant : Tire lubricant or liquid soap
- Hydraulic fluid : Mineral
- Tire mounting tool: To refer to MM-02-002.
- Torque wrench
- Paint marker
- Bearing grease

3.6 Dimensions

All dimensions in our drawings are given in metrics (mm), and in inches (in) between square brackets.

4 REMOVAL AND INSTALLATION INSTRUCTION

4.1 Nose wheel Installation

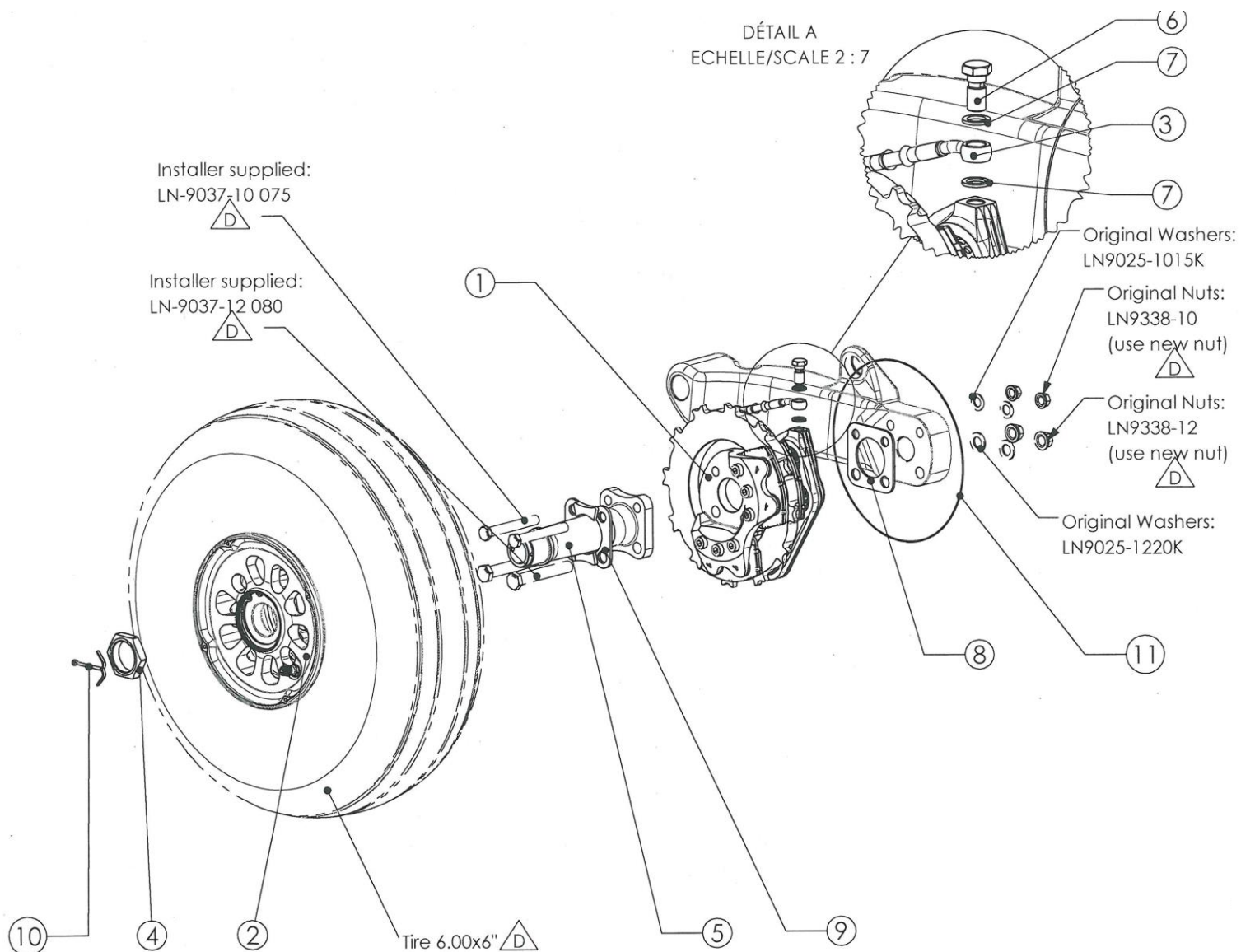


3	RA-016.1	6.00x6" LE (Axe 40-35)_Nose Wheel assy/ Roue Avant	1
2	BGE-046	40x35x19_Bearing Spacer / Entretoise Rlt	1
1	AXP-006.2	6.00x6" LE (L=167)_Nose Wheel Axle / Axe Roue AV	1
REP	PART NUMBER	DESCRIPTION	QTY.
AV-DIAM-330			

REMOVAL and INSTALLATION:

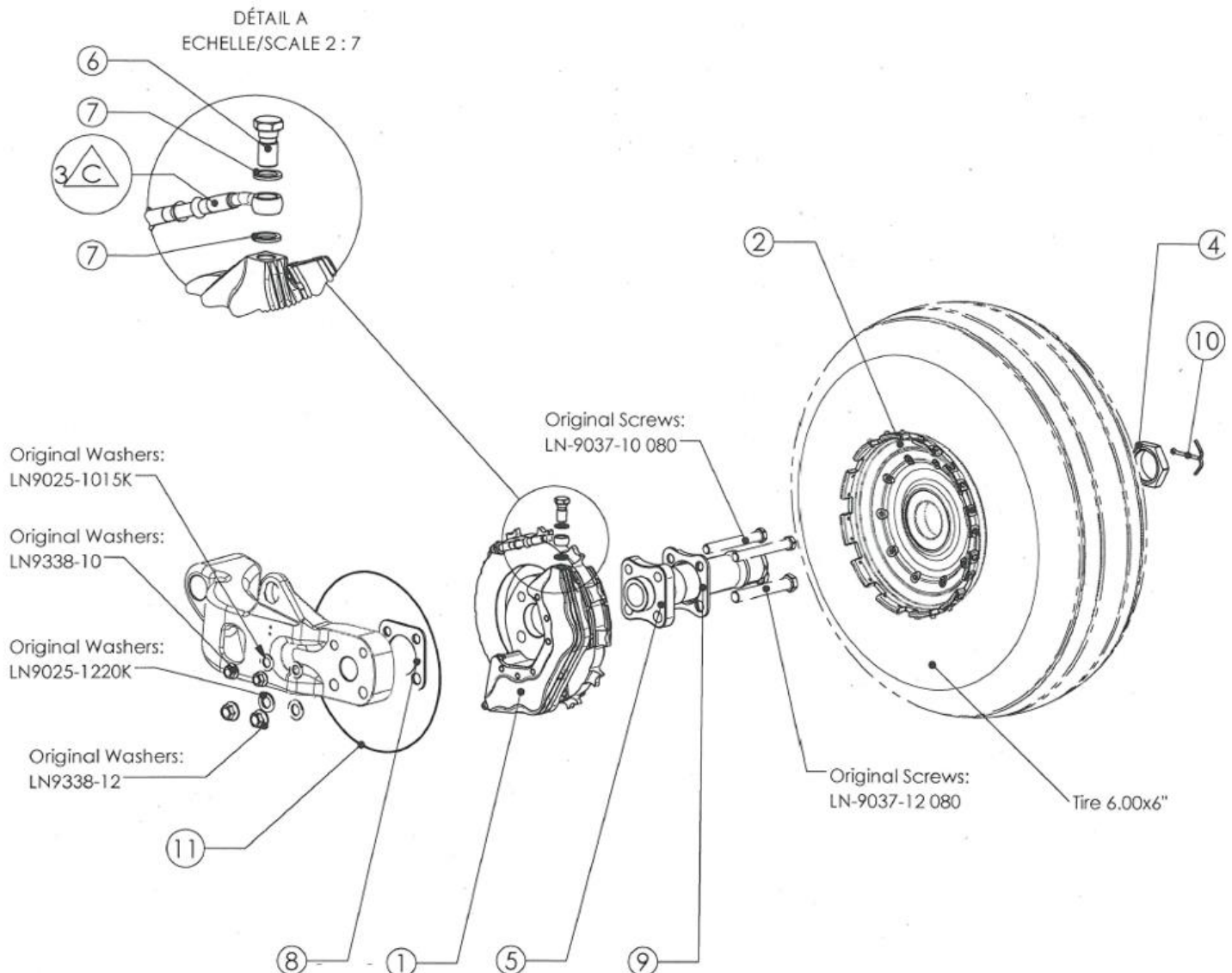
- Remove original nose equipment (wheel, axle). Keep the original axle brackets and screw and replace original washer and nuts by new one.
- Install wheel and axle as per the drawing above.
- Torque as per the aircraft manual instructions.

4.2 Main Wheel Installation - Left side



11	ZPA02	Safety Wire/Fil à freiner	1
10	L-V-003	Cotter Pin 3.2x50/Goupille fendue 3.2x50	1
9	RDL-018	Main Axle Washer /Entretoise	1
8	PTE-011	EA-004.3_Caliper Spacer / Entretoise Etrier	1
7	HYD-005B	Copper Seal/ Joint cuivre	2
6	HYD-003P	M10x1_Banjo Bolt/ Vis Banjo	1
5	FUS-007.7	6.00x6" HL or HE_Axle/ Fusée T7	1
4	ECR-001	M35x1.5_Axle nut /Ecrou	1
3	AV-DIAM-407	DA42&62_Caliper Brake Line / Durite Etrier	1
2	RF-017.2	Cover 6.00x6" HL_Wheel Assy/ Roue freinée	1
1	EA-004.3NL	4P32-6-15 _Left Brake Assy T7/ Etrier De Frein Gauche T7	1
REP	PART NUMBER	DESCRIPTION	QTY.
AV-DIAM-320L			

4.3 Main Wheel Installation - Right side



11	ZPA02	Safety Wire/Fil à freiner	1
10	L-V-003	Cotter Pin 3.2x50/Goupille fendue 3.2x50	1
9	RDL-018	Main Axle Washer /Entretoise	1
8	PTE-011	EA-004.3_Caliper Spacer / Entretoise Etrier	1
7	HYD-005B	Copper Seal/ Joint cuivre	2
6	HYD-003P	M10x1_Banjo Bolt/ Vis Banjo	1
5	FUS-007.7	6.00x6" HL or HE_Axle/ Fusée T7	1
4	ECR-001	M35x1.5_Axle nut /Erou	1
3	AV-DIAM-407	DA42&62_Caliper Brake Line / Durite Etrier	1
2	RF-017.2	Cover 6.00x6" HL_Wheel Assy/ Roue freinée	1
1	EA-004.3NR	4P32-6-15_Right Brake Assy T7/ Etrier De Frein droit T7	1
REP	PART NUMBER	DESCRIPTION	QTY.
AV-DIAM-320R			



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REMOVAL:

- a) Remove original wheel, axle and brake assembly from the gear leg
- b) Remove flexible hoses

INSTALLATION:

- a) Install the parts as shown on the assembly drawing.
- b) Apply a thin coat of bearing grease on next contact surfaces:
 - between axle and caliper
 - between caliper and LG
 - between wheel bearings and axle
- c) Replace all the original parts listed on the assembly drawing: washers, nuts and screws by new one, from the same reference as aircraft manual.
- d) Torque the nuts to appropriate torque – refer to the aircraft maintenance manuals for axle bolt torque value
- e) Insert the wheel through the axle while placing the disc in wheel slots.

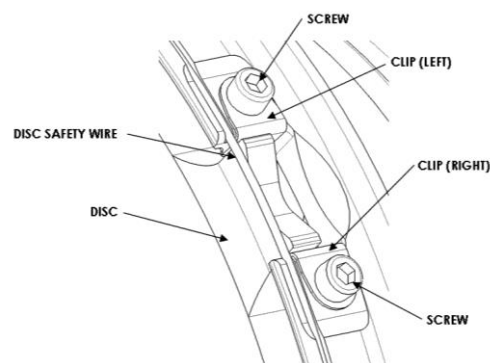
NOTE: Do not force, the disc has to be properly positioned to fit inside wheel slots

- f) Apply a thin coat of grease on axle thread. Screw the axle nut to contact
- g) Torque axle nut to 35 Nm (310 in.lbs)
- h) Insert the cotter pin to secure the axle nut

NOTE: Cotter pin must be in place to prevent from the loose of axle nut.

- i) Place a new safety wire (stainless steel 1mm – 0.040") in the ring groove all around the wheel.

NOTE: This safety wire must be in place to secure the disc





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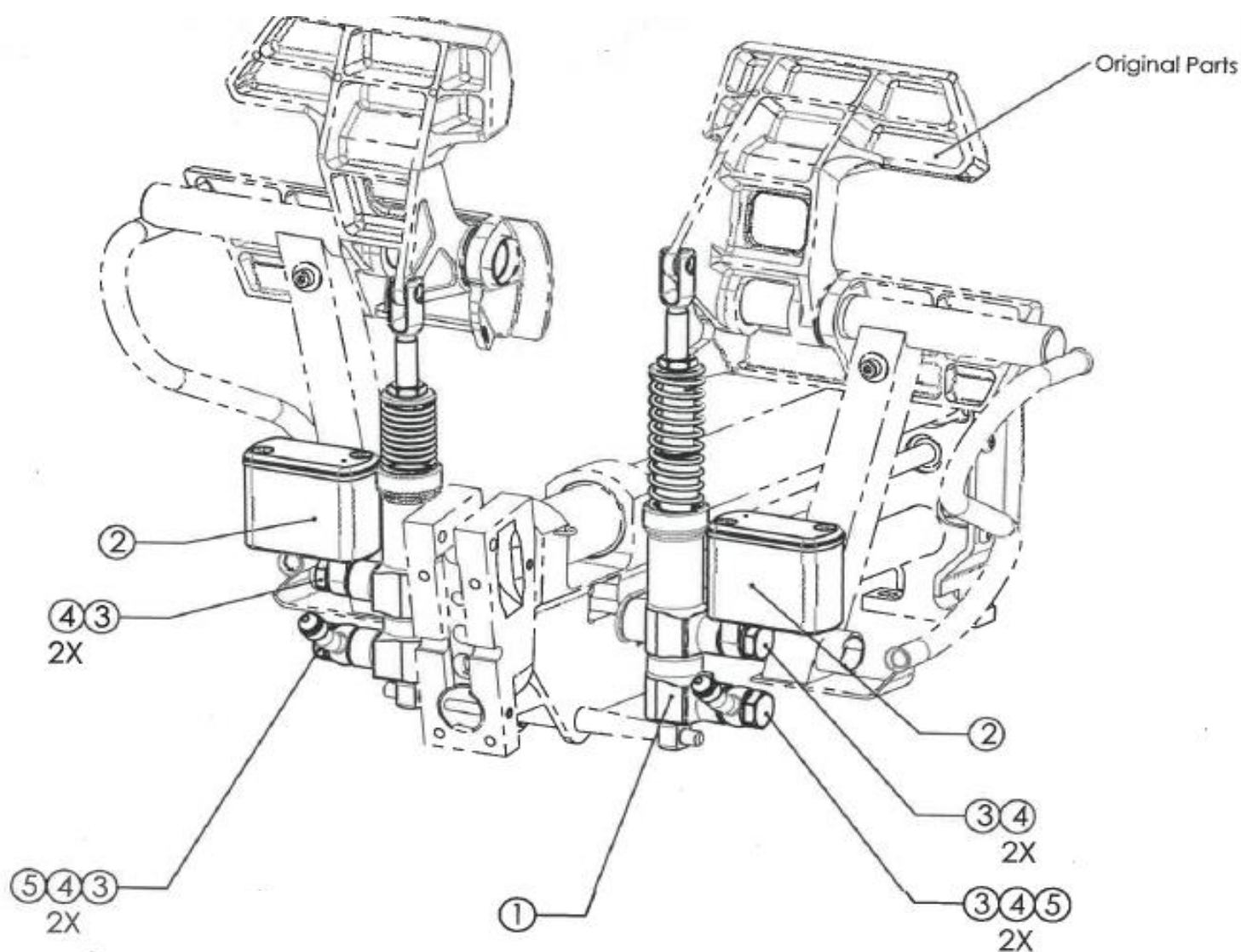
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4.4 SensAIR installation

SensAIR system is an optional device located inside the tire, around the rim.
Refer to SM-08 document to get installation procedure, available on BERINGER Website.

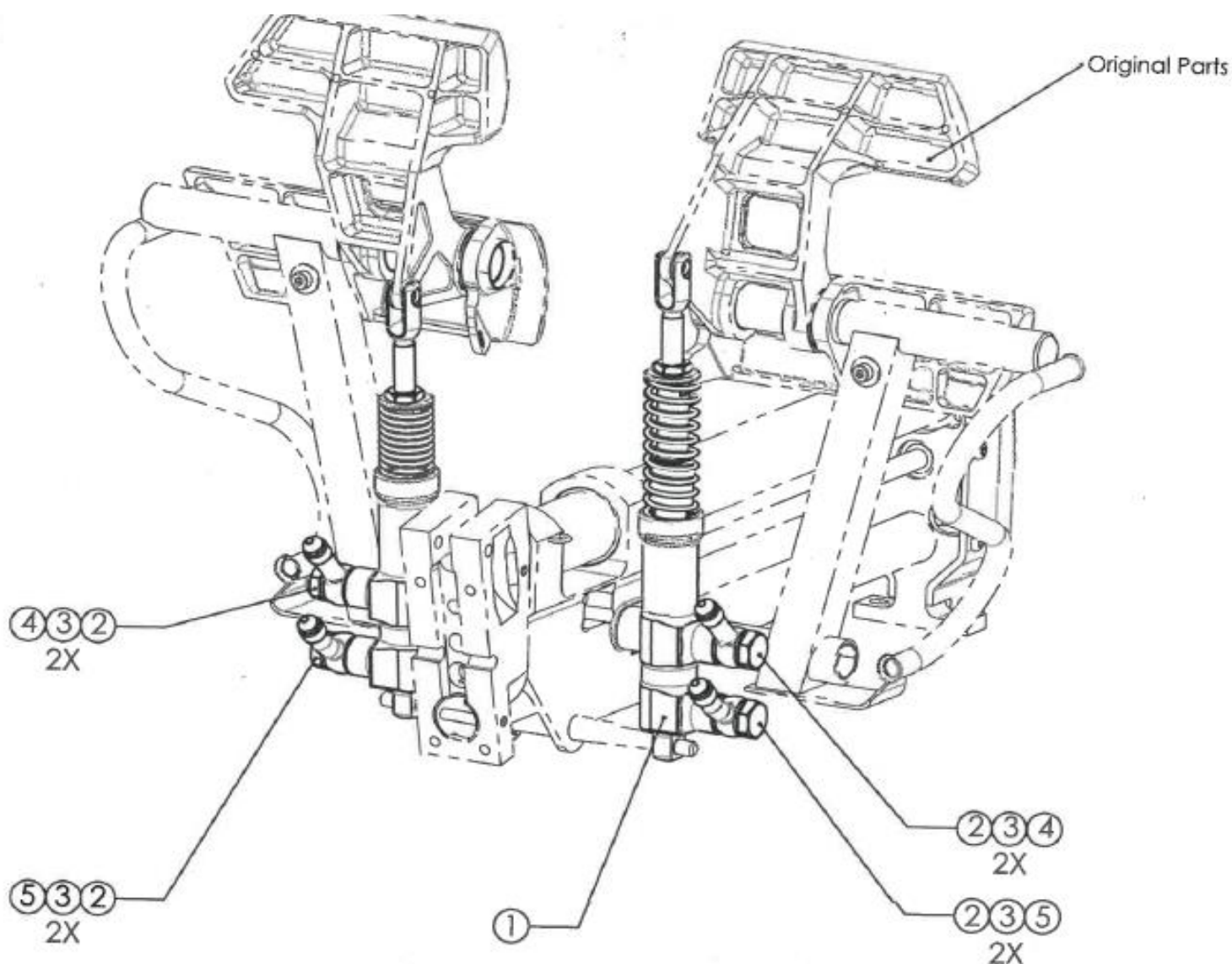


4.5 Copilot Master Cylinders Installation



5	HYD-022VC	3/8x24_Hydraulic fitting/ banjo 20° à visser	2
4	HYD-005B	Copper Seal/ Joint cuivre	8
3	HYD-003P	Banjo Bolt/ Vis Banjo	4
2	RV-003N	NBR 24.6 ml_Intégral reservoir / Reservoir Intégral	2
1	MP-001.5N	MC14.5 NBR_Master Cylinder/ Maitre cylindre	2
REP	PART NUMBER	DESCRIPTION	QTY.
AV-DIAM-341R			

4.6 Pilot Master Cylinders Installation



5	HYD-022VC	3/8x24_Hydraulic fitting/ banjo 20° à visser	2
4	HYD-019VC	3/8x24_Hydraulic fitting/ banjo droit à visser	2
3	HYD-005B	Copper Seal/ Joint cuivre	8
2	HYD-003P	Banjo Bolt/ Vis Banjo	4
1	MP-001.5N	MC14.5 NBR_Master Cylinder/ Maitre cylindre	2
REP	PART NUMBER	DESCRIPTION	QTY.
AV-DIAM-341L			



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REMOVAL:

- a) Disconnect inlet and outlet hoses
- b) Remove and discard the cotter pins
- c) Remove clevis pins and washers
- d) Remove original Master cylinders

INSTALLATION:

- a) Pre-assemble the master cylinders with banjo bolts, copper seals, hydraulic fittings, and reservoirs (reservoirs for copilot only).
- b) Torque the banjo bolts to 5 N.m + 90° (44 in lbs + 90°)
- c) Install the Master cylinders with the clevis pins, washers, new cotter pins (original reference) and brake lines.
- d) Make a check of brake pedal to make sure it moves easily and is free of parasite friction

CAUTION: Brake lines should not touch other parts or be twisted, in any position.

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

All documents are all available on:



BERINGER website: www.beringer-aero.com/Support
Go to Support section.

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7 AIRWORTHINESS LIMITATIONS SECTION

FAA validation:

The Airworthiness Limitations section is FAA approved and specifies maintenance required under §§43.16 and 91.403 of Title 14 of the Code of Federal Regulations unless an alternative program has been FAA approved.

TCCA validation:

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required under any applicable airworthiness or operating rule, unless an alternative program has been approved by the Minister.

8 ASSOCIATED DOCUMENTS

Document reference	Document title
BOM-STC-021	Part List
MM-00-003	BRAKE BLEEDING procedure
MM-01-002	BRAKE CONDITIONING procedure
SM-00	BERINGER PRODUCTS MAINTENANCE GUIDE
SM-02	Wheels Servicing Manual

Refer to the latest revision.