SERVICE BULLETIN
REVISION TRANSMITTAL SHEET

SERVICE BULLETIN 670BA—24—040

SUBJECT: Electrical Power — Air Driven Generator — Replacement of Locking Cam Screw and Cam Nut Assembly

This page transmits:
Revision A of Service Bulletin 670BA—24—040, dated Nov 07 /2023.

The changes in this revision have no effect on aircraft that have had this service bulletin incorporated.

Reason:

Revised Planning Information, paragraph 1., to:

Add calendar limit in the Compliance section.

Change the revision level of one document in the References section.

This revision also includes small editorial changes that do not have an effect on the technical content.

Instructions:

Discard the copy of Service Bulletin 670BA—24—040, dated Sep 26 /2023. Replace with the copy attached.

Service Bulletin History:

Initial issue, dated Sep 26/2023

SERVICE BULLETIN

Technical Publications

THIS SERVICE BULLETIN IS SENT TO EACH OPERATOR. IF THE OPERATOR HAS LEASED AIRCRAFT, SEND THIS SERVICE BULLETIN TO THE LESSEE. IF THE OPERATOR HAS SOLD AIRCRAFT OR TRANSFERRED SPARES IN THE LAST SIX MONTHS, SEND THIS SERVICE BULLETIN TO THE NEW OWNER, UNLESS CONFIRMATION WAS RECEIVED THAT MHIRJ HAS INCLUDED THE NEW OPERATOR ON THE DISTRIBUTION LIST.

ATA SYSTEM: 24—23 NUMBER: 670BA—24—040

SUBJECT: Electrical Power — Air Driven Generator — Replacement of Locking Cam Screw and Cam Nut Assembly

1. PLANNING INFORMATION

A. Effectivity

(1) Aircraft Affected:

AIRCRAFT MODEL	SERVICE AIRCRAFT SERIAL NUMBERS	PRODUCTION AIRCRAFT SERIAL NUMBERS
CL—600—2D15 or CL—600—2D24	15476 thru 15499.	[1]
[1] There is no production effectivity.		

NOTE: The instructions in this service bulletin are only applicable to the systems and parts installed at the time of delivery of the aircraft or as changed by MHIRJ service bulletins. Before you do this service bulletin, examine all Supplemental Type Certificates (STCs) and Supplemental Type Approvals (STAs) or equivalent action changes to make sure you can complete this service bulletin.

B. Reason

(1) Condition

On the air driven generator (ADG) downlock mechanism, the locking cam screw, the cam nut with the screw thread self–locking insert may have been over–torqued during initial installation. This may cause the loss of the ADG downlock mechanism functionality.

(2) Evidence

MHIRJ's supplier of the CRJ900 cockpit issued a Notice of Escape (NOE) which disclosed an over–torque condition on components on the ADG downlock mechanism.

(3) Objective/Benefit

This service bulletin gives the procedure to remove and replace the locking cam screw and the cam nut on the ADG downlock mechanism.

C. Description

The passenger door is opened. Circuit breakers are opened. ADG is deployed. The locking cam screw and the cam nut assembly are removed and replaced. Clearance checks are done. The ADG is stowed. The circuit breakers are closed and the passenger door is closed.

D. Compliance

Recommended service bulletin.

MHIRJ recommends that this service bulletin be done at no more than 2900 flight hours or no later than 18 months from the release date on this service bulletin, whichever comes first, unless otherwise directed by the airworthiness authority of the operator.

NOTE: If it is not possible to complete all the instructions in this service bulletin because of the configuration of the aircraft, speak with a representative of MHIRJ in the CRC at 450–990–7CRC (450–990–7272) direct, 1–833–990–7CRC (1–833–990–7272) toll free for North America or +1–450–990–7CRC (+1–450–990–7272) for international callers or by e-mail at thd.crj@MHIRJ.com for analysis and to get an approved disposition to complete this service bulletin.

This service bulletin does not affect Airworthiness Limitations (AWLs) or Damage Tolerance Inspections (DTIs).

E. Approval

The technical content of this service bulletin has been approved under the authority of the TCCA Design Approval Organization No: DAO #20—Q—01.

F. Manpower

The man-hours given below are estimates for direct labor done by an experienced crew on an aircraft prepared for maintenance.

These estimates do not include the time necessary for:

—Administrative functions such as planning, liaising, familiarization, and report writing.

—Non-productive elapsed time such as rest time, having meals, and crew shift changes.

—Elapsed time such as for paint to dry, sealant to cure, and fuel tank venting.

—Preparation for modification (unless specified in the Accomplishment Instructions) such as cleaning and getting parts, tools, consumables, and ground equipment.

—Quality assurance inspections, troubleshooting and/or correction of discrepancies found when a task is done.

—All other activities that are not considered by MHIRJ as directly related to the accomplishment of this procedure.

NOTE: For on-site labor assistance, please speak with a Fleet Services representative for an estimate. Call the Fleet Services Team through the CRC at 450—990—7CRC (450—990—7272) direct, 1—833—990—7CRC (1—833—990—7272) toll free for North America or +1—450—990—7CRC (+1—450—990—7272) for international callers or by e-mail at thd.crj@MHIRJ.com.

It will take an estimated 1.75 man-hours to complete this service bulletin. The man-hours are divided in the table that follows (elapsed cure time is not included in the man-hour summary given above):

TASK	MAN-HOURS
(1) Job Set-Up	0.25
(2) Procedure	0.75
(3) Test	0.0
(4) Job Close-Out	0.75

G. Material — Price and Availability

(1) The kit in the table that follow is available from MHIRJ.

NOTE: For a list of kit contents, refer to paragraph 3.A.

KIT NUMBER	NAME
670BA24040K1	Locking Cam Screw and Cam Nut Assembly

(2) Please send a purchase order to the address below to schedule kit delivery:

MHI RJ Aviation ULC
Service Bulletin Kit Support Team
12655, boul. Henri—Fabre
Mirabel, Québec
Canada J7N 1E1

Phone: 450—990—7CRC (450—990—7272) direct,
1—833—990—7CRC (1—833—990—7272) toll free for North America
or +1—450—990—7CRC (+1—450—990—7272) for international callers
e-mail: kits@MHIRJ.com

Please contact the Service Bulletin Kit Support Team at the address above for terms and conditions.

(3) Refer to paragraph 3.B. for a list of consumables for this service bulletin.

H. Tooling — Price and Availability

There are no tool kits for this service bulletin. Refer to paragraph 3.C. for a list of special tools and equipment for this service bulletin.

I. Weight and Balance

Not changed.

J. Electrical Load Data

Not changed.

K. References

Refer to the SB Introduction document for definition or explanation of service bulletin content.

For MHIRJ reference only: Restriction and/or Special Instruction (RSI) C–24–1932–00, Revision C

For MHIRJ reference only: PCA 77690

L. Other Publications Affected

None.

M. Relationship Chart

Not applicable.

2. ACCOMPLISHMENT INSTRUCTIONS

Reference Information

REFERENCE	DESIGNATION
AMM 12–00–00–867–801	Standard Aircraft Configuration for Maintenance
AMM 20–51–00–000–802	Removal of Lockwire
AMM 20–51–00–000–807	Remove of Safety Cables
AMM 20–51–00–400–802	Installation of Lockwire
AMM 20–51–00–400–807	Installation of Safety Cables
AMM 24–00–00–910–801	Electrical/Electronic Safety Precautions
AMM 24–23–01–840–801	Extension of the ADG
AMM 24–23–01–840–802	Retraction of the ADG
AMM 24–23–01–820–801	Adjustment of the Turbine Blade Lockpin

A. Job Set-Up

NOTE: The steps in the Job Set-Up section of this service bulletin are recommended steps. The steps give a recommendation to get access to the work area. This recommendation is to give a safe work area and to minimize possible damage to surrounding aircraft parts. Alternative steps can be used at the operator discretion.

(1) Make sure that the aircraft is in standard configuration for maintenance (refer to AMM 12–00–00–867–801).

(2) Open the passenger door.

WARNING: OBEY ALL THE SAFETY PRECAUTIONS WHEN YOU DO MAINTENANCE ON OR NEAR ELECTRICAL/ELECTRONIC EQUIPMENT. IF YOU DO NOT OBEY THE SAFETY PRECAUTIONS, INJURIES TO PERSONS AND/OR DAMAGE TO THE EQUIPMENT CAN OCCUR.

(3) Obey all the electrical/electronic safety precautions (refer to AMM 24–00–00–910–801).

(4) Open, safety, and tag the circuit breakers that follow:

CB PANEL	CB NO.	NAME
CBP–2	N6	ADG DEPLOY AUTO
CBP–2	N7	ADG DEPLOY MAN

WARNING: BEFORE YOU EXTEND THE ADG, MAKE SURE THAT THE AREA OF ITS DOOR IS CLEAR OF PERSONS AND EQUIPMENT. THE ADG EXTENDS VERY FAST AND CAN CAUSE INJURY TO PERSONS AND/OR DAMAGE TO EQUIPMENT.

CAUTION: IF THE RADOME IS OPEN, MAKE SURE THAT ITS LATCHES ARE CLEAR. THE ADG DOOR CAN CAUSE DAMAGE TO THE LATCHES.

Refer to Figure 1.

(5) Do the extension of the ADG (4) (refer to AMM 24–23–01–840–801).

NOTE: Two persons are required for this procedure. One person monitors the area below the nose of the aircraft. One person operates the ADG manual handle in the flight compartment.

(6) Make sure that the ADG (4) is fully extended with the downlock pin (15) engaged.

B. Procedure

(1) If it is not possible to complete all the instructions in this service bulletin because of the configuration of the aircraft or if damage is found, speak with a representative of MHIRJ in the CRC at 450–990–7CRC (450–990–7272) direct, 1–833–990–7CRC (1–833–990–7272) toll free for North America or +1–450–990–7CRC (+1–450–990–7272) for international callers or by e-mail at thd.crj@MHIRJ.com for analysis and to get an approved disposition to complete this service bulletin.

Refer to Figure 1.

(2) Remove and replace the locking cam screw (1) and the cam nut assembly (2) as follows:

WARNING: WHEN YOU CUT THE LOCKWIRE OR THE SAFETY WIRE, USE EYE PROTECTION. PIECES THAT BREAK OFF CAN CAUSE INJURY.

(a) Remove and discard the lockwire or safety cable from the locking cam screw (1) and the bolt (3) (refer to AMM 20–51–00–000–802 or AMM 20–51–00–000–807).

(b) Remove and discard the locking cam screw (1) and the cam nut assembly (2) from the ground flange (5).

(c) Install a new locking cam screw (1) with a new cam nut assembly (2) on the ground flange (5).

1 Do not tighten the locking cam screw (1) at this step.

(d) Adjust the cam nut assembly (2) as follows:

1 Make sure that the locking cam screw (1) is loose.

2 Lightly move the ADG (4) forward to firmly set the aft of the ground flange (5) against the top of ADG support mount (6) as shown on view B.

3 Hold the ADG (4) in this position and tighten the locking cam screw (1).

4 Torque the locking cam screw (1) to 51–56 lbf in. (5.8–6.3 N•m).

5 Make sure that the aft of the ground flange (5) is firmly set against the top of the ADG support mount (6) and there is no free play.

6 Check and, if necessary, adjust the nut (7) to get a clearance of 0.329 to 0.389 in. (8.36 to 9.88 mm) between the lower ends of the ground flange (5) and the downlock flange (8) as shown on view C.

7 Make sure that the downlock pin (15) engages and locks the ADG (4) in the extended position.

8 If the ADG does not lock in the extended position, do the steps that follow:

a Adjust the nut (7) to change the clearance between the ground flange (5) and the downlock flange (8).

b Make sure to keep a clearance of 0.329 to 0.389 in. (8.36 to 9.88 mm) between the lower ends of the ground flange (5) and the downlock flange (8) as shown on view C.

c Make sure that the ADG locks in the extended positions.

9 Pull the ADG forward and make sure it stays in the locked position.

WARNING: WHEN YOU CUT THE LOCKWIRE OR THE SAFETY WIRE, USE EYE PROTECTION. PIECES THAT BREAK OFF CAN CAUSE INJURY.

(e) Safety the locking cam screw (1) to the bolt (3) with lockwire or safety cable (refer to AMM 20–51–00–400–802 or AMM 20–51–00–400–807).

C. Job Close-Out

NOTE: The steps in the Job Close-Out section of this service bulletin, except for the return-to-service tests, are recommended steps. The steps give a recommendation to install components removed during the Job Set-Up. This recommendation is to make sure that the aircraft is safe and ready to return to service. Alternative steps can be used at the operator discretion.

Refer to Figure 1.

(1) Do the clearance checks on the ADG (4) as follows:

(a) Make sure that the ADG (4) is in the extended position and the downlock pin (15) is engaged.

(b) Turn the turbine blades (10) until the arrow on the hub (11) aligns with the arrow on the generator housing (13).

(c) Make sure the clearance between the end of the plunger (14) and the hub (11) is 0.040 to 0.060 in. (1.02 to 1.52 mm) as shown in view B.

(d) Pull and hold the downlock pin (15) and manually lift the ADG (4).

(e) Make sure that the plunger (14) extends a minimum of 0.250 in. (6.35 mm) from the cable housing bracket (16) and locks the hub (11).

(f) Release the downlock pin (15).

(g) Slowly lower the ADG (4) and when the plunger (14) releases the hub (11) hold the ADG (4) in that position.

(h) Make sure that the minimum clearance between the end of the blades (10) and the aircraft structure is 0.250 in. (6.35 mm).

(i) If the clearances for the plunger (14) are out of limits, do the adjustment of the turbine blade lockpin (17) (refer to AMM 24–23–01–820–801).

(2) Remove all tools and unwanted materials from the ADG compartment.

(3) Retract the ADG (refer to AMM 24–23–01–840–802).

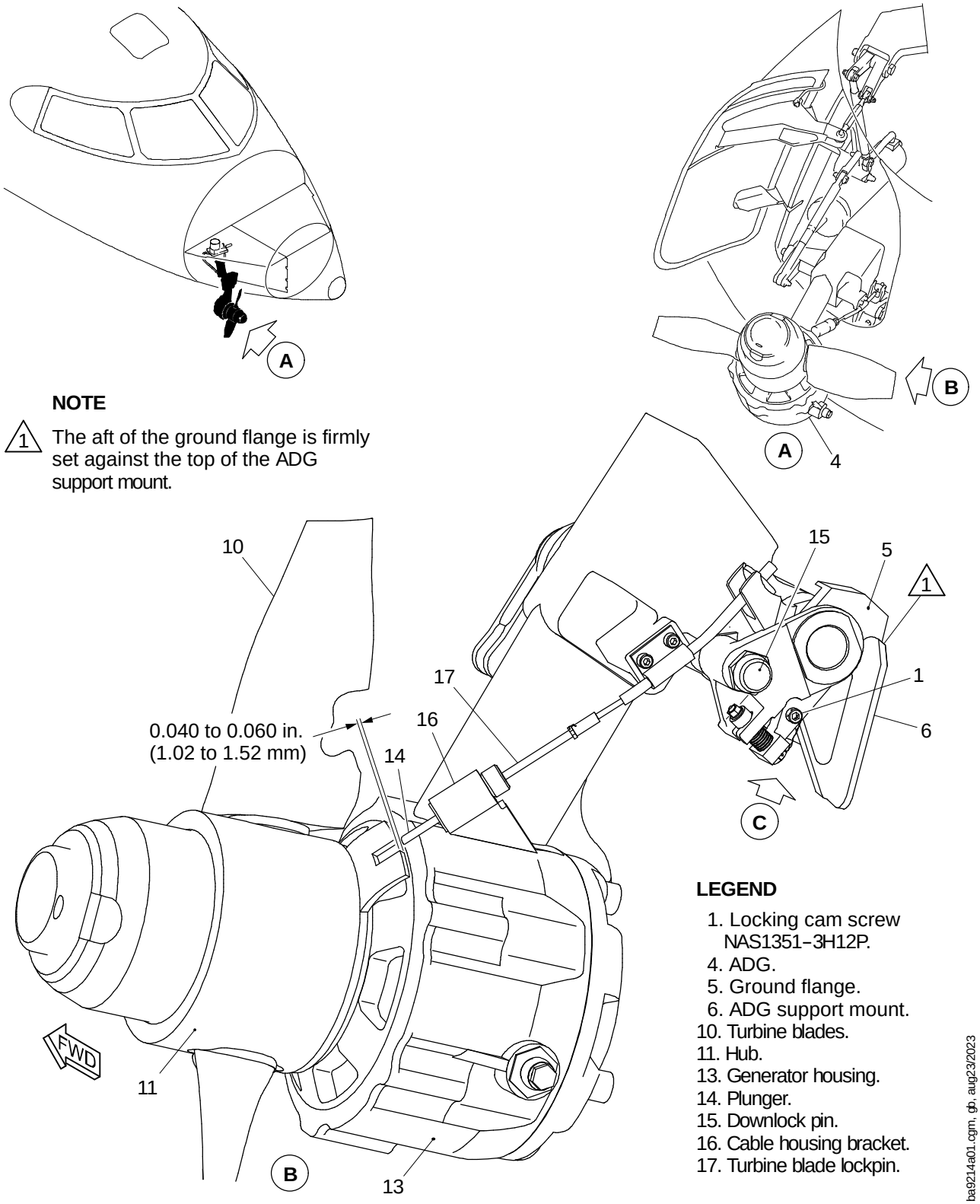
(4) Remove all tools, equipment, and unwanted materials from the work area.

(5) Remove the tags and close the circuit breakers that follow:

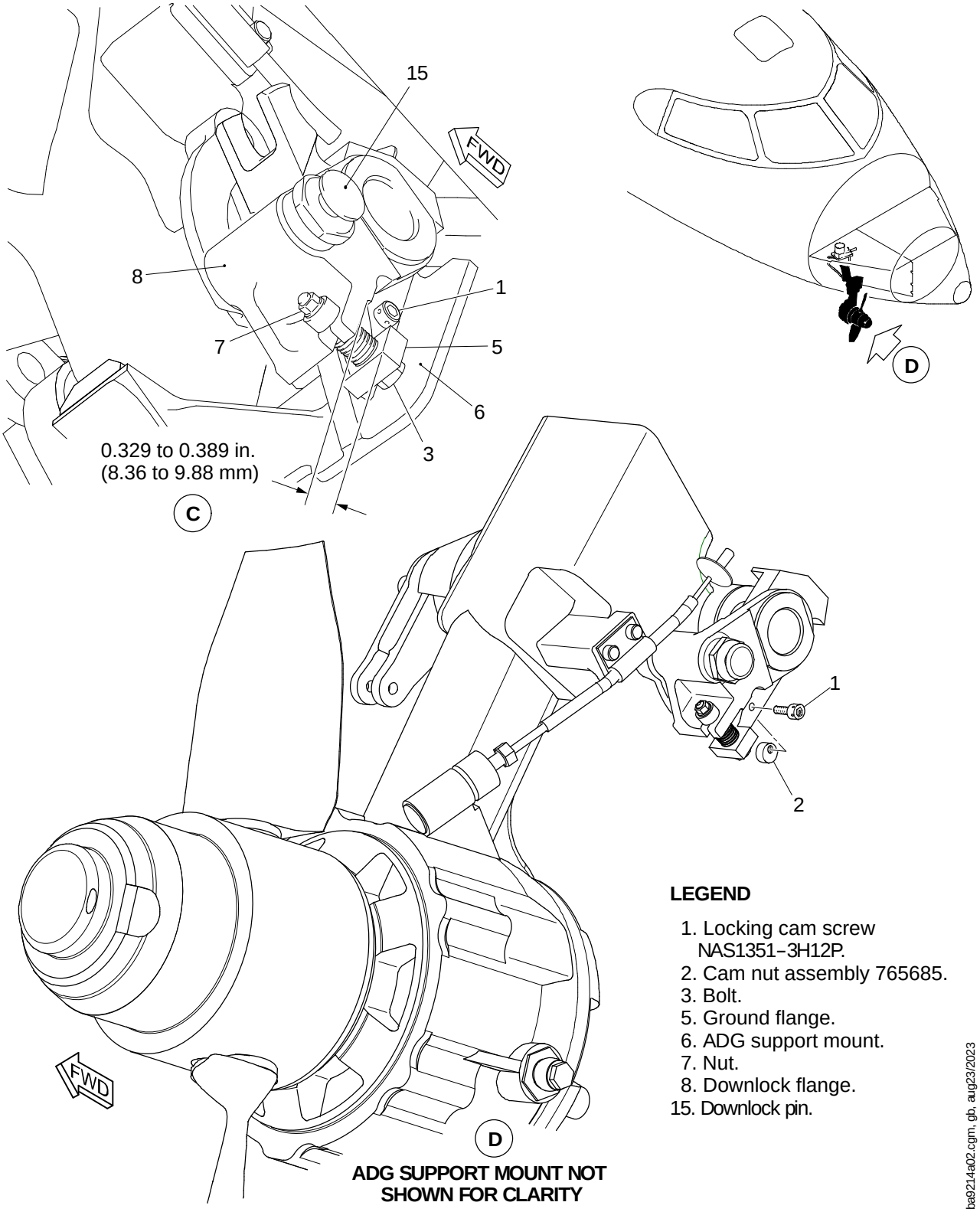
CB PANEL	CB NO.	NAME
CBP–2	N6	ADG DEPLOY AUTO
CBP–2	N7	ADG DEPLOY MAN

(6) Close the passenger door.

(7) When this service bulletin is completed, make this entry in the applicable logbooks: “Service Bulletin 670BA–24–040, Revision A, Electrical Power – Air Driven Generator – Replacement of Locking Cam Screw and Cam Nut Assembly, incorporated.”



Locking Cam Screw and Cam Nut Assembly Replacement
Figure 1 (Sheet 1 of 2)



LEGEND

1. Locking cam screw NAS1351–3H12P.
2. Cam nut assembly 765685.
3. Bolt.
5. Ground flange.
6. ADG support mount.
7. Nut.
8. Downlock flange.
15. Downlock pin.

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Locking Cam Screw and Cam Nut Assembly Replacement
Figure 1 (Sheet 2 of 2)

3. MATERIAL INFORMATION

A. Kit Information

KIT 670BA24040K1				
PART NUMBER	**QTY**	**NAME**	**ALTERNATIVE**	**NOTES**
765685	1	Cam Nut Assembly		
NAS1351–3H12P	1	Locking Cam Screw		

NOTE: For permitted alternative to superseded parts, refer to the Parts Supersession List at Fly.MHIRJ.com under Applications, Document Libraries, Part Documents Library.

B. Consumable Information

For a list of consumables, refer to the different tasks that are given as references in this service bulletin.

C. Special Tools and Equipment

For a list of special tools and equipment, refer to the different tasks that are given as references in this service bulletin.

D. Disposition of Parts

The table that follows shows the relation between the new parts and/or modified parts to be installed during the incorporation of this service bulletin and the disposition of the affected parts from the aircraft (or spares).

PRE-SB PART NUMBER	NAME	QTY	DC	POST-SB PART NUMBER
765685	Cam Nut Assembly	1	DIS	765685
NAS1351–3H12P	Locking Cam Screw	1	DIS	NAS1351–3H12P

Disposition code (DC):

DIS: Discard Part.