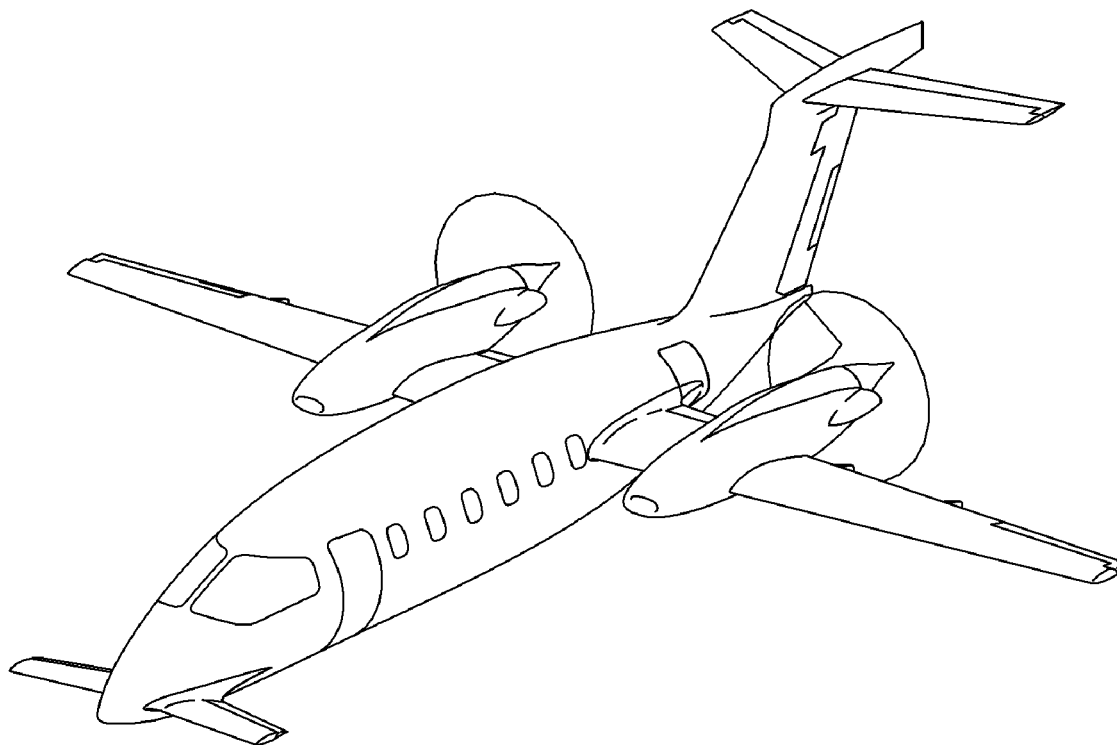


# ***P.180 AVANTI II MAINTENANCE MANUAL***



## **VOLUME 1**

### **Introduction thru Chapter 24**

Report No. 180-MAN-0200-01105

Issue No. B0  
Issue Date: Dec. 15/09

Revision No. B3  
Revision Date: Sep.21/12

PIAGGIO AERO INDUSTRIES S.p.A.  
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**LETTER OF TRANSMITTAL**

**TO:**           **HOLDERS OF REPORT NO. 180-MAN-0200-01105**  
                   **Aircraft Maintenance Manual - Revision B2**

**SUBJECT:**   **Revision "B3" OF REPORT 180-MAN-0200-01105**  
                   **Aircraft Maintenance Manual dated Sep.21/12**

Remove the superseded pages, listed in the "Remove" column.  
 Insert the new pages dated Sep.21/12 as per "Insert" column.

<u>Remove</u>	<u>Insert</u>
TITLE PAGES - Volume 1	TITLE PAGES - Volume 1
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ROTR Page 1 and 2	ROTR Page 1 and 2
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**PIAGGIO P.180 AVANTI II  
MAINTENANCE MANUAL**

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Any problems or suggestions regarding this reissue should be forwarded in writing to:

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Phone No. +39-010-6481-348  
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**To:** P.180 Operators

**Copy to:**

**01 February 2012**

**Prot. D.T.T./26/421**

**Subject: P.180 Avanti II – Time Limits and Maintenance Schedule**

The Avanti II Aircraft Maintenance Manual, 180-MAN-0200-01105 Rev B2, was issued on January 27, 2012. It includes a new revision of Chapter 05 – Time Limits and Maintenance Schedule.

The most important modification is the new arrangement of maintenance scheduling: the aircraft A inspection, previously required at 150 FH, is no longer required, while 3 new tasks, required at 200 FH, are now listed in section 05-20-00. In detail, they are:

- 200 FH aircraft light inspection and servicing
- 200 FH LH nacelle light inspection and servicing
- 200 FH RH nacelle light inspection and servicing

These tasks are derived from all the tasks that were required during the A inspection, that were reviewed and arranged in a single task for aircraft, left nacelle and right nacelle. If required, these tasks may be performed independently, provided maintenance intervals are not overdue.

While performing the 200 FH nacelle(s) light inspection and servicing, also the engine(s) minor inspection has to be performed.

In order to move from the previous to the new schedule, it is recommended to keep the previous maintenance schedule (i.e. based on 150 FH intervals) up to a B or D check, then start using the 200 FH intervals. The “200 FH light inspection and servicing procedures” may be used.

In other words:

If the last inspection performed on your aircraft was a B or D check, you may start immediately using the new maintenance schedule based on 200 FH intervals.

On new aircraft, that still have to perform their first A check, the new maintenance schedule can be used immediately.



If the last inspection was a "first A check" (i.e., the inspection due at 150 FH, 750 FH etc), we suggest to perform :

- @ 300 FH: 200 FH aircraft and nacelles light inspection and servicing
- @ 450 FH: 200 FH aircraft and nacelles light inspection and servicing
- @ 600 FH: perform B check, then start with the new maintenance schedule

If the last inspection was a "second A check" (i.e., the inspection due at 300 FH, 900 FH etc), or a "C Check", we suggest to perform :

- @ 450 FH: 200 FH aircraft and nacelles light inspection and servicing
- @ 600 FH: perform B check, then start with the new maintenance schedule

If the last inspection was a "third A check" (i.e., the inspection due at 450 FH, 1050 FH etc), we suggest to perform :

- @ 600 FH: perform B check, then start with the new maintenance schedule

This letter may be used as a "no objection" from Piaggio Aero Industries to an interim maintenance schedule as defined above.

Different transition from previous maintenance schedule to the new ones may be evaluated. Please contact Piaggio Aero Industries Customer Support.

Please note that, concurrently with the new AMM, Service Bulletin 80-0349 was issued. Some tasks (mostly database updates) were moved from AMM Chapter 05 to this Service Bulletin, in order to ease aircraft maintenance management.

Piaggio Aero Industries is working on some tasks, to further improve this maintenance schedule. The most obvious of them is the propeller lubrication interval, still required at 150 FH intervals for all airplanes.

With best regards,

Handwritten signature of Carlo Cardu in cursive script.

---

**Carlo CARDU**  
Continued Airworthiness

Handwritten signature of Paolo Ferreri in cursive script.

---

**Paolo FERRERI**  
Vice President  
Worldwide Customer Support

RECORD OF REVISIONS

REV No.	ISSUE DATE	INSERTION DATE	By	REV No.	ISSUE DATE	INSERTION DATE	By	REV No.	ISSUE DATE	INSERTION DATE	By
A0	June 30/05										
A1	June 30/06										
A2	Sep. 14/07										
A3	Dec. 19/08										
B0	Dec. 15/09										
B1	Nov. 15/10										
B2	Jan.16/12	2/3/2012	ATP/ RII								
B3	Sep.21/12	11/5/2012	ATP/ SS								

RETAIN THIS RECORD IN THE FRONT OF MANUAL; ON RECEIPT OF REVISIONS, INSERT REVISED PAGES IN THE MANUAL AND ENTER REVISION NUMBER, ISSUE DATE, INSERTION DATE, AND INITIALS.

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RECORD OF SERVICE BULLETINS

ATA CHAPTER	SB No.	DATE	TITLE
57	80-0210	Jun. 06/06	Forward Support of Main Wing Outboard Flap
30	80-0213	Sep. 14/07	Engine Inertial Separator -Anti Ice System
11	80-0215	Jun. 06/06	Maximun Take Off Weight Increase to 12100 Lbs
23	80-0219	Jun. 06/06	PA-05 Cockpit Voice Recorder Repositioning
53, 51, 12	80-0220	Sep. 14/07	Fuselage Drain Holes-Inspection Check
22	80-0222	No Effect	Autopilot Roll Performance Upgrade
52	80-0223	Jun. 06/06	Support Microswitch Change
52	80-0224	Sep. 14/07	Baggage Door Drainage System
34	80-0225	No Effect	ADF Connection Upgrade
34	80-0226	No Effect	Integrated Stand-By Instrument Upgrade
21	80-0229	No Effect	Baggage Compartment Heating Improvement
5, 10, 72, 79	80-0231	Sep. 14/07	P180-Avanti II, PT6A-66 Engine Upgrade
33	80-0235	Sep. 14/07	Top Strobe Light & ELT System Inspection
32	80-0236	Sep. 14/07	Steering System Inspection Temporary Limitation
29	80-0238	No Effect	Hydraulic Hand Pump Replacement
5	80-0239	Sep. 14/07	Horizontal Stabilizer Torque Box
29	80-0240	No Effect	Spare Parts for Hydraulic Pump
52	80-0241	Sep. 14/07	Escape Door Mechanism Improvement
25	80-0252	Dec. 19/09	Interiors Nordam
25	80-0255	Dec. 19/09	ELT Artex
24	80-0271	Dec. 19/09	Power Cable Repositioning
28	80-0278	Dec. 19/09	Fuel Pump Leakage Inspection

EFFECTIVITY:

ATA CHAPTER	SB No.	DATE	TITLE
12	80-0287	Dec. 19/09	Engine Oil Level Check
26	80-0308	Nov. 15/10	Portable Fire Extinguisher 2nd. Location.

# INTRODUCTION



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	5	Dec. 15/09
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INTRODUCTION  
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## INTRODUCTION

### 1. Scope of the Manual

A. This Maintenance Manual has been prepared by the Technical Publications Department of Piaggio Aero Industries S.p.A. and is designated Report No. 180-MAN-0200-01105 within the company.

The manual is compiled in accordance with Specification 100 of the Air Transport Association (ATA) of America. The specification is commonly referred to as ATA100.

B. The manual provides:

- descriptive text of sufficient depth to familiarize qualified maintenance persons with the airplane
- sufficient information to enable these persons to do all the "on-airplane" maintenance work required to keep the airplane in an airworthy condition.

C. Information beyond the scope of the Maintenance Manual may be found in these manuals:

- Wiring Manual (WM)
- Illustrated Parts Catalog (IPC)

These manuals are all dispatched to operators by Piaggio Aero Industries S.p.A. Full support services are available for all publications issued by Piaggio.

In addition, Pratt & Whitney Canada (P&WC) publish the following manuals for engine maintenance:

- Engine Maintenance Manual (Engine MM)
- Engine Illustrated Parts Catalog (Engine IPC)

To make sure of full support services for the Engine MM, Engine IPC, Engine Service Bulletins, Letters etc. published by P&WC, it is essential that the operator completes the form which accompanies these engine manuals and send the completed form to P&WC.

2. Manual Chapterization

A. The Maintenance Manual is divided into groups and chapters as follows:

Group A - Aircraft General, which comprises these chapters:

<u>Chapter</u>	<u>Title</u>
4	Airworthiness Limitations
5	Time Limits/Maintenance Checks
6	Dimensions and Areas
7	Lifting and Shoring
8	Leveling and Weighing
9	Towing and Taxiing
10	Parking, Mooring, Storage and Return to Service
11	Placards and Markings
12	Servicing
20	Standard Practices - Airframe

**NOTE:** Chapter 4 and Chapter 5 are issued as separate publications (Chapter 4 is designated Piaggio Report No. 180-MAN-0200-01109 while Chapter 5 is designated Piaggio Report No. 180-MAN-0200-01491) so that they may be revised independently of the rest of the Maintenance Manual (Piaggio Report No. 180-MAN-0200-01105). These Chapters have their own Record of Revisions pages which apply only to these chapters. This method of issue is intended for the convenience of the operator (manual user). Insert hard copies of Report No. 180-MAN-0200-01109 and Report No. 180-MAN-0200-01491 into the appropriate place in Report No. 180-MAN-0200-01105.

Group B - Airframe Systems, which comprises these chapters:

<u>Chapter</u>	<u>Title</u>
21	Air Conditioning
22	Auto Flight
23	Communications
24	Electrical Power
25	Equipment/Furnishings
26	Fire Protection
27	Flight Controls
28	Fuel
29	Hydraulic Power
30	Ice and Rain Protection
31	Indicating/Recording Systems
32	Landing Gear
33	Lights
34	Navigation
35	Oxygen
36	Pneumatic
45	Central Maintenance System
46	Information System

Group C - Structures, which comprises these chapters:

<u>Chapter</u>	<u>Title</u>
51	Standard Practices and Structures - General
52	Doors
53	Fuselage
54	Nacelles
55	Stabilizers
56	Windows
57	Wings

Group D - Propellers, which comprises this chapter:

<u>Chapter</u>	<u>Title</u>
61	Propellers

Group E - Power Plant, which comprises these chapters:

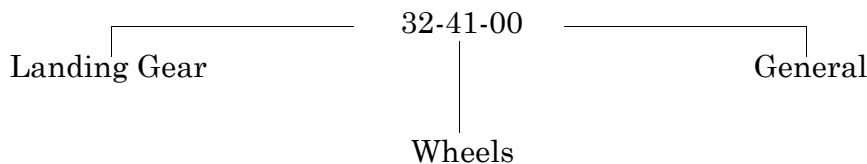
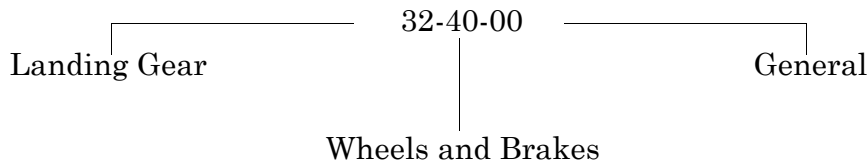
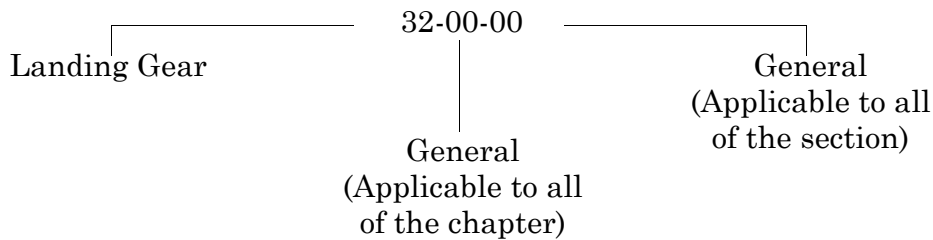
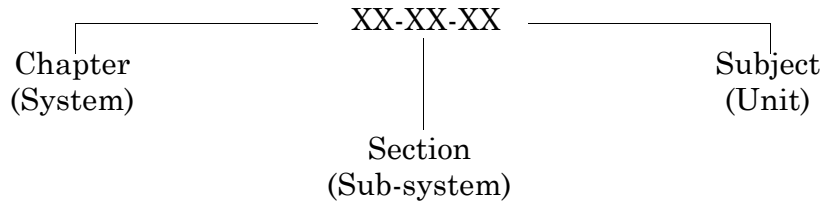
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71	Power Plant
72	Engine
73	Engine Fuel and Control
74	Ignition
75	Air
76	Engine Controls
77	Engine Indicating
78	Exhaust
79	Oil
80	Starting

Group F - Charts, which comprises these chapters:

<u>Chapter</u>	<u>Title</u>
91	Charts
93	Surveillance

3. Chapter Breakdown

A. The chapter numbering system is a conventional dash-number breakdown consisting of three two-digit elements separated by dashes. The elements are explained in the following examples:



**NOTE:** Because the P180 Avanti II systems are compact and uncomplicated, and to simplify the breakdown, the third element will be 00 in most of the chapters.

B. The page numbering system is designed to divide the chapter into page-block topics, as follows:

- Page Block 1 (pages 1 thru 99) - Description and Operation
- Page Block 101 (pages 101 thru 199) - Troubleshooting
- Page Block 201 (pages 201 thru 299) - Maintenance Practices

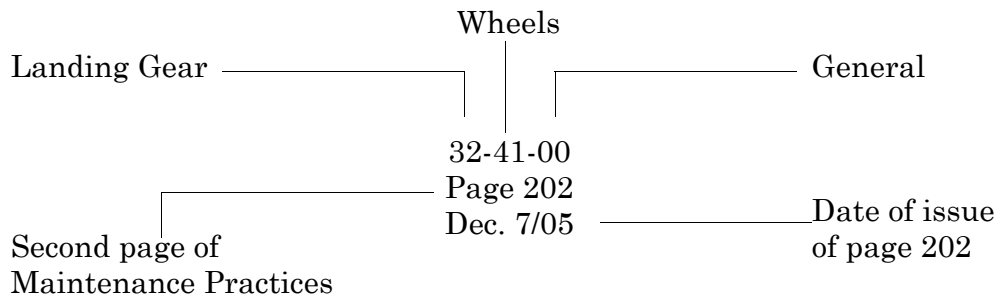


If the maintenance practices are too extensive to be covered effectively within a single page block they may be broken down into the following separate topics:

- Page Block 301 (pages 301 thru 399) - Servicing
- Page Block 401 (pages 401 thru 499) - Removal/Installation
- Page Block 501 (pages 501 thru 599) - Adjustment/Test
- Page Block 601 (pages 601 thru 699) - Inspection/Check
- Page Block 701 (pages 701 thru 799) - Cleaning/Painting
- Page Block 801 (pages 801 thru 899) - Repairs

Any page block which is not required in a particular chapter element is omitted.

Typical page identification:



- C. The numbering of illustrations (figures) within a page block follows the same sequence as the page numbers. For example the second illustration in a Maintenance Practices page block will be Fig. 202. Figures are located in the page block as close as practicable to the text to which they apply.

#### 4. Revisions

##### A. Regular Revisions

From time to time it may be necessary for the manufacturer to amend, add or delete information and instructions within the manual to improve the safe and efficient operation of the airplane. The manual is therefore revised whenever considered necessary. A Record of Revisions (ROR) is provided at the front of this manual and the operator (manual user) is advised to make sure that the record is kept up-to-date.

Publications are assigned a revision code which appears on the title page and consists for the basic publication of the letter "A" and the number "0"; subsequent revisions are identified by the change of the code from "A0" to "A1" for the first revision to the basic publication, "A2" for the second one, etc. If it is necessary to completely reissue a publication owing to the extent of content and format changes, the code will change to the next successive letter of the alphabet at each new issue (for example, B for the first reissue, C for the second reissue, etc.).

##### B. Temporary Revisions

Information and instructions necessary for inclusion in the manual between regular revisions will be issued through a Temporary Revision (TR) Service. TR's are printed on yellow paper and are numbered consecutively for example -001, -002 etc.

Normally, the information contained in a TR is incorporated into the manual at the next regular revision, thereby becoming a permanent part of the manual.

A Record of Temporary Revisions (ROTR) is provided at the front of the manual, and gives information regarding the TR number, its location in the manual, the date of issue and, where applicable, the date and number of the regular revision or new TR which instructs its removal. The Record of Temporary Revisions is updated and re-issued with a regular revision when appropriate. The operator (manual user) is advised to keep the record up-to-date between reissues.

##### C. Filing of Revisions

###### (1) Regular Revisions

Each copy of a regular revision to the manual will be accompanied by an attached Letter of Transmittal advising the manual holder of the method for incorporating the revision into the manual. The Letter of Transmittal will include revision highlight pages which will give a summary of the reasons for revision/ addition/deletion of text or illustrations.

If a regular revision contains the information/instructions given in a Temporary Revision, the Letter of Transmittal will contain an instruction to remove the Temporary Revision concerned.

###### (2) Temporary Revisions

Filing instructions for a TR are given on the title page of the TR.

A TR should be removed from the manual only when an Instruction to do so is given by the Letter of Transmittal of a regular revision or on the title page of a superseding TR.

#### D. Revision Symbols

Additions, deletions and revisions to existing text will be identified by a revision bar (black line) in the left-hand margin of the page, adjacent to the change.

When technical changes cause expansion or deletion of text which results in unchanged text appearing on a different page, a revision bar will be placed in the left-hand margin adjacent to the page number of all affected pages providing no other revision bar appears on the page.

These pages will be updated to the current regular revision date.

When extensive technical changes are made to existing text, resulting in complete retype of copy, a single revision bar will appear the full length of the text.

#### 5. List of Effective Pages

A List of Effective Pages (LOEP) is provided at the beginning of each chapter. All pages in the chapter are listed in sequence, together with the latest date of issue/revision of each page.

#### 6. Table of Contents

Each chapter is provided with a page entitled TABLE OF CONTENTS (TOC), which lists the contents of the chapter, enabling the manual user to locate information quickly. The page is updated and reissued with regular revisions when appropriate.

#### 7. Effectivity

When the information on a particular page applies to a specific airplane or airplanes, the manufacturer's serial number of the airplane(s) is given in the effectivity space at the lower left hand corner of the page. Where the space is left blank, the information applies to all airplanes.

#### 8. Consumable Materials

Consumable materials and, where applicable, their specifications/part numbers are listed in Chapter 91-00-00. The listed materials within the Maintenance Practices page blocks of other chapters are given reference numbers which correspond to the reference item numbers permanently assigned to the consumable materials in Chapter 91-00-00.

Equivalent materials are listed under the same reference number in Chapter 91-00-00. Alternatives are listed with their applicable reference numbers in the Materials list of the topic to which they apply.

## 9. Abbreviations

The following is a list of the abbreviations used throughout this manual.

A/COLL = Anticollision  
A/I = Anti Ice  
A/P = Autopilot  
ADV = Advisory  
ALTM = Altimeter  
ANN = Annunciator  
AOA = Angle of Attack  
AR = As Required  
AU/FTR = Autofeather  
AVCS = Avionics  
BAG = Baggage  
BETW = Between  
BST = Boost(er)  
C/B = Circuit Breaker  
C/F = Crossfeed  
CAB = Cabin  
CMND = Command  
COM = Communication  
COOL = Cooling  
CPLT = Copilot  
CTCTR = Contactor  
CTRL = Control  
CW = Control Wheel  
DN = Down  
ECS = Environmental Control System  
EMER = Emergency  
ENG = Engine  
FLT COMP = Flight Compartment  
FS = Fuselage Station  
FWD = Forward  
GEN = Generator  
GND = Ground  
GS = Glide Slope  
HDG = Heading

HI = High  
HTR = Heater  
HYD = Hydraulic  
IGN = Ignition  
INB = Inboard  
INSP = Inspection  
ITT = Inter Turbine Temperature  
L(H) = Left (hand)  
LDG = Landing  
LO = Low  
LONG = Longitudinal  
LT = Light  
LTS = Lights  
LVR = Lever  
LWR = Lower  
MAN = Manual  
MKR = Marker  
MLG = Main Landing Gear  
NG = Gas Generator Speed  
NAV = Navigation  
NP = Number Propeller Speed  
NLG = Nose Landing Gear  
OAT = Outside Air Temperature  
OPR = Operator  
OPT = Option  
OUTB = Outboard  
OVSP = Overspeed  
OVV = Overvoltage  
OXY = Oxygen  
P/O = Part of  
P/UP = Pickup  
PAXS = Passengers  
PCL = Power Control Lever  
PLT = Pilot  
PNL = Panel  
POS = Position

PRESS = Pressure  
PRI = Primary  
PROP = Propeller  
PSU = Passengers Service Unit  
PWR = Power  
QTY = Quantity  
R(H) = Right (hand)  
RAD = Radio  
RCCB = Remote Control Circuit Breaker  
RCDR = Recorder  
RCV = Receiver  
REC = Recognition  
RDR = Radar  
S/O = Shut off  
SEC = Secondary  
SEL = Selector  
SPC = Software Programmable Controller  
STAB = Stabilizer  
STBY = Standby  
STL = Stall  
STR = Steering  
SYNCPH = Synchrophaser  
SYST = System  
TEMP = Temperature  
TQ = Torque  
UPR = Upper  
VERT = Vertical  
WRN = Warning  
WS = Wing Station  
WSHLD = Windshield  
WT = Weight  
XMTR = Transmitter  
XPNDR = Transponder