Honeywell

INSTALLATION AND MAINTENANCE MANUAL

BENDIX/KING®

KFC 225 AUTOMATIC FLIGHT CONTROL SYSTEM

for

Socata Models TB 20 and TB 21 (28V only)
TB 20 S/N 823 to 849, 888, 948 and Subsequent
TB 21 S/N 948 and Subsequent

FAA APPROVED PER STC SA00826WI-D

MANUAL NUMBER 006-00776-0000

Revision D

PATENT PENDING

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NOTICE

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Installation/Maintenance Manual Discrepancy Notification

This manual is maintained by Honeywell Certification Engineering Department. This manual supports the installation and/or maintenance of the ***BENDIX/KING***® equipment and systems for the aircraft type and Supplemental Type Certificate designated on the cover of this manual. If a discrepancy is found in this manual, please mail or fax this form (or a copy) as well as copy of the page(s) with the discrepancy noted. The recommended change(s) will be evaluated and incorporated into the manual as necessary at the time of the next revision.

Honeywell International Inc.
Electronics & Avionics Systems
One Technology Center
23500 W 105th Street
Olathe, KS 66061

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Manual Number and Revision: _____

Discrepancy: _____

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FAA APPROVED INSTALLATION AND MAINTENANCE MANUAL *
for the
BENDIX/KING KFC 225 AUTOMATIC FLIGHT CONTROL SYSTEM
in
SOCATA MODELS TB 20 AND TB 21

LOG OF REVISIONS

REV	PAGE(S)	DESCRIPTION	DATE
-	All	Original Issue.	9/9/99
A	All	Changed the FAA-PMA Parts List (159-08246-0002) to Revision B.	2/25/00
B	All	Changed the FAA-PMA Parts List (159-08246-0002) to revision C. page 1-3, changed KC 225 software level to 01 / 04 page 1-4, added circuit breakers to installer supplied equipment list page 5-6, 5-7, 5-8, 5-9 rewrote to clarify instructions figure 5-2, 5-6, 5-7, 5-8, 5-9, added "example" paragraph 5.5.2.2, added "stop to stop" pitch trim system travel time paragraph 5-6, added caution concerning flight manual supplement review appendix 'A', revised drawing 159-08246-5000 to revision 'A' appendix 'A', revised drawing 159-08246-5003 to revision 'A' appendix 'A', revised drawing 159-08246-5004 to revision 'A' appendix 'B', revised drawing 159-08246-2000 to revision 'A'	11/2/00
C	Front Matter 1-3 1-4 1-5 5-3 5-4 5-16 5-19	Front Matter 1-3 1-4 1-5 5-3 5-4 5-16 5-19	01/18/01
D	All MDL 1-3 1-4 5-3 5-6 5-15 5-18 Appendix A	Updated Revision History. Revised MDL to Revision E. Changed roll servo part number. Added Note (8). Revised Note (5). Added Note (8). Added new "CER" file number. Added Note concerning KC 225 rack extender. Moved stop to stop trim time to paragraph 5.5.2.4. Paragraph 5.6.3, changed 22° ±2° to 20° ±2°. Revised Drawings 159-08246-5003 and 159-08246-5004.	9/16/02

* Approved on Master Drawing List 159-08246-0001, included herein.

United States of America
Department of Transportation -- Federal Aviation Administration

Supplemental Type Certificate

Number SA00826WI-D

This certificate issued to

Honeywell International Inc.
23500 W. 105th Street
Olathe, KS 66061

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 23 *of the* Federal Air *Regulations.*

Original Product - Type Certificate Number: A51EU

Make: SOCATA

Model: TB 20, Serial No.'s 823 thru 849, 888, 948 and after
TB 21, Serial No.'s 948 and after

Description of Type Design Change:
Installation of the Bendix/King KFC 225 Automatic Flight Control System.
REQUIRED DATA: Master Drawing List 159-08246-0001, Rev. A, dated 12-2-99; and Airplane Flight Manual Supplement 006-00868-0000, Rev. -, dated 1-24-00.

Later FAA approved revisions to the above listed data are incorporated without further revision to this Supplemental Type Certificate.

Limitations and Conditions:
1. This approval should not be extended to other specific airplanes of this model on which other previously approved modifications are incorporated, unless it is determined that the interrelationship between this change and any of those other previously approved modifications will introduce no adverse effect upon the airworthiness of that airplane.

(Continued on Continuation Sheet)

If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: October 11, 1999

Date of issuance: January 24, 2000

Date reissued:

Date amended:

By direction of the Administrator

(Signature)

FOR Chris Durkin
DAS Coordinator

(Title)

INSTRUCTIONS: The transfer endorsement below may be used to notify the appropriate FAA Regional Office of the transfer of this Supplemental Type Certificate.

The FAA will reissue the certificate in the name of the transferee and forward it to him.

TRANSFER ENDORSEMENT

Transfer the ownership of Supplemental Type Certificate Number _____

to *(Name of transferee)* _____

(Address of transferee) _____
(Number and street)

_____
(City, State, and ZIP code)

from *(Name of grantor) (Print or type)* _____

(Address of grantor) _____
(Number and street)

_____
(City, State, and ZIP code)

Extent of Authority (if licensing agreement): _____

_____

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_____

Date of Transfer: _____

Signature of grantor *(In ink)*: _____

☆ U.S.G.P.O.: 1989-662-030

United States of America
Department of Transportation -- Federal Aviation Administration

Supplemental Type Certificate

(Continuation Sheet)

Number SA00826WI-D

Limitations and Conditions: (continued)

2. The Bendix/King KLN 90B GPS has been shown to be an acceptable navigation system input and compatible with the KFC 225 Automatic Flight Control System.

3. The Bendix/King KLN 900 GPS has been shown to be an acceptable navigation system input and compatible with the KFC 225 Automatic Flight Control System.

- - - End - - -

FAA APPROVED

Robert G. Murray
Assistant DAS Coordinator
Honeywell International Inc.
DAS-500863-CE

Date: 11-5-2002

Honeywell

Honeywell International Inc.
Olathe, Kansas USA

Avionics Certification Center
New Century Airport, KS

Master Drawing List, Installation of the KFC 225 AFCS in the SOCATA Models TB 20 and TB 21 (28V only).

DRN:	CUSTOMER:	SIZE	CAGE CODE	DWG NO.	REV
DLK	SOCATA GROUPE AEROSPATIALE	A	22373	159-08246-0001	E
CHK: KRIZ	USED ON: STC # SA00826WI-D	SCALE: NONE			SHEET 1 OF 4

REVISIONS				
REV	SHT	DESCRIPTION	DATE	APPROVED
-	1-4	Original Issue.	9-13-99	N/A
A	1-4	Changed corporate name to Honeywell. Released per CCO # 100167	12-2-99	1/24/00
B	All	Revised Installation Manual to Rev A. Revised FAA-PMA Parts List to Rev B. Added 030-01297-0000, 030-02417-0000/0002, 030-2602-00.	2-25-00	3/1/00
C	All	revised Installation Manual to Rev B, revised Flight Manual Supplement to rev A, revised FAA-PMA Parts List to Rev C, added 600-09468-0000 revised 047-7281-00/01 to rev AA, revised 047-12518-01 to rev A, revised 047-12519-01 to rev A, revised 047-12522-01 to rev A, revised 047-12523-01 to rev A, revised 047-12530-01 to rev A, revised 047-12532-01 to rev A, revised 047-12533-01 to rev A, revised 057-2869-00/03 to rev 1,updated 090-00547-0000/0001 to -0000 and Rev AA, updated 090-00548-0000/0001 to -0000 and Rev AA, revised 300-09744-01 to rev B, added 092-05075-0000, added 030-03450-01 Diode Module.	11-2-00	Robert G. Murray Assistant DAS Coordinator Honeywell International Inc. DAS-500863-CE
D	3	Updated Installation Manual (006-00776-0000) to rev C, Flight Manual Supplement (006-00868-0000) to rev B, added reference to Install Bulletin #472 Alert and updated 030-03450-01 to rev A.	1-5-01	Robert G. Murray Assistant DAS Coordinator Honeywell International Inc. DAS-500863-CE
E	ALL	Updated revision history page. Revised Installation Manual to revision D. Revised Flight Manual Supplement to revision C. Added STC Installation Bulletin, 159-03500-0004. Revised drawing 047-7281-00/01 to revision AB. Revised drawing 047-12519-01 to revision B. Revised drawing 089-05103-0002 to revision AB. Revised drawing 089-06336-0002 to revision AA.	9-16-02	See Cover Page

Documents required for the installation of the KFC 225 AFCS in the Socata Models TB 20 and TB 21 (28V only), TB 20 S/N 823 to 849, 888, 948 and subsequent, TB 21 S/N 948 and subsequent.

DOCUMENT NUMBER	REV	DESCRIPTION
006-00776-0000	D	INSTALLATION AND MAINTENANCE MANUAL
006-00868-0000	C	AIRPLANE FLIGHT MANUAL SUPPLEMENT FOR SOCATA TB 20 AND TB 21
159-03500-0004	-	STC INSTALLATION BULLETIN # 0004
159-08246-0002	C	FAA-PMA PARTS LIST
600-09468-0000	-	INSTALLATION BULLETIN # 468
600-09472-0001	1	IINSTALLATION BULLETIN #472 ALERT

Drawings that define the design but are not required for follow-on installations:

DOCUMENT NUMBER	REV	DESCRIPTION
030-01297-0000	0	PIN, CONN.
030-02417-0000/0002	0	CONNECTOR 2 PIN
030-03450-01	A	DIODE MODULE
030-2602-00	0	HOUSING, 2 PIN
031-0514-00	3	SWITCH, 2 CIRCUIT, MOMENTARY
031-00763-0000	AA	EATON SERIES 584 ANNUNCIATOR/SWITCH
031-00785-0000	8	EATON SERIES 582 ANNUNCIATOR/SWITCH
038-00008-0000/0001	4	SIGNAL, ELECTRONIC AUDIBLE
047-5658-00/01	3	PITCH LINK
047-7273-00/03	5	SWITCH MTG PLATE
047-7281-00/01	AB	SERVO GUSSET
047-7292-00/01	AA	CONTROL ROD CLAMP
047-7293-00/01	AA	ROLL SERVO CLIP
047-7294-00/01	AA	ROLL SERVO SUPPORT
047-12150	-	IDLER SHAFT SPACER
047-12231-0000	-	DATA PLUG PLATE
047-12518-01	A	PITCH SERVO BRACKET
047-12519-01	B	PITCH TOP ANGLE
047-12520-01	-	PITCH BOTTOM ANGLE
047-12521-01	-	BRIDLE CABLE STRAP
047-12522-01	A	PITCH TRIM BRACKET
047-12523-01	A	TRIM TOP ANGLE
047-12524-01	-	TRIM ANGLE SPACER
047-12525-01	-	ROLL SERVO BRACKET
047-12526-01	-	TRIM BOTTOM ANGLE
047-12528-01	-	PITCH CABLE GUARD
047-12530-01	A	AFT FUSELAGE BRACE
047-12531-01	-	PULLEY SUPPORT STRAP
047-12532-01	A	FORMER PLATE
047-12533-01	A	SHELF PLATE
047-12537-01	-	TRIM PULLEY SPACER
047-12538-01	-	TRIM PULLEY GUARD
047-12539-01	-	IDLER PULLEY PLATE
057-2869-00/03	1	DECALS, COCKPIT
057-05627-0000	1	TEST PLACARD
057-05981-01	-	PLACARD, TEST
073-00439-0001/0003	1	IDLER PULEY (MACH)
073-01037-01	-	PITCH SERVO SPACER
076-1652-00/01	4	SWITCH MTG SHAFT
076-1657-00/01	1	SPACER
076-03006	-	IDLER SHAFT
076-03079-01	-	CABLE STRAP SPACER
076-03080-01	-	PITCH TUBE SPACER

DOCUMENT NUMBER	REV	DESCRIPTION
076-03082-01	-	BRIDLE CABLE SPACER
076-03086-01	-	SONALERT SAFETY SPACER
088-1516-00/01	2	SWITCH CAP BASE
088-1517-00/06	5	SWTCH CAP COVER
089-05103-0002	AB	TYPE I CROSS RECESSED FLAT HEAD SCREW
089-06336-0002	AA	SCREW, MACHINE, PAN HEAD, CROSS RECESS, BLACK CHROME FINISH
089-07442-01	-	DRILLED, M6, BOLT
089-08199-0000/0003	3	WASHER, SHIM
090-00234-0000/0099	2	TEE FITTING, FLEX HOSE
090-00236-0000/0005	-	HOSE, INSTRUMENT SYSTEMS, LOW PRESSURE, FLEXIBLE
090-00253-0000/0001	5	CLAMP, MINIATURE HOSE
090-00303-0000/0002	1	FEMALE BRANCH TEE
090-00547-0000	AA	TURNBARREL M-UNF
090-00548-0000	AA	TURNBARREL M-UNF
092-05075-0000	AA	RIVET, CHERRY MAX
147-0059-00	1	BUSHING, PITCH LINK
159-08246-2001	H	WIRING DIAGRAM KFC 225 SOCATA
159-08246-2500	B	WIRING DIAGRAM AUDIO PANEL
187-01900-01	-	SONALERT HOLDER
300-3498-00	1	TRIM CABLE SPLICE
300-3500-00	1	ROLL BRIDLE CABLE
300-09744-01	B	SWITCH ASSEMBLY
300-09745-01	-	PITCH BRIDLE CABLE

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Honeywell

Honeywell International Inc.
Olathe, Kansas USA

Avionics Certification Center
New Century Airport, KS

FAA-PMA Parts List, Installation of the *BENDIX/KING*® KFC 225 AFCS in Socata Models TB 20 and TB 21 (28V only).

DRN:	CUSTOMER:	SIZE	CAGE CODE	DWG NO.	REV
RBS	SOCATA GROUPE AEROSPATIALE	A	22373	159-08246-0002	C
CHK:	USED ON:	SCALE: NONE		SHEET 1 OF 5	
DLK	MDL 159-08246-0001				

REVISIONS				
REV	SHT	DESCRIPTION	DATE	APPROVED
-	1-4	Original Issue	9-13-99	N/A
A	ALL	Changed corporate name to Honeywell. Released per CCO # 100167 (PRN # 162145)	12-2-99	Kriz
B	ALL	C.O. # 168885. Corrected typos in kits 050-01844-0000 and 050-08141-0001. Added 030-01297-0000, 030-02417-0000, 030-02417-0001 and 030-02602-0000 to 050-03604-0000. Deleted 159-08246-0002 from 050-03604-0000.	2-25-00	Kriz
C	ALL	C.O. # 179084 Corrected QTY of 030-01297-0000 to 2, Corrected Part Number 030-02147-0000 to 030-02417-0000. Replaced M81714/24-2D002 Diode Module with 030-03450-0001 Diode Module.	11-2-00	KRIZ

Parts required for the installation of the ***BENDIX/KING***®KFC 225 AFCS in the Socata Models TB 20 and TB 21 (28V only). The following parts are to be marked FAA-PMA per FAR 45.15 pursuant to obtaining a parts manufacturing approval in accordance with FAR 21.303 except that parts listed as an element of a kit are not required to be marked FAA-PMA individually if the shipping bag containing the parts contains this list and the shipping bag is marked FAA-PMA per FAR 45.15. The parts listed as standard (STD) do not require FAA-PMA approval or marking.

KIT 050-01884-0000

PART NUMBER	DESCRIPTION	QTY	UOM	APPROVAL
030-02148-0001	26 PIN CONNECTOR	1	EA	FAA-PMA
057-02366-0000	MASKING TAG	1	EA	FAA-PMA
073-00044-0001	MOORING PLATE	1	EA	FAA-PMA
089-05115-0016	6-32 X 1 PHILLIPS SCREW (BLACK)	4	EA	FAA-PMA

KIT 050-01884-0001

PART NUMBER	DESCRIPTION	QTY	UOM	APPROVAL
030-02148-0001	26 PIN CONNECTOR	1	EA	FAA-PMA
057-02366-0000	MASKING TAG	1	EA	FAA-PMA
073-00044-0001	MOORING PLATE	1	EA	FAA-PMA
089-06461-0016	6-32 X 1 PHILLIPS SCREW (GRAY)	4	EA	FAA-PMA

KIT 050-02175-0000

PART NUMBER	DESCRIPTION	QTY	UOM	APPROVAL
030-01025-0000	SCREW LOCK ASSEMBLY	2	EA	FAA-PMA
030-01065-0000	SPRING LATCH	1	EA	FAA-PMA
030-02347-0001	15 PIN, SUB-D, CONNECTOR	1	EA	FAA-PMA
030-02528-0000	3 PIN CONNECTOR	1	EA	FAA-PMA
089-05115-0016	6-32 X 1 PHILLIPS SCREW	4	EA	FAA-PMA
089-06085-0016	6-32 X 1 PHILLIPS SCREW	3	EA	FAA-PMA

KIT 050-03604-0000

PART NUMBER	DESCRIPTION	QTY	UOM	APPROVAL
030-01297-0000	CONNECTOR	2	EA	FAA-PMA
030-02417-0000	CONNECTOR	1	EA	FAA-PMA
030-02417-0001	CONNECTOR PIN	2	EA	FAA-PMA
030-02602-0000	HOUSING	1	EA	FAA-PMA
030-03450-0001	DIODE MODULE	1	EA	FAA-PMA
031-0514-00	MOMENTARY SWITCH	3	EA	FAA-PMA
031-00763-0826	A/P MASTER SWITCH	1	EA	FAA-PMA
031-00785-0606	TRIM FAIL ANNUNCIATOR	1	EA	FAA-PMA
038-00008-0000	SONALERT (2000HZ)	1	EA	FAA-PMA
047-5658-00	PITCH LINK	4	EA	FAA-PMA
047-7273-03	SWITCH MOUNTING ASSY.	1	EA	FAA-PMA
047-7281-01	SERVO GUSSET	1	EA	FAA-PMA
047-7292-01	CONTROL ROD CLAMP	4	EA	FAA-PMA
047-7293-01	ROLL SERVO CLIP	1	EA	FAA-PMA
047-7294-01	ROLL SERVO SUPPORT	1	EA	FAA-PMA
047-12150-0001	IDLER SHAFT SPACER	1	EA	FAA-PMA
047-12231-0004	DATA PLUG PLATE	1	EA	FAA-PMA

KIT 050-03604-0000 (CONT.)

PART NUMBER	DESCRIPTION	QTY	UOM	APPROVAL
047-12518-0001	PITCH SERVO BRACKET	1	EA	FAA-PMA
047-12519-0001	PITCH TOP ANGLE	1	EA	FAA-PMA
047-12520-0001	PITCH BOTTOM ANGLE	1	EA	FAA-PMA
047-12521-0001	BRIDLE CABLE STRAP	4	EA	FAA-PMA
047-12522-0001	PITCH TRIM BRACKET	1	EA	FAA-PMA
047-12523-0001	TRIM TOP ANGLE	1	EA	FAA-PMA
047-12524-0001	TRIM ANGLE SPACER	1	EA	FAA-PMA
047-12525-0001	ROLL SERVO BRACKET	1	EA	FAA-PMA
047-12526-0001	TRIM BOTTOM ANGLE	1	EA	FAA-PMA
047-12528-0001	SHORT CABLE GUARD	1	EA	FAA-PMA
047-12528-0002	LONG CABLE GUARD	1	EA	FAA-PMA
047-12530-0001	AFT FUSELAGE BRACE	2	EA	FAA-PMA
047-12531-0001	PULLEY SUPPORT STRAP	1	EA	FAA-PMA
047-12532-0001	FORMER PLATE	1	EA	FAA-PMA
047-12532-0002	FORMER PLATE	1	EA	FAA-PMA
047-12533-0001	SHELF PLATE	2	EA	FAA-PMA
047-12537-0001	TRIM PULLEY SPACER	1	EA	FAA-PMA
047-12538-0001	TRIM PULLEY GUARD	1	EA	FAA-PMA
047-12539-0001	IDLER PULLEY PLATE	1	EA	FAA-PMA
057-2869-00	MIC DECAL	1	EA	FAA-PMA
057-2869-01	AP DISC DECAL	1	EA	FAA-PMA
057-2869-02	CWS DECAL	1	EA	FAA-PMA
057-05627-0000	PREFLIGHT PLACARD	1	EA	FAA-PMA
057-05981-0001	PREFLIGHT PLACARD	1	EA	FAA-PMA
073-00439-0003	3 GROOVE IDLER PULLEY	1	EA	FAA-PMA
073-01037-0001	PITCH SERVO SPACER	1	EA	FAA-PMA
076-1657-01	ROLL CABLE SPACER	4	EA	FAA-PMA
076-03006-0501	IDLER SHAFT	1	EA	FAA-PMA
076-03079-0001	CABLE STRAP SPACER	4	EA	FAA-PMA
076-03080-0001	SHORT TUBE SPACER	2	EA	FAA-PMA
076-03080-0002	LONG TUBE SPACER	2	EA	FAA-PMA
076-03082-0001	SHORT CABLE SPACER	1	EA	FAA-PMA
076-03082-0002	LONG CABLE SPACER	1	EA	FAA-PMA
076-03086-0001	SONALERT SAFETY SPACER	1	EA	FAA-PMA
088-1516-01	SWITCH CAP BASE	1	EA	FAA-PMA
088-1517-06	SWITCH CAP COVER	1	EA	FAA-PMA
089-05111-0012	4-40 X ¾ SCREW	2	EA	FAA-PMA
089-06344-0003	4-40 X3/16 SCREW	1	EA	FAA-PMA
089-07442-0001	DRILLED, M6, BOLT	2	EA	FAA-PMA
089-08199-0000	THIN, SHIM WASHER	2	EA	FAA-PMA
090-00234-0000	PNEUMATIC TEE (1/4)	2	EA	FAA-PMA
090-00236-0001	PNEUMATIC HOSE (3/16)	24	IN	FAA-PMA
090-00236-0002	PNEUMATIC HOSE (1/4)	48	IN	FAA-PMA
090-00253-0000	HOSE CLAMP	8	EA	FAA-PMA
090-00303-0000	BRASS PNEUMATIC TEE	1	EA	FAA-PMA
090-00547-0001	TURNBARREL, METRIC/SAE	1	EA	FAA-PMA
090-00548-0001	TURNBARREL, METRIC/SAE	1	EA	FAA-PMA
092-05075-0001	CHERRY-MAX RIVET	4	EA	FAA-PMA
147-0059-00	BUSHING	4	EA	FAA-PMA
187-01900-0001	SONALERT HOLDER	1	EA	FAA-PMA
200-3498-00	TRIM CABLE SPLICE	1	EA	FAA-PMA
200-3500-00	ROLL BRIDLE CABLE	1	EA	FAA-PMA
300-09744-0501	SWITCH ASSEMBLY	1	EA	FAA-PMA

KIT 050-03604-0000 (CONT.) PART NUMBER	DESCRIPTION	QTY	UOM	APPROVAL
300-09745-0501	PITCH BRIDLE CABLE	1	EA	FAA-PMA
MS24566-1B	PULLEY	3	EA	STD
MS24694-S48	FLAT HEAD, 10-32 SCREW	1	EA	STD
MS35333-39	#10, TOOTHED LOCK WASHER	1	EA	STD
AN3H6A	DRILLED HEAD BOLT, 10-32	1	EA	STD

END

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APPENDIX A – MECHANICAL INSTALLATION DRAWINGS

APPENDIX B – ELECTRICAL INSTALLATION DRAWINGS

1 SYSTEM DESCRIPTION

WARNING: Read this installation manual and review the installation drawings and electrical interconnects before beginning the installation.

The KFC 225 Automatic Flight Control System (AFCS) is a digital flight control system that provides roll axis, pitch axis and pitch trim control. The system consists of the KC 225 Flight Control Computer (FCC), KCM 100 Configuration Module, KI 256 Attitude Gyro with autopilot pick-off, KCS 55A Slaved Compass System, encoding altimeter with baro setting output, KS 271C Primary Servo for roll axis, KS 270C Pitch Servo, KS 272C Pitch Trim Servo and KM 275 Servo Mounts.

NOTE: Forced air cooling to the KC 225 FCC is highly recommended.

NOTE: The friction existing in the aircraft control systems must be checked before and after initial installation of the KFC 225 servos and servo mounts (reference Section 6.2.2.)

An encoding altimeter is required for this installation. The installer has the option of using the KEA 130A encoding altimeter or the KEA 346 servoed altimeter. The installer must supply a standby pneumatic altimeter if the KEA 346 servoed altimeter is installed. These are the only altimeters approved for the baro set interface to the KC 225 FCC.

NOTE: The GPS roll steering interface is only approved with the GPS navigators listed in Table 1-3, Approved GPS Navigators.

The KCS 55A compass system consists of the remote KG 102A directional gyro (DG), the KMT 112 flux valve, the KA 51B slaving accessory and the KI 525A pictorial NAV indicator (HSI).

The KFC 225 may be installed with the EHI 40 EFIS System. The EHI 40 is not part of this STC).

The KC 225 can interface to the ***BENDIX/KING*** EHI 40 system if it is installed in the aircraft. The SG 465 symbol generator provides all of the NAV, heading, heading datum and course datum to the KC 225 FCC. Reference the EFS 40/50 Installation Manual for complete interface details. It is the responsibility of the installer to obtain approval of the EHI 40 system in the aircraft as well as defining the systems interfaces (including a compass system) other than the KFC 225 AFCS.

See Figure 1-1 for a system illustration.

NOTE: The KCS 55A compass system is not compatible with the EHI 40 system. The KCS 305 compass system or equivalent ARINC 407 or ARINC 429 system must be used with the EHI 40 system.

1.1 EQUIPMENT AND PARTS

Honeywell supplies the autopilot equipment (computer, servos, etc.) and compass system equipment. The basic installation kits (brackets, bridle cables, special hardware, etc.) are also provided. The installer must supply some of the equipment and parts depending on the installation option(s) desired. The installer supplied equipment and parts are defined in this manual. The installer also has the option of furnishing the standard installation hardware (nuts, bolts, washers, etc.) or purchasing an optional hardware kit from Honeywell The standard hardware part numbers are listed in this manual.

The airplane wiring harness is not provided nor is it available from Honeywell. The airplane wiring harness must be obtained from a source other than Honeywell. Mating connectors are supplied as part of each unit's installation kit. Circuit breakers and other discrete components are not provided for any system.

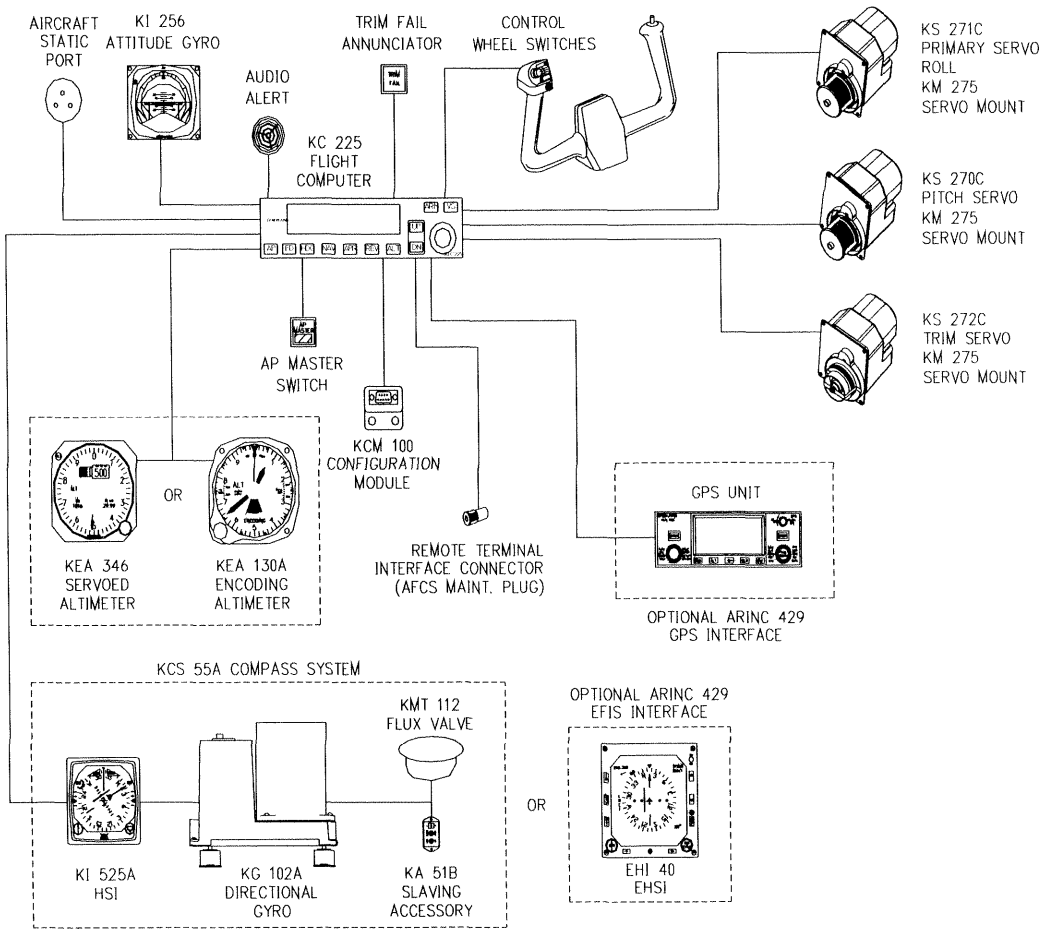


Figure 1-1, KFC 225 Block Diagram

1.2 SYSTEM CONFIGURATIONS

This STC approves the following configurations in the Socata models TB20 and TB21:

System Number	Description
225TB21-00	KFC 225 - Base two axis system
225TB21-01	EHI 40 Interface Option - Base two axis system with automatic back course detection
225TB21-02	KCS 55A - Compass system

1.3 EQUIPMENT AND PARTS ORDERING INFORMATION

The following tables list all of the equipment, kits and parts required to install the KFC 225 system and options.

The "**SW MIN**" column designates the minimum software level of the unit required for installation. A software identification tag (SW ID) on the unit specifies the software of the unit as VERSION/REV (i.e. 01/01). For example, if the SWMIN column designates 01/01, then software 01/02, 01/03, etc. is approved for installation. Units marked as 02/01 are **not approved** for installation. The **"MIN MOD STATUS"** column designates the minimum modifications of the unit required for installation. Later modifications are acceptable. **"BEST"** designates the best source available to the installer. "**AR**" designates as required. These items are optional.

1.3.1 CONFIGURATION PARTS LIST

Table 1-1 lists all of the equipment, kits and parts to be ordered from Honeywell

PART NUMBER	DESCRIPTION	225TB21-XX			SW MIN	MIN MOD STATUS	NOTES
		-00	-01	-02			
065-00183-0301	KC 225 Flight Control Computer	1			01/04	See Notes	(7)
065-00183-0401	KC 225 Flight Control Computer (EFIS)		1		01/04	See Notes	(2)(3) (7)
060-0017-01	KI 256 Attitude Indicator 8° Tilt	1	1				
065-00178-2200	KS 270C Pitch Servo	1	1				
065-00179-0200	KS 271C Roll Servo	1	1			1, 2	(8)
065-00180-3500	KS 272C Pitch Trim Servo	1	1			1	
065-0030-00	KM 275 Servo Mount	2	2				
065-0030-02	KM 275 Servo Mount	1	1				
071-00073-5000	KCM 100 Configuration Module	1	1				
066-3064-05 or 066-3062-08	KEA 130A Encoding Altimeter or KEA 346 Servo Altimeter	1	1				(1)
071-01522-0028	KEA 130A Light Tray (Req'd) for KEA 130A)	1	1				(1)
060-0015-00	KG 102A Directional Gyro			1			
071-1052-00	KMT 112 Flux Detector			1			
066-3046-07	KI 525A HSI			1			(6)
071-1242-06	KA 51B Slaving Accessory, Horizontal Mount			1			(6)
050-03401-0000	KC 225 Installation Kit	1	1				
050-01518-0000	KI 256 Installation Kit	1	1				
050-03245-0000	KCM 100 Config Module Installation Kit	1	1				
050-00398-0000	KS 270 Installation Kit	3	3				
050-03604-0000	Base Installation Kit	1	1				
050-02175-0000 or 050-01884-0000	KEA 130A Installation Kit or KEA 346 Installation Kit	1	1				(1)
050-01410-0002	KG 102 Installation Kit, Crimp			1			
050-01361-0000	KMT 112 Installation Kit			1			
050-01344-0000	KI 525A Installation Kit			1			
050-01928-0000	KA 51B Installation Kit			1			
050-03213-0000	PC Data Loader Kit	REF	REF				(4)
225-00044-00XX	KFC 225 Configuration 3.5" Floppy Diskette	REF	REF				(5) (8)

Table 1-1, Configuration Parts List

NOTES TO TABLE 1-1:

(1) The installer must use one of the two altimeters listed. The KEA 130A encoding altimeter and installation kit, KEA 130A light tray, and the KEA 346 servo altimeter and installation kit are not part of any system. The desired altimeter and associated parts/kits must be ordered separately.

(2) The -0401 FCC has automatic back course detection (no REV mode). This unit is for EFIS installations only.

(3) The 225TB21-01 installation requires a SG 465 symbol generator SWMIN 11/01 or later: 066-04021-1411 (EHSI only version). Reference the EFS 40/50 installation manual for more information.

(4) The PC data loader kit is required to configure the KC 225 FCC but is not included in any of the defined system numbers. The kit is also used for uploading database information to the ***BENDIX/KING*** KLN series GPS receivers. The Parallel Interface Adapter contained in this kit is not required for the KFC 225 configuration process. Reference Sections 5.2 and 5.5 of this manual for more information.

(5) The diskette is not included with any of the defined system numbers. When ordering the floppy diskette, the Honeywell associate taking the order will define the last four digits of the part number. Use diskette part number 225-00044-0015 or higher.

(6) The following part numbers are acceptable substitutes for the 066-3046-07 KI 525A Pictorial Navigation Indicator (HSI) and the 071-1242-01 KA 51B Slaving Accessory. Refer to the KCS 55A installation manual for the part number definitions.

KI 525A	KA 51B
066-3046-00	071-1242-02
066-3046-02	071-1242-04
066-3046-03	071-1242-06
066-3046-04	071-1242-09
066-3046-05	071-1242-12
066-3046-06	

(7) The following table contains the acceptable MOD status configurations through MOD 3. Later MODs are also acceptable.

MOD	Note
None	Acceptable
1	Acceptable only when accompanied by MODs 2 & 3
2	Acceptable only when accompanied by MODs 1 & 3
3	Acceptable

(8) KS 271C roll servo part number 065-00179-0500 is also approved for this installation. Part number 065-00179-0200 is preferred. Ensure the correct certification file is used depending on the roll servo actually installed. Also, see paragraph 5.5.1.3 in this manual.

NOTE: Honeywell part numbers may appear as 9 digit numbers or 12 digit numbers. The two part number examples shown below represent the same part. Note the zeros added at the fourth, ninth, and tenth digits of the 12 digit part number.

089-6425-01
089-06425-0001

1.3.2 INSTALLER PROVIDED EQUIPMENT AND PARTS

Reference Table 1-2 for all of the equipment, kits and/or parts to be ordered from the specified vendor(s). Refer to notes for the vendor address and/or phone number information.

The installer has the option of using alternate parts to those listed in Table 1-2. However, it is the installer's responsibility to verify the equivalency and airworthiness of all alternate parts used.

PART NUMBER	DESCRIPTION	225TB21-XX				VENDOR
		-00	-01	-02	NOTES	
016-01210-0000 or MIL-G-4343B	Static Fitting Grease	AR	AR			(A) or best
TB20 78936102	KG 102 Shelf			AR		(B)
best	Instrument Panel Post Light	AR	AR			(B) or best
036-00152-0002	Circuit Breaker, 1 Amp	1	1			(A)
036-00152-0005	Circuit Breaker, 5 Amp	2	2			(A)

Table 1-2, Installer Provided Equipment and Parts

VENDOR LIST FOR TABLE 1-2:

(A) Honeywell International Inc.
23500 W. 105th Street
Olathe, KS 66061
Phone: 913-712-2201

(B) Socata Aircraft
North Perry Airport
7501 Pembroke Road
Pembroke Pines, FL 33023
Ph: 954-893-1400

1.3.3 GPS PRODUCTS

Table 1-3 lists all of the GPS products that are approved for the roll steering interface with the KC 225.

PART NUMBER	DESCRIPTION	SWMIN	VENDOR
066-04031-1X21	KLN 90B GPS	21/10	Honeywell International Inc.
066-04031-2X22	KLN 90B GPS	22/02	Honeywell International Inc.
066-04034-0X01	KLN 900 GPS	01/07	Honeywell International Inc.
066-04034-0X02	KLN 900 GPS	02/02	Honeywell International Inc.
066-04034-0X04	KLN 900 GPS	04/01	Honeywell International Inc.
011-00280-00	GNS 430 GPS/VOR/ILS/COM	2.19	Garmin International Inc.
011-00550-00	GNS 530 GPS/VOR/ILS/COM	2.04	Garmin International Inc.

Table 1-3, Approved GPS Navigators

Notes for Table 1-3:

(1) The GNS 430/530 must be configured for GAMA 429 output (reference the GNS 430/530 Installation Manual)
(2) The following table designates the SWMIN or minimum software revision of the unit required for installation. For Bendix/King KLN products a software identification tag (SW ID) on the unit specifies the software of the unit as VERSION/REVISION (i.e. 01/01). For example, if the table designates 01/01 as the minimum approved version/revision, then software 01/02, 01/03, etc. is approved for installation; units marked as 02/01 would **not be approved** for installation

1.3.4 INSTALLATION KIT BREAKDOWN

Reference the FAA-PMA Parts List, document 159-08246-0002, included in this manual, for a complete breakdown of the installation kits containing parts which require FAA-PMA approval. The listing designates the PMA (Parts Manufacturer Approval) of all of the parts sold by Honeywell for the installation. The unit install kits are covered under the units TSO. The optional Standard Hardware Kit (050-03604-0001) contains standard parts which do not require FAA-PMA approval. See table 1-3 for a complete list of the contents of kit 050-03604-0001.

Table 1-3 lists all of the parts contained in the 050-03604-0001 kit. The installer has the option of purchasing standard parts from alternate vendors.

PART NUMBER	DESCRIPTION	QTY
AN23-10	BOLT	4
AN3-10A	BOLT	3
AN3-11	BOLT, DRILLED SHANK	2
AN3-14A	BOLT	1
AN3-16	BOLT, DRILLED SHANK	2
AN3-16A	BOLT	2
AN320-3	CASTLE NUT	8
AN3-4A	BOLT	28
AN3-5A	BOLT	5
AN3-6A	BOLT	3
AN3-7A	BOLT	6
AN25-832R20	WASHER HEAD SCREW	1
AN919-2D	REDUCER	1
AN960-10	WASHER	120
AN960-416	WASHER	4
AN960-416L	WASHER	10
AN960-6	WASHER	58
AN960-8	WASHER	80
MS20365-632	LOCK NUT	26
MS20426AD4-3	F. H. RIVET	2
MS20426AD4-4	F. H. RIVET	2
MS20470AD3-4	RIVET	14
MS20470AD3-5	RIVET	2
MS20470AD4-4	RIVET	28
MS20470AD4-5	RIVET	6
MS21042-08	LOCK NUT	9
MS21042-3	LOCK NUT	37
MS21256-1	TURNBARREL CLIP	4
MS24665-132	COTTER PIN	12
MS24693-S27	SCREW	14
MS27039-0808	SCREW	8
MS27404-3D	HOSE FITTING	1
MS27404-4D	HOSE FITTING	1
MS35206-229	SCREW	9
MS35206-230	SCREW	13

Table 1-4, 050-03604-0001 Optional Standard Hardware Kit

2 GENERAL

Exercise extreme care when unpacking each unit. Make a visual inspection of each unit for evidence of damage incurred during shipment. When equipment is removed, place all of the packing materials in the shipping container for use in storage or re-shipment.

NOTE: The original shipping container must be used in order to substantiate a damage claim.

An IBM compatible personal computer (PC) with an RS 232 serial port and a 3.5" floppy drive is required.

The installer must supply the items listed in Table 2-1 to complete the KFC 225 installation. Except for the torque wrench, all of these items may be purchased from Honeywell

PART NUMBER	DESCRIPTION	USED ON
Snap-On # TEP-6FUA or equivalent	Torque Wrench	Slip Clutch adjustment
071-06028-0000	Test Stand	Slip Clutch adjustment
071-06021-0003	Adapter Tool	Slip Clutch adjustment
071-06021-0002	Adapter Pin	Slip Clutch adjustment
050-03488-0000	Extender	Gyro adjustment
200-02298-0000	Adapter Cable	Gyro adjustment

Table 2-1, KFC 225 Adjustment Tools

2.1 REQUIRED INTERFACES

The KC 225 FCC outputs a 500 ohm warn audio that must be interfaced to the existing aircraft audio system. This output should be interfaced to a system with an un-switched and un-muted output to both the speaker(s) and the headphone(s). As a minimum, the warn audio must be un-switched and un-muted to the headphone(s). **A sonalert is required for redundancy in the event of an audio system failure.**

2.2 EQUIPMENT LOCATIONS

Figure 2-1 depicts the autopilot and compass equipment locations in the aircraft. Reference Section 2.3 for the weight, arm and moment of each unit and Section 2.4 for the electrical current draw of each unit/system.

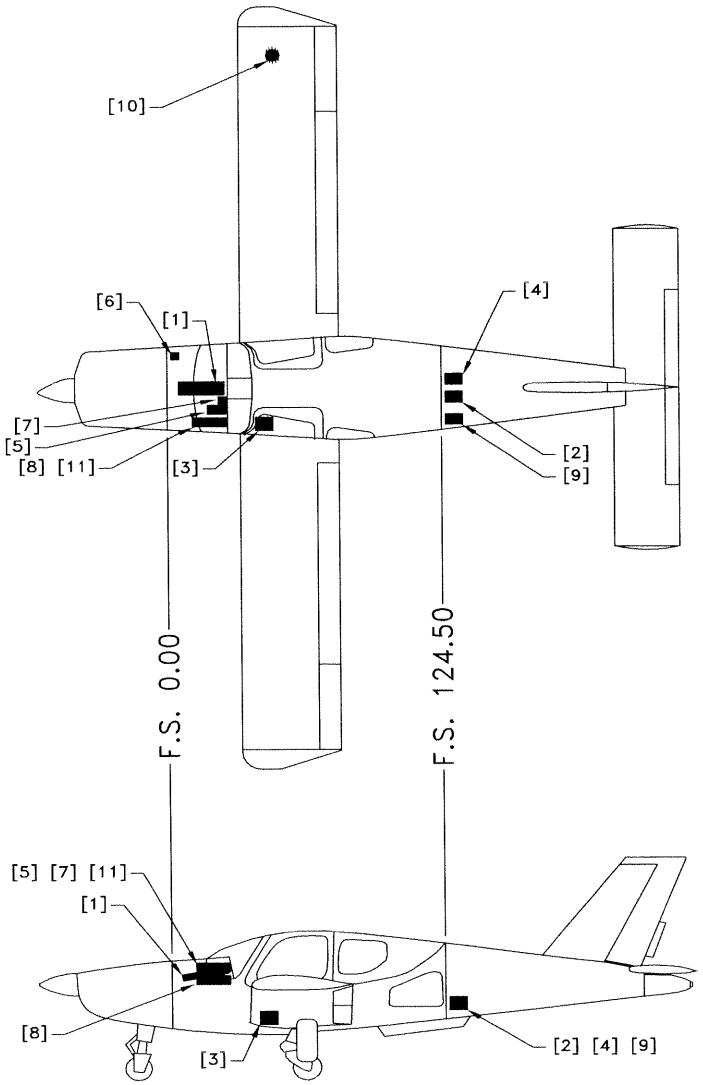


Figure 2-1, Equipment Locations

[1] KFC 225 Flight Control Computer
[2] KS 270C Pitch Servo
[3] KS 271C Primary Servo (Roll Axis)
[4] KS 272C Pitch Trim Servo
[5] KEA 130A Encoding Altimeter or KEA 346 Servo Altimeter
[6] KCM 100 Configuration Module
[7] KA 51B Slaving Accessory
[8] KI 525A HIS
[9] KG 102A Directional Gyro
[10] KMT 112 Flux Detector (Right wing between Ribs N10 and N11)
[11] KI 256 Attitude Gyro

2.3 WEIGHT AND BALANCE

The following weights, arms and moments are listed with all components applicable to this STC. The weight and balance data for the specific installation should be derived by only those components that will be installed for the specific configuration

ITEM	WEIGHT (lbs)	ARM(in)	MOMENT (in-lbs)
KC 225 Computer/rack	3.20	19.03	60.90
KCM 100 Configuration Module	0.20	3.00	0.60
KS 270C Pitch Servo with mount	3.50	129.10	451.85
KS 272C Trim Servo with mount	3.40	129.10	438.94
KS 271C Primary Servo w/ mount (Roll)	3.20	45.00	144.00
Roll Brackets w/hardware	2.00	45.00	90.00
Trim Brackets w/hardware	1.94	129.10	250.45
Pitch Brackets	1.25	129.10	161.38
KI 256 Attitude Gyro	3.30	20.35	67.16
KEA 130A Encoding Altimeter	1.90	21.25	40.38
KEA 346 Servo Altimeter	3.00	20.75	62.25
KG 102A Directional Gyro	4.70	131.50	618.05
KMT 112 Flux Detector	0.30	49.00	14.70
KA 51B Slaving Accessory	0.20	22.60	4.52
KI 525A HSI	3.90	20.15	78.59
AP Master Switch	0.10	22.75	2.28
Trim/Fail Annunciator	0.10	22.75	2.28

Table 2-2, Weight and Balance

2.4 CURRENT DRAW

The following current draws are listed with all components applicable to this STC. The electrical load analysis for the specific installation should be derived by only those components that were installed for the specific autopilot configuration.

ITEM	CURRENT DRAW (A)
KC 225 FCC	0.60 max.
KC 225 FCC (Alert Input)	0.20 max.
KS 270C Servo (Pitch)	1.30 max.
KS 271C Servo (Roll)	1.30 max.
KS 272C Servo (Trim)	1.60 max.
KI 256 Attitude Gyro	0.70 max.
KEA 130A Encoding Altimeter	0.25 max.
KEA 346 Servo Altimeter	0.25 max.
KG 102A Directional Gyro Startup Max. (5 minutes) Nominal	 1.73 max. 1.13 max.
KI 525A HSI NAV Flag Power	0.27 max.
AP MSTR Switch	0.27 max.
TRIM/FAIL Annunciator	0.27 max.

Table 2-3, Current Draw

3 INSTALLATION

This section applies to the installation of the KFC 225 system components and the fabrication of the aircraft wiring harness(es). Review all of the drawings in Appendix A and Appendix B before beginning the installation.

3.1 INSTALLATION DRAWINGS

Reference Appendix A of this installation manual for the installation drawings for the system components, brackets, etc. The drawings are separated by individual components. The installation drawings must be used together to complete the installation. Refer to Section 1 of this manual for all of the parts and equipment required for the installation of the KFC 225 AFCS. Each kit includes a list of all of the parts in the kit. Refer to the parts list to verify all of the parts have been supplied in each kit. The individual installation drawings will call out those parts required for the specific installation.

3.1.1 AIRCRAFT CONTROL SYSTEM FRICTION CHECKS

Perform aircraft control system friction checks before installation of the KFC 225 system and after installation of the KFC 225 system. See Section 6.2.2 of this manual.

3.1.2 SLIP CLUTCH VALUES AND CAPSTAN DIRECTION

Servo slip clutch torque settings are adjustable and must be set to the appropriate values by the installer. When adjusting the clutches, ensure torque is tested 3 times both CW and CCW. Reference Table 3-1 for the slip clutch torque values for each servo. The capstan direction is in reference to the servo as it is installed in the aircraft and the direction the aircraft moves. Reference Figure 3-1 for diagram.

AXIS	CAPSTAN DIRECTION	SLIP CLUTCH TORQUE VALUE (in/lbs)
ROLL	ROLL RIGHT / CCW	20 ± 2
TRIM	NOSE UP / CW	18 ± 2
PITCH	NOSE UP / CW	20 ± 2

Table 3-1, Servo Phasing and Slip Clutch Torque

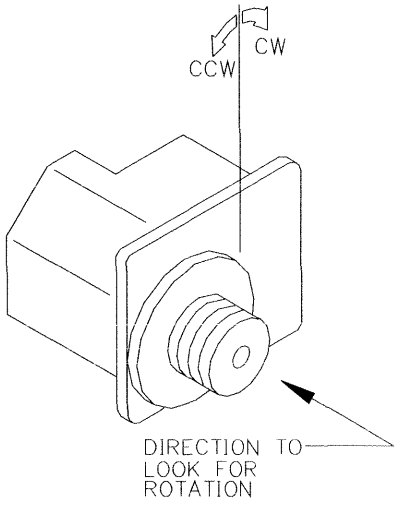


Figure 3-1, Capstan Direction

3.1.3 SLIP CLUTCH ADJUSTMENT PROCEDURE

The fixtures and tools required to perform the clutch adjustments are listed in Section 2. Set the slip clutches as outlined in the following paragraphs. Refer to Section 1.2 for the correct servo mount part numbers for each axis. Refer to Table 3-1 for the slip clutch torque values in each axis.

CAUTION: **ENSURE THE SLIP CLUTCH TORQUE VARIATIONS ARE BETWEEN THE VALUES SHOWN IN TABLE 3-1. IF THE KFC 225 FLIGHT CONTROL SYSTEM FAILS TO OPERATE THE CONTROL SURFACES OF THE AIRCRAFT, CHECK FOR EXCESSIVE FRICTION IN THE AIRCRAFT CONTROL SYSTEMS.**

NOTE: **The desired reading is the average of the maximum and minimum readings obtained from the CW and CCW rotations.**

A. Remove the cable guard from the capstan and mount the servo mount on the test stand. Tighten all four nuts holding the KM 275 on the test stand.

B. Place the adapter tool over the capstan and insert the adapter pin to secure the adapter tool.

C. Insert a torque wrench (SNAP-ON TEP-6FUA or equivalent) as shown in Figure 3-2.

D. Apply 28VDC (1 amp maximum) power to the test stand jacks.

E. Using the capstan rotation switch on the test stand, run the test stand motor in the clockwise (CW) direction and read the torque on the wrench (allow clutch to slip one revolution minimum before taking reading.) Repeat this step in the counter-clockwise (CCW) direction.

F. The torque reading desired is the continuous rotation torque. This test should be repeated three times in each direction and then the average of the six readings used to determine the true torque reading.

G. If the measured torque value is below the desired value, rotate the clutch adjust nut CW. If the measured torque value is above the desired value, rotate the clutch adjust nut CCW (4 to 6 degrees of nut rotation equals approximately one (1) in-lb of torque.) Refer to Table 3-1 for the desired clutch torque in each axis. After adjusting the clutch, repeat Steps E. through F.

H. Record the slip clutch torque reading, aircraft type, axis and date on the decal affixed to the servo mount body.

I. Reinstall the cable guard to the capstan.

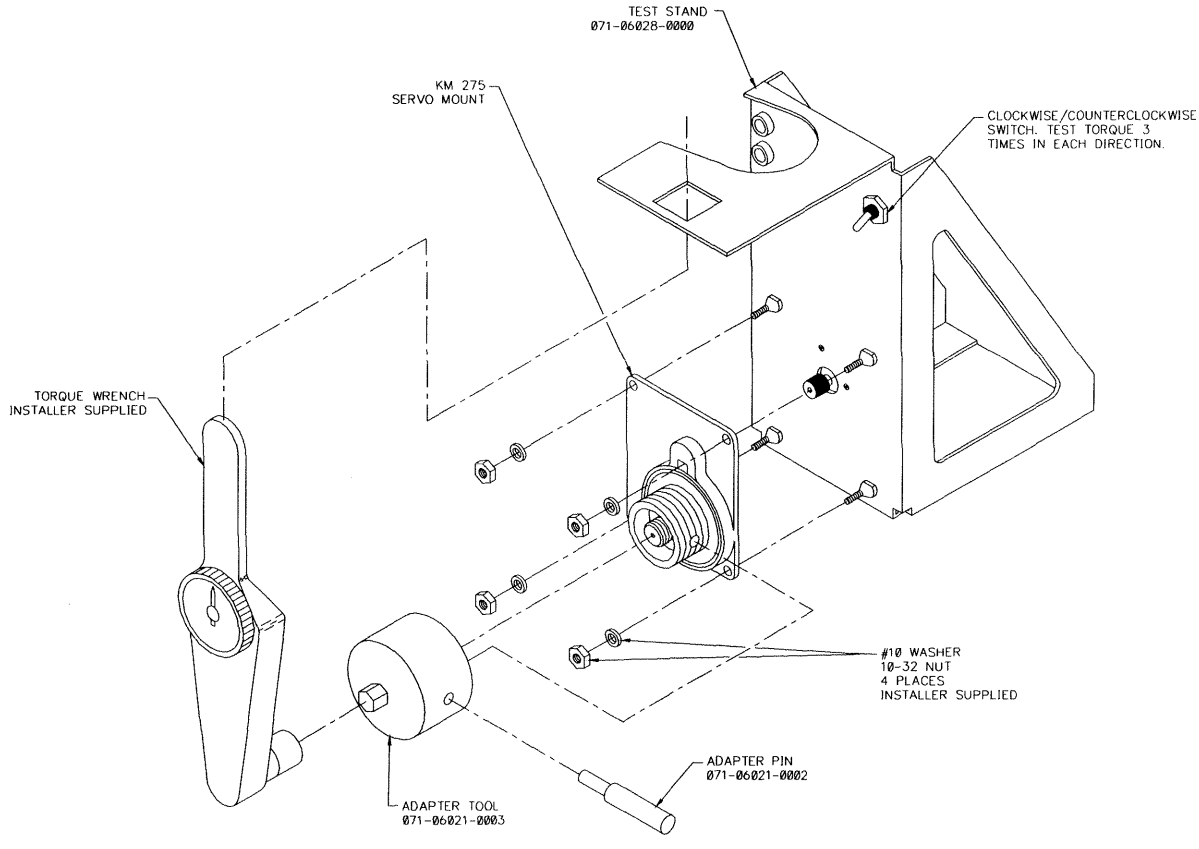


Figure 3-2, Slip Clutch Test Stand, KM 275

3.1.4 CABLE TENSION

The bridle cable tensions must be set to the values specified in Table 3-2. When adjusting cable tensions, ensure the tensions fall within the ranges specified at all positions of the cable travel.

AXIS	BRIDLE/TRIM CABLE TENSION (lbs)
ROLL	20 ± 5
PITCH	20 ± 5
TRIM	Refer to Socata Maintenance Manual

Table 3-2, Cable Tensions

3.2 HARNESS FABRICATION

Reference Appendix B of this installation manual for the electrical interconnects. The interconnects define the minimum harness interface requirements of the KFC 225 system as installed in this aircraft. Review all of the drawings before beginning the fabrication and installation of the electrical wiring harness. Refer to the Bill of Material for all parts required for the installation of the KFC 225. The installer may choose to install in-line connectors where appropriate. It is the installer's responsibility to verify the airworthiness of the electrical wiring harness.

NOTE: The installer is responsible for defining the NAV interface to the KFC 225 System and the KCS 55A Compass System. If the EHI 40 system is used, the installer is responsible for all interfaces not identified in this manual.

4 AIRCRAFT LOG BOOK RECORD

Upon completion of the installation, an entry must be made in the aircraft log book, or other aircraft record system, stating that the aircraft has been modified in accordance with STC number SA00826WI-D. An example of an aircraft log book entry is shown below.

SEE FAA FORM 337, DATED _____ FOR DETAILS OF THE BENDIX/KING KFC 225 PACKAGE (AND APPLICABLE OPTIONS) INSTALLED IN ACCORDANCE WITH STC NUMBER SA00826WI-D.

4.1 FLIGHT MANUAL SUPPLEMENT

Insert the Flight Manual Supplement, 006-00868-0000 for Models TB 20 and TB 21, in the Pilot's Operating Handbook. The Flight Manual Supplement is contained in the 050-03604-0000 installation kit.

4.2 INSTALLATION AND MAINTENANCE MANUAL

Retain this copy of the Installation and Maintenance Manual with the aircraft's records for maintenance reference.

5 POST INSTALLATION CHECKOUT

This section defines the requirements for configuring the installed systems and verifying that all of the systems are operational. The system configuration must be accomplished before proceeding to the ground and flight tests.

5.1 REQUIREMENTS

The procedures listed on the following pages assume that the installer has a general working knowledge of basic avionics systems (i.e. navigation systems). Where necessary, detailed procedures will be given (i.e. configuration of the KFC 225 AFCS using a PC.)

5.2 TEST EQUIPMENT

The following ground test equipment will be necessary to accomplish the check-out procedures. It is the installer's responsibility to provide all test equipment unless otherwise specified. The computer cable assembly and the floppy diskette must be obtained from Honeywell

1.) An aircraft ground power supply.
2.) A IBM compatible laptop or equivalent computer.
3.) A pitot/static ramp tester.
4.) A VHF NAV signal generator capable of VOR/LOC/GS tuning.
5.) A digital multi-meter, (DMM).
6.) A 050-03488-0000 extender.
7.) A 200-02298-0000 adapter cable.
8.) A gyro tilt stand.
9.) A 155-02794-0001 computer cable assembly (part of the 050-03213-0000 PC data loader kit used with the ***BENDIX/KING*** KLN series GPS receivers).
10.) A KFC 225 configuration 3.5" floppy diskette.

5.3 HARNESS CHECKOUT AND POWER CHECK

Prior to installing any equipment, it is important to verify that all interfaces have been made, and that power and ground at each unit connector are correct using the electrical interconnects in Appendix B. Any discrepancies in the wiring must be resolved before proceeding.

The harness should also be checked for proper clearance near any control cables and other potential areas that may cause binding and/or chafing.

5.4 UNIT INSTALLATION

After the harness check has been completed and any discrepancies have been resolved, the units should be installed into their respective racks, and all connections to the wiring harness should be made. Verify that all of the units are secure in their respective racks, panels, etc., and all harness connections are secure. Refer to the installation drawings in Appendix A for the unit locations and mounting information.

5.5 SYSTEM CONFIGURATION PROCEDURES

The following procedures outline the steps necessary to accomplish a complete configuration of the KFC 225 AFCS and options. This procedure must be accomplished in the order presented to minimize the errors in configuring and operating the system(s). If problems are encountered in performing these procedures, the installer may refer to Appendix B of this manual for harness troubleshooting or the system maintenance manual (p/n 006-15557-0000) to isolate faulty equipment. All discrepancies should be resolved before proceeding.

5.5.1 FCC INITIALIZATION AND CONFIGURATION

The first time the AFCS is turned on in a new installation, the FCC must be configured via an RS232 interface with a PC. This interface capability is provided to facilitate diagnostic and configuration functions with the FCC during the post installation checkout. The PC menu commands given are based on the terminal emulator capabilities within Microsoft® Windows™. Other terminal emulation programs will have similar functions.

5.5.1.1 RS232 INTERFACE

The RS 232 interface to the flight control computer is through a Remote Terminal Interface (RTI) jack located in the cockpit. Plug the 155-02794-0001 computer cable assembly to the RTI jack. Connect the computer cable assembly connector to the desired COM port on the PC. The autopilot system cannot be configured without using the RTI.

The PC will communicate through the RTI by using the terminal emulator in the "ACCESSORIES" group of Microsoft® Windows™ version 3.1 or later (Hyper Terminal in Windows 95/98/NT). Use of other interface software is acceptable. The displays are identical when using an alternate terminal emulator. Regardless of software, configure the communications port as follows: 9600 baud rate, 8 data bits, 1 stop bit, no parity (none), Xon/Xoff flow control and the desired COM port (typically COM1).

NOTE: Verify that the terminal emulator being used is configured to strip out all line feeds and carriage returns (this is the Windows® Terminal emulator default setting). Failure to do so will result in a "CHECKSUM ERROR" when uploading the installation file.

A. Windows 3.1 ®

Double click the "TERMINAL" icon. Upon entering the terminal emulator, select the "Settings" menu item, then select "Communications" menu option. Configure the communication port as described above. Click on the "OK".

Select the "Settings" menu item again, and select "Terminal Preferences..." menu option. Deselect the "Use Function, Arrow, and Ctrl Keys for Windows" option at the bottom of the dialogue box. Click the "OK".

It is recommended that the settings that have been entered be saved for future interface to the FCC.

B. Windows 95/98/NT ®

Select the Hyper Terminal folder in accessories. Double click the "HYPERTERM" icon in the Hyper Terminal program group.

Enter a name for your connection (i.e. 225) and select an icon (this setup will work regardless of which icon is chosen.) Click "OK"

The phone number pop-up box will appear listing several options for a phone connection. Select "Direct to COM 1" for the "Connect Using" option. Click "OK".

The COM 1 Properties pop-up box will now appear. Configure this box as described above. Click "OK".

The terminal is now ready to communicate with the KC 225. Press the Enter key to establish communication. If communication is not established verify the computer cable assembly is properly installed.

5.5.1.2 RTI MAIN MENU

Apply ground power to the aircraft. Turn the AP MASTER switch to the "ON" position. The FCC will initiate the preflight test sequence, but may fail if the unit has not been previously configured. The RTI main menu should appear after a few seconds. If it does not, press <ENTER> or CRTL-W. If communications cannot be established, check RS 232 interconnect and terminal setup.

The main menu provides the selections for entering diagnostic mode, displaying the error log, displaying the software identification number or configuring the system. The following sections provide specific instructions on using these selections to perform the required installation and ground checkout procedures. Use of the diagnostics mode will inhibit the normal operation of the FCC.

5.5.1.3 CONFIGURATION PROCEDURE

Communications should be established with the FCC. It should be noted that <ENTER> is the same as the <CR>. Follow the steps below to configure the FCC.

A. Once the RS 232 cable is connected, the remote terminal should display the menu shown in Figure 5-1, RTI Main Menu Screen.

```
      System Mode:  Normal

      KC 225 Flight Computer
      ----------------------
      D - Diagnostics
      L - Error Log
      S - Display SW ID
      N - Installation

      Press key for desired option
```

Figure 5-1, RTI Main Menu Screen

B. Press "N" to enter the installation menu. The terminal should display a menu as Figure 5-2, Installation Menu Screen

```
      System Mode:  Normal

      Set Install Options
      -------------------
   1. Install Certification File
   2. Installation Offset
   3. Factory offsets
   4. Altimeter Alignment
   5. KC225 SW Bulletin Update
   6. Audio Volume                  (0-7):  2
   7. Select 350/256                (1/0):  0
   8. Flaps Analog/Discrete         (1/0):  0
   9. Voice Msg. Enabled/Disabled   (1/0):  1
  10. ARINC 429 (HSI) Heading       (1/0):  1
  11. ARINC 429 (GPS) Steering      (1/0):  0
  12. Dim Bus Voltage 5V/28V        (1/0):  0
  13. AP DISC Disengages FD/Not     (1/0):  1
  14. Tone Alert at Sel Alt/Not     (1/0):  0
  15. Gyro/Power Valid              (1/0):  0

Press key for desired option (<CR> to exit)
```

Figure 5-2, Installation Menu Screen

C. If this is a new installation, press "1", then press <ENTER>. Now the terminal should display the message: "Upload installation file or press <ESC> to abort".

When using Microsoft Windows™ terminal program, select the "TRANSFERS" menu and then select "SEND TEXT FILE". Insert the floppy diskette provided by Honeywell (P/N 225-00044-0015 or higher). Choose the appropriate floppy drive in the "DRIVES" field and change the "LIST FILES OF TYPE" field to "ALL FILES (*.*)" Select file "18520001.CER" for Socata models TB 20 and TB 21 with roll servo part number 065-00179-0500 and click on "OK". Select file "18950000.CER" for Socata Models TB 20 and TB 21 with roll servo part number 065-00179-0200 and click on "OK". Press <ENTER> to return to the installation options page.

CAUTION: **If file "18520001.CER" is installed with roll servo P/N 065-00179-0200, oscillation will occur in the roll axis.**

If file "18950000.CER" is installed with roll servo P/N 065-00179-0500, poor, low speed (airplane speed) performance will occur in the roll axis.

When the file transfer is complete, verify the terminal displays the message, "Installation data have been saved in nonvolatile memory". **If this message is not received, then there is a problem with the installation. Use the displayed error message to resolve the problem.**

D. Set the audio volume to the desired value and select the other options, as appropriate. The options displayed will depend upon the aircraft certification and the version of the FCC. Configure each option as specified below.

1. Audio Volume - The volume setting is installer selectable between the value of 0 and 7. Option 0 is the minimum level for this STC and option 7 is the maximum level.
2. Select 350/256 – Select option 0 for the KI 256 (the KVG 350 is not approved at this time.)
3. Flaps Analog/Discrete - Option 1 is for installations interfacing directly to a flap motor to determine flap motor direction, where option 0 is for installations interfacing to the flap system switches to sense flap activity. Since flaps are not interfaced to the FCC in this installation, either option may be selected without affecting the installation.
4. Voice MSG Enabled/Disabled - Select option 1 if voice messaging is desired. Select option 0 if voice messaging is to be muted.

NOTE: **TRIM IN MOTION and CHECK PITCH TRIM messages cannot be disabled.**

5. ARINC 429 (HSI) Heading - Select option 1 for a 429 Selected Heading source (EFIS). Select option 0 if selected heading source is DC (KI 525A HSI).
6. ARINC 429 (GPS) Steering - If the installed GPS receiver is interfaced to the KC 225 via 429, select option 1.
7. Dim Bus Voltage 5v/28v - Select option 0 for dim bus voltage (28v.)
8. AP Disconnect Disengages FD/Not - Select option 1 if it is desired that the AP Disconnect switch (when depressed) also disengages all FD modes. Select option 0 if FD modes should remain engaged when the AP Disconnect switch is depressed. Installer's choice.
9. Tone Alert at Sel Alt – Select option 1 to hear an aural warning tone (5 beeps) when the aircraft reaches the selected altitude (+/- 100 ft). No aural warning tone will be heard at the selected altitude if option 0 is selected. Installer's choice.
10. Gyro/Power Valid - This option selects the validity type for the yaw rate gyro. Since this installation does not include a yaw rate gyro, either 1 or 0 is acceptable.

E. After selecting the desired options, press <ENTER> to return to the main menu.

5.5.1.4 SYSTEM ALIGNMENT

After the system has been installed, sensor offsets need to be nulled for optimum system performance. These offsets are stored in the configuration module and the internal memory and may be updated, as desired, without performing the installation setup again. Many adjustments are made with the single-turn potentiometer (from here on referred to as "the pot") located on the front panel of the FCC (right-hand side of the display above the "UP" button). Refer to Figure 5-3.

NOTE: Adjustments are also required in the event the one of the KFC 225 system components are replaced (reference Table 6-2, Maintenance Matrix.)

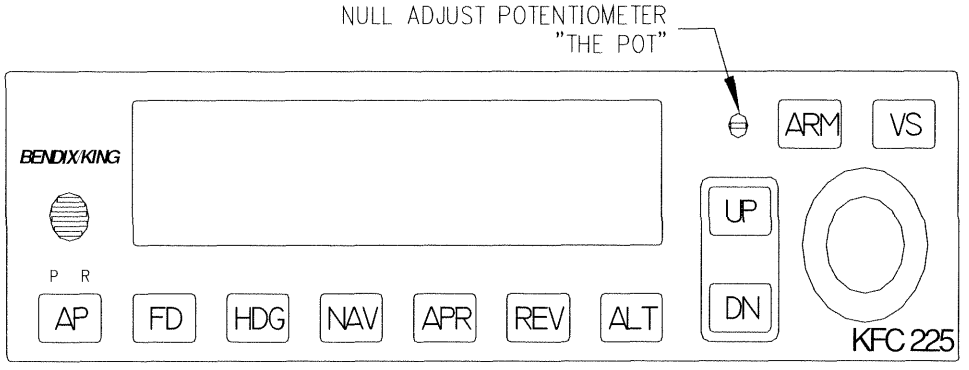


Figure 5-3, FCC Null Adjust Pot (065-00183-0301 shown)

For all the following tests, set up the KI 256 attitude gyro on a tilt stand and ensure that it is level in both pitch and roll axes. Connect the KI 256 attitude gyro to the airplane harness using an extender cable. Connect the gyro air input to a regulated 4.5 to 5 in. Hg source. Allow at least 5 minutes for the KI 256 attitude to stabilize.

NOTE: The KI 256 for this installation is designed to provide a level pitch indication when installed in an instrument panel with an 8° forward (i.e. nose down) tilt. After leveling the gyro in the pitch and roll axis, tilt the case to 8° nose down and use this as the zero degree pitch attitude position for the following alignment procedure.

NOTE: A properly regulated and filtered air source is essential for correct gyro operation. When making gyro alignment adjustments, always have the gyro tilt set to zero degrees in the axis not under test.

NOTE: Install the KC 225 into its rack with the extender for the attitude gyro calibration.

From the top-level menu in the configuration program, reference Figure 5-1, RTI Main Menu Screen, enter the installation menu by pressing "N". Now press "2" (Installation Offset) and <ENTER> to enter the installation offset page. From this page, numerous offsets can be compensated. For each parameter listed, after entering the associated number, zero the input to the flight computer and press <ENTER>. This can be done without engaging the autopilot (except were noted). The null values will be stored in the configuration module and will be used to compensate the input value. The following paragraphs detail this procedure.

A. Attitude Gyro Calibration

1. Apply power and return to the "SET INSTALLATION OFFSETS" page of the Remote Terminal Interface (RTI).
2. Ensure the attitude gyro indicates level in both roll and pitch axes (case will be 8° nose down).
3. Record the value for the PITCH and ROLL attitude that is displayed on the "SET INSTALLATION OFFSETS" page. For an example of this procedure, see Table 5-1.
4. Tilt the attitude gyro to 10° pitch up (indicated.)
5. Record the PITCH value shown on the "SET INSTALLATION OFFSETS" page.
6. Locate the adjustment pots on the left hand side of the unit (reference Figure 5-4, Pitch/Roll Demod Gain Adjustment Pots) and using a screwdriver adjust the PITCH attitude demod gain pot until [10°+ the PITCH offset that was recorded when the attitude gyro was level] ± 0.5° is indicated.
7. Tilt the attitude gyro to level PITCH attitude indicated and a 20° right ROLL.
8. Record the ROLL value shown on the "INSTALLATION OFFSET" page.
9. Locate the adjustment pots on the left hand side of the unit (reference Figure 5-4, Pitch/Roll Demod Gain Adjustment Pots) and using a screwdriver, adjust the ROLL attitude demod gain pot until [20°+ the ROLL offset that was recorded when the attitude gyro was level] ± 0.5° is indicated.
10. Tilt the attitude gyro to level PITCH attitude (indicated) and 20° left ROLL.
11. Record the ROLL value displayed on the "SET INSTALLATION OFFSETS" page. The difference between the two values displayed at 20° right ROLL and 20° left ROLL should be 40° ± 1°.
12. Return the attitude gyro to level attitude in both ROLL and PITCH axis.
13. Engage the autopilot in the default modes (PIT and ROL.)
14. Select "3. Pitch Attitude" and press <ENTER> to store the PITCH axis gyro null information.
15. With the autopilot still engaged in the default modes (PIT and ROL), adjust the ROLL attitude offset by turning "the Pot" in either direction as required to achieve 0° ROLL attitude indication on the "SET INSTALLATION OFFSETS" page

NOTE: **The roll attitude offset adjustment may need to be readjusted during flight. Any in-flight FCC adjustments should be performed in smooth air. A laptop PC is not necessary for the roll attitude offset adjustment when performed during flight.**

AXIS	GYRO TILT	DISPLAYED VALUE (EXAMPLE)	ADJUST TO TARGET VALUE (EXAMPLE)
PITCH	0°	0.67	N/A
ROLL	0°	-0.34	N/A
PITCH	10° up	15.86°	**10.67°** [10° + 0.67°] (± 0.5°)
ROLL	20° right	23.57°	**19.66°** [20° + (-0.34°)] (± 0.5°)
ROLL	20° right	19.66°	19.66° - (-20.34°) = 40.0° (± 1°)
ROLL	20° left	-20.34	

Table 5-1, Adjustment Example

NOTE: **After making the adjustments for the roll attitude offset, disengage the autopilot and tilt the gyro to 20° roll right. The displayed value on the laptop (under the "SET INSTALLATION OFFSETS" page) should be 20° ± 0.5°. Now tilt the gyro to 20° roll left. The displayed value on the laptop (under the "SET INSTALLATION OFFSETS" page) should be -20° ± 0.5°. If the roll attitude error value is greater than 20°+0.5°, adjust the ROL demod gain pot to decrease the error by half its value, then check the gyro in the opposite direction. If the roll attitude error value is less than 20°-0.5°, adjust the ROL demod gain pot to increase the error by half its value, then check the gyro in the opposite tilt. Repeat as necessary until both values are within the 0.5° tolerance.**

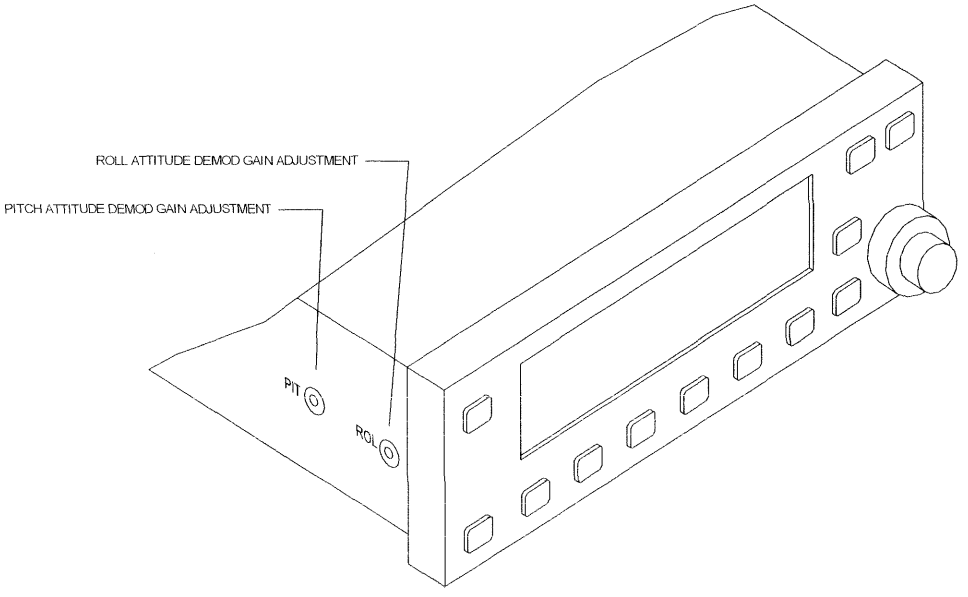


Figure 5-4, Pitch/Roll Demod Gain Adjustment Pots

NOTE: The following procedures should be completed with the KC 225 installed in its rack without the extender. Ensure all electrical power to the KC 225 is off and remove the KC 225 and extender from the rack. Reinstall the KC 225 securely without the extender and apply electrical power and return to the "SET INSTALLATION OFFSETS" page of the Remote Terminal Interface (RTI).

B. HSI Heading and Course Pointer Calibration

1. Slew the magnetic heading display (compass card) to 0° (North).
2. Align the heading bug and course pointer to the lubber line on the (E)HSI.
3. Select "1. Heading" on the "SET INSTALLATION OFFSETS" page and press <ENTER>.
4. Select "2. Course" on the "SET INSTALLATION OFFSETS" page and press <ENTER>.
5. Press <ENTER> to exit the "SET INSTALLATION OFFSETS" page.

C. Flight Director Alignment / Calibration

1. Similar to the gyro offset alignment procedure, the alignment of the Flight Director command bar is done one axis at a time. Ensure that the attitude gyro is level in PITCH and ROLL.
2. To align the command bars in PITCH, ensure FD is engaged (but not the autopilot).
3. Press and hold the CWS button located on the pilot control wheel.
4. Adjust "the pot" using a screwdriver to align the command bars in PITCH to the "symbolic aircraft" on the Flight Director.
5. To align the command bars in ROLL, ensure the AP and FD are disengaged.
6. Press and hold the FD button.
7. Adjust "the pot" until the command bars in ROLL to align to "wings level."

NOTE: The Flight Director alignment may need to be readjusted during flight to accommodate differences in instrument panel alignment as well as pilot preference. Any FCC adjustments undertaken in flight should be performed in smooth air. The laptop PC is not necessary for these in-flight adjustments.

D. Flight Director Gain Adjustment

1. Ensure that the attitude gyro is level in PITCH and ROLL.
2. Press and hold the GA switch on the throttle lever.
3. Adjust "the pot" until the command bars indicate 5.5° pitch up command.
4. Do the following steps to verify the flight director gain is correct:
   a) With the gyro still level in pitch attitude, press CWS and verify the Go-Around mode disengages and the command bars sync to the current reference (level pitch.)
   b) Make 5 discrete clicks using the UP button on the KC 225. This should cause the flight director command bars to indicate a 2.5 ° pitch up command (0.5°/click.) If the flight director now indicates 2.5° pitch up, the calibration is complete.
   c) If the flight director indicates less than 2.5° pitch up, press and hold the go-around switch and turn "the pot" slightly clockwise. Return to step (a).
   d) If the flight director indicates more than 2.5° pitch up, press and hold the go-around switch and turn "the pot" slightly counter-clockwise. Return to step (a).

E. Altimeter Calibration

1. Return to the "SET INSTALL OPTIONS" menu.
2. Enter "4" to select Altimeter Alignment.
3. Connect a pitot/static ramp tester to the aircraft static ports.
4. Adjust the baro set on the altimeter to 29.92 inches. Press <ENTER>.
5. At the prompt, enter the aircraft's max altitude in the configuration program. Press <ENTER>.
6. Using the pitot/static ramp tester, increase pressure to achieve -200 ft on the altimeter. Press <ENTER> when this altitude is reached.
7. Decrease pressure to achieve 0 ft on the altimeter. Press <ENTER> when this altitude is reached.
8. Repeat this procedure every 5,000 ft until max altitude is reached.
9. Allow the pitot/static system pressure to equalize to ambient pressure and disconnect from the aircraft.

NOTE: **Care must be taken not exceed the limits of the aircraft pneumatic instruments while performing this test. Special care must be taken if pressure is applied to the static system. Refer to the pitot/static ramp tester instruction manual.**

F. This completes the KC 225 configuration. Return to the top-level Remote Terminal Interface (RTI) menu by pressing <ENTER> twice to prevent further changes in the offset parameters.

5.5.1.5 FCC DIAGNOSTIC MODE

A useful tool in troubleshooting and/or monitoring the KFC 225 installation exists within the KFC 225 configuration program. Menus are provided to monitor aircraft harness strap configuration, various system valids, and other external system signal inputs to the FCC. The error log is another diagnostic tool provided with the configuration program. Select <L> from the top-level menu to access the error log. Reference manual 006-15557-0000 (or later revision), 'FLIGHT LINE MAINTENANCE MANUAL' for the KFC 225 for error code definitions.

To access the DIAGNOSTIC mode, select <D> while in the RTI Main Menu Screen. Follow the prompts to gain access to the sub-menus that are shown in Figure 5-5, FCC Diagnostic Menu Selections.

```
                System Mode:  Diagnostic

                    Diagnostic Modes
                    ----------------
V  -   Read Discrete Input Straps/Valids
S  -   Read Discrete Input Switches
D  -   Read Discrete Input Status
P  -   Write PFT Discrete Outputs
O  -   Write Discrete Outputs
A  -   Read Analog Inputs
I  -   Read Analog Voltage Inputs
W  -   Write Analog Outputs
4  -   Read ARINC 429 Inputs
T  -   Perform Analog Tests

Press Key for Desired Option (<ESC> to exit):
```

Figure 5-5, FCC Diagnostic Menu Selections

Of the sub-menus available, selections "V", "S", and "D" will each provide information to the line technician regarding the integrity of the KFC 225 installation.

To verify proper harness strapping, as well as applicable external valids, select <V> from the DIAGNOSTIC menu to obtain the following screen.

```
                System Mode:  Diagnostic

              DISCRETE INPUT STRAPS/VALIDS
              ----------------------------
Description                                    Value
-----------                                    ------
Internal Software Strap                          2
Aircraft Strap                                  07
Roll Servo Valid                               YES
Roll Steering Valid                             NO
Analog Valid                                   YES
Rate Gyro Valid                                 NO
GPS Select                                      NO
Middle Marker                                   NO
Pitch Servo Valid                              YES
GS Valid                                        NO
NAV Valid                                      YES
DG Valid                                       YES
Yaw Servo Valid                                 NO
Radar Alt Valid                                 NO
Gyro Excitation Valid                          YES
VG Valid                                        NO


                   Press <CR> to exit:
```


Figure 5-6, Discrete Input Straps/Valids (example)

The following descriptions apply to the discrete input straps/valids screen:

Internal Software Strap - Factory use only.

Aircraft Strap - Represents the harness strap value for the aircraft (07 for TB20 & TB21).

Roll Servo Valid - YES value indicates roll servo input to the autopilot is valid.

Roll Steering Valid - NO value indicates analog roll steering input to the autopilot is invalid.

Analog Valid - YES value indicates the internal circuits that process analog information are functioning normally.

Rate Gyro Valid - NO value indicates the rate gyro flag input is not valid. The Rate Gyro Valid is applicable only for KC 225 FCC installations with yaw axis option.

GPS Select - NO value indicates the GPS is not the selected NAV sensor to the autopilot.

Middle Marker - NO value indicates the middle marker signal to the autopilot is not active.

Pitch Servo Valid - YES value indicates the pitch servo input to the autopilot is valid.

GS Valid - NO value indicates glideslope flag input to autopilot is invalid.

NAV Valid - YES value indicates NAV sensor flag input is valid.

DG Valid - YES value indicates the DG sensor flag input is valid.

Yaw Servo Valid - NO value indicates the yaw servo input to the autopilot is invalid. Yaw Servo Valid menu item is applicable only for KC 225 FCC installations with yaw axis option.

Radar Altitude Valid - NO value indicates the Radar Altimeter is not installed or not providing a valid signal to the KC 225 FCC.

Gyro Excitation Valid - YES value indicates the KC 225 VG excitation is functioning properly.

VG Valid - NO value indicates VG input to the autopilot is invalid (KVG 350 only)

To verify various discrete switch inputs, e.g., control wheel switches, select <S> from the DIAGNOSTIC menu to obtain the following screen.

```
                System Mode:  Diagnostic

                DISCRETE INPUT SWITCHES

     Description                                  Value
     -----------                                  -----
     CWS Switch Active                              NO
     AP Switch Active                               NO
     HDG Switch Active                              NO
     NAV Switch Active                              NO
     APR Switch Active                              NO
     REV Switch Active                              NO
     ALT Switch Active                              NO
     UP Switch Active                               NO
     DOWN Switch Active                             NO
     ALT ARM Switch Active                          NO
     YD Switch Active                               NO
     FD Switch Active                               NO
     VS Switch Active                               NO
     GA Switch Active                               NO
     INC/DEC Inner Knob                              0
     INC DEC / Outer Knob                            0

                    Press <CR> to exit:
```

Figure 5-7, Discrete Switch Input Screen (example)

CWS Switch Active - Pressing "CWS" switch (on Pilot yoke) will provide "YES" value.

AP Switch Active - Pressing "AP" switch (on the FCC) will provide "YES" value.

HDG Switch Active - Pressing "HDG" switch (on the FCC) will provide "YES" value.

NAV Switch Active - Pressing "NAV" switch (on the FCC) will provide "YES" value.

APR Switch Active - Pressing "APR" switch (on the FCC) will provide "YES" value.

REV Switch Active - Pressing 'REV" switch (on the FCC) will provide "YES" value. (EFIS compatible units do not have the "REV" button.)

ALT Switch Active - Pressing "ALT" switch (on the FCC) will provide "YES" value.

UP Switch Active - Pressing "UP" switch (on the FCC) will provide "YES" value.

DOWN Switch Active - Pressing "DN" switch (on the FCC) will provide "YES" value.

ALT ARM Switch Active - Pressing "ARM" switch (on the FCC) will provide "YES" value.

YD Switch Active - Pressing "YD" switch (on the FCC) will provide a "YES" value. (This applies only to KC 225 FCC installations with optional Yaw Damper.)

FD Switch Active - Pressing "FD" switch (on the FCC) will provide a "YES" value.

VS Switch Active - Pressing "VS" switch (on the FCC) will provide a "YES" value.

GA Switch Active - Pressing "GA" switch (forward of the throttle quadrant) will provide "YES" value.

INC/DEC INNER KNOB - Turning this knob CCW will produce the following sequence: 0, 1, 3, and 2.

INC/DEC OUTER KNOB - Turning this knob CCW will produce the following sequence: 0, 1, 3, and 2.

Note that the menu also shows states of the FCC bezel switches in addition to those switches external to the FCC.

To verify sensor status inputs, e.g., Gillham code from the encoding altimeter, select <D> from the DIAGNOSTIC menu to obtain the following screens.

```
                System Mode: Diagnostic

                 DISCRETE INPUT STATUS
  Description                                  Value
  -----------                                  ------
  Gillham Code                                  XXX
  AP Disconnect                                 NO
  Trim Arm                                      NO
  Trim Down                                     NO
  Trim Up                                       NO
  Stall Warning                                 NO
  ILS Engaged                                   NO
  Flap 1                                        NO
  Flap 2                                        NO
  Altitude Valid                                NO
  VNAV Handshake                                NO

        Enter N (page 2) or <CR> (exit):
```


Figure 5-8, Discrete Input Status Screen - Page 1 (example)

Gillham Code - Pressure Altitude to the nearest 100 feet.

AP Disconnect - YES value indicates the AP disc switch (located on the pilot yoke) is depressed.

Trim Arm - Actuating the left half of the Manual Electric Trim switch in either the forward or aft direction will provide a YES value.

Trim Down - Actuating the right half of the Manual Electric Trim switch in the forward direction (trim nose down) will provide a YES value.

Trim Up - Actuating the right half of the Manual Electric Trim switch in the aft direction (trim nose up) will provide a YES value.

Stall Warning - Not applicable to this STC.

ILS Engaged - YES value indicates either the VOR receiver is tuned to an ILS frequency or the GPS (if selected) is in the Approach Mode.

Flap 1 - NO value indicates flap input is not active (normal for this STC)

Flap 2 - NO value indicates flap input is not active (normal for this STC)

Altitude Valid - YES value indicates the altitude input from the KEA 346 to the autopilot is valid. A "YES" value will always be present if a KEA 130A is used.

VNAV Handshake - Reserved for future use.

```
                System Mode: Diagnostic

                 DISCRETE INPUT STATUS
    Description                                    Value
    -----------                                    ------
    Trim Runaway                                     NO
    Pitch Clutch Engage                              NO
    Roll Clutch Engage                               NO
    Yaw Clutch Engage                                NO
    Trim Clutch Engage                               NO
    Vertical Accel Fail                              NO
    Power-up Fail                                    NO
    PFT Fail                                         NO
    Yaw Rate Monitor Fail                            NO
    Pitch Monitor Fail                               NO
    Roll Monitor Fail                                NO


           Enter P (page 1) or <CR> (exit):
```

Figure 5-9, Discrete Input Status Screen - Page 2 (example)

Trim Runaway - NO value indicates normal operation.

Pitch Clutch Engage- NO value indicates clutch not engaged.

Roll Clutch Engage- NO value indicates clutch not engaged.

Yaw Clutch Engage- NO value indicates clutch not engaged. (Applies only to KC 225 FCC installations with optional Yaw Damper.)

Trim Clutch Engage- NO value indicates clutch not engaged.

Vertical Accel Fail - NO value indicates normal operation.

Power-up Fail - NO value indicates normal operation.

PFT Fail - NO value indicates normal operation.

Yaw Rate Monitor Fail - NO value indicates normal operation . (Applies only to KC 225 FCC installations with optional Yaw Damper.)

Pitch Monitor Fail - NO value indicates normal operation.

Roll Monitor Fail - NO value indicates normal operation.

NOTE: The autopilot cannot be engaged in diagnostics mode. Clutches can be engaged manually using option 0 (write discrete outputs) on the Diagnostic Modes page.

Assuming the readings from the DIAGNOSTIC sub-menus reveal proper operation and/or readings, proceed to the following steps of post installation checkout.

5.5.2 KFC 225 GROUND CHECKS

The following procedures will verify the proper operation of the KFC 225 autopilot system.

5.5.2.1 SELF TEST

Open the autopilot circuit breaker and reset. The FCC will automatically initiate a self-test. Upon successful completion of the self-test, all segments of the display will illuminate briefly, followed by an aural alert.

5.5.2.2 CONTROL WHEEL SWITCH CHECKS

Verify that the control wheel mounted switches are operating correctly.

Actuate both halves of the split manual electric trim switch to the "nose down" and "nose up" positions. The trim clutch should engage, and the trim wheel should drive in the direction indicated.

Depress the AP DISC/TRIM INTER switch and hold. Actuate the manual electric trim. Trim should not run in either direction. Also, the trim servo clutch should not engage. The trim wheel should rotate freely when moved manually.

Engage the flight director and autopilot. Press the CWS switch. The servo clutches should release. Check for free control yoke movement in the pitch and roll axes.

Release the CWS switch and depress the AP DISC/TRIM INTER switch. The AP annunciator on the FCC will flash and then extinguish. The aural warning should sound followed by the voice message "Autopilot" (if voice messaging is enabled). Verify the servo clutches are disengaged (check for free control wheel movement in the pitch and roll axes).

5.5.2.3 AUTOPILOT CLUTCH OVERPOWER CHECK

Engage the AP. Apply force to the aircraft controls to determine if the AP clutches can be overpowered. If the AP clutch cannot be overpowered, check the servo clutch torque settings.

Actuate manual electric trim switch (the autopilot will disconnect.) While the trim is running, grasp the aircraft pitch trim wheel and verify the trim clutch can be overpowered. If it cannot be overpowered, check pitch trim clutch setting. Verify also that the trim wheel moves smoothly in both directions throughout the entire trimming range during manual electric trim actuation. If the trim wheel hesitates, this may indicate that the pitch trim clutch is slipping. First verify proper clutch setting and cable tension. If both clutch setting and cable tension are within tolerance, check the aircraft pitch trim system for excessive friction. See Section 6 for suggested method to check trim system friction.

5.5.2.4 MANUAL ELECTRIC TRIM STOP TO STOP SPEED

Position the trim wheel at either the "nose down" or "nose up" stop. Record the time required to run the trim from stop-to-stop using the manual electric trim switch on the control wheel. Time the stop-to-stop manual, electric, trim speed in for both full nose up travel and full nose down travel. The stop-to-stop manual, electric, trim travel time should be 40 +/- 6 seconds.

NOTE: The trim system must meet the above criteria to ensure adequate safety and acceptable autopilot performance.

5.5.2.5 AUTOPILOT DISCONNECT CHECKS

The following actions should disengage the autopilot:

A. Pressing the AP DISC/TRIM INTER switch will disengage the AP. The FD will either disengage or remain engaged depending on the option selected in section 5.5.1.3.

B. Activation of the manual electric trim arm switch, either up or down, will disengage the AP.

C. Pulling the autopilot servo power circuit breaker to the off position will disengage the AP.

D. Pressing the Go Around button will disengage the AP.

E. Pulling the autopilot circuit breaker to the off position will disengage AP, FD.

F. Selecting the AP MASTER Switch to the "OFF" position will disengage the AP.

NOTE: A two second aural warning will sound whenever the autopilot is disengaged. If the optional voice messaging is selected an "AUTOPILOT" voice message will also be present. If power to the autopilot is removed, only the aural warning will sound (no voice message.)

Removing power to the KC 225 requires running the pre flight test before the AP will engage.

5.5.2.6 KFC 225 AUTOPILOT MODE CHECKS

After the system has been successfully aligned as described in Section 5.5.1, the following ground checkout should be performed with the KI 256 attitude gyro stabilized on a tilt stand, level in both axes.

A. Engage the Flight Director and Autopilot in the heading mode by pressing the "HDG" and "AP" buttons on the FCC. Move the heading bug left and right of the lubber line of the (E)HSI. The Flight Director command bars on the KI 256 as well as the aircraft control wheel should follow the heading bug direction. Repositioning the bug under the lubber line should stop moving the aircraft control wheel and cause the KI 256 command bars to be aligned with the "symbolic aircraft."

B. Establish a valid ILS signal, engage APR mode and watch for proper response to deviations in LOC and GS. A fly right deviation should cause the KI 256 command bars and control wheel to turn to the right, while a fly left deviation should cause the KI 256 command bars and control wheel to turn left. For the GS, a fly up deviation should cause the KI 256 command bars to move up with respect to the "symbolic aircraft" and cause rearward control wheel motion. A fly down deviation should cause the KI 256 command bars to move down with respect to the "symbolic aircraft" and cause the control wheel to move forward.

NOTE: Some aircraft utilize bob-weights or other mechanisms in the pitch axis to provide stability. These mechanisms may affect the AP response during this test. If the control column is unresponsive, carefully assist the autopilot by counteracting the aircraft friction forces to monitor proper autopilot response.

C. Engage Pitch Attitude Hold "PIT" mode and press the "UP" button twice (to change the pitch attitude reference). Check for rearward control wheel movement (and command bar up response). Press the CWS switch to remove the pitch up command. Now check for nose down control by pressing the "DN" button twice (to establish a nose down pitch attitude reference). The control wheel should now move forward and the command bars should move down. Press CWS on the control wheel and check that the control wheel stops moving and the command bars align with the "symbolic aircraft." Release CWS and the control wheel should still not move in the pitch axis.

D. Check autotrim operation by slowly pushing the control wheel forward. After 3 or 4 seconds, the trim should run in the UP direction. Now, slowly pull back on the control wheel and check for trim in the Down direction after 3 or 4 seconds.

5.5.2.7 CHECKOUT PROCEDURE FOR THE ALTITUDE SELECTOR

Connect a pitot/static ramp tester to the aircraft static ports. Apply power to the autopilot system and the installed altimeter connected to the autopilot.

Adjust the baro set on the altimeter to 29.92 inches. Select an altitude on the FCC at least 1,100 feet above the altitude indicated on the altimeter.

Engage the Flight Director and altitude arm mode by pressing the "FD" and "ARM" buttons on the FCC. The "ARM" annunciator in the FCC should illuminate.

NOTE: Care must be taken not exceed the limits of the aircraft pneumatic instruments while performing this test.

Slowly adjust the pitot/static ramp tester to increase the altitude. At 1,000 ± 100 feet below the selected altitude, "ALERT" will be annunciated on the FCC and an aural warning (5 beeps) will sound followed by the voice message "Altitude" (if voice messaging is enabled). If the optional KEA 346 is installed, the remote "ALT ALERT" annunciator will illuminate. Continue increasing the altitude and at 200 ± 100 feet below the selected altitude the alert light will extinguish. Prior to reaching the selected altitude the FCC will transition to "ALT CAP". At the selected altitude ± 100 feet, ALERT on the FCC will flash. The FCC will change to and annunciate the "ALT" mode. In addition, the "ARM" annunciator in the FCC will go out. If the installation option, "Tone Alert at Sel Alt" has been selected, an aural alert warning will be heard at the selected altitude. Continue to increase the altitude and note the point when the altitude selector "ALERT" light again illuminates. This will occur at 200 ± 100 feet above the selected altitude. The "ALERT" light shall flash and an aural warning (5 beeps) will sound followed by the voice message "Leaving Altitude" (if voice messaging is enabled). Continue to increase the altitude until the flashing "ALERT" annunciator extinguishes. This will occur at 1,000 ± 100 feet above the selected altitude.

This concludes the KFC 225 system ground check-out procedure. The KI 256 air source may be disconnected at this time to allow the gyro rotor to spin down. Allow up to 20 minutes for the KI 256 rotor to come to a complete stop before moving the unit for re-installation into the aircraft. The aircraft static system should be allowed to equalize to the local air pressure before disconnecting the pitot/static ramp tester from the aircraft.

5.5.2.8 EHI 40 EHSI SYSTEM (OPTIONAL)

No adjustments are required; however, a one-time configuration procedure must be done before flight.

5.5.3 KCS 305/KCS 55A COMPASS SYSTEM

The following installation checkout procedures must be performed if the KCS 305 or KCS 55A compass system is installed. If problems are encountered in performing these procedures, the installer may refer to Appendix B of this manual for harness troubleshooting or the system maintenance manual to isolate faulty equipment. All discrepancies should be resolved before proceeding.

5.5.3.1 KSG 105/KG 102A DIRECTIONAL GYRO

No adjustments are required.

5.5.3.2 KMT 112 FLUX DETECTOR

With the complete KCS 305/KCS 55A compass system operating and in "slaved" mode, position the aircraft on a compass rose, heading magnetic North. Place the KA 51B in the "Free Gyro" mode and center the slave meter with the ± toggle switch. For best results, remove the two mounting screws that secure the unit to the panel and slide the unit out until the meter test jacks and compensator potentiometers are accessible. Connect a digital multi meter (DMM) to the unit test jacks (common connection of the multi meter to the black test jack of the KA 51B and positive connection of the multi meter to the red test jack of the KA 51B). Record the algebraic error between the compass rose and the heading on the (E)HSI. Repeat procedure on East, South and West magnetic heading. Add the algebraic errors and divide by four to obtain the index error. Loosen the mounting screws on the KMT 112 and rotate the unit an amount equal to the index error to cancel out the index error. Re-tighten the mounting screws. This procedure may need to be repeated after the N/S and E/W compensators have been adjusted

CAUTION: Use non-magnetic tools when adjusting the KMT 112 or the KA 51B.

5.5.3.3 KA 51B SLAVING ACCESSORY

The KMT 112 alignment must be completed prior to starting this procedure. With the complete KCS 305/KCS 55A compass system operating and the KA 51B in the "Free Gyro" mode, position the aircraft on a compass rose. Adjust the compensation as follows:

A. Place the aircraft on a magnetic North heading and center the compass card North under the lubber line with the CW/CCW switch. Place a non-magnetic blade screwdriver in the N/S potentiometer in the KA 51B Slaving Accessory and zero the external multi meter (0.0VDC ± 50mV) .

B. Place the aircraft on magnetic East heading and center the compass card East under the lubber line with the CW/CCW switch. Place a non-magnetic blade screwdriver in the E/W potentiometer in the KA 51B Slaving Accessory and zero the external multi meter (0.0VDC ± 50mV).

C. Place the aircraft on a magnetic South heading and center the compass card South under the lubber line with the CW/CCW switch. Place a non-magnetic blade screwdriver in the N/S potentiometer in the KA 51B Slaving Accessory and adjust the external multi meter for 1/2 of the existing multi meter readout.

D. Place the aircraft on a magnetic West heading and center the compass card West under the lubber line with the CW/CCW switch. Place a non-magnetic blade screwdriver in the E/W potentiometer in the KA 51B Slaving Accessory and adjust the external multi meter for 1/2 of the existing multi meter readout.

E. As a final check of the KCS 305/KCS 55A compass system, position the aircraft on the compass rose and turn to each of the four cardinal headings while the compass system is in the Slaved Gyro mode. All readings should be within ± 2° of those on the compass rose (If the compass system is not within ± 2° of the compass rose repeat section 5.5.3.2). The KA 51B may now be secured into the instrument panel. The alignment is complete.

5.5.4 STATIC SYSTEMS

Since the KC 225 FCC is connected to the aircraft static system, the static system must be tested in accordance with Part 91.411 of the Federal Aviation Regulations.

5.6 IN-FLIGHT CHECKS

CAUTION: Prior to commencing the in-flight checks, the pilot must review and become familiar with the limitations and procedures described in the Airplane Flight Manual Supplement which is included as a part of this installation.

The following procedures are predicated on a successful completion of the post installation ground checks. There are no in-flight checks required for the KCS 305/KCS 55A system other than observation for correct operation. Prior to takeoff, perform the preflight checkout as outlined in the appropriate Airplane Flight Manual Supplement(s) and conduct the following test:

A. With the FD engaged (but not the autopilot) verify that the command bars are aligned to the "symbolic aircraft" in pitch and roll. Re-null if necessary (refer to section 5.5.1.4, step C).

Following takeoff, climb to a safe altitude and establish the airplane in straight and level flight.

5.6.1 ROLL ATTITUDE OFFSET

With the autopilot engaged in default roll attitude hold, use the horizon as a reference to verify the roll attitude adjustment. Re-null if necessary by adjusting "the Pot" in either direction as required to achieve wings level flight (refer to section 5.5.1.4, step A).

5.6.2 VERTICAL SPEED MODE

Engage the AP and select HDG mode. Engage VS mode and select ± 500 feet per minute using the "UP" or "DOWN" button on the FCC. Monitor proper power settings to maintain safe operating speeds. The autopilot will smoothly fly to the climb or descent rate and hold within ± 150 feet per minute. Select a new rate and note that the autopilot acquires and tracks the newly selected vertical speed.

5.6.3 HEADING SELECT MODE (CRUISE CONFIGURATION)

Set the HDG bug on the (E)HSI to a 90° increase in heading and engage the heading mode by pressing the "HDG" button on the FCC. The autopilot will bank the airplane to an angle of 20° ± 2°. The airplane will roll out on the selected heading with minimum overshoot. Repeat the test using a 90° decrease in selected heading.

5.6.4 ALT ARM AND ALT HOLD MODES

Establish the airplane in straight and level flight at a safe altitude. Engage the autopilot with HDG and PIT modes. Select an altitude at least 2,000 feet higher than present altitude using the knobs on the FCC. The "ARM" will annunciate on the FCC. Using the vertical trim switch on the FCC, start a climb toward the selected altitude. Use an appropriate vertical speed and power setting to maintain a safe climb speed. At 1000 ± 100 feet below the selected altitude, "ALERT" will be annunciated on the FCC and an aural warning will sound followed by the voice message "Altitude" (if voice messaging is enabled). If the optional KEA 346 is installed the remote "ALT ALERT" annunciator will illuminate. At 200 ± 100 feet below the selected altitude, "ALERT" will extinguish, indicating entry into the inner band. Prior to reaching the selected altitude the FCC will transition to "ALT CAP". At the selected altitude ± 100 feet, ALT ARM will disengage and the system will transfer to the altitude hold mode, annunciating "ALT" on the FCC. If the installation option, "Tone Alert at Sel Alt" has been selected, an aural warning will be heard at the selected altitude. Repeat this procedure for a selected altitude at least 2,000 feet below the present altitude. Maintain an appropriate descent rate and altitude while observing the alert annunciation 1,000 ± 100 feet above the selected altitude. The airplane will capture the desired altitude and transfer to the altitude hold mode near the selected altitude with minimal overshoot.

5.6.5 NAV MODES

Follow the procedures below to verify the proper operation of the "NAV" mode. Note that the autopilot can track the VHF NAV or a GPS (if installed). The pilot should be familiar with any navigation switching and how it is interfaced to the FCC.

5.6.5.1 NAV MODE

Select a VOR station or waypoint at approximately twenty miles distance and set in the desired course on the (E)HSI. Select the course by turning the course pointer until the (E)HSI lateral deviation is centered in the "TO" position. Then increase or decrease the course selected by ten degrees.

Engage the HDG mode and set up an intercept angle of 20° to 60° using the heading bug on the (E)HSI. Arm the NAV mode by pressing the NAV button on the FCC. The system will fly in HDG mode until the proper intercept point is reached, where it will automatically switch from HDG and NAV ARM to NAV coupled. When NAV coupled is achieved, the system will bank the airplane up to the necessary bank angle to turn on to the radial with minimum overshoot. Allow the system to track the radial for five minutes. The system will command the airplane along the selected course with no large steering maneuvers or oscillations.

5.6.5.2 APR (ILS)

While approaching the ILS system in HDG mode, tune the LOC receiver and set the course pointer to the published runway inbound heading. Set up an intercept angle of greater than 90° to the inbound course. For a non-EFIS version autopilot, activate the Reverse Localizer Arm mode by pressing the REV button prior to intercepting the localizer beam. For an EFIS version autopilot, REV mode will automatically engage if APR was initially armed and the aircraft heading was greater than 105° to the selected front bound course. The REV ARM annunciation will illuminate on the FCC. The system will capture and track the localizer outbound. (Some overshoot may occur if the angle is too sharp, ground speed is excessive or the capture is made extremely close in.). While on the localizer outbound, descend to the desired altitude by using the vertical trim button or the VS mode on the FCC.

Engage ALT hold when the desired altitude is reached. Set the heading bug to the procedure-turn heading and press the HDG button on the FCC. The airplane will turn to the procedure-turn outbound heading. Use the HDG mode to complete the procedure-turn. When the airplane is within 90° of the inbound course, press the APR button on the FCC. With the approach mode armed, set up a 45° intercept angle using the HDG mode. When the proper capture point is reached, the system will automatically transfer from HDG and APR ARM to APR coupled and turn on to the inbound localizer. As the airplane flies into the glideslope beam, the automatic capture circuit will transfer from altitude hold (ALT) to glideslope (GS), as displayed on the FCC. The autopilot will track the LOC and GS guidance with minimal offsets and with no oscillations.

Establish the airplane in the approach configuration. Set the heading bug to the go around heading. When desired, engage the Go Around mode by pressing the GA switch located forward of the throttle quadrant. The Flight Director command bars will give a pitch up command that is specified in Section 5.5.1.4 and the autopilot will disconnect.

5.6.5.3 APR (VOR/GPS)

Using the published VOR/GPS RNAV approach information, set the course selector on the (E)HSI to the inbound course. Use the HDG mode to set up 45° intercept of the VOR radial/GPS selected course. Arm the approach mode by pressing the APR button while the deviation is still full scale. When the proper intercept point is reached, the system will go from HDG and APR ARM to APR coupled. Use the VS mode or vertical trim to maintain the desired descent rate while on the approach. The autopilot should capture and track the selected course with minimal overshoot, minimal offset and no oscillations. If desired, execute a missed approach procedure or disengage the autopilot and execute a landing.

6 MAINTENANCE PRACTICES

This section covers any required and/or recommended maintenance practices for the KFC 225 AFCS as installed per this manual.

6.1 GENERAL

All maintenance is considered "ON CONDITION" unless otherwise noted.

6.2 CONTINUED AIRWORTHINESS INSPECTIONS

This section contains requirements for scheduled inspection.

6.2.1 AUTOPILOT SERVO CLUTCH TORQUE

It is recommended that the KFC 225 servo clutch torque values be checked and reset at every annual aircraft inspection or every 1,000 hours of flight time, whichever comes first. Refer to Section 3 of this manual for the procedures to check and set the servo slip clutch torque.

6.2.2 CONTROL SYSTEM FRICTION

The friction existing in the aircraft control systems must be checked before and after initial installation of the KFC 225 servos and servo mounts. The friction should also be checked if autopilot performance deteriorates. Deterioration of the aircraft system is usually indicated by the servos not driving their respective control surfaces (the clutches slip). Several methods exist to measure system friction in the aircraft control systems. The first method is to measure the actual force (in pounds) required to move the aircraft control cable or control tubes (roll, pitch or pitch trim). A second method is to measure the force required to move the control wheel left/right (Roll), in/out (Pitch), or move the pitch trim wheel with autopilot slip clutches engaged.

After the KFC 225 servos and servo mounts are installed, the aircraft system friction should not increase by more than 2 pounds in any single axis (roll, pitch, pitch trim). Aircraft friction system checks should be made with autopilot power off. If increases greater than 2 pounds are noted, loosen the servo attaching bolts and servo mount attaching bolts, adjust the servo and servo mount with reference to each other and recheck aircraft system friction. If the increased aircraft system friction persists, install the servo mounts in different positions (roll for pitch, pitch for roll). When increased aircraft system friction is still a problem, request different servo mounts and/or servos from Honeywell

These tests are necessary to ensure the Autopilot/Flight Control System can move the aircraft control surfaces in a satisfactory and consistent manner.

6.2.3 CABLE GUARD HARDWARE

It is recommended that when the cable guards for the KSM 275 servo mounts are removed for post installation maintenance, new attachment hardware be used for the re-installation of the cable guards. The attachment hardware that should be replaced is listed on Table 6-1.

PART NUMBER	DESCRIPTION	QTY
016-01007-0006	LOCTITE 242 or Equivalent	AR
089-07023-0005	Screw FHP Nylon Locking 8-32 X 5/16	1/unit
089-08111-0034	Washer Split Lock #8	1/unit

Table 6-1, Attachment Hardware

6.2.4 BRIDLE CABLE TENSION

It is recommended that the KFC 225 bridle cables be checked at every annual aircraft inspection or every 1,000 hours of flight time, whichever comes first. Refer to Section 3 of this manual for the procedures to check the bridle cable tension.

6.2.5 WEAR AND/OR CORROSION INSPECTION

During each 100 hour and/or annual inspection, check all autopilot components for wear and/or corrosion. Give particular attention to the servos, servo mounts (capstans), and bridle cable assemblies. Autopilot components located outside the passenger cabin may be affected by moisture, fuel, battery acid, etc. Components should be closely inspected when there is any doubt about the amount of wear and/or corrosion.

6.2.6 AUTOPILOT STATIC SYSTEM

Each time the KC 225 computer is removed/reinstalled, the static fitting o-ring (p/n 187-01004-0013) should be lubricated lightly with grease (p/n 016-01210-0000 or MIL-G-4343B). Care should be exercised to prevent grease from entering the static air passageway. The aircraft static system must be tested in accordance with Part 91.411 of the Federal Aviation Regulations each time the KC 225 computer is removed/reinstalled.

NOTE: The aircraft static system is open when the KC 225 computer is out of the radio stack. Ensure the static system is sealed at the KC 225 computer location if the aircraft is to be operated without the KC 225 computer in place.

6.2.7 KFC 225 MAINTENANCE MATRIX

In the event that a KFC 225 component requires removal for maintenance, portions of the configuration procedure must be repeated upon reinstallation. The following matrix directs this maintenance.

UNIT	KC 225	KCM 100	KI 256	KEA 130A/346	KA 51B	KMT 112	KS 27X( ) SERVO	KM 27X( ) MOUNTS	KI 525A HSI	KG 102A
MAINTENANCE REQUIRED Reference Paragraphs XXX	5.5.1.4 (all)	5.5.1.3	5.5.1.4 A/C/D	5.5.1.4 E	5.5.3.3	5.5.3.2	5.5.2.2	5.5.2.3	5.5.1.4 B	NO MAINTENANCE REQUIRED
	5.5.2.2	5.5.1.4 (all)	5.5.2.5	5.5.2.7			5.5.2.4	5.5.2.4	5.6.3	
	5.5.2.4	5.5.2.5	5.6	5.5.4			5.5.2.5	5.6	5.6.5	
	5.5.2.5	5.5.2.6					5.6	6.2.2		
	5.5.2.6						6.2.2			
	5.5.4									
	5.6									
	6.2.8									

Table 6-2, Maintenance Matrix

6.2.8 FCC DISPLAY BRIGHTNESS ADJUSTMENT

The gas-plasma discharge display uses a photocell to automatically adjust the brightness under a wide range of ambient conditions. The KC 225 has a brightness curve to track ambient light changes stored in memory from the factory. If necessary, the brightness curve of the display can be adjusted by the installer. Start with the autopilot disengaged, then press and hold the AP button on the KC 225. Adjust "The Pot" to obtain the desired display brightness.

NOTE: This adjustment controls two independent settings. At moderate to bright ambient conditions, it controls the slope of the brightness vs. the ambient lighting curve. In darker ambient conditions, it controls the minimum display brightness. Therefore, for optimum alignment, first configure the airframe for night lighting conditions and adjust the display to achieve the desired brightness under these conditions. Then adjust it again, as required, under moderate to full-bright ambient lighting conditions.

The back lighting brightness is controlled by the aircraft's dimmer bus input to the flight computer. However, the brightness gain can be adjusted if desired. Start with the autopilot engaged, then press and hold the AP button on the KC 225. Adjust "The Pot" on the front of the FCC to optimize the bezel lighting brightness.

CAUTION: System performance can be degraded by inadvertent changes to factory set offsets. To avoid inadvertent changes to the factory set offsets, insure the vertical gyro is level or electrically disconnected before storing values. Also, prior to storing parameters in ROM, verify that the displayed accelerometer value is less than ±0.3. If not, wait 4-5 minutes for the accelerometer offset value to stabilize at the required value. Continued accelerometer offset values above ±0.3 indicate an equipment problem that needs to be addressed or serviced by factory personnel. If an error is made while in the Factory Offsets page, press <ESC> to return to the main menu without changing factory offsets.

After the desired display brightness is obtained, the setting must be stored in the KFC 225 memory. Enter the Factory Offsets page of the remote terminal interface program (reference section 5.5.1.1 for detailed information on using the RTI program.) Select "Store Parameters in ROM" and press <ENTER> to store the new brightness values. Press <ENTER> again to exit the Factory Offsets page.

6.3 ERROR CODE DEFINITION

Honeywell manual 006-15557-0000 (or later revision), 'FLIGHTLINE MAINTENANCE MANUAL' contains a list of error codes produced by the KC 225 computer. This list of error codes may be used if troubleshooting the KC 225 flight control system becomes necessary.

APPENDIX A.

APPENDIX A CONTAINS THE FOLLOWING MECHANICAL INSTALLATION DRAWINGS

DRAWING NUMBER	DESCRIPTION	REVISION	DATE
159-08246-5000	COCKPIT INSTALLATION	A	11/1/00
159-08246-5001	CONTROL SWITCHING	-	9/13/99
159-08246-5002	ROLL SERVO INSTALL	-	9/13/99
159-08246-5003	PITCH TRIM SERVO INSTALL	B	9/16/02
159-08246-5004	PITCH SERVO INSTALL	B	9/16/02
159-08246-5005	KCS 55A INSTALL	-	9/13/99

Honeywell	Honeywell International Inc.
OLATHE KANSAS USA	
NAME	COCKPIT INSTALLATION
DRN: LAH	CHK: DK
DATE	9-99
NUMBER	159-08246-5000
SHT	1
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	REVISION HISTORY
PROJ DESCRIPTION	- SOCATA 225 -

STATUS	
SHT	REV
1	A
2	A
3	A
4	A
5	A
6	A
7	A
8	A
9	A
10	A
11	A
12	A
13	A
14	A

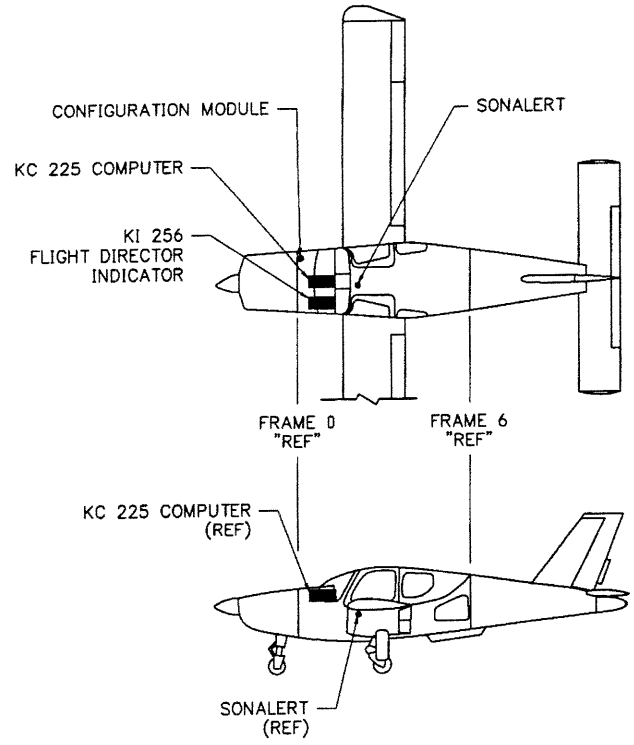
SHT REV REFLECTS REVISION LEVEL OF DRAWING PACKAGE WHEN SHEET WAS LAST CHANGED.

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION
-	1-16	FIRST RELEASE. APPVD: DAVE KRIZ DATE: 9/13/99
A	ALL 14 15-16	CHANGED TO HONEYWELL TITLE BLOCK CORRECTED LOCATION OF "A/P ALERT" CIRCUIT BREAKER DELETED SHEETS 15 AND 16. VOR APPROACH OPERATION IS NOW APPROVED. APPVD: DAVE KRIZ DATE: 11/1/00

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION



NOTES:

1. SEE INSTALLATION MANUAL, 006-00776-0000, FOR CORRECT PART NUMBERS.
2. THE ITEMS SHOWN HERE APPLY TO THE COCKPIT INSTALLATION ONLY. KITS 050-03604-0000 AND 050-03604-0001 ALSO CONTAIN ITEMS USED ELSEWHERE IN THE INSTALLATION.
3. THE INSTALLER MAY SUPPLY THE HARDWARE CONTAINED IN THIS KIT, OR ORDER THE OPTIONAL HARDWARE KIT, 050-03604-0001 FROM ALLIEDSIGNAL INC.
4. ENSURE THE FLIGHT MANUAL SUPPLEMENT IS PLACED IN THE PILOT'S OPERATING HANDBOOK (POH).
5. EITHER A KEA 130A ALTIMETER OR A KEA 346 ALTIMETER MUST BE INSTALLED. WHEN A KEA 130A ALTIMETER IS INSTALLED THE KEA 130A LIGHT TRAY IS OPTIONAL, DEPENDING ON EXISTING INSTRUMENT PANEL LIGHTING.
6. WHEN THE KEA 346 IS INSTALLED A BLACK OR GRAY INSTALLATION KIT IS AVAILABLE. THE COMPONENTS OF THE BLACK KIT ARE SHOWN ON THIS DRAWING.
7. FOUR THREADED STUDS ARE PROVIDED ON THE REAR OF THE END PLATE (ITEM 24) FOR TERMINATION OF THE SHIELD GROUNDS.
8. USE TO CONNECT TO THE AIRCRAFT WIRING HARNESS AS SHOWN IN THE INSTALLATION MANUAL, 006-00776-0000, APPENDIX B.
9. CIRCUIT BREAKERS ARE NOT SUPPLIED IN THE KITS, THESE MUST BE ORDERED IN ADDITION TO THE KITS IF DESIRED.
10. THE DATA LOADING PLUG (ITEM 20), THE ADAPTER CABLE KIT (050-03213-0000), AND AN IBM COMPATIBLE COMPUTER ARE USED TO INITIALLY CONFIGURE THE KC 225 COMPUTER. THESE ITEMS CAN ALSO BE USED FOR SOME DIAGNOSTIC FUNCTIONS. SEE THE INSTALLATION MANUAL, 006-00776-0000, SECTION 5.0.
11. CIRCUIT BREAKER LOCATIONS MAY REQUIRE THE INSTALLER TO REDECORATE EXISTING CIRCUIT BREAKER OVERLAYS OR OBTAIN NEW CIRCUIT BREAKER OVERLAYS FROM SOCATA AIRCRAFT.
12. INSTALLER SUPPLIED, NOT CONTAINED IN ANY KIT. RELUBRICATE THE O-RING ON THE KC 225 COMPUTER, STATIC FITTING EACH TIME THE KC 225 COMPUTER IS REMOVED/REINSTALLED. SEE SECTION 6 OF MANUAL 006-00776-0000.
13. THE KC 225 COMPUTER CAN UTILIZE FORCED AIR COOLING. AN ALLIEDSIGNAL KA 33 COOLING FAN OR EQUIVALENT IS HIGHLY RECOMMENDED.
14. NOT SUPPLIED IN ANY KIT. MUST BE AQUIRED INDIVIDUALLY.
15. THESE PLACARDS MAY BE USED AS SUPPLIED. THE INSTALLER MAY CHOOSE TO SUPPLY IDENTICAL INFORMATION IN LIEU OF A PLACARD. IF THIS INFORMATION IS INSTALLER SUPPLIED THE LETTER COLOR, LETTER SIZE, LOCATION, AND VERBAGE MUST BE EXACTLY MATCHED.

Honeywell
Honeywell International Inc.
OLATHE KANSAS USA

NAME	COCKPIT INSTALLATION
DRN: LAH / CHK:	
DATE	9-99
NUMBER	159-08246-5000
SHT	2
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	NOTES
PROJ DESCRIPTION	- SOCATA 225 -

				85
1		MS21042-08	LOCK NUT	84
1		AN960-8	WASHER	83
1		AN525-832R20	8-32 SCREW	82
2		MS20426AD4-3	RIVET	81
AR			TY-WRAP	80
1		AN919-2D	REDUCER/COUPLING	79
1		MS27404-4D	1/4 LOW PRESSURE FITTING	78
1		MS27404-3D	3/16 LOW PRESSURE FITTING	77
1		AN4-7A	1/4 BOLT	76
4		MS35206-230	ROUND HEAD SCREW	75
				74
14		MS24693-S27	FLAT HEAD SCREW	73
22		AN960-6	FLAT WASHER	72
8		MS20365-632	LOCK NUT	71
X	050-03604-0001		OPTIONAL HARDWARE KIT	

1		M81714/24-2D002	DIODE MODULE	70
1	031-00763-0826	FAA-PMA	A/P MASTER SWITCH	69
1	090-00303-0000	FAA-PMA	FEMALE TEE	68
				67
8	090-00253-0000	FAA-PMA	HOSE CLAMP, GEAR TYPE	66
AR	090-00236-0002	FAA-PMA	FLEX HOSE, 1/4 I.D.	65
AR	090-00236-0001	FAA-PMA	FLEX HOSE, 3/16 I.D.	64
2	090-00234-0000	FAA-PMA	TEE, FLEX HOSE	63
1	057-05981-0001	FAA-PMA	PREFLIGHT PLACARD	62
1	057-05627-0000	FAA-PMA	PREFLIGHT PLACARD	61
1	047-12231-0004	FAA-PMA	DATA PLUG PLATE	60
1	187-01900-0001	FAA-PMA	SONALERT HOLDER	59
1	076-03086-0001	FAA-PMA	SAFETY SPACER	58
1	038-00008-0000	FAA-PMA	AUDIO ALERTER (SONALERT)	57
1	031-00785-0606	FAA-PMA	TRIM FAIL ANNUNCIATOR	56
1	006-00868-0000		FLIGHT MANUAL SUPPLEMENT	55
X	COCKPIT INSTALLATION ITEMS			

				54
3	089-06085-0016	TSO	SCREW 6-32 X 1	53
3	089-05115-0016	TSO	SCREW 6-32 X 1	52
1	030-02528-0000	TSO	CONNECTOR	51
1	030-02347-0001	TSO	CONNECTOR	50
1	030-01065-0000	TSO	SPRING LATCH	49
2	030-01025-0000	TSO	SCREW LOCK ASSY	48
X	050-02175-0000		KEA 130A INSTL KIT	

4	089-05115-0016	TSO	SCREW, 6-32 X 1 (BLACK)	47
1	073-00044-0001	TSO	MOORING PLATE	46
1	057-02366-0000	TSO	ALTITUDE ALERT MASK	45
1	030-02148-0001	TSO	CONNECTOR	44
X	050-01884-0000		KEA 346 INSTALL KIT (BLACK)	
REQ	A/S PART NUMBER	STANDARD PART NO.	DESCRIPTION	ITEM

				43
4	089-05115-0012	TSO	SCREW, 6-32 X 3/4 (BLACK)	42
1	057-02177-0000	TSO	DH MASK	41
1	047-03937-0001	TSO	MOORING PLATE	40
1	030-02002-0000	TSO	CONNECTOR	39
1	030-01010-0000	TSO	CONNECTOR HOOD	38
2	030-01008-0000	TSO	LEVER/PIVOT ASSEMBLY	37
X	050-01518-0000		KI 256 INSTALL KIT	

				36
1	030-02351-0005	TSO	CONNECTOR HOOD	35
1	030-01171-0000	TSO	CONNECTOR	34
9	030-01157-0011	TSO	PIN SOCKET	33
X	050-03245-0000		CONFIGURATION MODULE KIT	

6	089-06008-0005	TSO	SCREW, 4-40 X 5/16	32
8	089-06012-0006	TSO	SCREW, 6-32 X 3/8	31
4	089-05903-0008	TSO	SCREW, 4-40 X 1/2	30
8	089-02353-0001	TSO	CLIP NUT, 6-32	29
4	089-02147-0022	TSO	LOCK NUT, 6-32	28
4	076-03019-0002	TSO	SHOULDER SCREW	27
1	076-02988-0004	TSO	RACK STATIC FITTING	26
1	073-01014-0002	TSO	COOLING PORT	25
1	047-12249-0003	TSO	RACK END PLATE	24
1	047-12246-0003	TSO	67 PIN STRAIN RELIEF	23
1	047-12245-0003	TSO	78 PIN STRAIN RELIEF	22
1	047-12244-0002	TSO	COMPUTER RACK	21
1	033-00230-0000	TSO	DATA LOADING PLUG	20
1	030-03296-0001	TSO	CONNECTOR, 78 PIN	19
1	030-02267-0001	TSO	CONNECTOR, 62 PIN	18
125	030-01451-0000	TSO	SOCKET, CRIMP	17
2	013-00045-0001	TSO	FERRITE BEAD	16
X	050-03401-0000		KC 225 INSTL KIT	

				15
AR	016-01210-0000	MIL-G-4343B	STATIC LUBRICANT	14
				13
2	036-00152-0005	FAA-PMA	5 AMP CIRCUIT BREAKER	12
1	036-00152-0002	FAA-PMA	1 AMP CIRCUIT BREAKER	11
AR			POST LIGHT (28V)	10
				9
				8
				7
AR	071-1522-28	TSO	KEA 129 LIGHT TRAY	6
1		TSO	KEA 130A ALTIMETER	5
1		TSO	KEA 346 ALTIMETER	4
1		TSO	KI 256 ATTITUDE INDICATOR	3
1		TSO	CONFIGURATION MODULE	2
1		TSO	KFC 225 COMPUTER	1
REQ	A/S PART NUMBER	STANDARD PART NO.	DESCRIPTION	ITEM

Honeywell
Honeywell International Inc.

OLATHE KANSAS USA

NAME: COCKPIT INSTALLATION

DRN: LAH

CHK:

DATE: 9-99

NUMBER: 159-08246-5000

SHT: 3

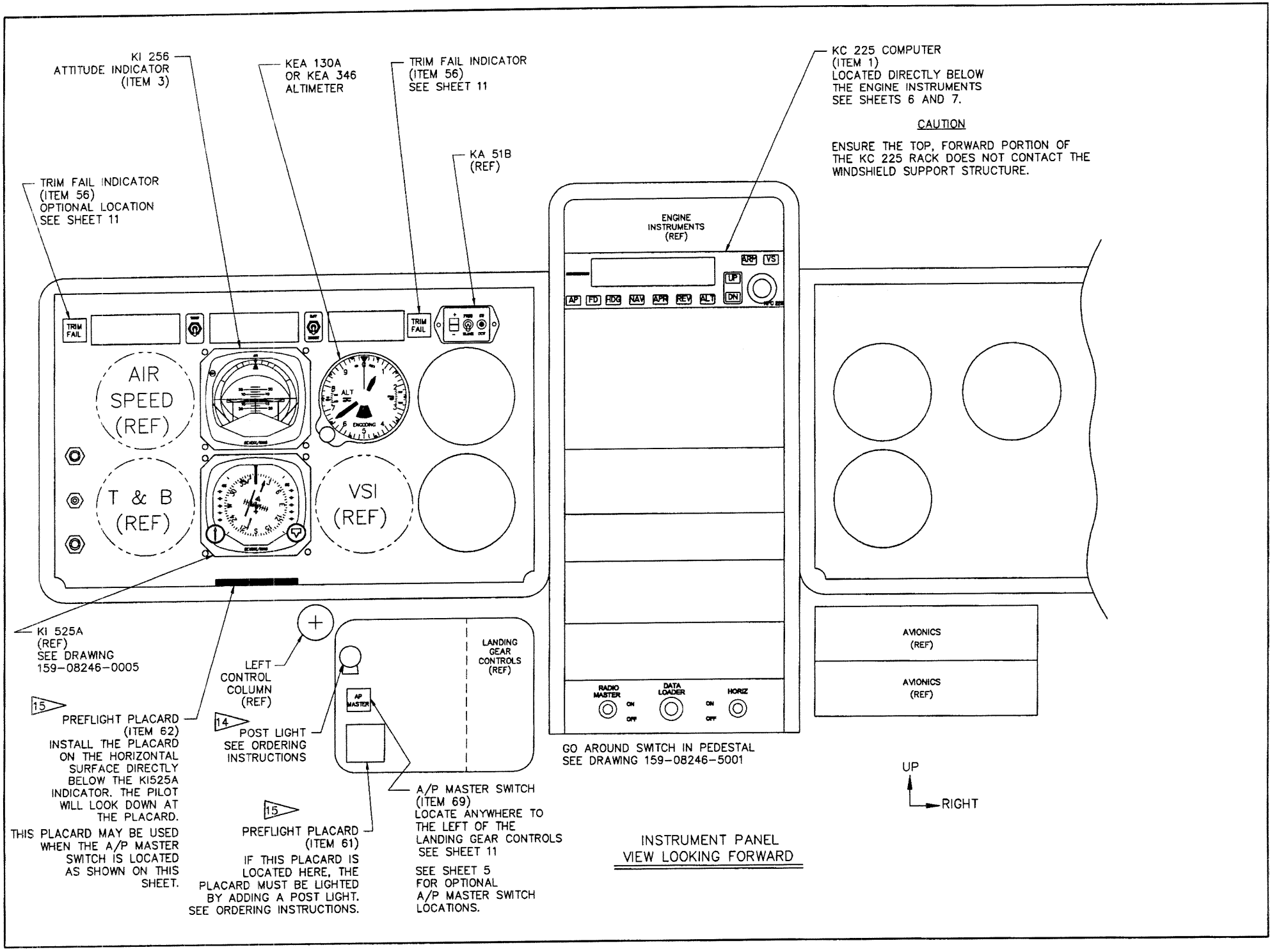
SHT REV: A

SEE SHT 1 FOR REV HISTORY

SCALE: NONE

SHT DESCRIPTION: B.O.M.

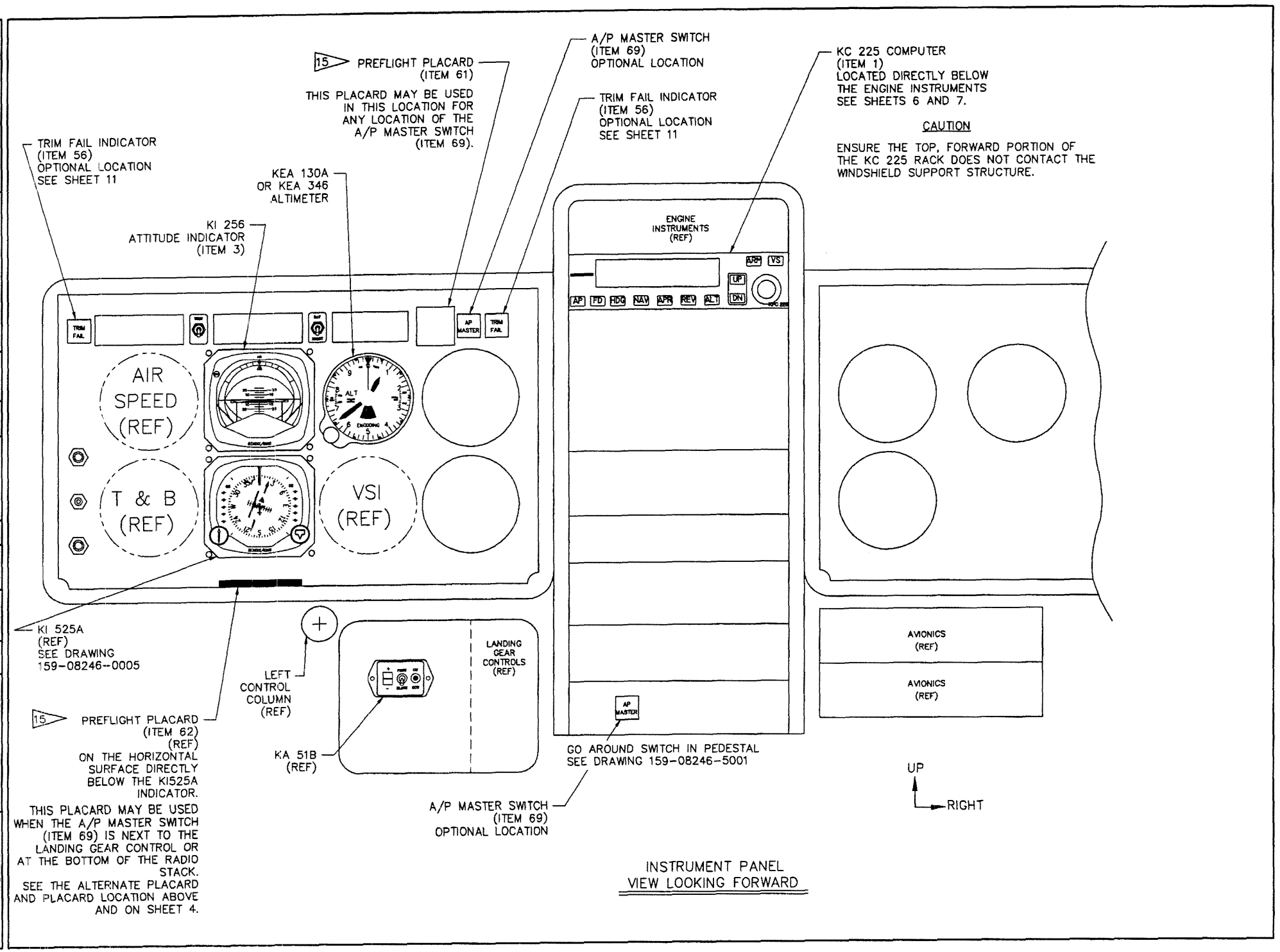
PROJ DESCRIPTION: - SOCATA 225 -



INSTRUMENT PANEL
VIEW LOOKING FORWARD

Honeywell
Honeywell International Inc.
OLATHE KANSAS USA

NAME	COCKPIT INSTALLATION
DRN: LAH	
CHK: DK	
DATE	9-99
NUMBER	159-08246-5000
SHT	4
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	INSTRUMENT PANEL LAYOUT
PROJ DESCRIPTION	- SOCATA 225 -

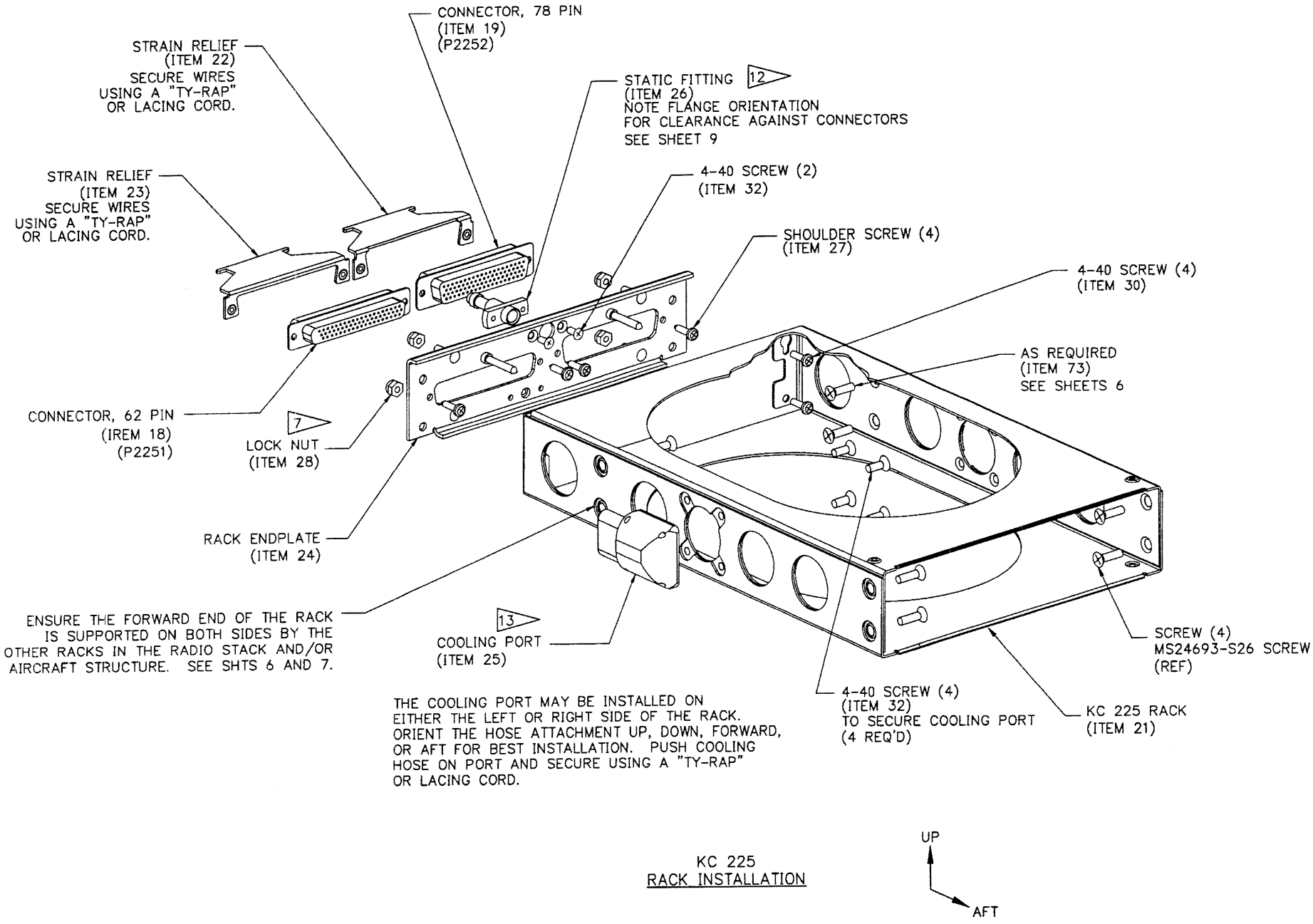


INSTRUMENT PANEL
VIEW LOOKING FORWARD

Honeywell
Honeywell International Inc.
OLATHE KANSAS USA

NAME COCKPIT INSTALLATION

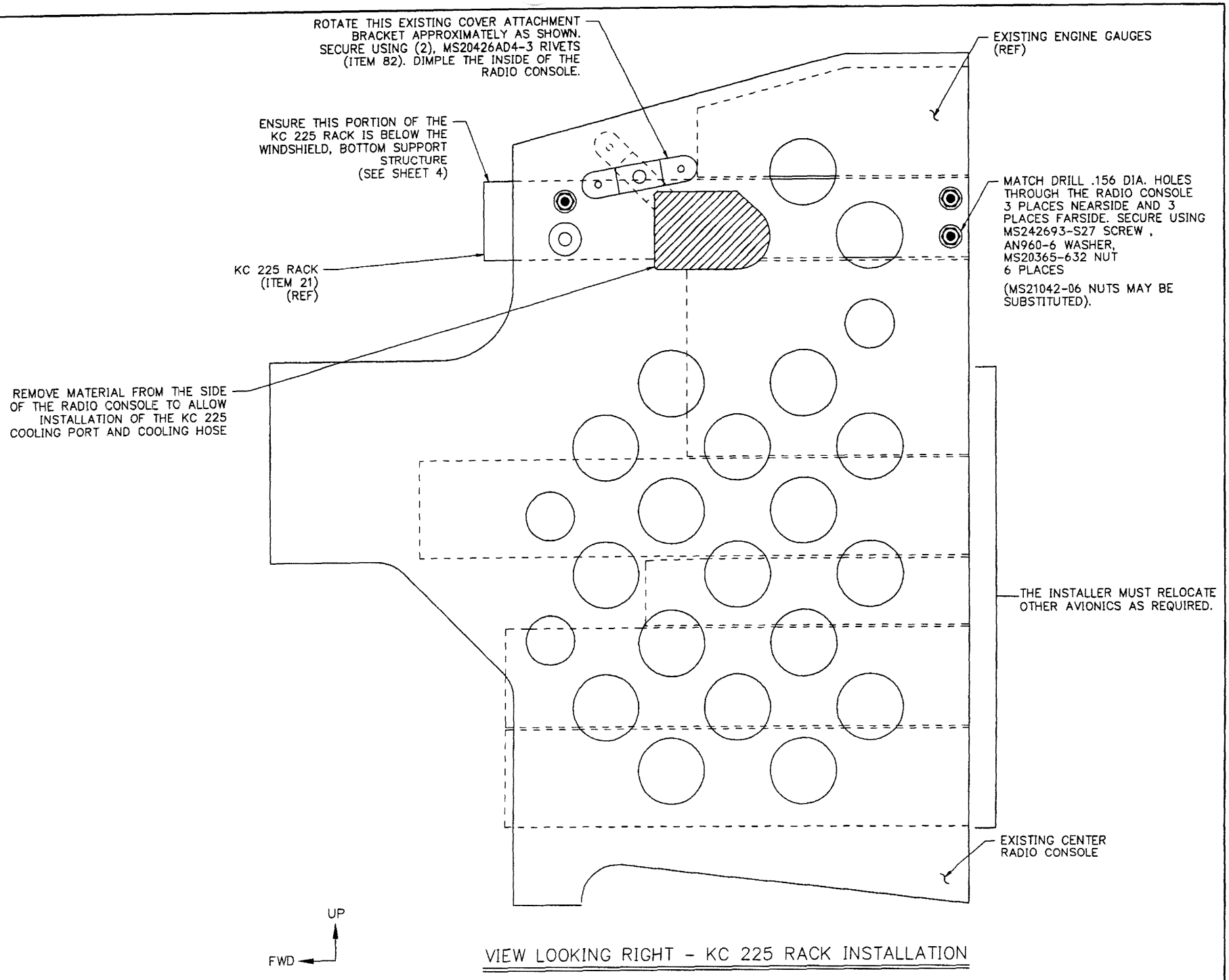
DRN: LAH
CHK: DK
DATE 9-99
NUMBER 159-08246-5000
SHT 5
SHT REV A
SEE SHT 1 FOR REV HISTORY
SCALE NONE
SHT DESCRIPTION INSTRUMENT PANEL LAYOUT
PROJ DESCRIPTION - SOCATA 225 -



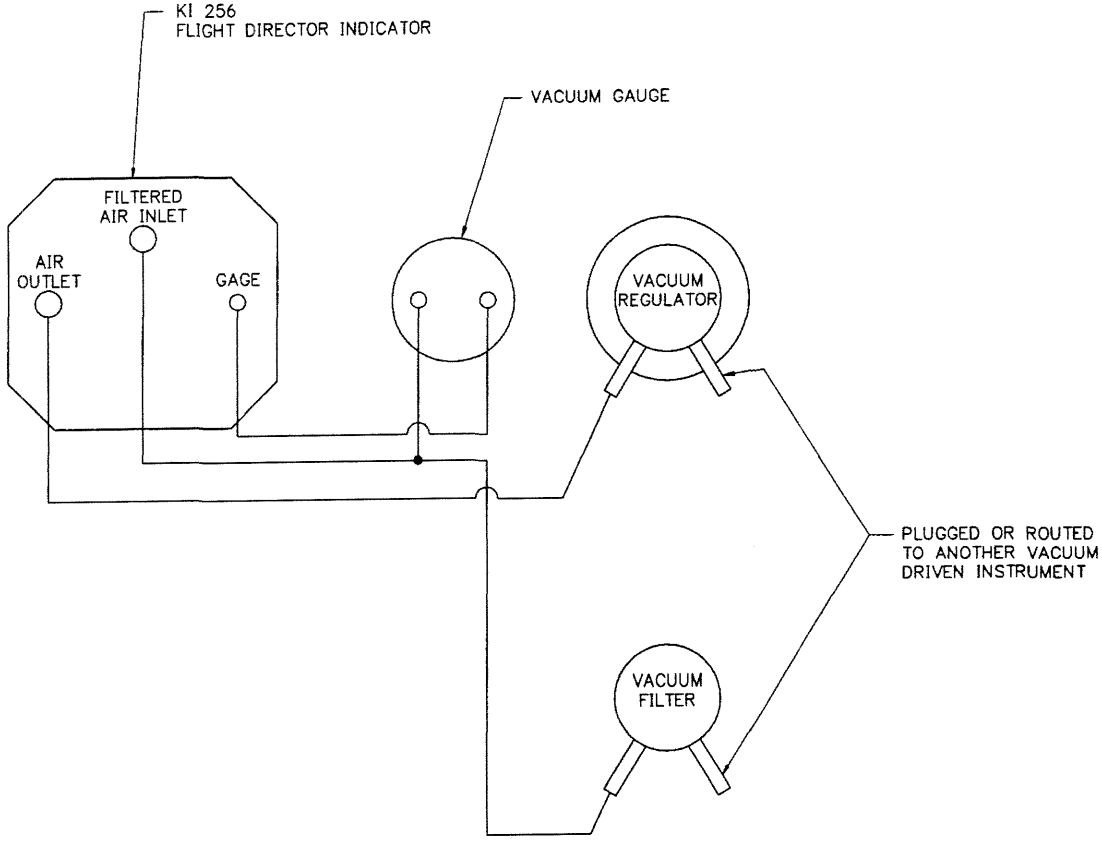
KC 225
RACK INSTALLATION

Honeywell
Honeywell International Inc.
OLATHE KANSAS USA

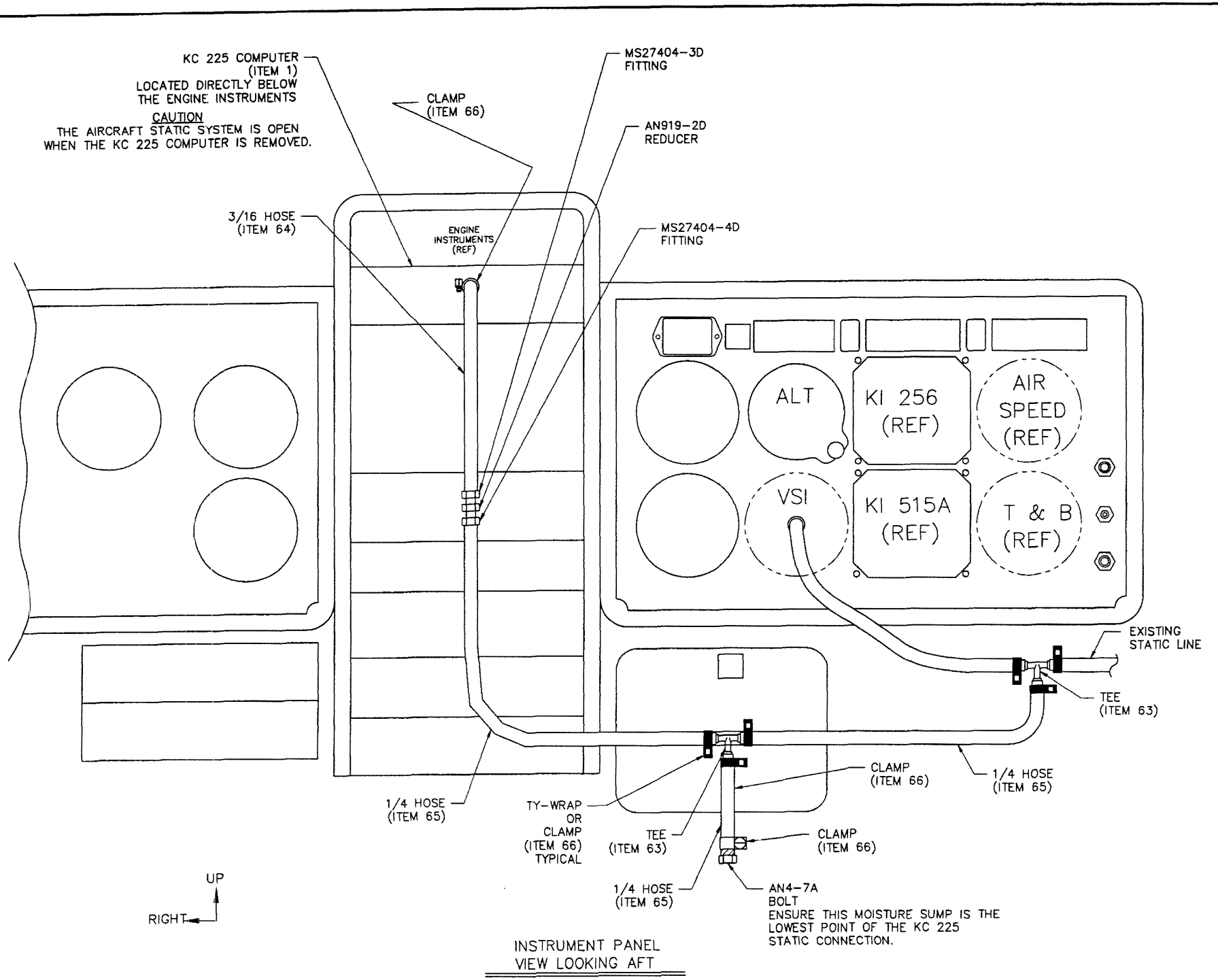
NAME	COCKPIT INSTALLATION
DRN: LAH	
CHK: JDK	
DATE	9-99
NUMBER	159-08246-5000
SHT	6
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	RACK INSTALL
PROJ DESCRIPTION	- SOCATA 225 -



Honeywell International Inc.	GLAIRE KANSAS USA
NAME	COCKPIT INSTALLATION
DRN: LAH / CHK:	
DATE	9-99
NUMBER	159-08246-5000
SHT	7
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	225 RACK INSTALL
PROJ DESCRIPTION	- SOCATA 225 -



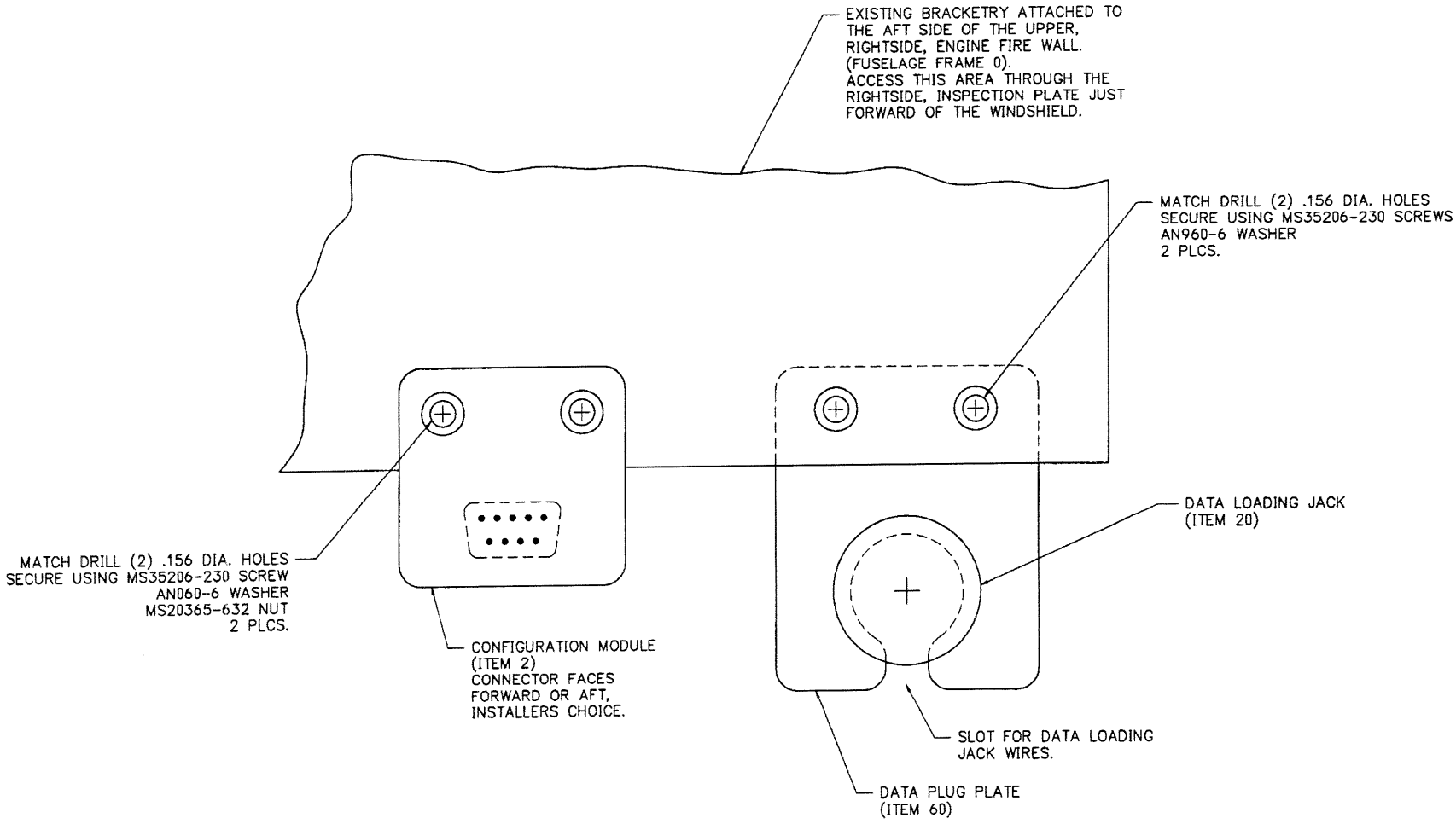
KI 256 VACUUM SCHEMATIC



INSTRUMENT PANEL
VIEW LOOKING AFT

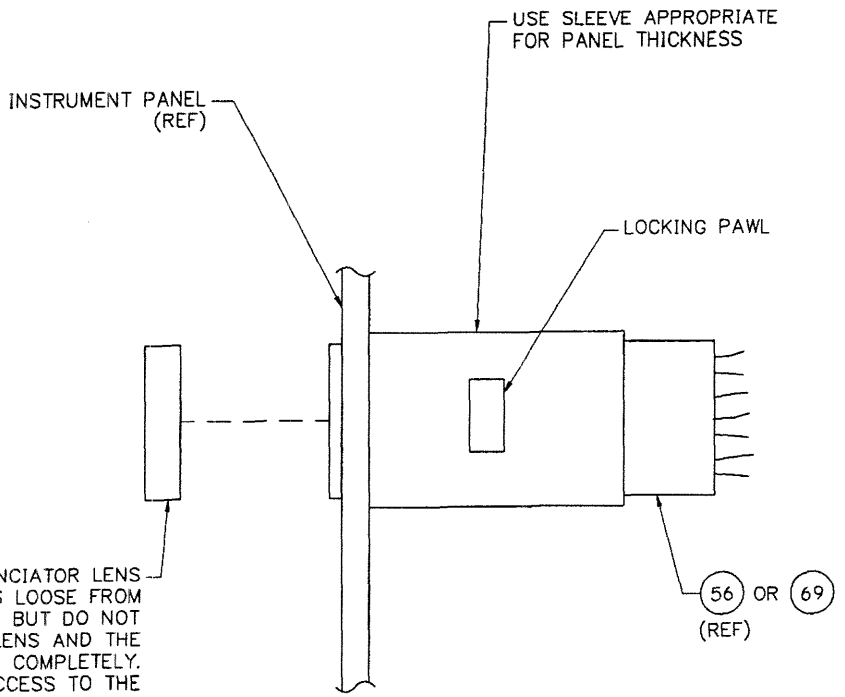
Honeywell
Honeywell International Inc.
OLATHE KANSAS USA

NAME	COCKPIT INSTALLATION
DRN: LAH / CHK: DT	
DATE	9-99
NUMBER	159-08246-5000
SHT	9
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	INSTRUMENT PANEL LAYOUT
PROJ DESCRIPTION	- SOCATA 225 -

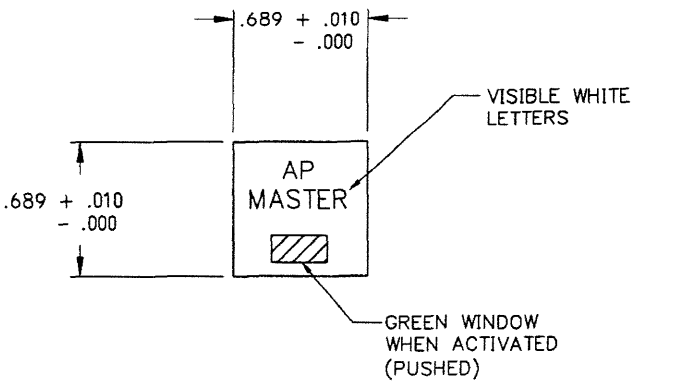


VIEW LOOKING FORWARD

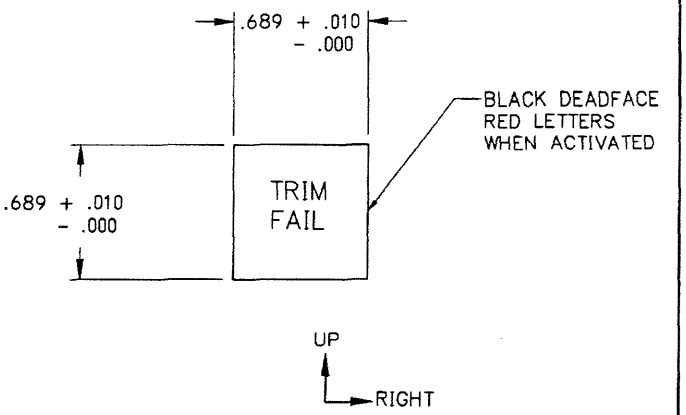
Honeywell
Honeywell International Inc.
OLATHE KANSAS USA
NAME COCKPIT INSTALLATION
DRN: LAH
CHK:
DATE 9-99
NUMBER 159-08246-5000
SHT 11
SHT REV A
SEE SHT 1 FOR REV HISTORY
SCALE NONE
SHT DESCRIPTION SWITCH/ANNUNCIATOR
PROJ DESCRIPTION - SOCATA 225 -



ANNUNCIATOR SIDE VIEW
SEE SHEETS 4 AND 5

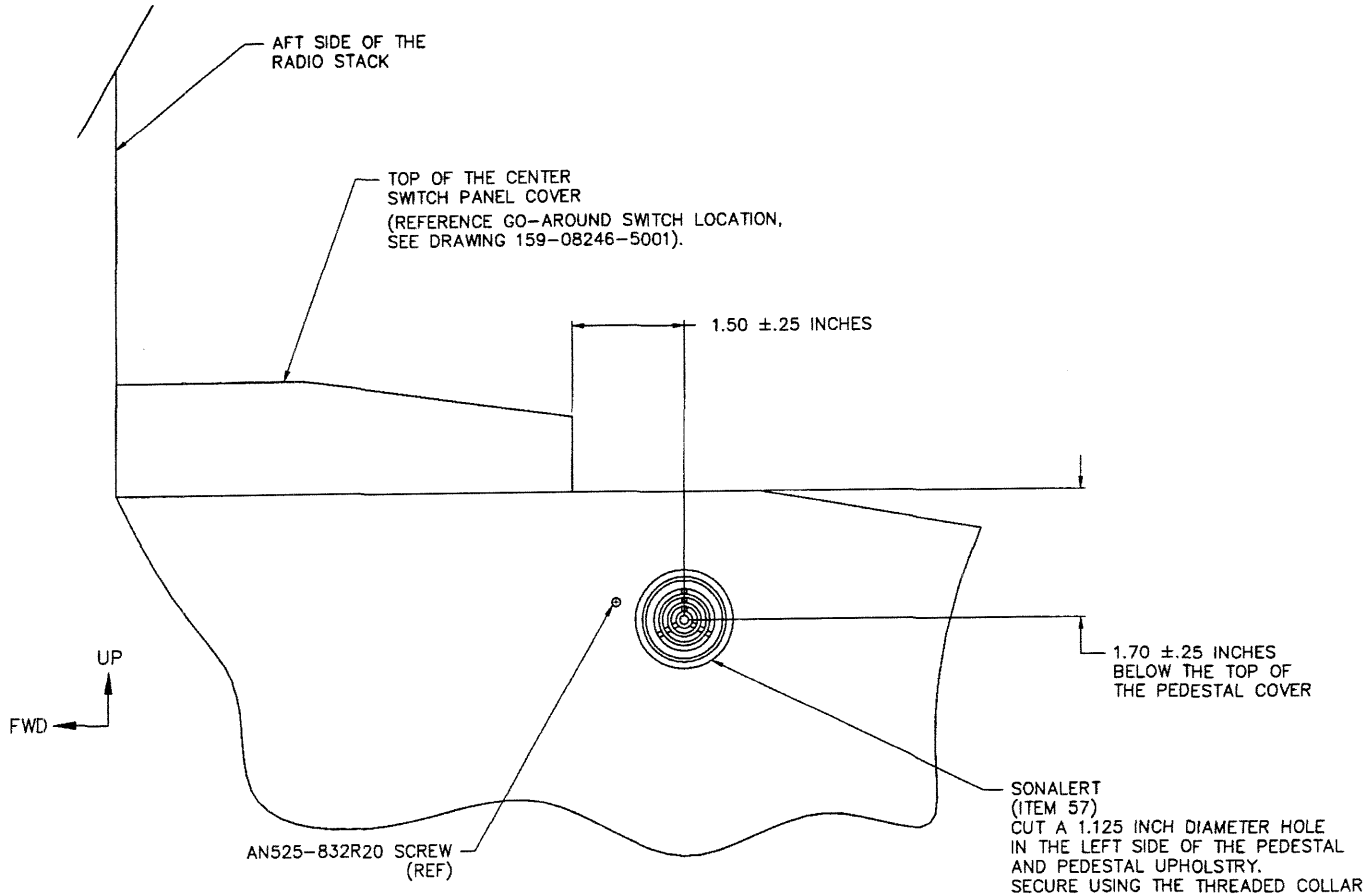


ENSURE THE DIODE MODULE (ITEM 70) IS INSTALLED WITH THE AUTOPILOT MASTER SWITCH. SEE ELECTRICAL DRAWING 159-08246-2000, APPENDIX B, OF THIS MANUAL (006-00776-0000).

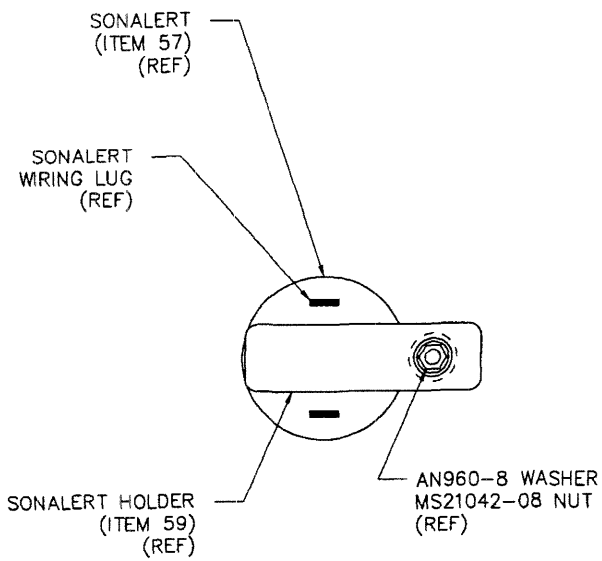


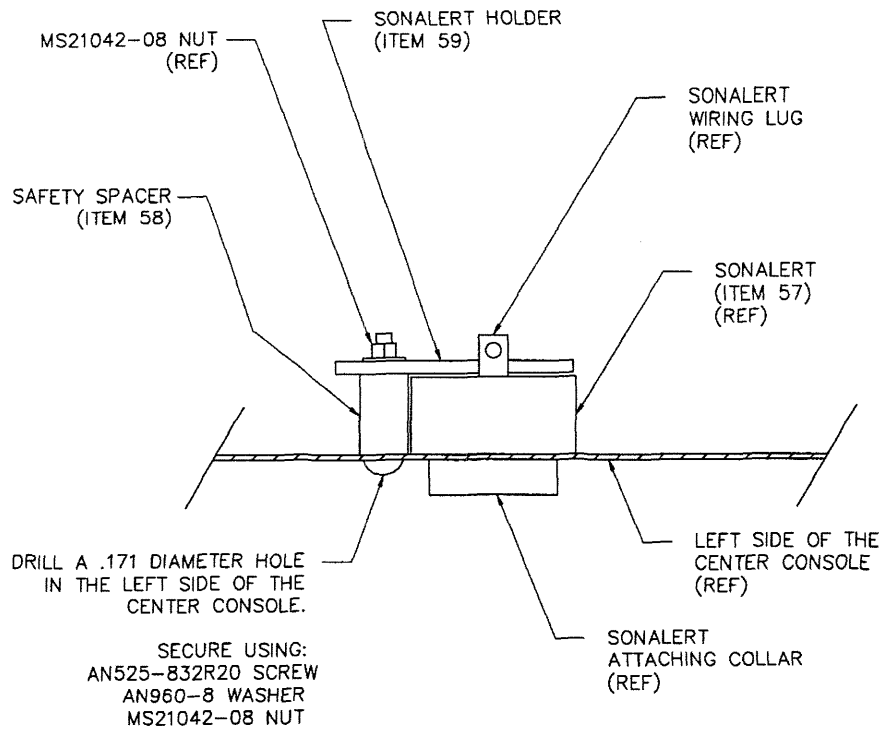
INSTRUMENT PANEL CUTOUTS
SEE SHEETS 4 AND 5

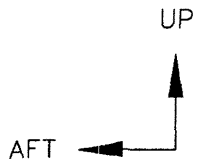
Honeywell
Honeywell International Inc.
OLATHE KANSAS USA
NAME COCKPIT INSTALLATION
DRN: LAH CHK: WK
DATE 9-99
NUMBER 159-08246-5000
SHT 12
SHT REV A
SEE SHT 1 FOR REV HISTORY
SCALE NONE
SHT DESCRIPTION SONALERT INSTALLATION
PROJ DESCRIPTION - SOCATA 225 -



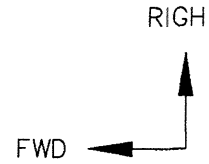
VIEW LOOKING RIGHT
COCKPIT CENTER PEDESTAL
SONALERT INSTALLATION







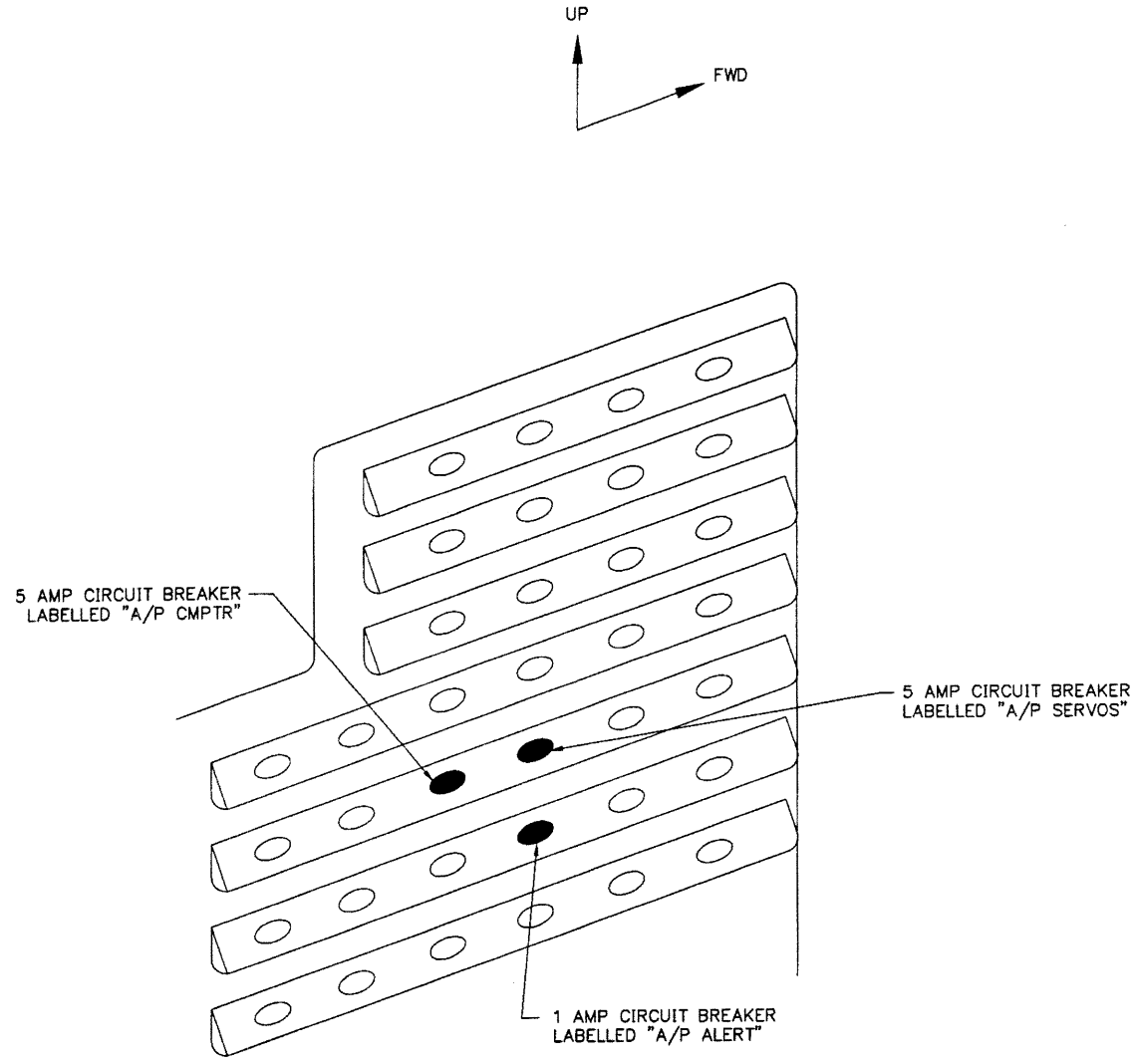
VIEW LOOKING LEFT
COCKPIT CENTER CONSOLE
SONALERT INSTALLATION



VIEW LOOKING DOWN
COCKPIT CENTER CONSOLE
SONALERT INSTALLATION

Honeywell International Inc.	Honeywell
QLATHE KANSAS USA	
NAME	COCKPIT INSTALLATION
DRN: LAH / CHK: DK	
DATE	9-99
NUMBER	159-08246-5000
SHT	13
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	SONALERT INSTALLATION
PROJ DESCRIPTION	- SOCATA 225 -

Honeywell
Honeywell International Inc.
OLATHE KANSAS USA
NAME COCKPIT INSTALLATION
DRN: LAH
CHK:
DATE 9-99
NUMBER 159-08246-5000
SHT 14
SHT REV A
SEE SHT 1 FOR REV HISTORY
SCALE NONE
SHT DESCRIPTION CIRCUIT BREAKERS
PROJ DESCRIPTION - SOCATA 225 -



VIEW LOOKING DOWN AND LEFT
LEFT SIDE OF THE COCKPIT
MAIN CFIRCUIT BREAKER PANEL

Allied Signal Inc.	
QA ATHE KANSAS USA	
NAME	CONTROL SWITCHING
DRN: LAH	
CHK: DK	
DATE	9-99
NUMBER	159-08246-5001
SHT	1
SHT REV	-
SCALE	NONE
SHT DESCRIPTION	REVISION HISTORY
PROJ DESCRIPTION	- SOCATA 225 -

STATUS	
SHT	REV
1	-
2	-
3	-
4	-
5	-
6	-

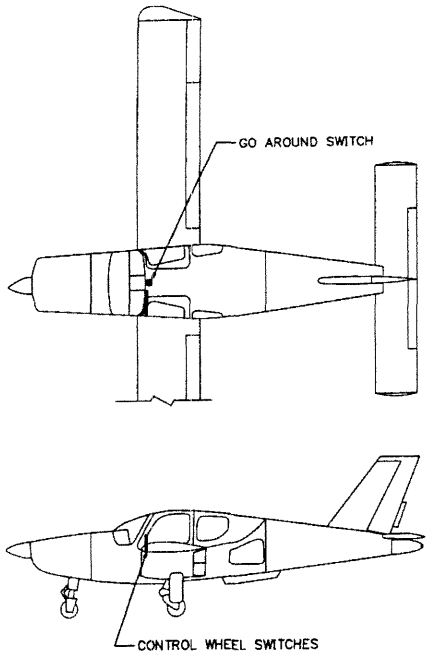
SHT REV REFLECTS REVISION LEVEL OF DRAWING PACKAGE WHEN SHEET WAS LAST CHANGED.

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION
-	1-6	FIRST RELEASE. APPVD: DAVE KRIZ DATE: 9/13/99

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION



NOTES:

1. SEE ELECTRICAL INTERCONNECT, 159-08246-2000, FOR WIRING INSTRUCTIONS.
2. THE ITEMS SHOWN HERE APPLY TO THE CONTROL SWITCHING INSTALLATION ONLY. KIT 050-03604-0000 ALSO CONTAINS ITEMS USED ELSEWHERE IN THE INSTALLATION.

	REQ	A/S PART NUMBER	STANDARD PART NO.	DESCRIPTION	ITEM
					15
					14
					13
					12
					11
2	1	300-09744-0501	FAA-PMA	SWITCH ASSEMBLY	10
2	1	089-06344-0003	FAA-PMA	4-40 X 3/16 SCREW	9
2	2	089-05111-0012	FAA-PMA	4-40 X 3/4 SCREW	8
2	1	088-1517-01	FAA-PMA	SWITCH CAP COVER	7
2	1	088-1516-01	FAA-PMA	SWITCH CAP BASE	6
2	1	057-2869-01	FAA-PMA	A/P DISC DECAL	5
2	1	057-2869-02	FAA-PMA	CWS DECAL	4
2	1	057-02869-0002	FAA-PMA	MIC DECAL	3
2	1	047-7273-03	FAA-PMA	SWITCH PLATE	2
2	3	031-00514-0000	FAA-PMA	SWITCH	1

AlliedSignal Inc. OLATHE KANSAS USA

NAME: CONTROL SWITCHING

DRN: LAH CHK: DK

DATE: 9-99

NUMBER: 159-08246-5001

SHT: 2

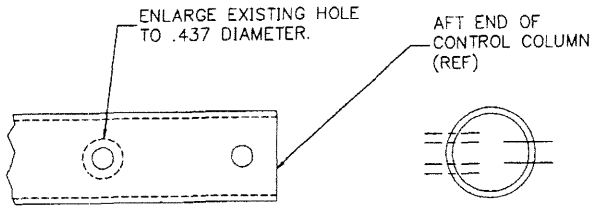
SHT REV: -

SEE SHT 1 FOR REV HISTORY

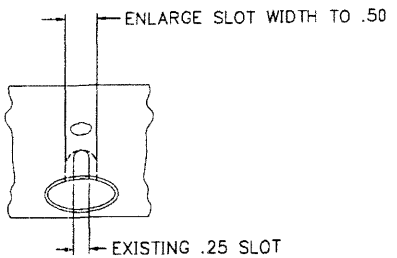
SCALE: NONE

SHT DESCRIPTION: B.O.M AND NOTES

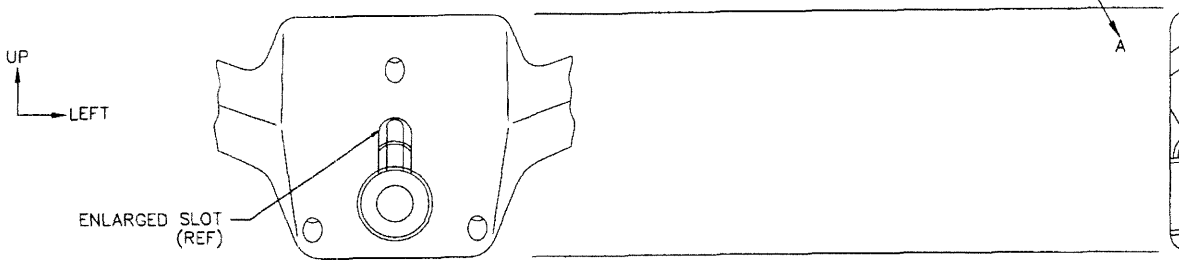
PROJ DESCRIPTION: - SOCATA 225 -



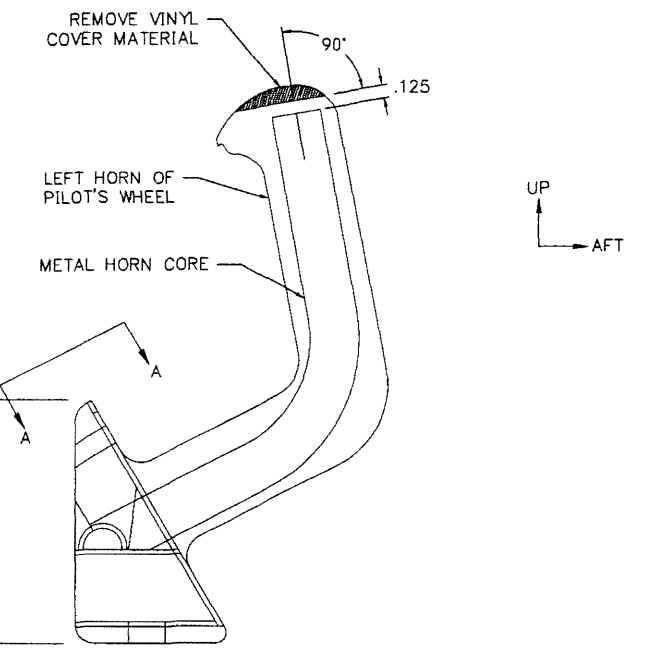
VIEW LOOKING UP AT AFT END OF CONTROL COLUMN



VIEW A-A

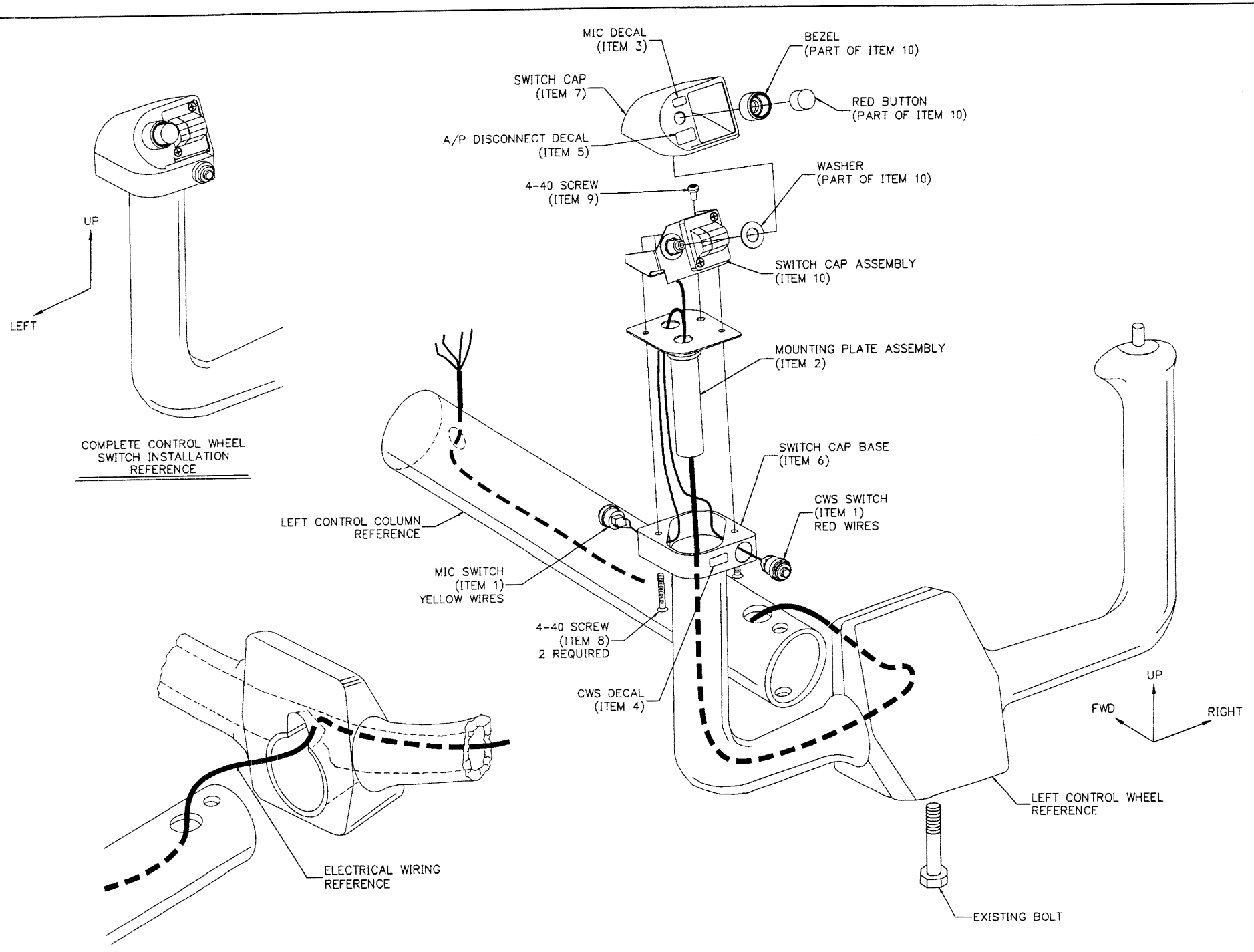


VIEW LOOKING AFT LEFT CONTROL WHEEL



VIEW LOOKING AFT LEFT HORN OF LEFT CONTROL WHEEL

CONTROL WHEEL AND CONTROL COLUMN MODIFICATION

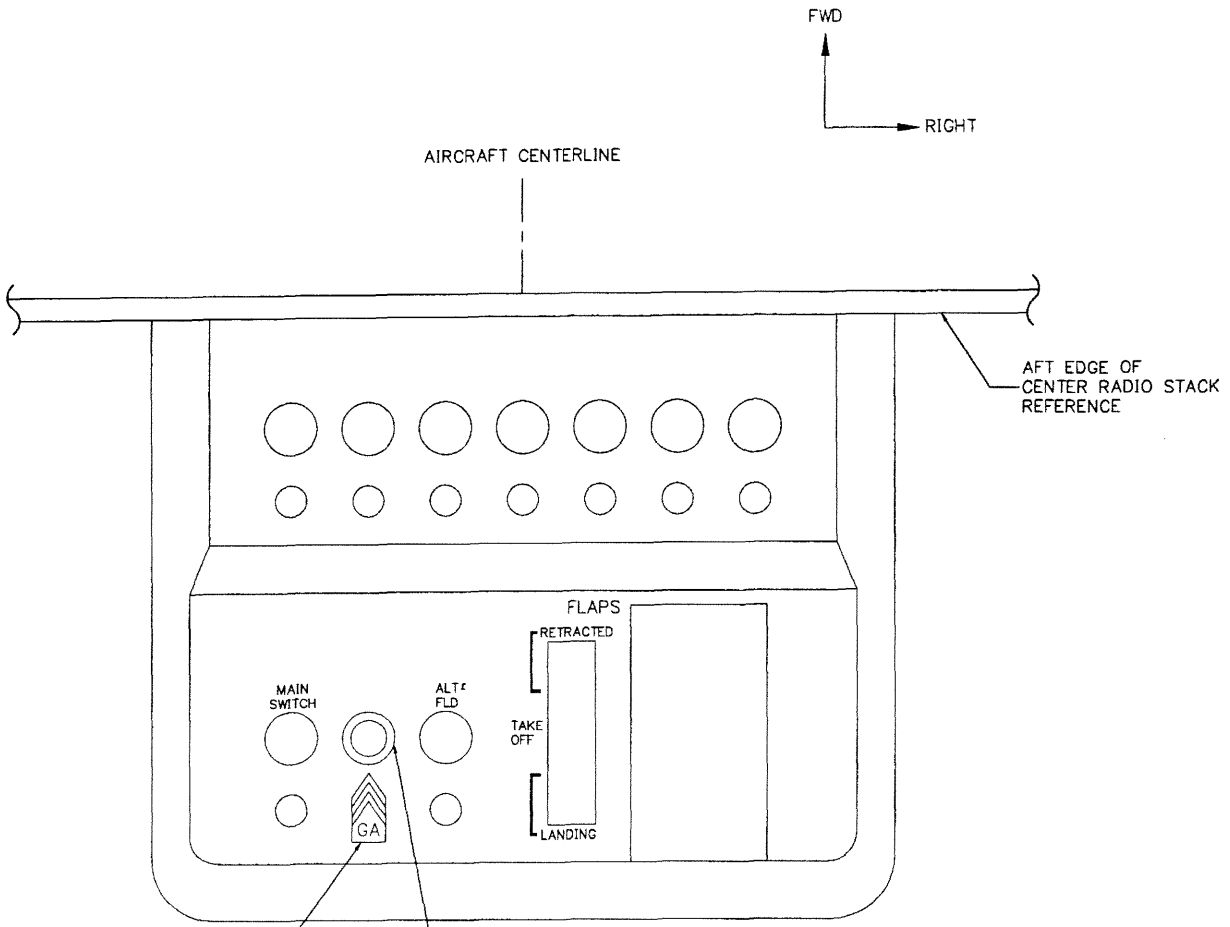


COMPLETE CONTROL WHEEL SWITCH INSTALLATION REFERENCE

Allied Signal Inc.	GLATFE KANSAS USA	NAME	DRN:MPM CHK:	DATE	NUMBER	SHT	SHT REV	SEE SHT FOR REV HISTORY	SCALE
		CONTROL SWITCHING		9-99	159-08246-5001	4	–		NONE

SHT DESCRIPTION: CONTROL WHEEL SWITCHES

PROJ DESCRIPTION: - SOCATA 225 -



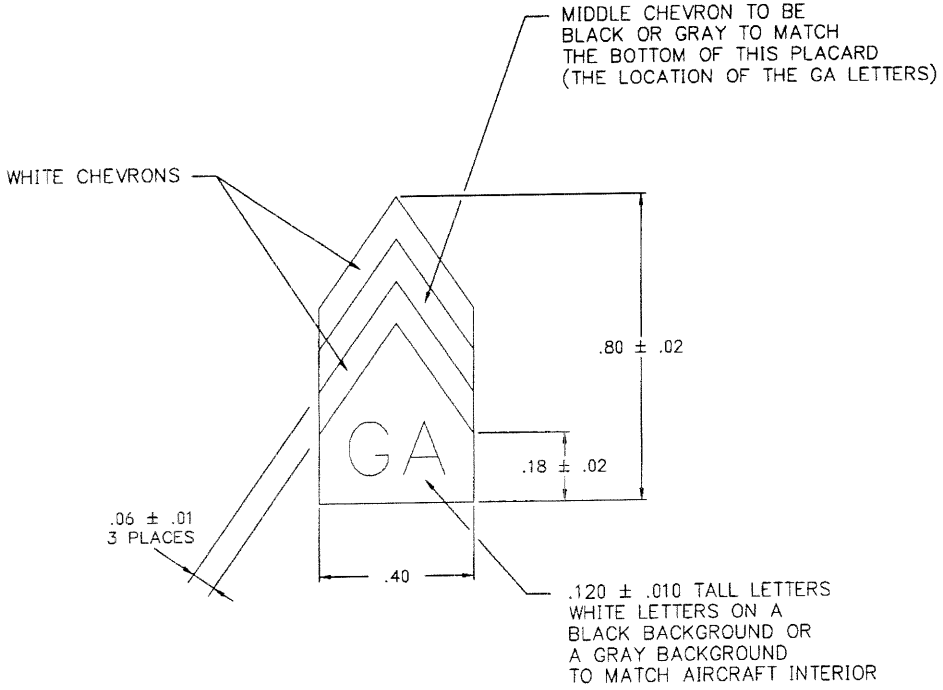
DRILL A .375 DIAMETER HOLE IN THE METAL SUBPANEL. THE GO AROUND SWITCH IS FRICTION FIT. APPLY A SUITABLE ADHESIVE DURING INSTALLATION TO ENSURE A PERMANENT INSTALLATION.

CUT A .450 INCH DIAMETER HOLE IN THE PLASTIC COVER TO ALLOW THE SWITCH BEZEL TO PROTRUDE ABOVE THE PLASTIC COVER.

SEE DRAWING 159-08246-2000 FOR WIRING DETAIL.

VIEW LOOKING DOWN
COCKPIT, CENTER, SWITCH PANEL

Allied Signal Inc.	
OLATHE KANSAS USA	
NAME	CONTROL SWITCHING
DRN: LAH	
CHK: DK	
DATE	9-99
NUMBER	159-08246-5001
SHT	5
SHT REV	-
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	GO AROUND SWITCH
PROJ DESCRIPTION	- SOCATA 225 -



GO AROUND SWITCH
IDENTIFICATION DETAIL

COLOR PATTERN
GA LETTERING NOT SHOWN

NOTE:

THE INSTALLER MUST PROVIDE
THIS IDENTIFICATION.

Allied Signal Inc. Olathe Kansas USA	
NAME	CONTROL SWITCHING
DRN: DK	
CHK: DK	
DATE	9-99
NUMBER	159-08246-5001
SHT	6
SHT REV	-
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	GA SWITCH IDENTIFICATION
PROJ DESCRIPTION	- SOCATA 225 -

Allied Signal Inc. | QUALITY KANSAS USA

NAME	DRN: LAH	DATE	NUMBER	SHT	SHT REV
ROLL SERVO INSTALL	CHK: DK	10-99	159-08246-5002	1	-

SCALE	SHT DESCRIPTION	PROJ DESCRIPTION
NONE	REVISION HISTORY	- SOCATA 225 -

STATUS

SHT	REV
1	-
2	-
3	-
4	-
5	-
6	-
7	-
8	-

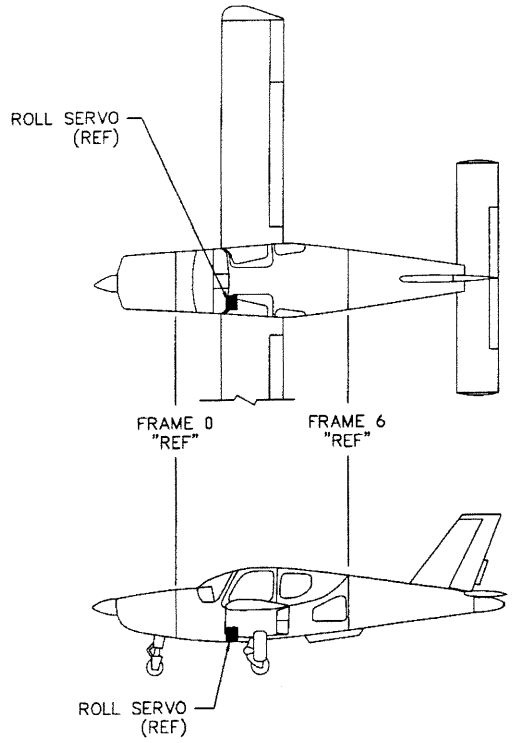
SHT REV REFLECTS REVISION LEVEL OF DRAWING PACKAGE WHEN SHEET WAS LAST CHANGED.

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION
-	1-8	FIRST RELEASE. APPVD: DAVE KRIZ DATE: 9/13/99

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION



NOTES:

1. SEE INSTALLATION MANUAL, 006-00776-0000, SECTION 1.3, FOR CORRECT PART NUMBERS.
2. USING THE CONNECTOR (ITEM 57), THE PINS (ITEM 56), THE HOOD (ITEM 55), THE GUIDES (ITEMS 52 & 53) AND THE LEVER/PIVOT ASSEMBLY (ITEM 54) CONNECT THE ROLL SERVO (ITEM 1) TO THE AIRCRAFT WIRING HARNESS AS SHOWN IN APPENDIX B OF INSTALLATION MANUAL 006-00776-0000.
3. THE INSTALLER MAY SUPPLY THE HARDWARE CONTAINED IN THIS KIT, OR ORDER THE OPTIONAL HARDWARE KIT, 050-03604-0001 FROM ALLIEDSIGNAL.
4. THE ITEMS SHOWN HERE APPLY TO THE ROLL SERVO INSTALLATION. KIT 050-03604-0000 ALSO CONTAINS ITEMS USED ELSEWHERE IN THE INSTALLATION.
5. BEFORE INSTALLING THE SERVO MOUNT, ADJUST THE SLIP CLUTCH TO THE VALUE IN THE INSTALLATION MANUAL, (006-00776-0000). AFTER CONNECTION TO THE AIRPLANE WIRING HARNESS, VERIFY THE CAPSTAN ROTATES THE CORRECT DIRECTION PER THE INSTALLATION MANUAL.
6. ATTACH 2 NUTPLATES (ITEM 60) TO THE BACK OF THE ROLL SERVO FACE-PLATE USING 4 SCREWS (ITEM 59).

AlliedSignal Inc. OLATHE KANSAS USA

NAME	DRN: LAH	DATE	NUMBER	SHT	SHT REV	SEE SHT 1 FOR REV HISTORY	SCALE	SHT DESCRIPTION	PROJ DESCRIPTION
ROLL SERVO INSTALL	CHK: JT	10-99	159-08246-5002	2	–		NONE	NOTES	– SOCATA 225 –

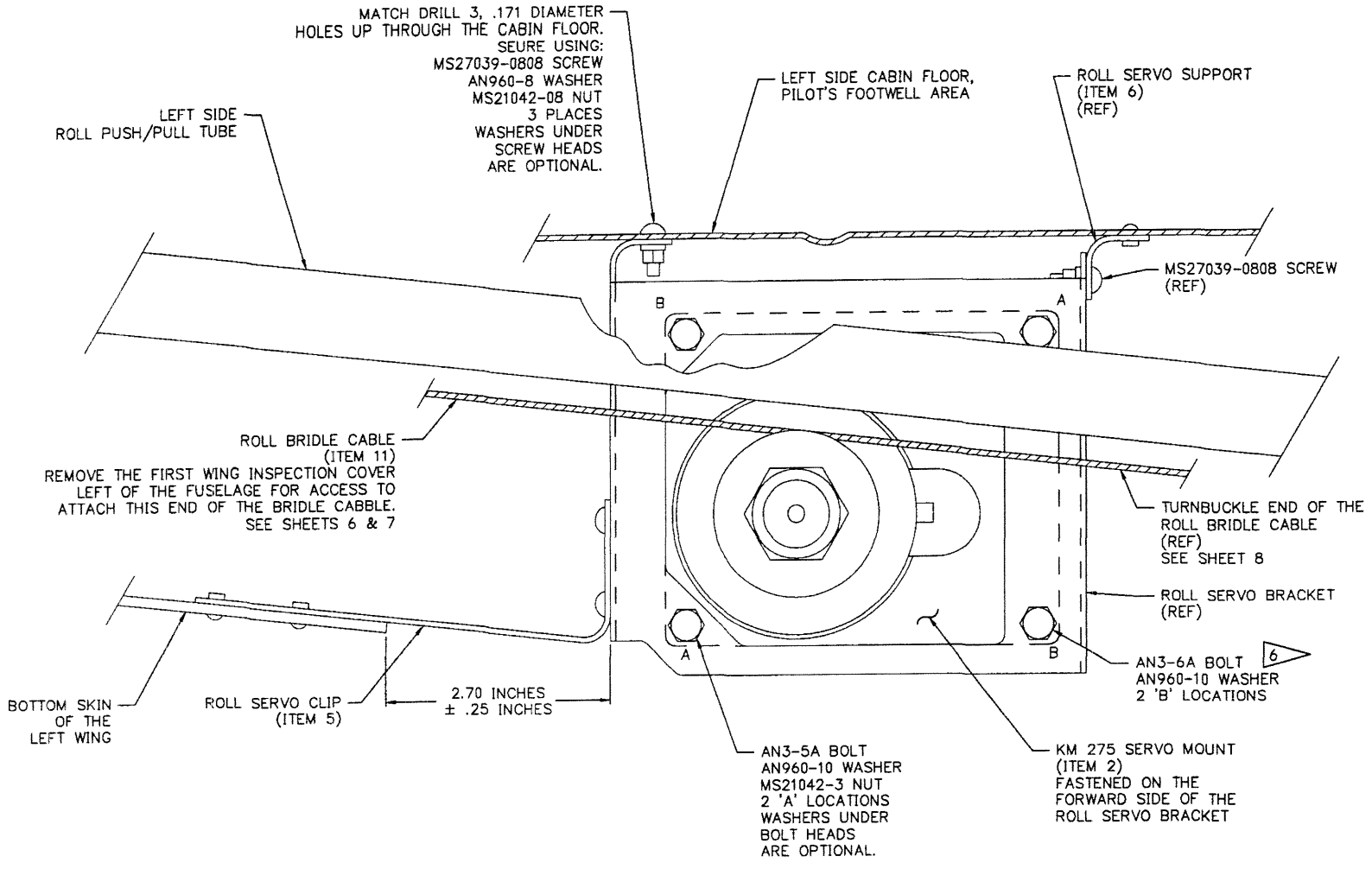
				47
				46
				45
				44
14		MS20470AD3-4	3/32, R.H. RIVET	43
2		MS20470AD3-5	3/32, R.H., RIVET	42
2		MS20426AD4-4	1/8, F.H., RIVET	41
2		MS21256-1	TURNBARREL LOCK	40
6		MS24665-132	COTTER PIN	39
4		AN320-3	CASTLE NUT, #10	38
2		MS21042-3	LOCK NUT, #10	37
8		MS21042-08	LOCK NUT, #8	36
8		AN960-8	FLAT WASHER, #8	35
10		AN960-10	FLAT WASHER, #10	34
2		AN23-10	DRILLED 10-32 SCREW	33
2		AN3-11	DRILLED 10-32 BOLT	32
2		AN3-7A	10-32 BOLT	31
2		AN3-6A	10-32 BOLT	30
2		AN3-5A	10-32 BOLT	29
8		M27039-0808	8-32 SCREW	28
3	050-03604-0001		OPTIONAL HARDWARE KIT	27

				26
				25
				24
				23
				22
				21
				20
				19
				18
				17
				16
				15
				14
				13
				12
1	200-3500-00	FAA-PMA	ROLL BRIDLE CABLE	11
2	147-0059-00	FAA-PMA	BUSHING	10
4	076-1657-01	FAA-PMA	SPACER	9
				8
1	047-12525-0001	FAA-PMA	ROLL SERVO BRACKET	7
1	047-7294-01	FAA-PMA	ROLL SERVO SUPPORT	6
1	047-7293-01	FAA-PMA	ROLL SERVO CLIP	5
4	047-7292-01	FAA-PMA	CONTROL TUBE CLAMP	4
2	047-5658-00	FAA-PMA	PITCH LINK	3
1	065-XXXXX-XXXX	TSO	ROLL SERVO MOUNT	2
1	065-XXXXX-XXXX	TSO	ROLL SERVO	1
REQ	A/S PART NUMBER	STANDARD PART NO.	DESCRIPTION	ITEM

6	2	090-00731-0000	FAA-PMA	NUT ANCHOR CORNER	60
6	4	089-05899-0003	FAA-PMA	SCR PHP 2-56 X 3/16	59
	1	057-01739-0000	FAA-PMA	INSTALLATION TAGS	58
2	1	030-02000-0000	FAA-PMA	CONNECTOR HOUSING	57
2	14	030-01280-0000	FAA-PMA	CRIMP CONTACT SOCKETS	56
2	1	030-01009-0000	FAA-PMA	HOOD CONNECTOR	55
2	2	030-01008-0000	FAA-PMA	LVR/PVT ASSY	54
2	1	090-00348-0001	FAA-PMA	CONNECTOR GUIDE	53
2	1	090-00348-0000	FAA-PMA	CONNECTOR GUIDE	52
		050-00398-0000		SERVO INSTALLATION KIT	51

				50
				49
				48
REQ	A/S PART NUMBER	STANDARD PART NO.	DESCRIPTION	ITEM

AlliedSignal Inc.	OLATHE KANSAS USA
NAME	ROLL SERVO INSTALL
DRN: LAH	CHK: DK
DATE	10-99
NUMBER	159-08246-5002
SHT	3
SHT REV	-
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	B.O.M.
PROJ DESCRIPTION	- SOCATA 225 -



UP

LEFT

VIEW LOOKING FORWARD
BELOW THE PILOT CABIN FLOOR
ROLL SERVO INSTALLATION

REMOVE THE BOTTOM, CENTER, FUSELAGE COVER
TO EXPOSE THE AILERON PUSH/PULL TUBES

Allied Signal Inc. OLATHE KANSAS USA

NAME: ROLL SERVO INSTALL

DRN: DK
CHK: DK

DATE: 9-99

NUMBER: 159-08246-5002

SHT: 4

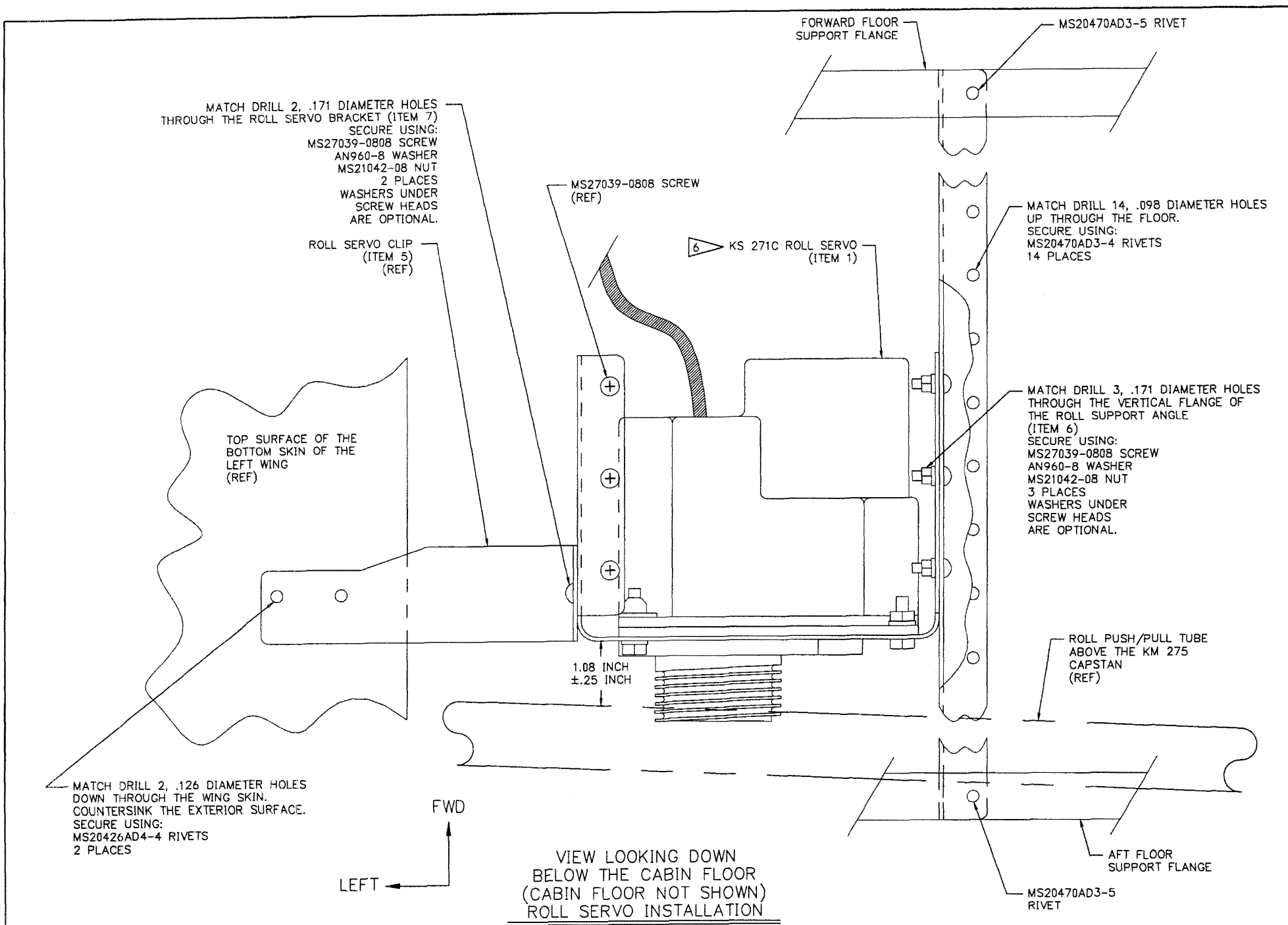
SHT REV: -

SEE SHT 1 FOR REV HISTORY

SCALE: NONE

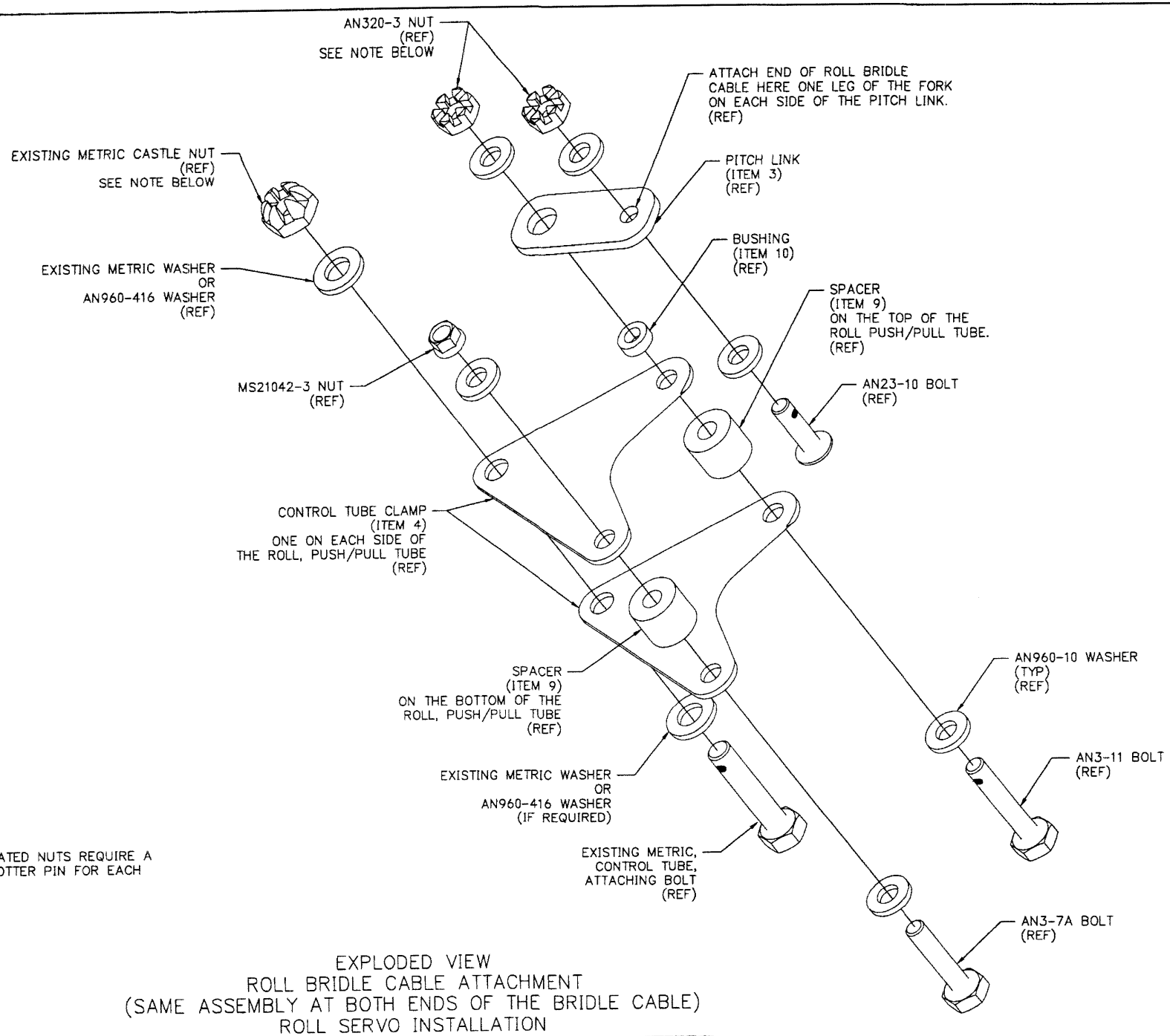
SHT DESCRIPTION: ROLL SERVO BRACKET

PROJ DESCRIPTION: - SOCATA 225 -



VIEW LOOKING DOWN BELOW THE CABIN FLOOR (CABIN FLOOR NOT SHOWN) ROLL SERVO INSTALLATION

Allied Signal Inc.	
OLATHE KANSAS USA	
NAME	ROLL SERVO INSTALL
DRN: DK CHK: DK	
DATE	9-99
NUMBER	159-08246-5002
SHT	5
SHT REV	-
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	ROLL SERVO BRACKETS
PROJ DESCRIPTION	- SOCATA 225 -



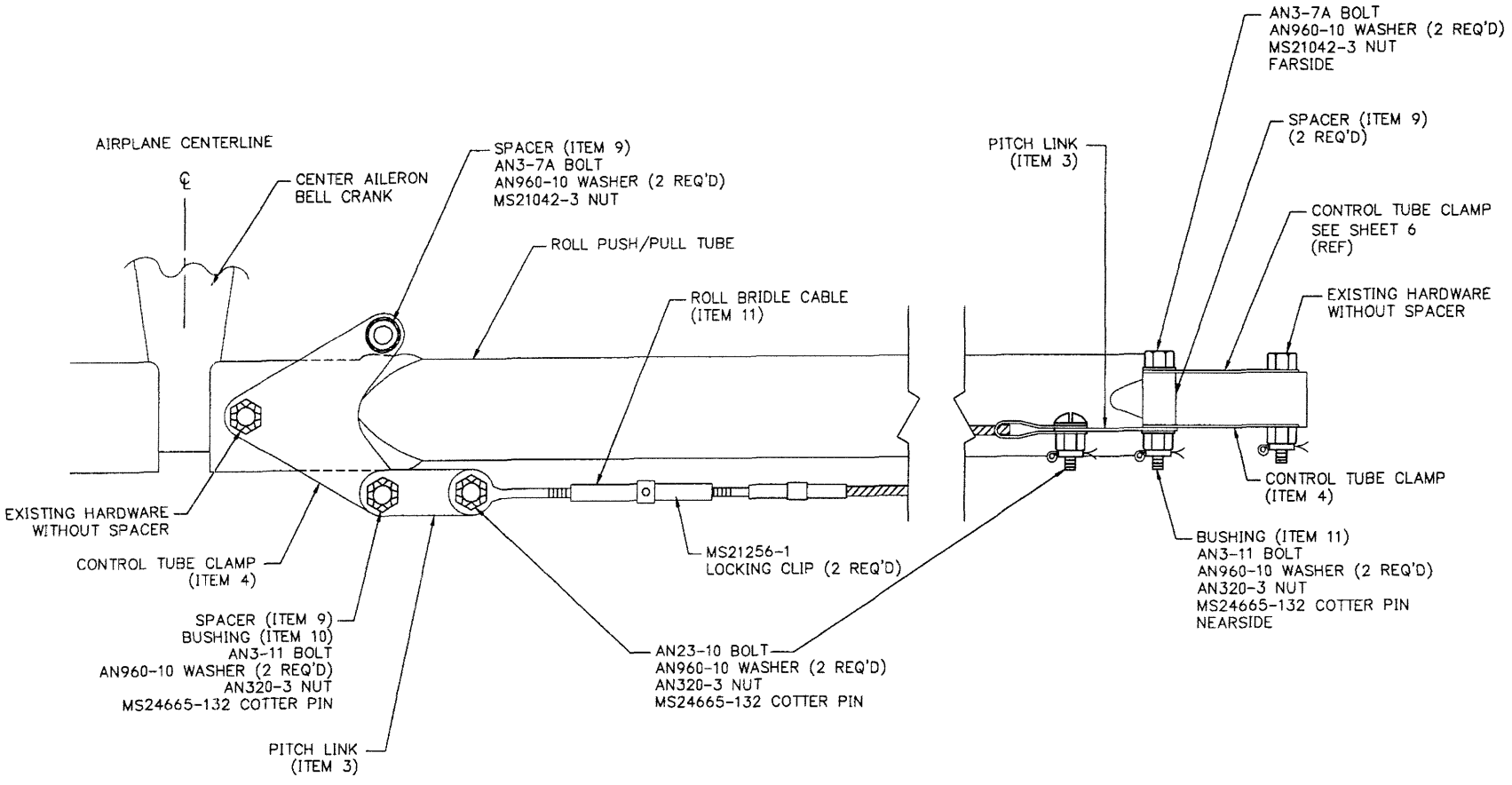
NOTE:

THE (3) CASTELATED NUTS REQUIRE A MS24665-132 COTTER PIN FOR EACH NUT.

EXPLODED VIEW
ROLL BRIDLE CABLE ATTACHMENT
(SAME ASSEMBLY AT BOTH ENDS OF THE BRIDLE CABLE)
ROLL SERVO INSTALLATION

SEE SHEET 7

Alliedsignal Inc.	
OLATHE KANSAS USA	
NAME	ROLL SERVO INSTALL
DRN: DK	
CHK: DK	
DATE	9-99
NUMBER	159-08246-5002
SHT	6
SHT REV	-
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	BRIDLE CABLE CLAMPS
PROJ DESCRIPTION	- SOCATA 225 -



VIEW LOOKING AFT
LEFT SIDE
AILERON PUSH/PULL TUBE

REPEAT THIS INSTALLATION ON THE OUTBOARD END OF THIS PUSH/PULL TUBE

UP
LEFT

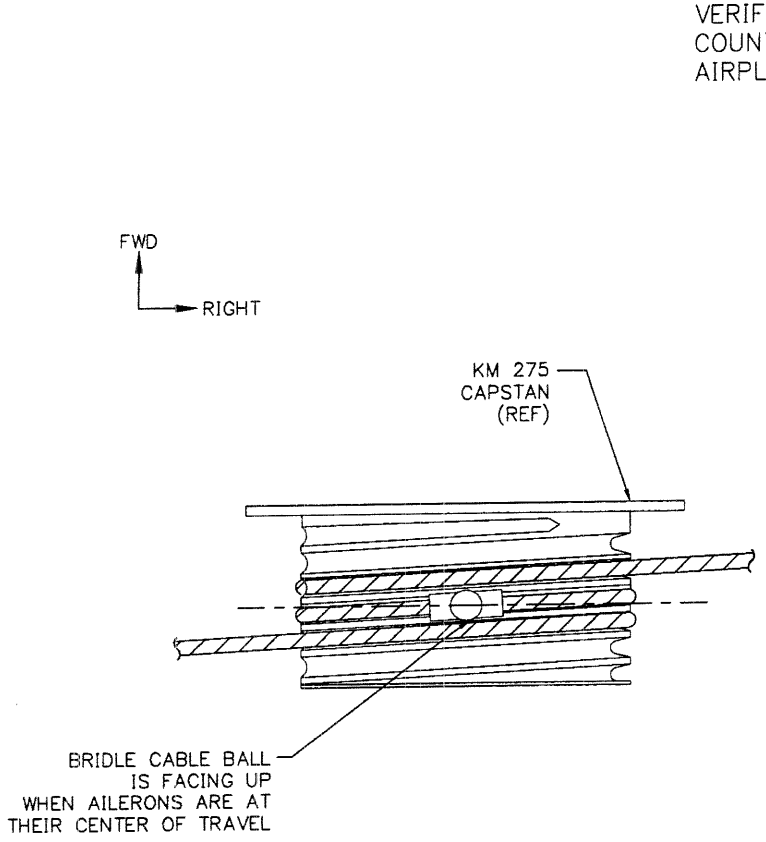
VIEW LOOKING DOWN
OUTBOARD END OF LEFT SIDE
AILERON PUSH/PULL TUBE

Allied Signal Inc.	
GLATHE KANSAS USA	
NAME	ROLL SERVO INSTALL
DRN: LAH	
CHK: DK	
DATE	10-99
NUMBER	159-08246-5002
SHT	7
SHT REV	-
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	CONTROL TUBE CLAMP
PROJ DESCRIPTION	- SOCATA 225 -

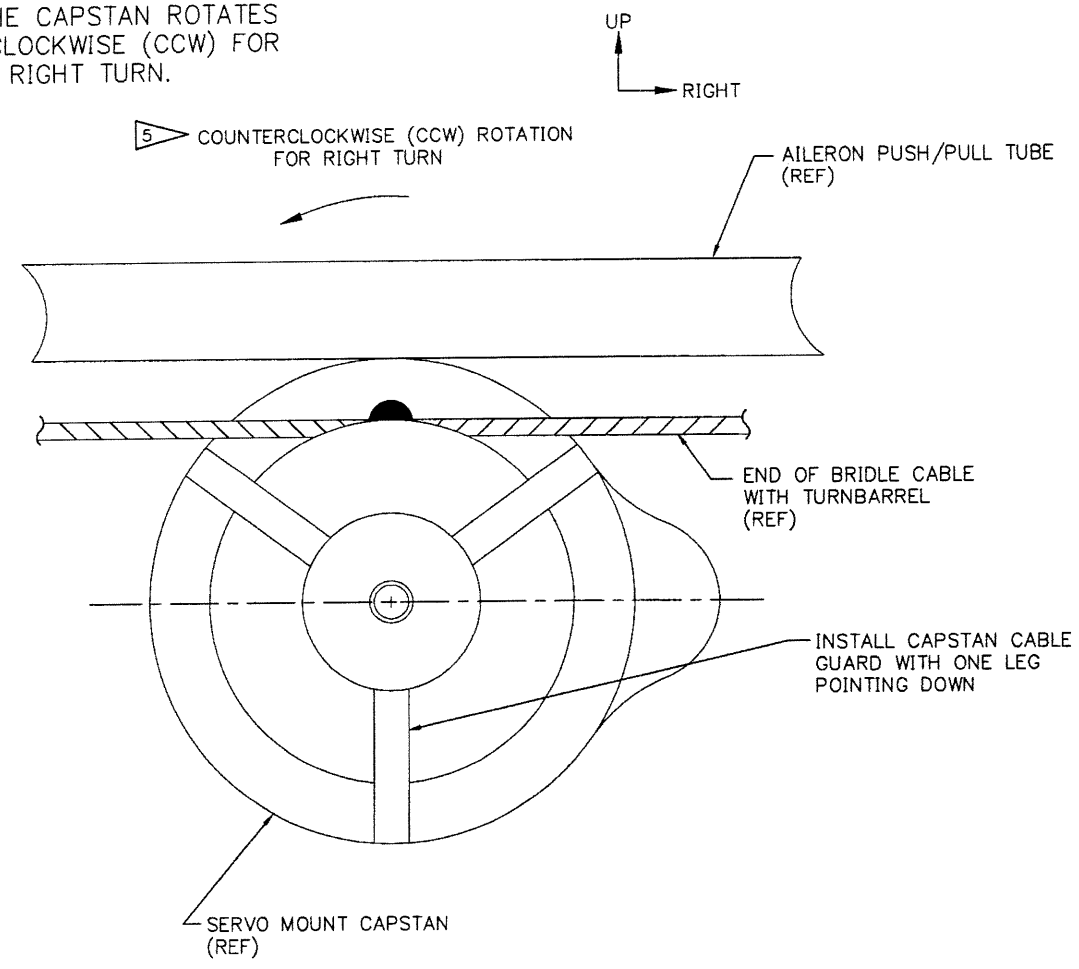
AlliedSignal Inc.	OLATHE KANSAS USA
NAME	ROLL SERVO INSTALL
DRN: LAH CHK: DK	
DATE	10-99
NUMBER	159-08246-5002
SHT	8
SHT REV	-
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	BRIDLE CABLE
PROJ DESCRIPTION	- SOCATA 225 -

CAUTION

AFTER CONNECTION TO THE AIRPLANE ELECTRICAL HARNESS, VERIFY THE CAPSTAN ROTATES COUNTERCLOCKWISE (CCW) FOR AIRPLANE RIGHT TURN.



VIEW LOOKING DOWN
ROLL CAPSTAN CABLE WRAP



VIEW LOOKING FORWARD
ROLL CAPSTAN BRIDLE CABLE WRAP

SHEET 8 NOTES:

1. BRIDLE CABLE TENSION IS 20 ± 2 POUNDS. BRIDLE CABLE IS TENSIONED BY THE TURNBARREL. AFTER TENSIONING THE ROLL BRIDLE CABLE LOCK THE TURNBARREL USING (2) LOCKING CLIPS (MS21256-1).

Honeywell
Honeywell International Inc.
OLATHE KANSAS USA

NAME	PITCH TRIM SERVO INSTALL
DRN: DLK	
CHK: DK	
DATE	9-99
NUMBER	159-08246-5003
SHT	1
SHT REV	B
SCALE	NONE
SHT DESCRIPTION	REVISION HISTORY
PROJ DESCRIPTION	- SOCATA 225 -

STATUS

SHT	REV
1	B
2	A
3	A
4	A
5	A
6	A
7	B
8	A
9	A
10	A
11	A
12	A

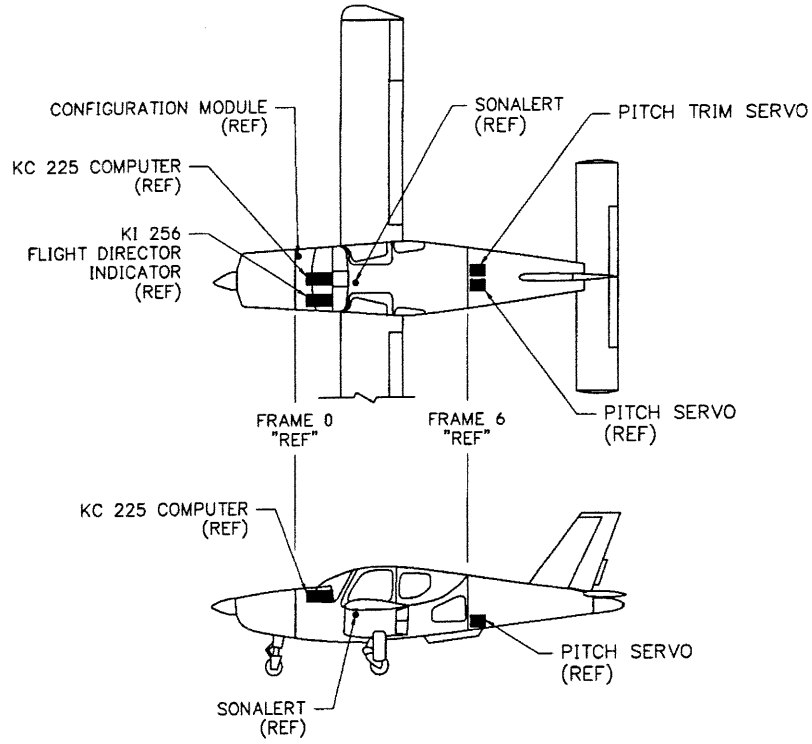
SHT REV REFLECTS REVISION LEVEL OF DRAWING PACKAGE WHEN SHEET WAS LAST CHANGED.

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION
–	1–12	FIRST RELEASE. APPVD: DAVE KRIZ DATE: 12/1/99
A	1–12	CHANGED TITLE BLOCKS TO THE HONEYWELL FORMAT.
	5–6	ADDED (3) SLOTS TO THE TOP OF THE PITCH TRIM, SERVO BRACKET AND DELETED MATCH DRILLING INSTRUCTIONS.
	7–8 12	ADDED (4) HOLES TO THE AFT FLANGE OF THE SERVO GUSSET.
	11	ADDED RIVET PLACEMENT INSTRUCTIONS FOR THE SERVO BRACE PLATES.
		ADDED (4) HOLES TO THE AFT FLANGE OF THE SERVO GUSSET.
		APPVD: DAVE KRIZ DATE: 11/1/00
	1	UPDATED REVISION HISTORY PAGE.
	7	ADDED " (AIRCRAFT RIGHT) " TO THE PITCH TRIM CABLE ALIGNMENT INSTRUCTIONS.
		APPVD: DAVE KRIZ DATE: 9/16/02

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION



NOTES:

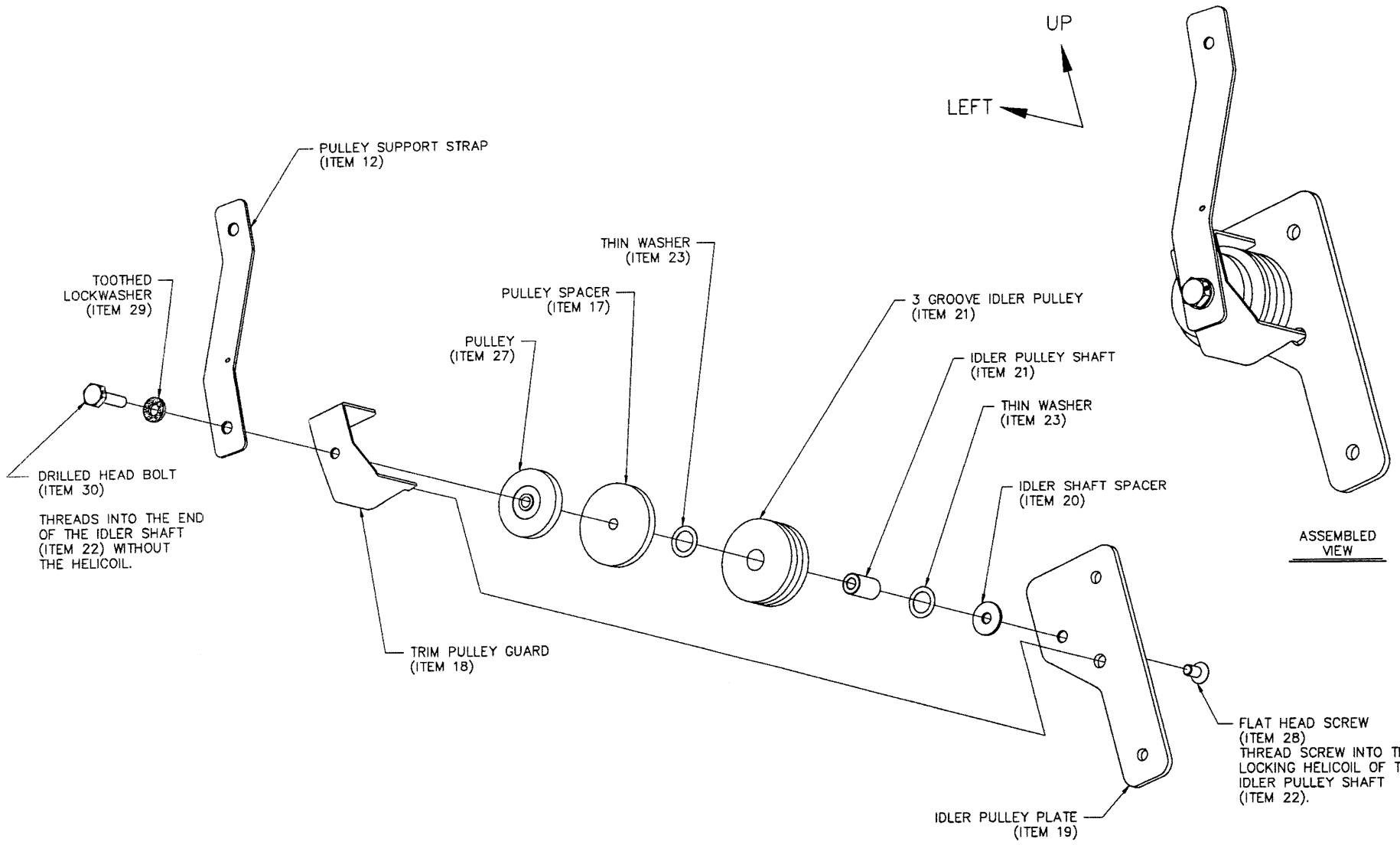
1. SEE INSTALLATION MANUAL, 006-00776-0000, FOR CORRECT PART NUMBERS.
2. USING THE CONNECTOR (ITEM 51), THE PINS (ITEM 50), THE HOOD (ITEM 49), THE GUIDES (ITEMS 55 & 56) AND THE LEVER/PIVOT ASSEMBLY (ITEM 48) CONNECT THE ROLL SERVO (ITEM 1) TO THE AIRCRAFT WIRING HARNESS AS SHOWN IN APPENDIX B OF INSTALLATION MANUAL 006-00776-0000.
3. BEFORE INSTALLING THE SERVO MOUNT, ADJUST THE SLIP CLUTCH TO THE VALUE IN THE INSTALLATION MANUAL, (006-00776-0000). AFTER CONNECTION TO THE AIRPLANE WIRING HARNESS, VERIFY THE CAPSTAN ROTATES THE CORRECT DIRECTION PER THE INSTALLATION MANUAL.
4. THE INSTALLER MAY SUPPLY THE HARDWARE CONTAINED IN THIS KIT, OR ORDER THE OPTIONAL HARDWARE KIT, 050-03604-0001 FROM ALLIEDSIGNAL.
5. THE ITEMS SHOWN HERE APPLY TO THE PITCH TRIM INSTALLATION ONLY. KIT 050-03604-0000 ALSO CONTAINS ITEMS USED ELSEWHERE IN THE INSTALLATION.
6. INSTALL (2) NUTPLATES (ITEM 54) ON THE BACK OF THE SERVO FACE PLATE USING (4) SCREWS (ITEM 53).
7. SAFETY WIRE IS NOT SUPPLIED IN THE KITS. THE INSTALLER MUST PROVIDE SAFETY WIRE.

				46
				45
				44
				43
				42
				41
				40
				39
				38
				37
				36
				35
				34
				33
				32
2	092-05075-0001	CR3243-4-2	CHERRY-MAX RIVET	31
1		AN3H6A	DRILLED HEAD BOLT	30
1	089-08597-0004	MS35333-39	#10 LOCK WASHER	29
1		MS24694-S48	SCREW, PHP, 10-32 X 13/32	28
1	090-00219-0000	MS24566-1B	PULLEY	27
1	300-3498-00	FAA-PMA	TRIM CABLE SPLICE	26
1	090-0548-00	FAA-PMA	TURNBARREL	25
1	090-0547-00	FAA-PMA	TURNBARREL	24
2	089-08199-0000	FAA-PMA	THIN WASHER	23
1	076-03006-0501	FAA-PMA	IDLER SHAFT	22
1	073-00439-0003	FAA-PMA	IDLER PULLEY	21
1	047-12150-0001	FAA-PMA	IDLER SHAFT SPACER	20
1	047-12539-0001	FAA-PMA	IDLER PULLEY PLATE	19
1	047-12538-0001	FAA-PMA	TRIM PULLEY GUARD	18
1	047-12537-0001	FAA-PMA	TRIM PULLEY SPACER	17
2	047-12530-0001	FAA-PMA	AFT FUSELAGE BRACE	16
2	047-12533-0001	FAA-PMA	SHELF PLATE	15
1	047-12532-0002	FAA-PMA	FORMER PLATE	14
1	047-12532-0001	FAA-PMA	FORMER PLATE	13
1	047-12531-0001	FAA-PMA	PULLEY SUPPORT STRAP	12
1	047-12526-0001	FAA-PMA	TRIM BOTTOM ANGLE	11
1	047-12524-0001	FAA-PMA	TRIM ANGLE SPACER	10
1	047-12523-0001	FAA-PMA	TRIM TOP ANGLE	9
1	047-12522-0001	FAA-PMA	PITCH TRIM BRACKET	8
1	047-12520-0001	FAA-PMA	PITCH BOTTOM ANGLE	7
1	047-12519-0001	FAA-PMA	PITCH TOP ANGLE	6
1	047-12518-0001	FAA-PMA	PITCH SERVO BRACKET	5
1	047-7281-01	FAA-PMA	SERVO GUSSET	4
5		PITCH TRIM INSTALLATION ITEMS		3
1	065-XXXXX-XXXX	TSO	PITCH TRIM SERVO MOUNT	2
6 1	065-XXXXX-XXXX	TSO	PITCH TRIM SERVO	1
REQ	A/S PART NUMBER	STANDARD PART NO.	DESCRIPTION	ITEM

7 AR		MS20995-C	.020 SAFETY WIRE	72
				71
				70
				69
				68
6		MS20470AD4-5	.125 X .312 RIVET	67
18		MS20470AD4-4	.125 X .250 RIVET	66
9		MS35206-229	6-32 SCREW	65
26		MS21042-3	#10 LOCK NUT	64
9		MS20365-632	#6 LOCK NUT	63
29		AN960-10	#10 WASHER	62
18		AN960-6	#6 WASHER	61
1		AN3-7A	10-32 X 29/32 BOLT	60
1		AN3-6A	10-32 X 25/32 BOLT	59
3		AN3-5A	10-32 X 21/32 BOLT	58
23		AN3-4A	10-32 X 17/32 BOLT	57
4 X	050-03604-0001		OPTIONAL HARDWARE KIT	
2 1	090-00348-0001	FAA-PMA	CONNECTOR GUIDE	56
2 1	090-00348-0000	FAA-PMA	CONNECTOR GUIDE	55
6 2	090-00731-0000	FAA-PMA	NUT ANCHOR CORNER	54
6 4	089-05899-0003	FAA-PMA	SCR PHP 2-56 X 3/16	53
1	057-01739-0000	FAA-PMA	INSTALLATION TAGS	52
2 1	030-03248-0000	FAA-PMA	CONNECTOR HOUSING	51
2 14	030-01280-0000	FAA-PMA	CRIMP CONTACT SOCKETS	50
2 1	030-01009-0000	FAA-PMA	HOOD CONNECTOR	49
2 2	030-01008-0000	FAA-PMA	LVR/PVT ASSY	48
X	050-00398-0000		SERVO INSTALLATION KIT	47
REQ	A/S PART NUMBER	STANDARD PART NO.	DESCRIPTION	ITEM

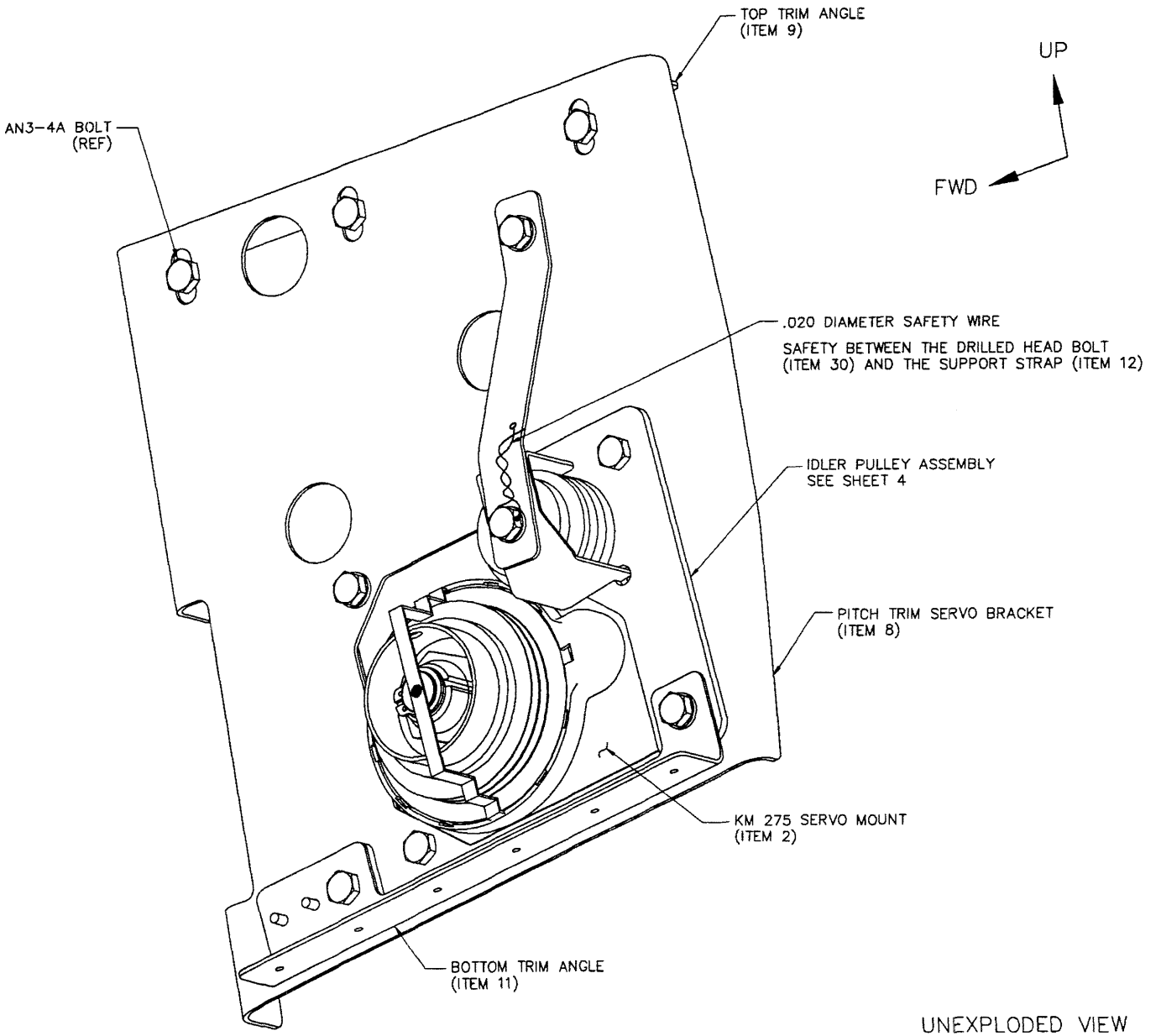
Honeywell
Honeywell International Inc.
OLATHE KANSAS USA

NAME: PITCH TRIM SERVO INSTALL
DRN: DLK
CHK: DK
DATE: 9-99
NUMBER: 159-08246-5003
SHT: 3
SHT REV: A
SEE SHT 1 FOR REV HISTORY
SCALE: NONE
SHT DESCRIPTION: BILL OF MATERIAL
PROJ DESCRIPTION: - SOCATA 225 -



EXPLODED VIEW
PITCH TRIM IDLER PULLEY ASSEMBLY
PITCH TRIM SERVO INSTALLATION

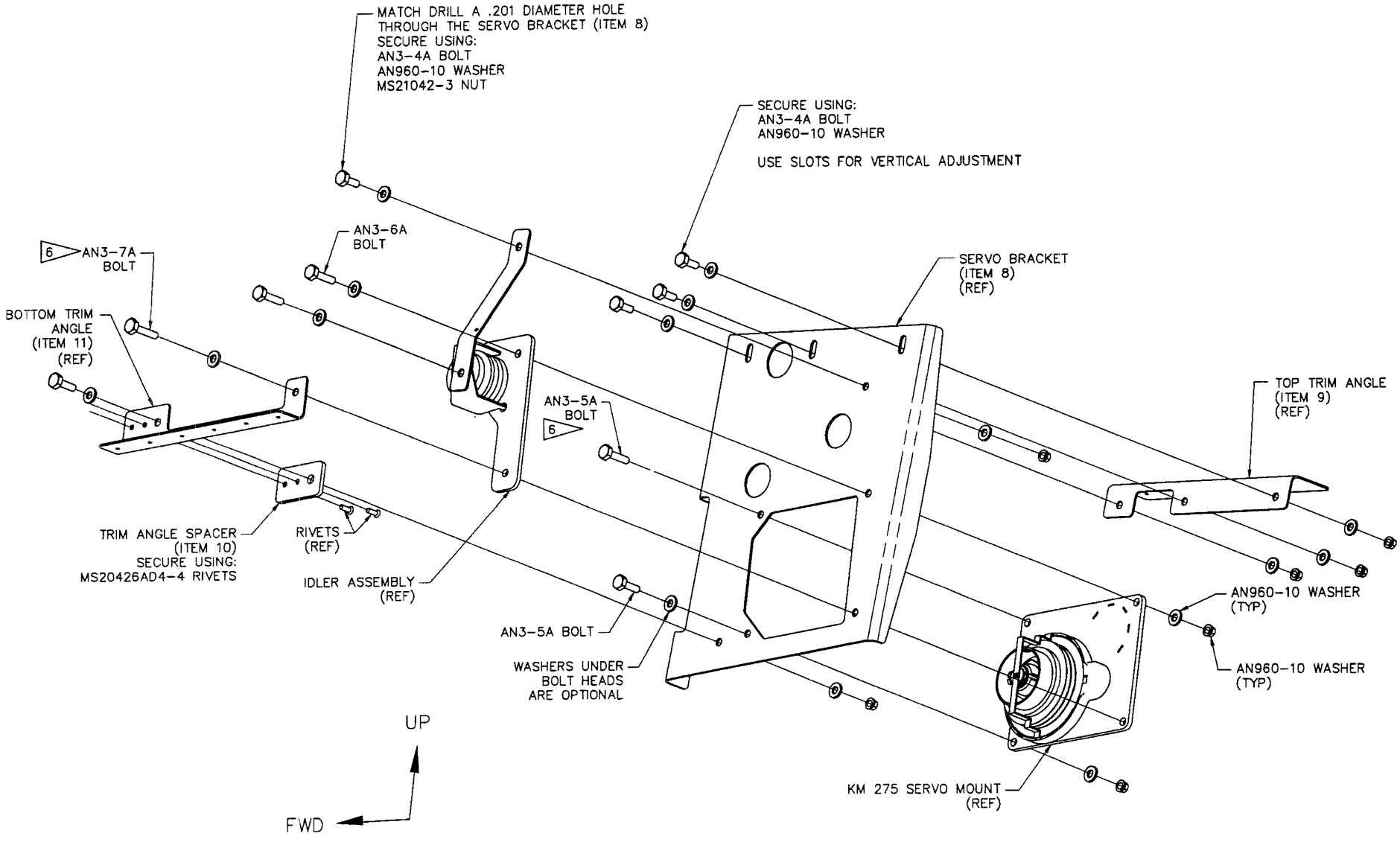
Honeywell International Inc.	OLATHE KANSAS USA
NAME	PITCH TRIM SERVO INSTALL
DRN: DLK	CHK: DK
DATE	9-99
NUMBER	159-08246-5003
SHT	4
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	TRIM IDLER PULLEY
PROJ DESCRIPTION	- SOCATA 225 -



UNEXPLODED VIEW
SEE SHEET 6 FOR EXPLODED VIEW
PITCH TRIM SERVO BRACKET

Honeywell
Honeywell International Inc.

OLATHE KANSAS USA	
NAME	PITCH TRIM SERVO INSTALL
DRN: DLK	
CHK: DK	
DATE	9-99
NUMBER	159-08246-5003
SHT	5
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	TRIM SERVO BRACKETS
PROJ DESCRIPTION	- SOCATA 225 -



EXPLODED VIEW
PITCH TRIM BRACKET ASSEMBLY
PITCH TRIM SERVO INSTALLATION

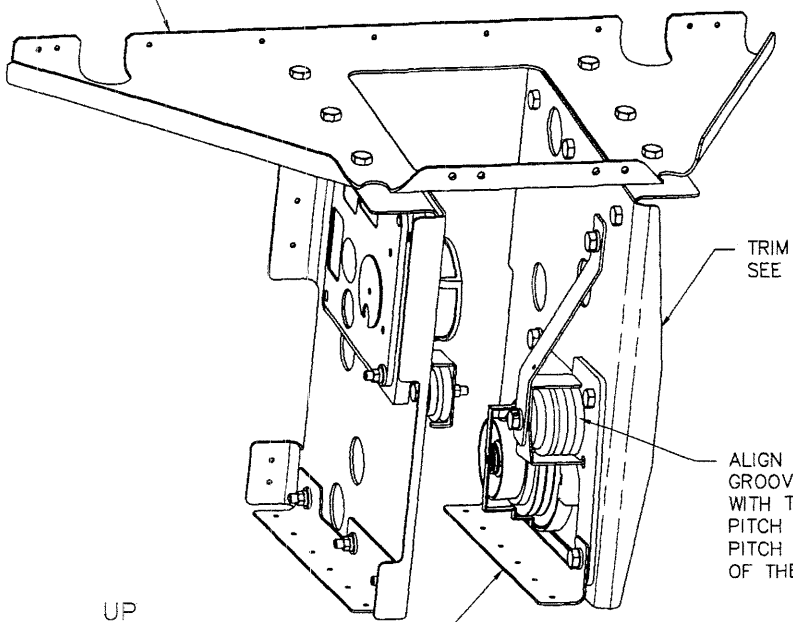
Honeywell International Inc.	OLATHE KANSAS USA
NAME	PITCH TRIM SERVO INSTALL
DRN: DLK	CHK: DK
DATE	9-99
NUMBER	159-08246-5003
SHT	6
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	TRIM SERVO BRACKETS
PROJ DESCRIPTION	- SOCATA 225 -

SERVO GUSSET
(ITEM 4)

BUTT THIS FLANGE AGAINST THE AFT SIDE
OF THE BAGGAGE BULKHEAD AT FUSELAGE FRAME 6

USING THE PILOT HOLES, MATCH DRILL (9) .156 DIAMETER HOLES
THROUGH THE SERVO GUSSET AND THE BAGGAGE BULKHEAD

SECURE USING:
MS35206-229 SCREW (9 REQ'D)
AN960-6 WASHER (18 REQ'D)
MS20365-1032 NUT (9 REQ'D)



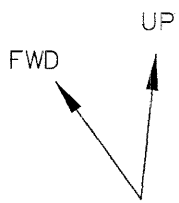
TRIM BRACKET ASSEMBLY
SEE SHEETS 4 ,5, AND 6

ALIGN THE RIGHT (AIRCRAFT RIGHT)
GROOVE OF THE IDLER PULLEY (ITEM 21)
WITH THE RIGHT SIDE, AIRCRAFT
PITCH TRIM CABLE. THE RIGHT SIDE,
PITCH TRIM CABLE WILL BE ON TOP
OF THE IDLER PULLEY (ITEM 21).

BOTTOM TRIM ANGLE
(REF)

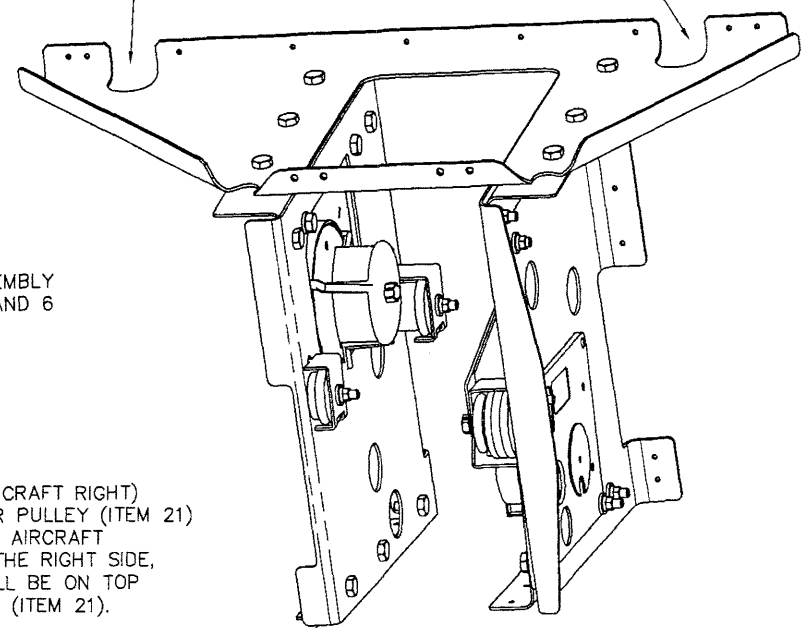
MATCH DRILL (6), .126 DIAMETER HOLES
THROUGH THE BOTTOM TRIM ANGLE AND
THE AIRCRAFT BELLY SKIN.

SECURE USING:
MS20470AD4-4 RIVETS

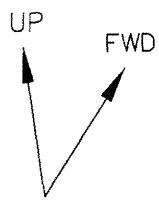


VIEW LOOKING FORWARD AND RIGHT
PITCH TRIM SERVO INSTALLATION

CENTER THESE OPENINGS ON THE BOTTOM,
FASTENERS OF THE AFT, BAGGAGE
COMPARTMENT, ACCESS DOOR.



PITCH BRACKET ASSEMBLY
SEE DRAWING 159-08246-5004

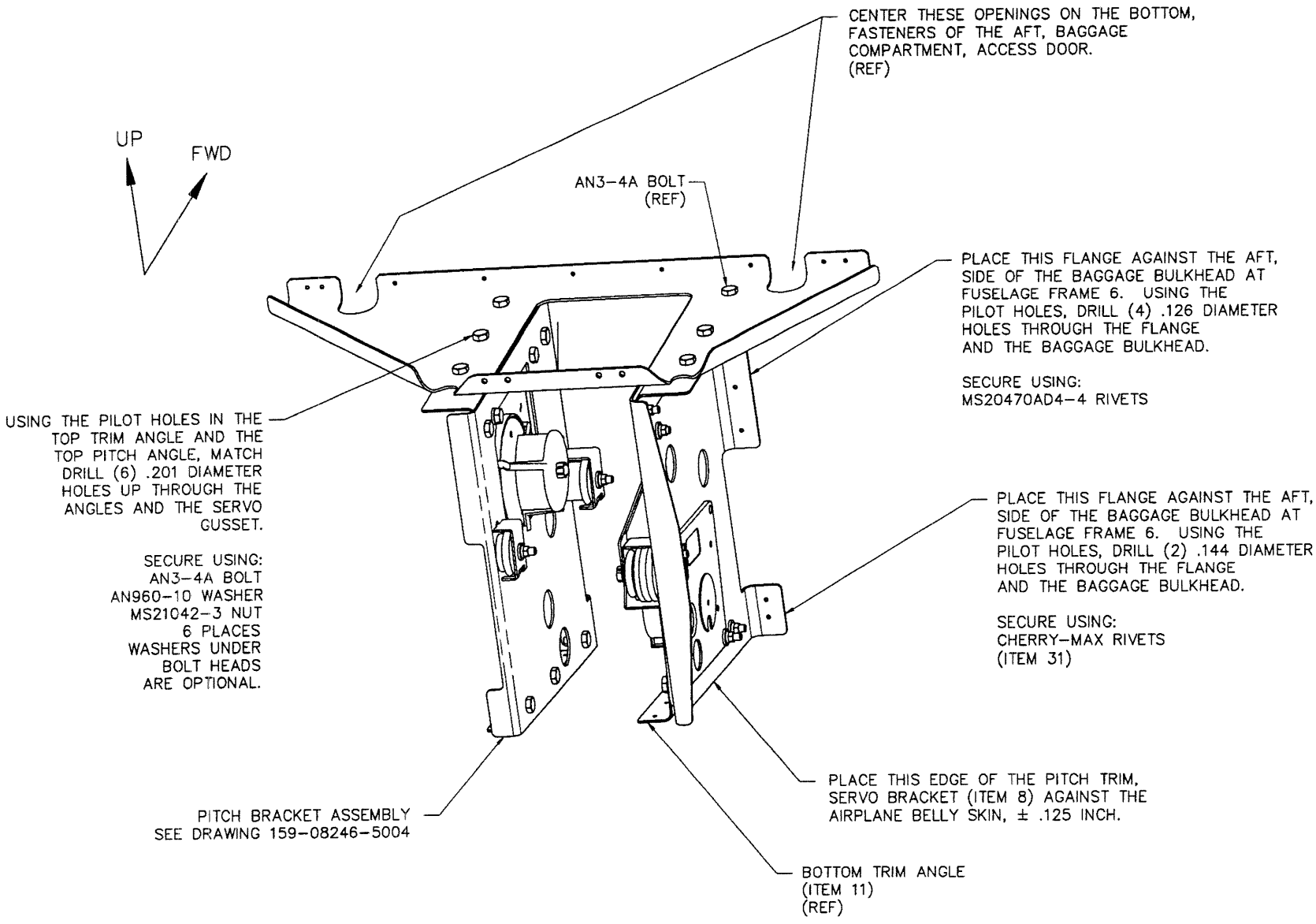


VIEW LOOKING FORWARD AND LEFT
PITCH TRIM SERVO INSTALLATION

SEE SHEET 8

Honeywell
Honeywell International Inc.
OLATHE KANSAS USA

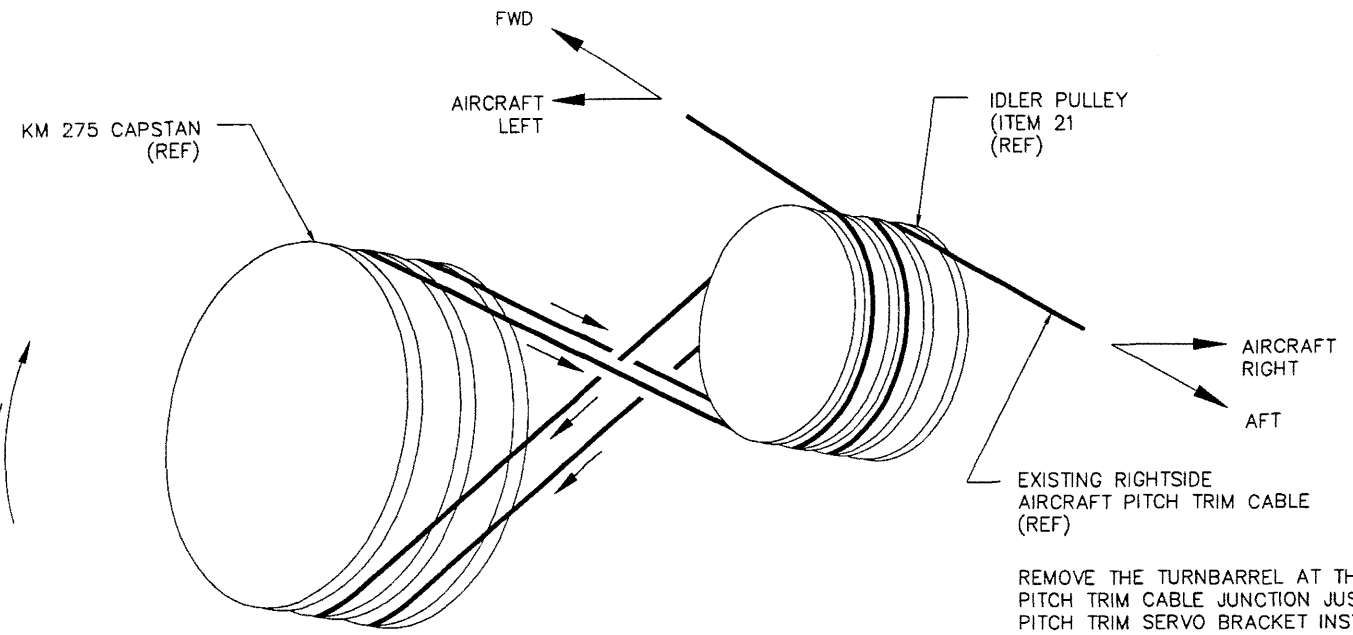
NAME	PITCH TRIM SERVO INSTALL
DRN: DJK	CHK: DJK
DATE	9-99
NUMBER	159-08246-5003
SHT	7
SHT REV	B
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	TRIM SERVO BRACKETS
PROJ DESCRIPTION	- SOCATA 225 -



VIEW LOOKING FORWARD AND LEFT
PITCH TRIM SERVO INSTALLATION

SEE SHEET 7

Honeywell
Honeywell International Inc.
OLATHE KANSAS USA
NAME PITCH TRIM SERVO INSTALL
DRN: DLK
CHK: DK
DATE 9-99
NUMBER 159-08246-5003
SHT 8
SHT REV A
SEE SHT 1 FOR REV HISTORY
SCALE NONE
SHT DESCRIPTION TRIM SERVO BRACKETS
PROJ DESCRIPTION - SOCATA 225 -



REMOVE THE TURNBARREL AT THE RIGHTSIDE, PITCH TRIM CABLE JUNCTION JUST AFT OF THE PITCH TRIM SERVO BRACKET INSTALLATION.

INSTALL THE PITCH TRIM, CABLE SPLICE (ITEM 26), USING (2) TURNBARRELS (ITEM 24) AND (ITEM 25). THE TURNBARRELS ARE METRIC THREADED AND SAE THREADED ON EACH TURNBARREL. EXERCISE CARE DURING INSTALLATION.

USING THE TURNBARRELS, TENSION THE PITCH TRIM, CABLE PER THE AIRPLANE MAINTENANCE MANUAL INSTRUCTIONS.

SAFETY WIRE THE TUNBARRELS TO COMPLETE THE INSTALLATION. THE NEW TURNBARRELS DO NOT USE STANDARD TURNBARREL LOCKING, CLIPS.

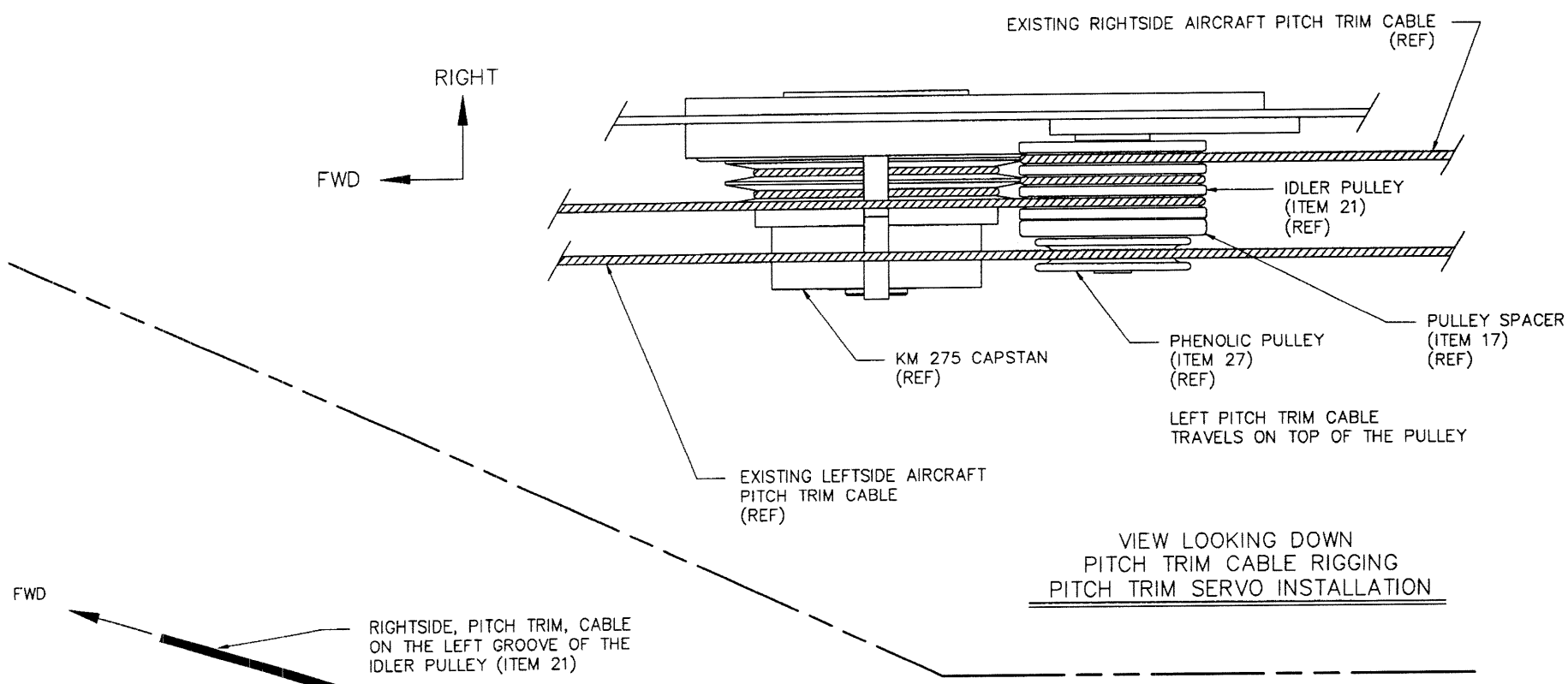
CAUTION

AFTER CONNECTION TO THE AIRPLANE ELECTRICAL HARNESS VERIFY THE KM 275 CAPSTAN ROTATES CLOCKWISE (CW) FOR AIRCRAFT NOSE UP.

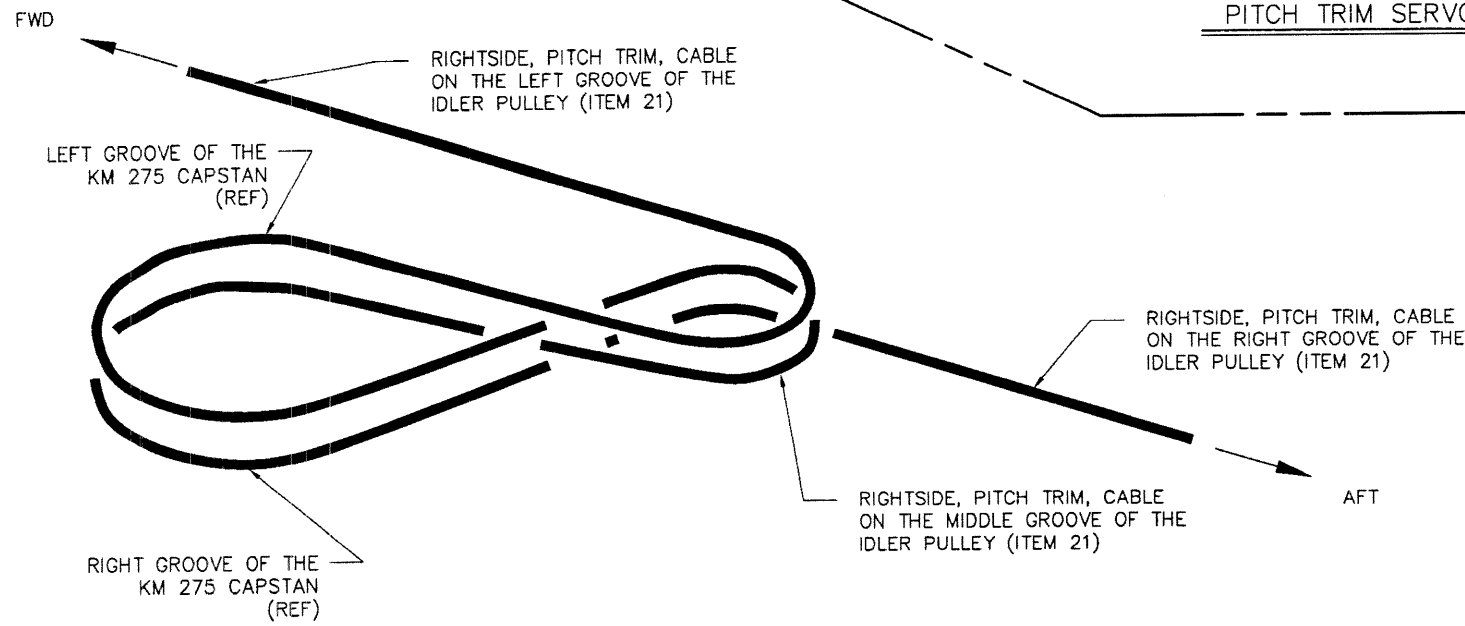
PITCH TRIM CABLE WRAP
PITCH TRIM SERVO INSTALLATION

SEE SHEET 10 FOR FURTHER DETAIL

Honeywell
Honeywell International Inc.
OLATHE KANSAS USA
NAME: PITCH TRIM SERVO INSTALL
DRN: DLK
CHK: DK
DATE: 9-99
NUMBER: 159-08246-5003
SHT: 9
SHT REV: A
SEE SHT 1 FOR REV HISTORY
SCALE: NONE
SHT DESCRIPTION: TRIM CABLE WRAP
PROJ DESCRIPTION: - SOCATA 225 -



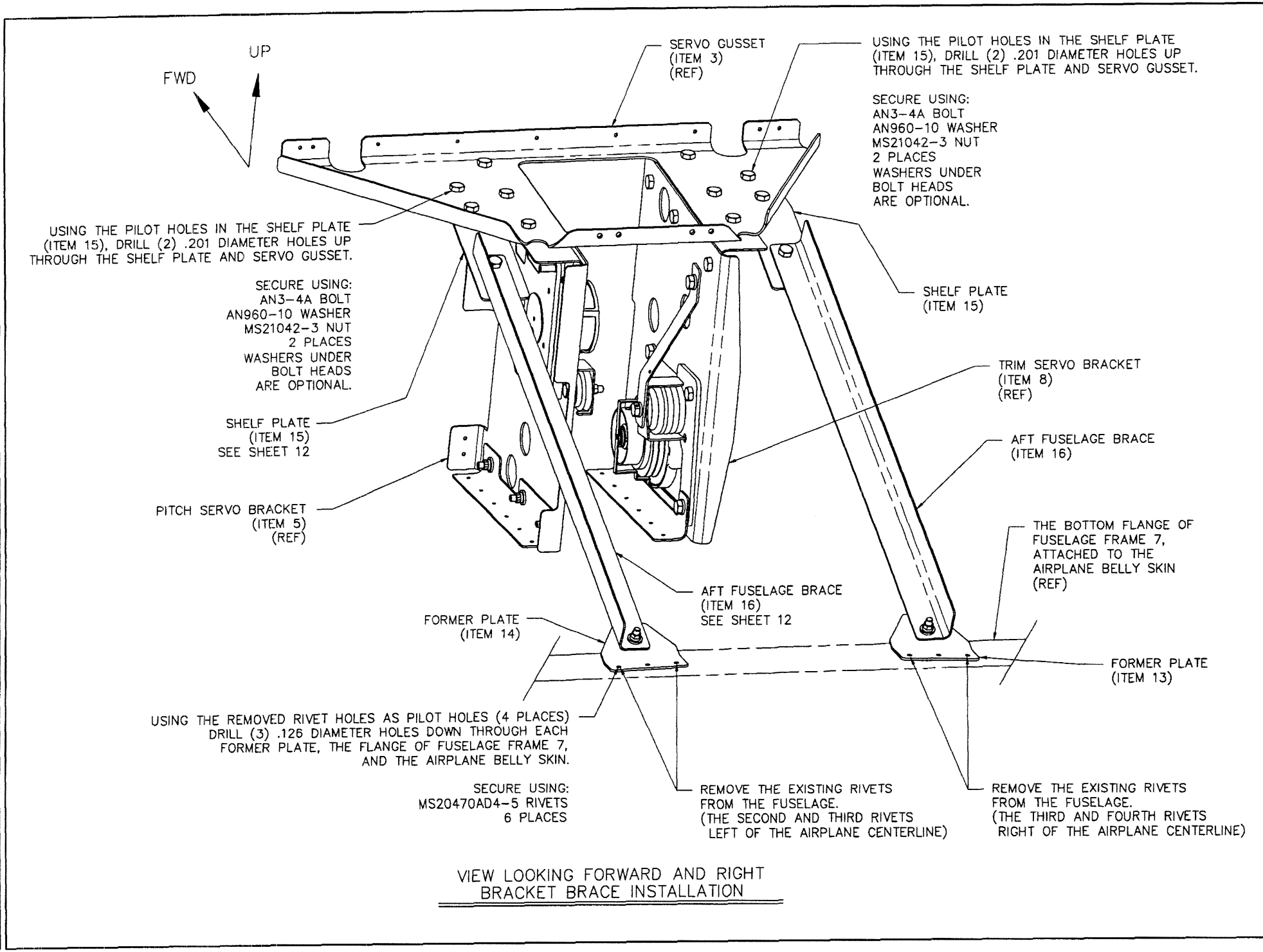
VIEW LOOKING DOWN
PITCH TRIM CABLE RIGGING
PITCH TRIM SERVO INSTALLATION



PITCH TRIM CABLE WRAP SCHEMATIC
PITCH TRIM SERVO INSTALLATION

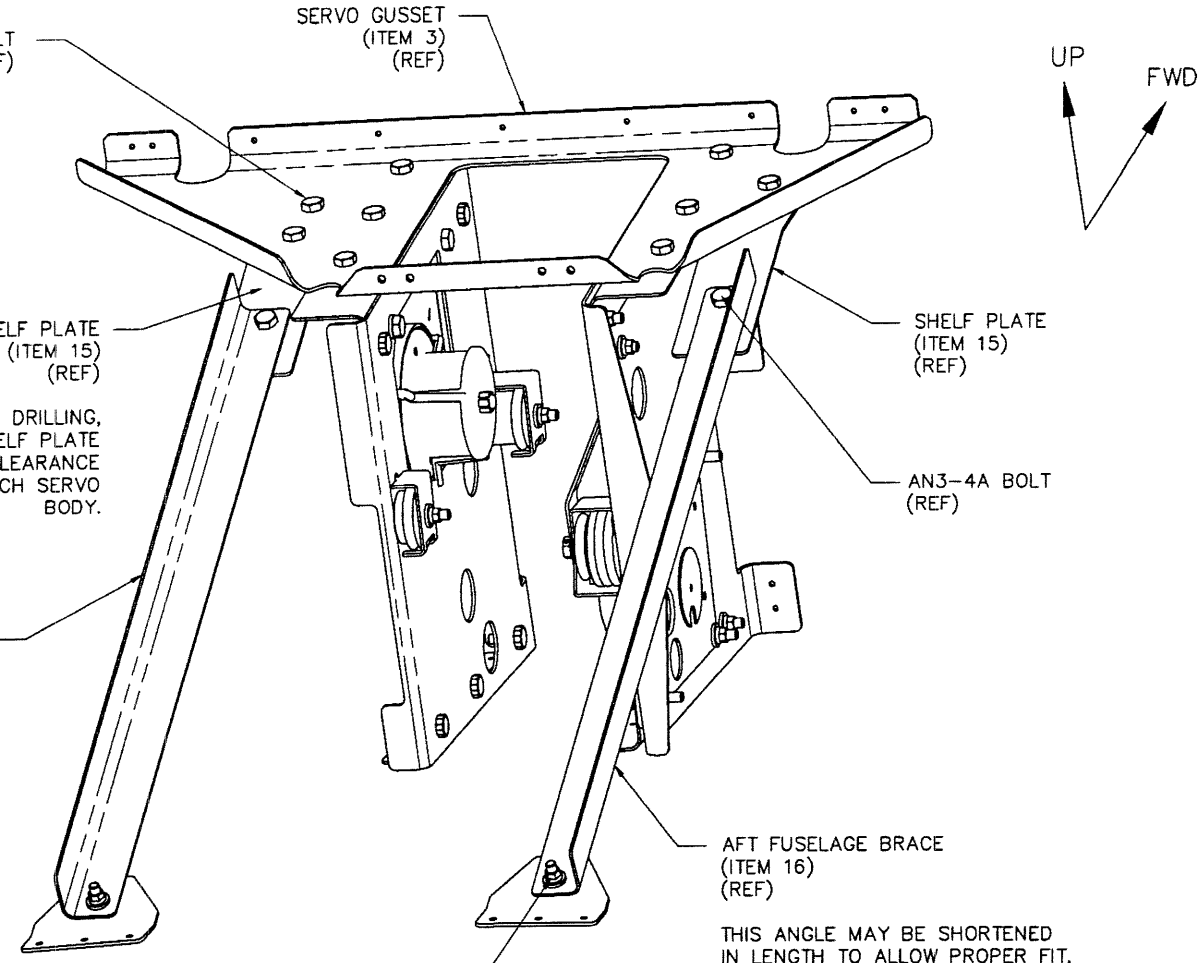
Honeywell
Honeywell International Inc.
OLATHE KANSAS USA

NAME	PITCH TRIM SERVO INSTALL
DRN: DLK	CHK: DK
DATE	9-99
NUMBER	159-08246-5003
SHT	10
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	TRIM CABLE RIGGING
PROJ DESCRIPTION	- SOCATA 225 -



VIEW LOOKING FORWARD AND RIGHT
BRACKET BRACE INSTALLATION

Honeywell
Honeywell International Inc.
OLATHE KANSAS USA
NAME PITCH TRIM SERVO INSTALL
DRN: DLK CHK: DK
DATE 9-99
NUMBER 159-08246-5003
SHT 11
SHT REV A
SEE SHT 1 FOR REV HISTORY
SCALE NONE
SHT DESCRIPTION BRACKET BRACING
PROJ DESCRIPTION - SOCATA 225 -



VIEW LOOKING FORWARD AND LEFT
BRACKET BRACE INSTALLATION

Honeywell
Honeywell International Inc.
OLATHE KANSAS USA

NAME	DRN: DLK	DATE	NUMBER	SHT	SHT REV	SEE SHT 1 FOR REV HISTORY	SCALE	SHT DESCRIPTION	PROJ DESCRIPTION
PITCH TRIM SERVO INSTALL	CHK: DK	9-99	159-08246-5003	12	A		NONE	BRACKET BRACING	- SOCATA 225 -

Honeywell	Honeywell International Inc.
OLATHE KANSAS USA	
NAME	PITCH SERVO INSTALLATION
DRN: DLK	CHK: DK
DATE	9-99
NUMBER	159-08246-5004
SHT	1
SHT REV	B
SCALE	NONE
SHT DESCRIPTION	REVISION HISTORY
PROJ DESCRIPTION	- SOCATA 225 -

STATUS

SHT	REV
1	B
2	A
3	A
4	A
5	A
6	A
7	A
8	A
9	A
10	A
11	B
12	B

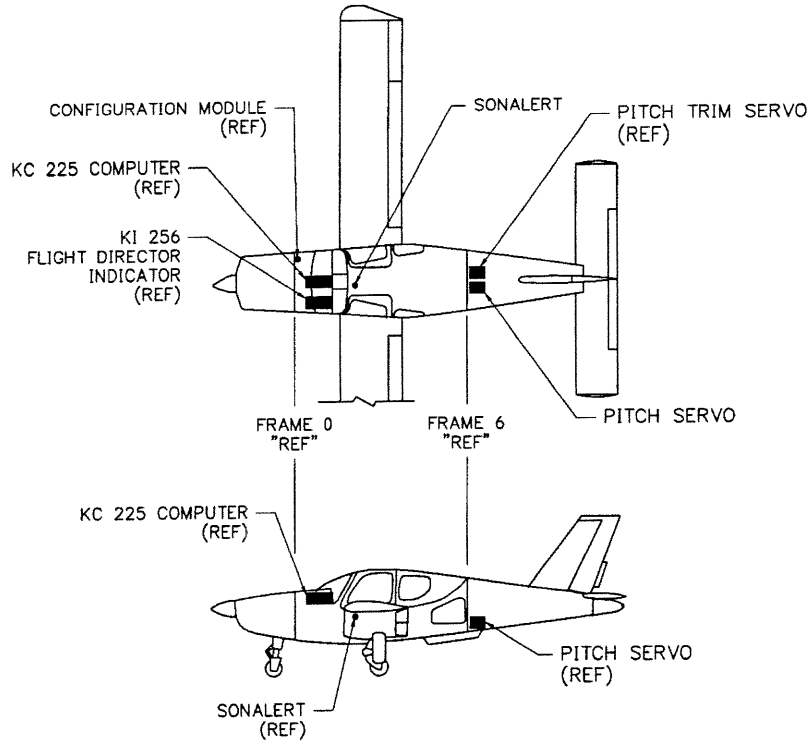
SHT REV REFLECTS REVISION LEVEL OF DRAWING PACKAGE WHEN SHEET WAS LAST CHANGED.

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION
–	1–12	FIRST RELEASE. APPVD: DAVE KRIZ DATE: 12/1/99
A	1–12 7–11	CHANGED TITLE BLOCKS TO THE HONEYWELL FORMAT. ADDED (2) SLOTS TO THE TOP OF THE PITCH SERVO BRACKET AND DELETED MATCH DRILLING INSTRUCTIONS. ADDED (4) HOLES TO THE AFT FLANGE OF THE SERVO GUSSET. ADDED INSTRUCTIONS TO ALLOW TRIMMING EITHER THE TOP OR BOTTOM OF THE PITCH SERVO BRACKET. APPVD: DAVE KRIZ DATE: 11/1/00
B	1 11 12	CHANGED REVISION HISTORY PAGE. ADDED FLAG NOTE CONCERNING CABLE BALL LOCATION. CHANGED BRIDLE CABLE BALL LOCTION FROM FACING "UP", TO FACING "DOWN". APPVD: DAVE KRIZ DATE: 9/16/02

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION



SHEET 1 NOTES:

1. SEE INSTALLATION MANUAL, 006-00776-0000, FOR CORRECT PART NUMBERS.

2. BEFORE INSTALLING THE SERVO MOUNT, ADJUST THE SLIP CLUTCH TO THE VALUE IN THE INSTALLATION MANUAL, (006-00776-0000). AFTER CONNECTION TO THE AIRPLANE WIRING HARNESS, VERIFY THE CAPSTAN ROTATES THE CORRECT DIRECTION PER THE INSTALLATION MANUAL.

3. TO ASSURE A PROPER GROUND, ABRADE (BURNISH) THE SURFACES TO REMOVE ALL PAINT AND/OR FOREIGN MATERIAL BEFORE ATTACHING THE GROUND LUG.

4. THE INSTALLER MAY SUPPLY THE STANDARD HARDWARE CONTAINED IN THIS KIT, OR ORDER THE OPTIONAL HARDWARE KIT, 050-03604-0001, FROM ALLIEDSIGNAL.

5. USING THE CONNECTOR (ITEM 40), THE PINS (ITEM 41), THE HOOD (ITEM 42), THE GUIDES (ITEMS 38 & 39), AND THE LEVER PIVOT ASSEMBLY (ITEM 43) CONNECT THE PITCH SERVO TO THE AIRCRAFT WIRING HARNESS AS SHOWN IN THE ELECTRICAL DRAWING, 159-08235-2000.

6. THE ITEMS SHOWN HERE APPLY TO THE PITCH SERVO INSTALLATION ONLY. KITS 050-03604-0000 AND 050-03604-0002 ALSO CONTAIN ITEMS USED IN THE INSTALLATION.

7. INSTALL (2) NUTPLATES (ITEM 53) ON THE BACK OF THE SERVO FACE PLATE USING (4) SCREWS (ITEM 52).

8. THESE PARTS ARE ALSO CALLED OUT ON DRAWING 159-08246-5003.

Honeywell International Inc.	Honeywell
OLATHE KANSAS USA	
NAME	PITCH SERVO INSTALLATION
DRN: DLK	
CHK: DK	
DATE	9-99
NUMBER	159-08246-5004
SHT	2
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	NOTES
PROJ DESCRIPTION	- SOCATA 225 -

				45
				44
				43
				42
				41
				40
6		MS24566-132	COTTER PIN	39
2		MS21256-1	TURNBARREL LOCK	38
10		MS20470AD4-4	.125 X .250 RIVET	37
10		AN960-416L	1/4 THIN WASHER	36
4		AN960-416	1/4 WASHER	35
23		AN960-10	#10 WASHER	34
9		MS21042-3	#10 LOCK NUT	33
4		AN320-3	#10 CASTLE NUT	32
2		AN23-10	10-32 DRILLED SCREW	31
2		AN3-16	10-32 DRILLED BOLT	30
2		AN3-16A	10-32 X 1 25/32 BOLT	29
1		AN3-14A	10-32 X 1 17/32 BOLT	28
3		AN3-10A	10-32 X 1 1/32 BOLT	27
2		AN3-7A	10-32 X 29/32 BOLT	26
5		AN3-4A	10-32 X 17/32 BOLT	25
4	X	050-03604-0001		OPTIONAL HDWR KIT

				24
				23
				22
				21
2		MS24566-1B	PULLEY	20
2	092-05075-0001		CHERRY MAX RIVET	19
2	089-07442-0001		CONTROL TUBE BOLT	18
1	300-09745-0501		PITCH BRIDLE CABLE	17
2	147-00059-0000		PITCH LINK BUSHING	16
2	047-5658-0000		PITCH LINK	15
1	076-03082-0002		LONG PULLEY SPACER	14
1	076-03082-0001		SHORT PULLEY SPACER	13
2	076-03080-0002		LONG TUBE SPACER	12
2	076-03080-0001		SHORT TUBE SPACER	11
4	076-03079-0001		CABLE STRAP SPACER	10
1	073-01037-0001		PITCH SERVO SPACER	9
1	047-12528-0002		LONG CABLE GUARD	8
1	047-12528-0001		SHORT CABLE GUARD	7
4	047-12521-0001		BRIDLE CABLE STRAP	6
1	047-12520-0001		PTICH BOTTOM ANGLE	5
8 1	047-12519-0001		PITCH TOP ANGLE	4
8 1	047-12518-0001		PITCH SERVO BRACKET	3
8 X	PITCH SERVO INSTALLATION ITEMS			

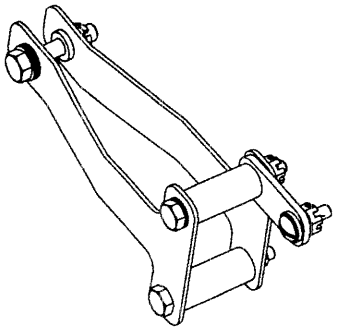
2 1	1	TSO	KM 275 SERVO MOUNT	2
7 5 3 1	1	TSO	KS 270C PITCH SERVO	1
REQ	A/S PART NUMBER	STANDARD PART NO.	DESCRIPTION	ITEM

2	030-01008-0000	TSO	LVR/PVT ASSY	59
1	030-01009-0000	TSO	HOOD	58
16	030-01280-0001	TSO	CONNECTOR SOCKET	57
1	030-03248-0000	TSO	CONNECTOR RCPT HOUSING	56
1	090-00348-0000	TSO	GUIDE PILOT/SCKT	55
1	090-00348-0001	TSO	GUIDE PILOT/SCKT	54
2	090-00731-0000	TSO	NUT ANCHOR CORNER	53
4	089-05899-0003	TSO	SCR PHP 2-56 X 3/16	52
1	057-01739-0000	TSO	INSTALLATION TAGS	51
				50
X	050-00398-0000		SERVO INSTALL KIT	

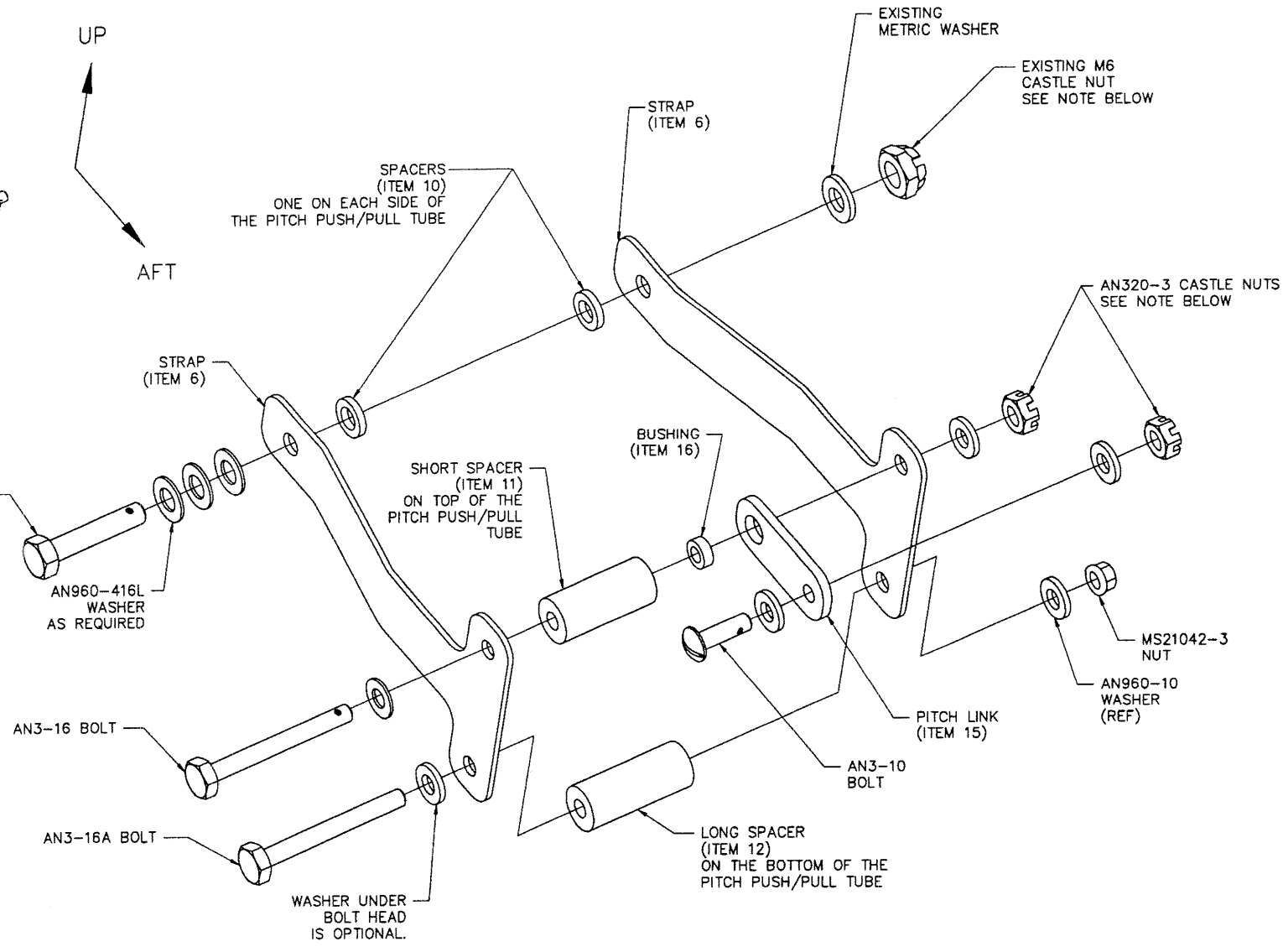
				49
				48
				47
				46

Honeywell
Honeywell International Inc.

OLATHE KANSAS USA	
NAME	PITCH SERVO INSTALLATION
DRN: DLK CHK:	
DATE	9-99
NUMBER	159-08246-5004
SHT	3
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	BILL OF MATERIAL
PROJ DESCRIPTION	- SOCATA 225 -



COMPLETED ASSEMBLY



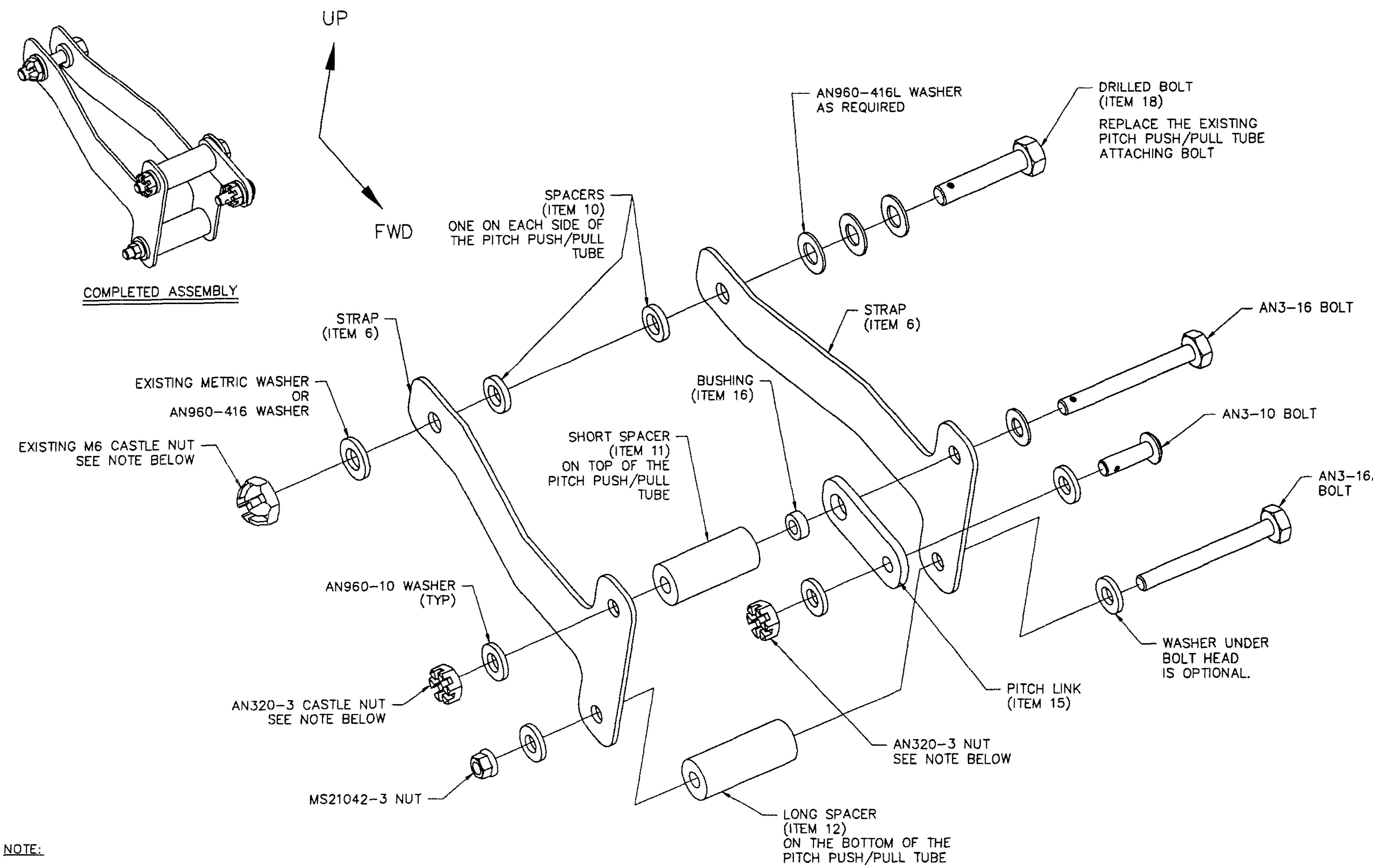
NOTE:

LOCK EACH CASTLE NUT WITH A MS24665-132 COTTER PIN.

EXPLODED VIEW
PITCH BRIDLE CABLE ATTACHMENT
FORWARD END OF THE PITCH TUBE
LOCATED BETWEEN FUSELAGE FRAMES 3 AND 4

Honeywell
Honeywell International Inc.
OLATHE KANSAS USA

NAME	PITCH SERVO INSTALLATION
DRN: DLK / CHK: DK	
DATE	9-99
NUMBER	159-08246-5004
SHT	4
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	BRIDLE CABLE CLAMPS
PROJ DESCRIPTION	- SOCATA 225 -

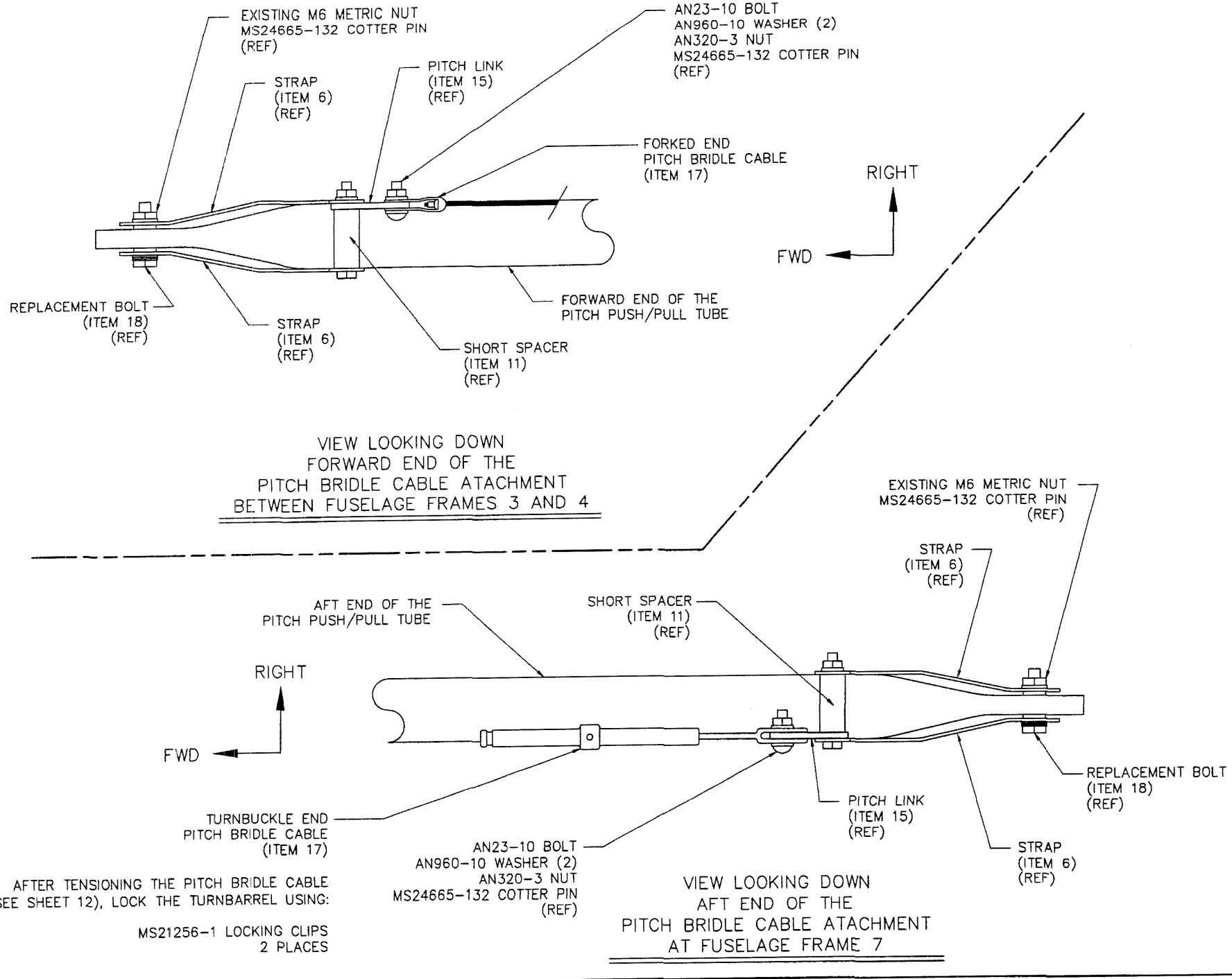


NOTE:

LOCK EACH CASTLE NUT WITH
A MS24665-132 COTTER PIN.

EXPLODED VIEW
PITCH BRIDLE CABLE ATTACHMENT
AFT END OF THE PITCH TUBE
LOCATED AT FUSELAGE FRAME 7

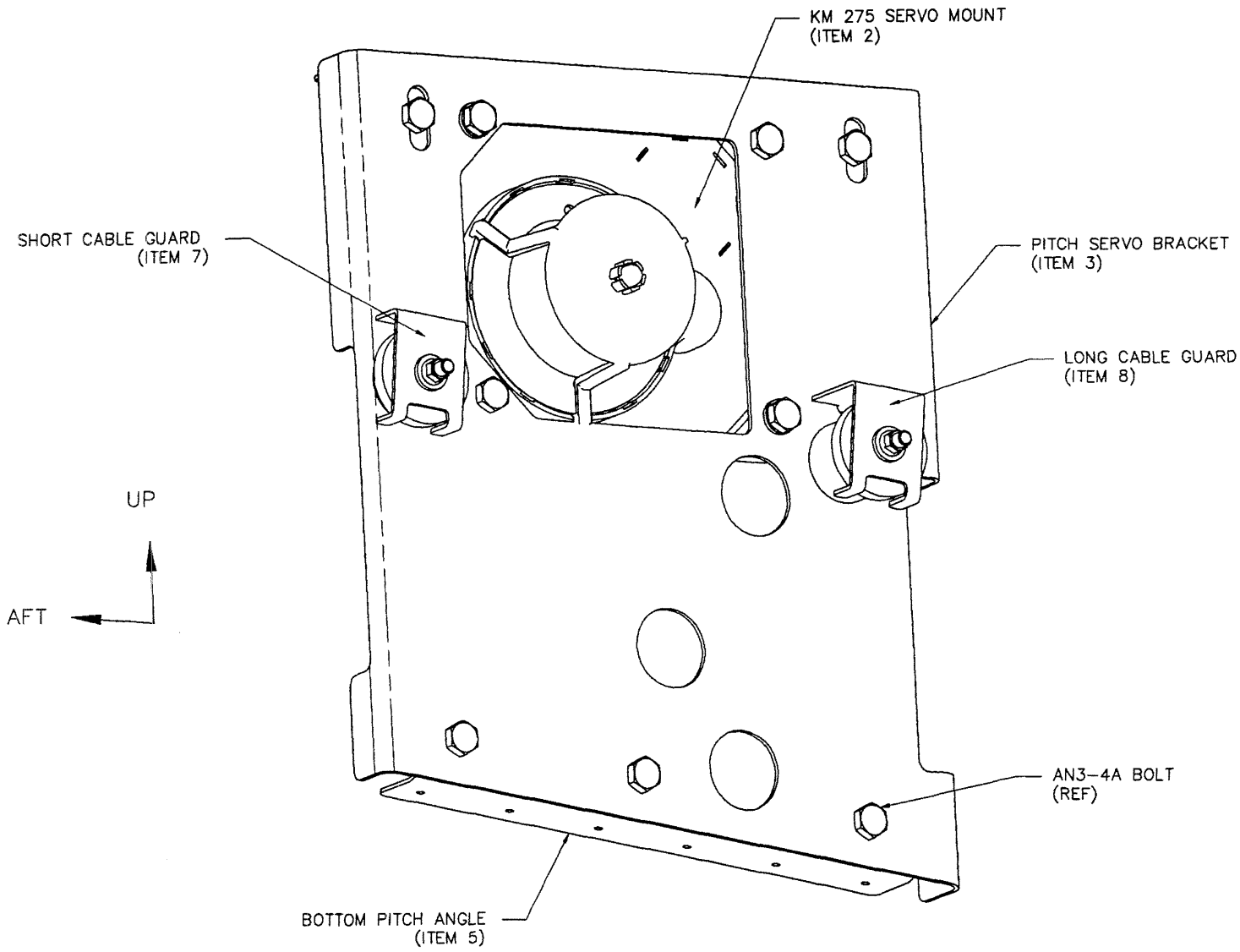
Honeywell Honeywell International Inc.	OLATHE KANSAS USA	NAME PITCH SERVO INSTALLATION	DRN: DLK CHK: DK	DATE 9-99	NUMBER 159-08246-5004	SHT 5	SHT REV A	SEE SHT 1 FOR REV HISTORY	SCALE NONE	SHT DESCRIPTION BRIDLE CABLE CLAMPS	PROJ DESCRIPTION - SOCATA 225 -



AFTER TENSIONING THE PITCH BRIDLE CABLE (SEE SHEET 12), LOCK THE TURNBARREL USING:

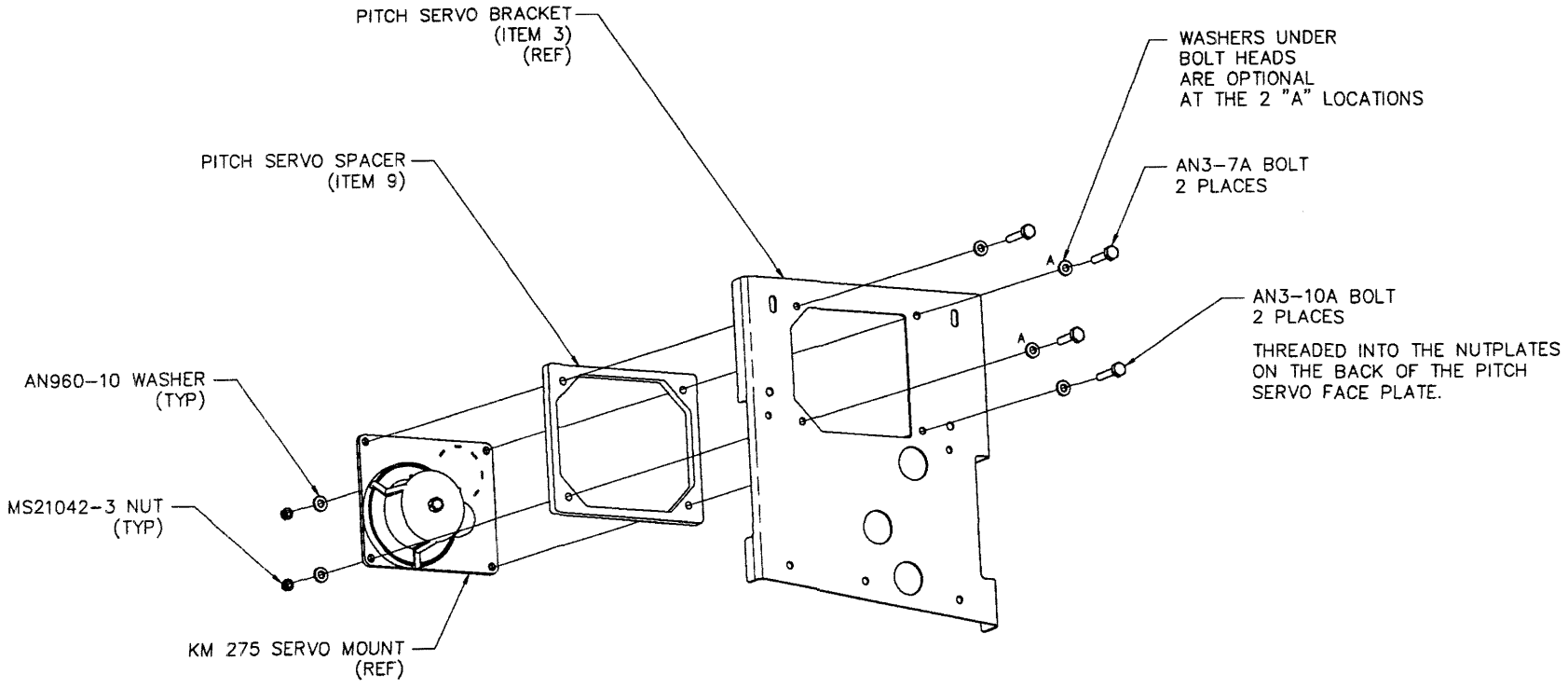
MS21256-1 LOCKING CLIPS
2 PLACES

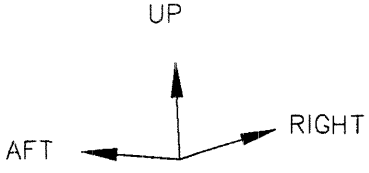
Honeywell International Inc.	
OLATHE KANSAS USA	
NAME	PITCH SERVO INSTALLATION
DRN: DLK	
CHK: DK	
DATE	9-99
NUMBER	159-08246-5004
SHT	6
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	BRIDLE CABLE DETAIL
PROJ DESCRIPTION	- SOCATA 225 -



UNEXPLODED VIEW
SEE SHEETS 8 AND 9 FOR EXPLODED VIEW
PITCH SERVO INSTALLATION

Honeywell International Inc.	
GLATFE KANSAS USA	
NAME	PITCH SERVO INSTALLATION
DRN: DLK	
CHK: DLK	
DATE	9-99
NUMBER	159-08246-5004
SHT	7
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	PITCH SERVO BRACKETS
PROJ DESCRIPTION	- SOCATA 225 -

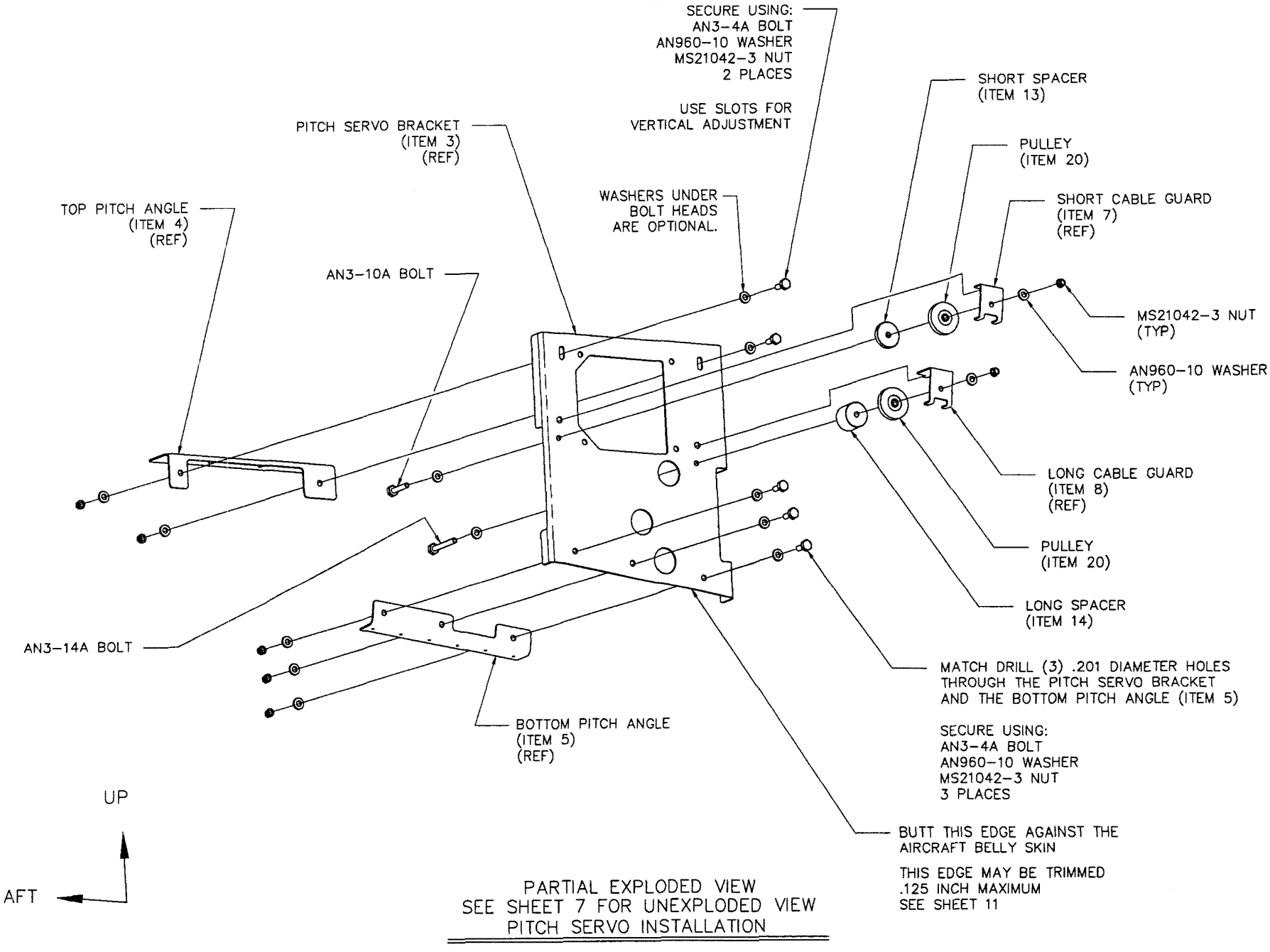




PARTIAL EXPLODED VIEW
SEE SHEET 7 FOR UNEXPLODED VIEW
PITCH SERVO INSTALLATION

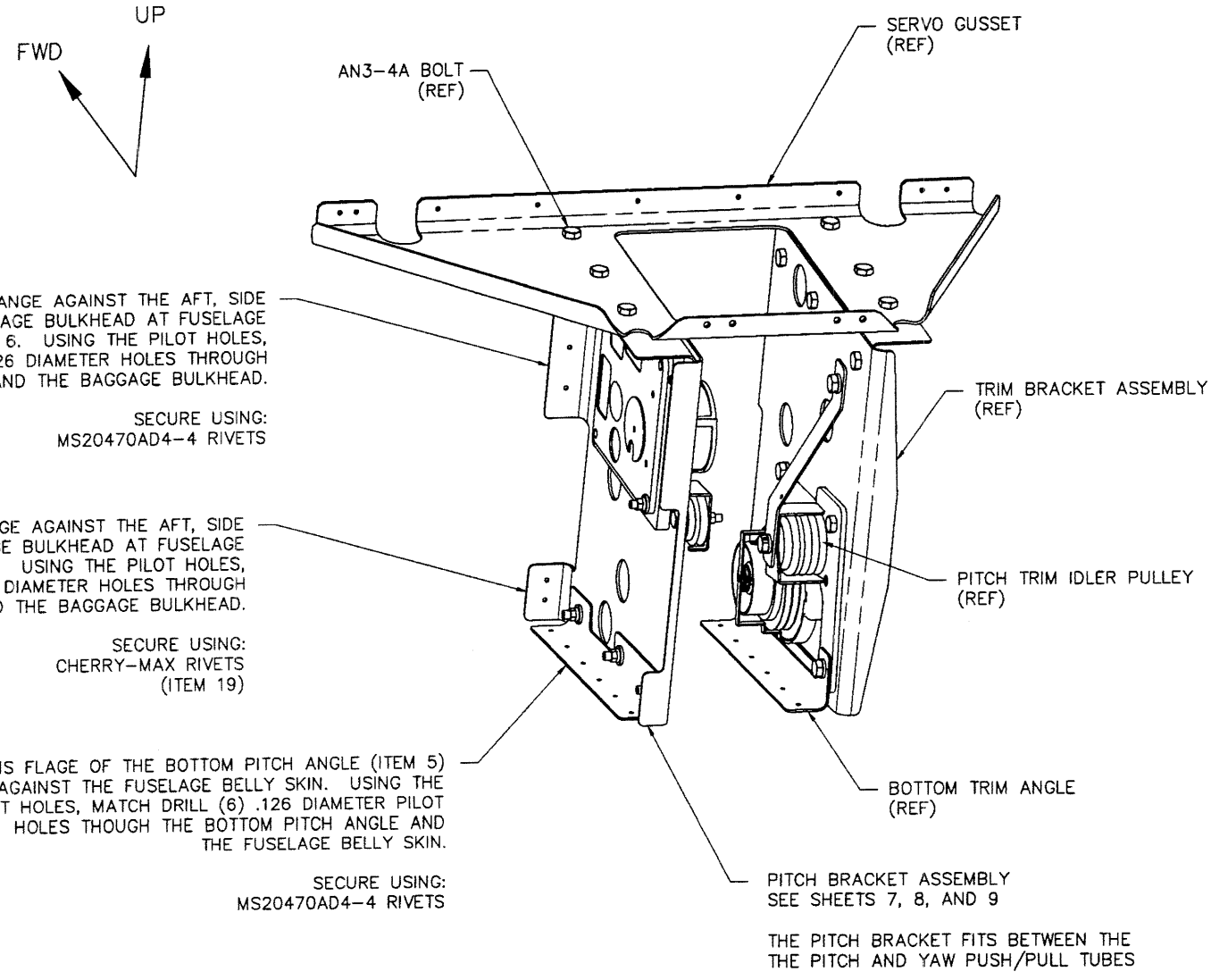
Honeywell
Honeywell International Inc.

OLATHE KANSAS USA	
NAME	PITCH SERVO INSTALLATION
DRN: DLK	
CHK: DK	
DATE	9-99
NUMBER	159-08246-5004
SHT	8
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	PITCH SERVO BRACKETS
PROJ DESCRIPTION	- SOCATA 225 -



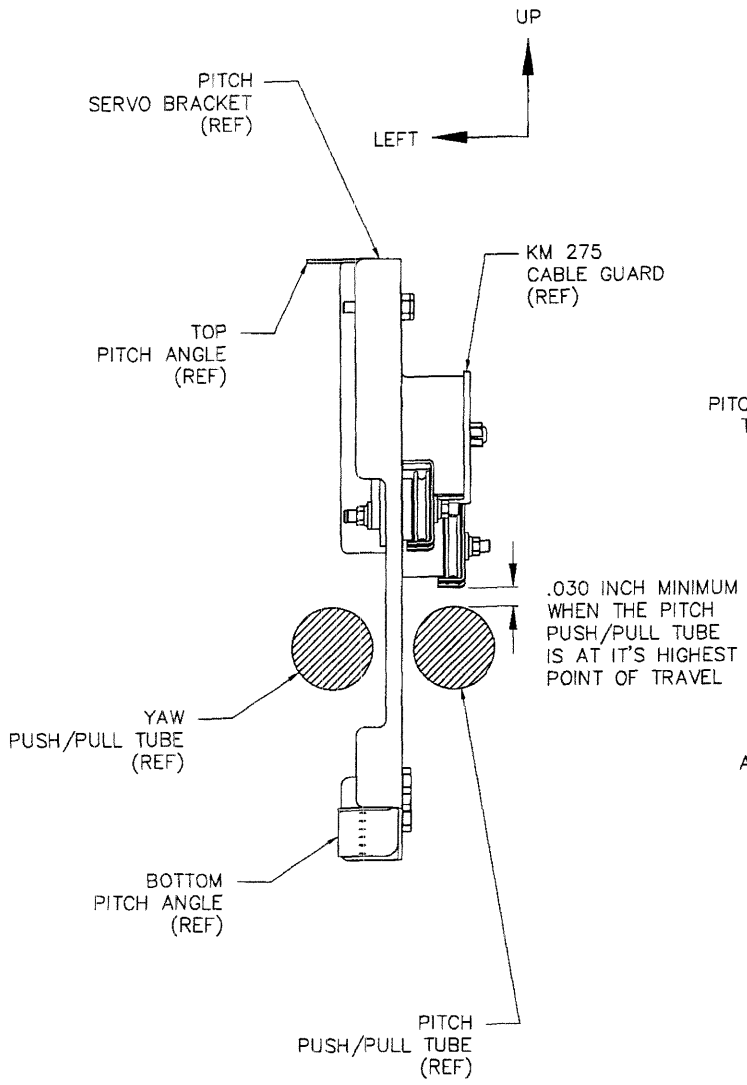
PARTIAL EXPLODED VIEW
SEE SHEET 7 FOR UNEXPLODED VIEW
PITCH SERVO INSTALLATION

Honeywell International Inc.	OLATHE KANSAS USA
NAME	PITCH SERVO INSTALLATION
DRN: DLK	CHK: DK
DATE	9-99
NUMBER	159-08246-5004
SHT	9
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	PITCH SERVO BRACKETS
PROJ DESCRIPTION	- SOCATA 225 -

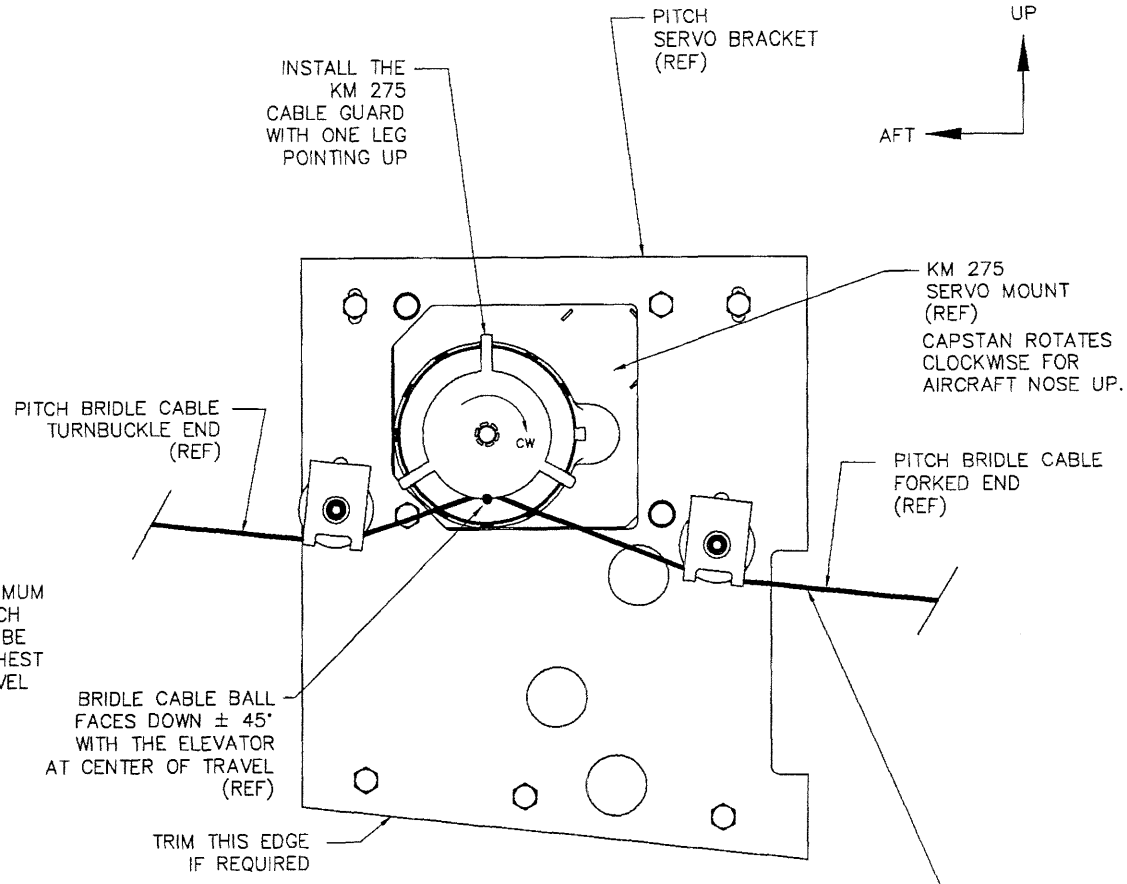


VIEW LOOKING FORWARD AND RIGHT PITCH SERVO INSTALLATION

SEE THE PITCH TRIM DRAWING, 159-08246-5003 FOR FURTHER DETAIL



VIEW LOOKING FORWARD
PITCH SERVO BRACKET ASSEMBLY
PITCH SERVO INSTALLATION



ENSURE THE PITCH BRIDLE CABLE DOES NOT RUB THE TOP OF THE OPENING IN THE BULKHEAD AT FUSELAGE FRAME 6. IF NECESSARY, REMOVE MATERIAL (.125 INCH MAXIMUM) FROM THE TOP OR BOTTOM OF THE PITCH SERVO BRACKET (ITEM 3). THIS WILL LOWER OR RAISE BOTH IDLER PULLEYS (ITEM 20). ALSO, ENSURE THE IDLER PULLEY GUARDS DO NOT CONTACT THE PITCH PUSH/PULL TUBE AT THE TUBE'S HIGHEST POINT OF TRAVEL (SEE VIEW AT LEFT). IF MATERIAL IS REMOVED, APPLY A CORROSION RESISTANT COATING TO ANY BARE ALUMINUM SURFACES.

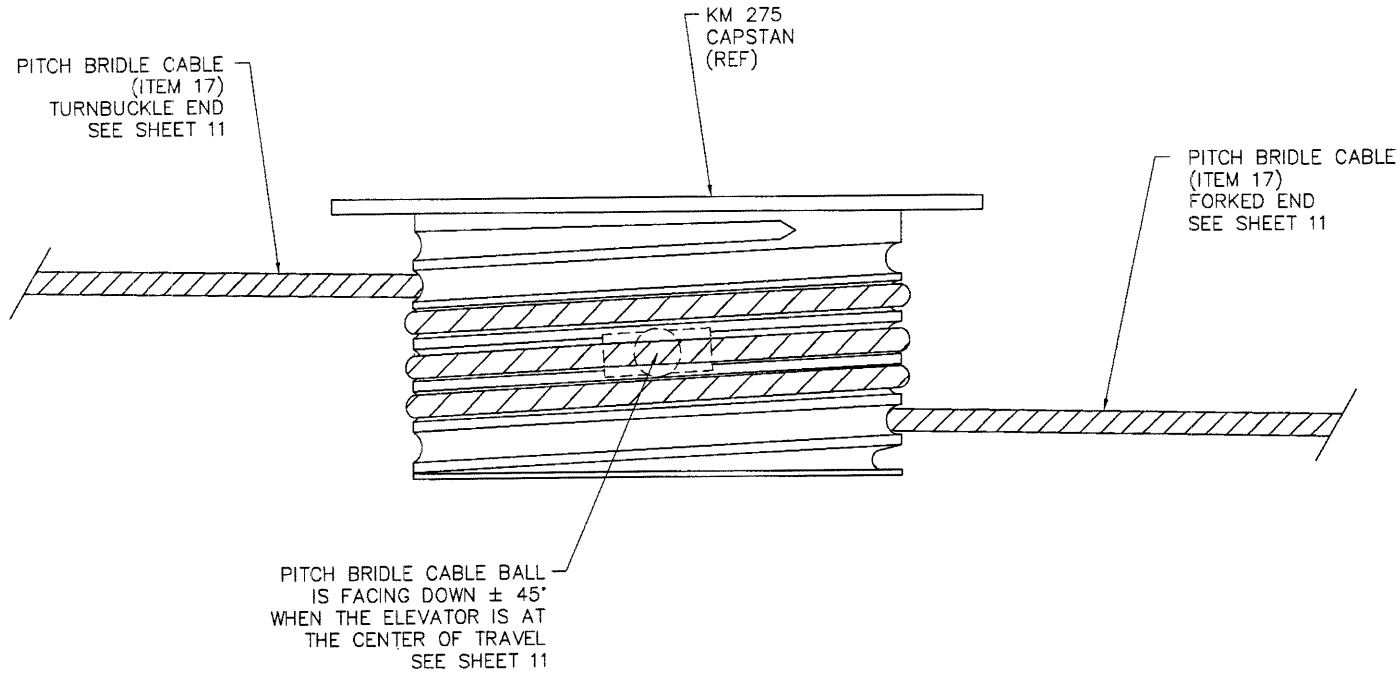
VIEW LOOKING LEFT
PITCH SERVO BRACKET ASSEMBLY
PITCH SERVO INSTALLATION

SEE SHEET 12 FOR THE KM 275 CAPSTAN CABLE WRAP

Honeywell	Honeywell International Inc.
OLATHE KANSAS USA	
NAME	PITCH SERVO INSTALLATION
DRN: DLK	
CHK: DK	
DATE	9-99
NUMBER	159-08246-5004
SHT	11
SHT REV	B
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	PITCH SERVO BRACKETS
PROJ DESCRIPTION	SOCATA 225

2 **CAUTION**

AFTER CONNECTION TO THE AIRPLANE ELECTRICAL HARNESS, VERIFY THE CAPSTAN ROTATES CLOCKWISE (CW) FOR AIRPLANE NOSE UP.



VIEW LOOKING DOWN
PITCH CAPSTAN CABLE WRAP

NOTE:

BRIDLE CABLE TENSION IS 20 ± 2 POUNDS. BRIDLE CABLE IS TENSIONED BY THE TURNBARREL. AFTER TENSIONING, INSTALL (2) LOCKING CLIPS (MS21256-1) IN THE TURNBARREL.

Allied Signal Inc.	NAME	DRN: LAH	DATE	NUMBER	SHT	SHT REV		SCALE	SHT DESCRIPTION	PROJ DESCRIPTION
OLATHE KANSAS USA	KCS 55A INSTALLATION	CHK: DK	11-99	159-08246-5005	1	–		NONE	REVISION HISTORY	– SOCATA 225 –

STATUS	
SHT	REV
1	–
2	–
3	–
4	–
5	–
6	–

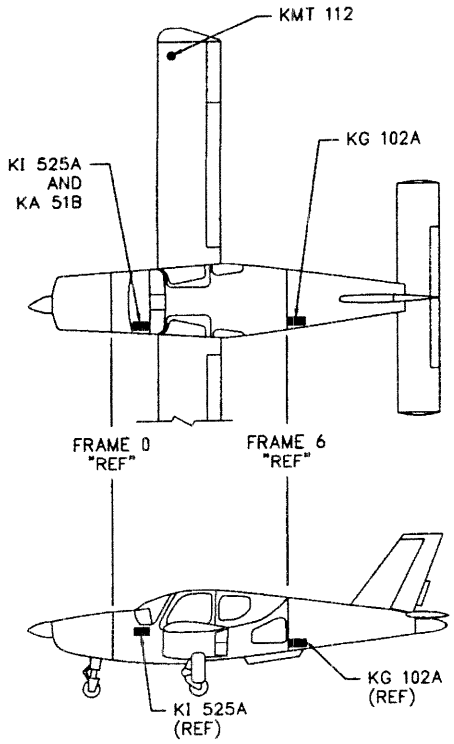
SHT REV REFLECTS REVISION LEVEL OF DRAWING PACKAGE WHEN SHEET WAS LAST CHANGED.

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION
–	1-6	FIRST RELEASE. APPVD: DAVE KRIZ DATE: 9/13/99

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION

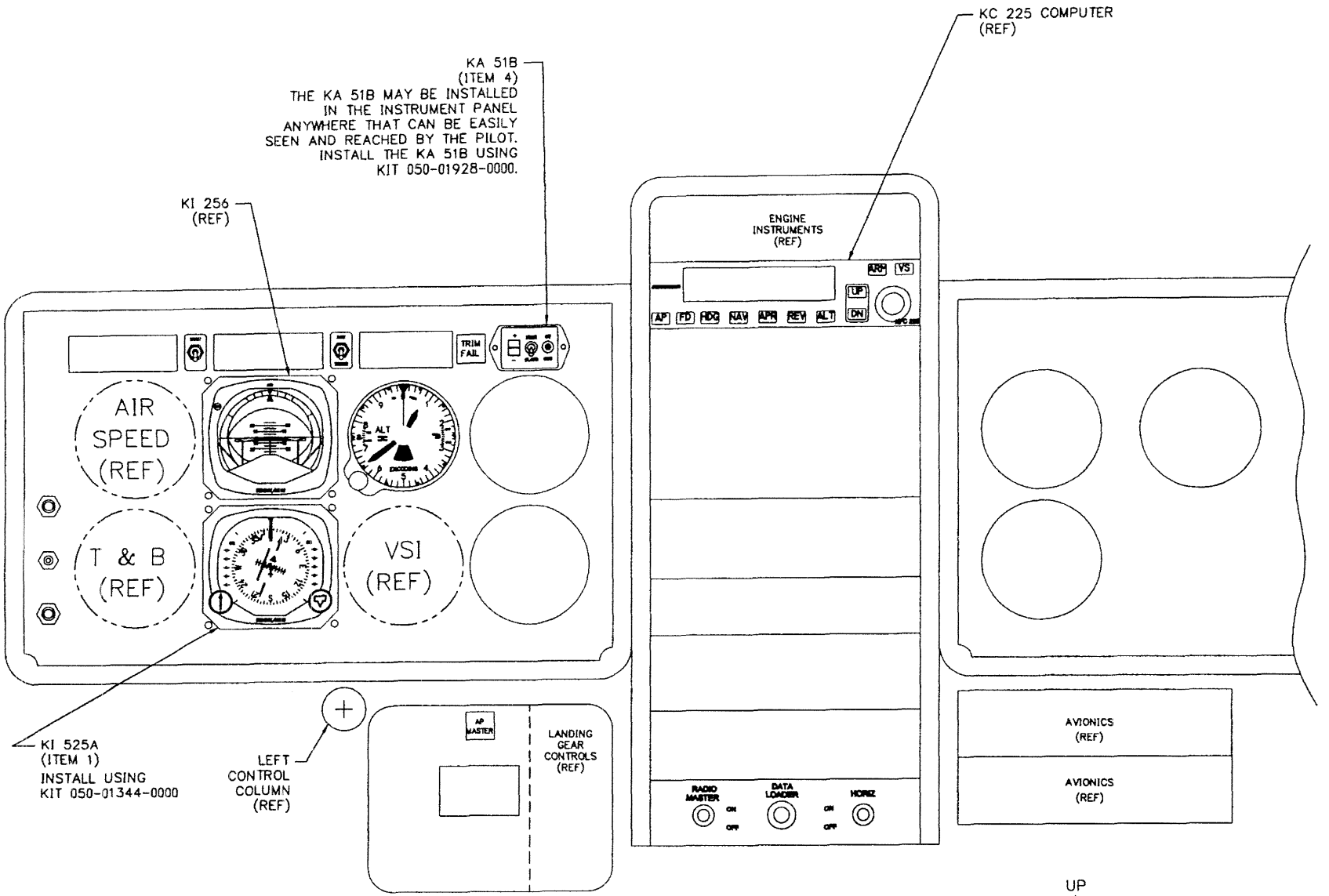


NOTES:

1. SEE INSTALLATION MANUAL, 006-00776-0000, FOR CORRECT PART NUMBERS.
2. THE INSTALLER MAY SUPPLY THE HARDWARE CONTAINED IN THIS KIT, OR ORDER THE OPTIONAL HARDWARE KIT, 050-03604-0001 FROM ALLIEDSIGNAL.
3. THE KG 102A MOUNTING SHELF ASSEMBLY MUST BE ORDERED FROM S.O.C.A.T.A. AIRCRAFT. THIS PART IS NOT AVAILABLE FROM ALLIEDSIGNAL INC.
4. TO ASSURE A PROPER GROUND, ABRADE (BURNISH) THE SURFACES TO REMOVE ALL PAINT AND/OR FOREIGN MATERIAL BEFORE ATTACHING THE GROUND LUG.
5. USE TO CONNECT TO THE AIRCRAFT WIRING HARNESS AS SHOWN IN THE INTALLATION MANUAL, 006-00776-0000, APPENDIX B.
6. THE CIRCUIT BREAKER IS NOT SUPPLIED IN THE KIT, IT MUST BE ORDERED IN ADDITION TO THE KIT WHEN REQUIRED.
7. CIRCUIT BREAKER LOCATION MAY REQUIRE THE INSTALLER TO REDECORATE THE EXISTING CIRCUIT BREAKER OVERLAY OR OBTAIN A NEW CIRCUIT BREAKER OVERLAY FROM SOCATA AIRCRAFT.

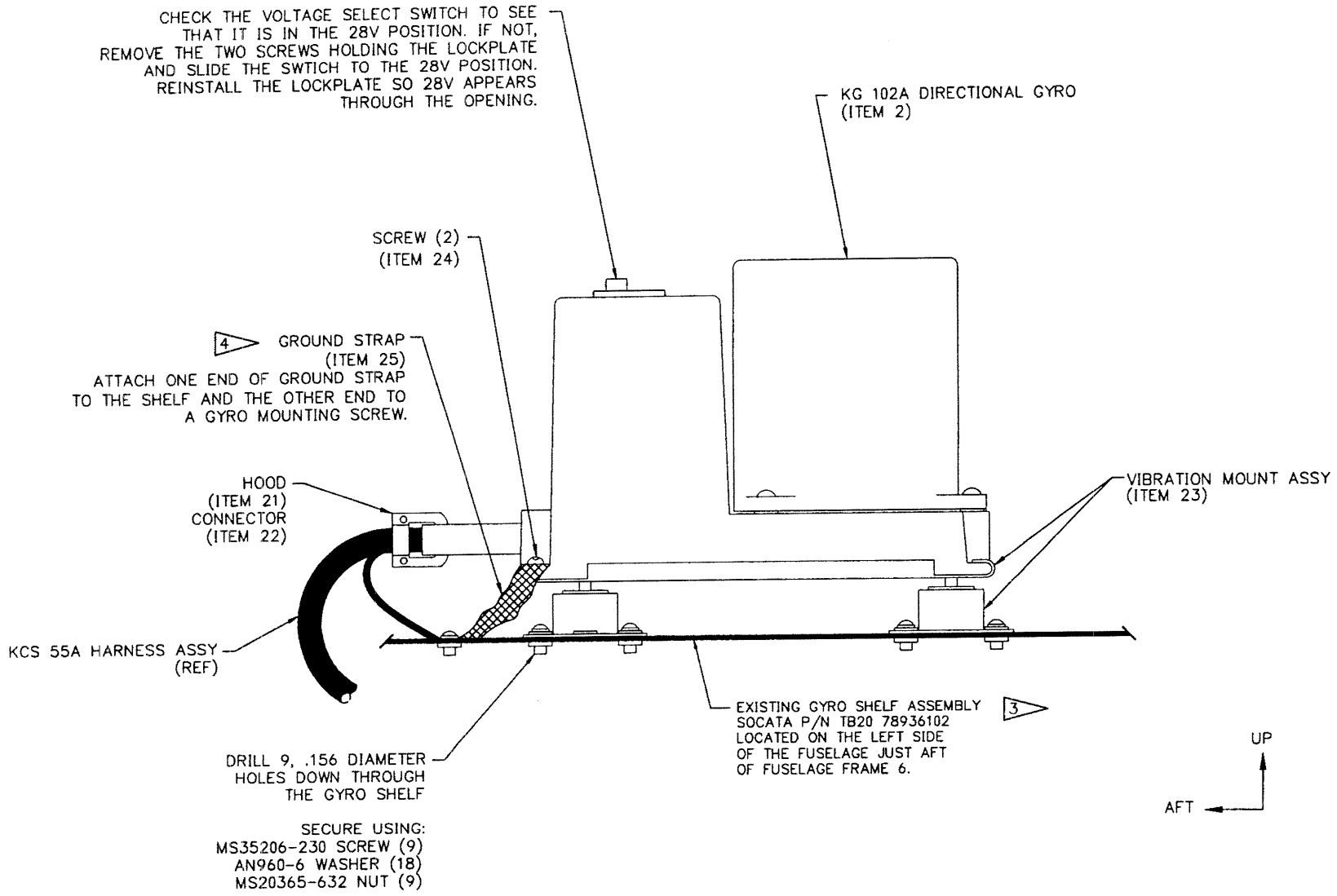
				39
				38
				37
				36
9		MS20365-632	LOCK NUT	35
9		MS35206-230	SCREW	34
18		AN960-6	WASHER	33
2	050-03604-0001		OPTIONAL HARDWARE KIT	
				32
				31
2	089-06163-0008	TSO	SCREW 4-40 X 1/2	30
1	047-5759-02	TSO	MTG RING	29
5, 1	030-02423-0000	TSO	CONNECTOR 5P	28
5, 1	030-02421-0000	TSO	CONNECTOR 9P	27
	050-01928-0000		KA51B INSTL KIT	
				26
1	155-02001-0000	TSO	GROUND STRAP	25
2	089-05909-0009	TSO	SCREW 8-32 X 9/16	24
1	071-4025-00	TSO	VBRTN RACK ASSY	23
5, 1	030-02221-0000	TSO	CONNECTOR 37P	22
5, 1	030-02154-0000	TSO	HOOD	21
	050-01410-0000		KG102A INSTL KIT	
				20
				19
				18
				17
3	089-08036-0019	TSO	WASHER	16
3	089-07009-0010	TSO	SCREW	15
5, 1	030-02190-0000	TSO	CONNECTOR W/HOOD	14
	050-01361-0000		KMT112 INSTL KIT	
				13
4	089-05115-0012	TSO	SCREW 6-32 X 3/4	12
1	047-3937-01	TSO	MOUNTING RING	11
5, 1	030-02178-0000	TSO	CONNECTOR 41P	10
5, 2	030-02154-0000	TSO	HOOD	9
5, 1	030-02153-0000	TSO	CONNECTOR 24P	8
	050-01344-0000		KI525A INSTL KIT	
3, 1		TB20 78936102	KG 102A SHELF	7
6, 1	036-00152-0003	FAA-PMA	2 AMP CIRCUIT BREAKER	6
				5
1	1	TSO	KA51B SLAVING ACCY	4
1	1	TSO	KMT112 FLUX VALVE	3
1	1	TSO	KG102A DIRECTIONAL GYRO	2
1	1	TSO	KI525A HSI	1
REQ	A/S PART NUMBER	STANDARD PART NO.	DESCRIPTION	ITEM

Honeywell / AlliedSignal Inc.	OLATHE KANSAS USA
NAME	KCS 55A INSTALLATION
DRN: LAH	
CHK:	
DATE	11-99
NUMBER	159-08246-5005
SHT	2
SHT REV	-
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	B.O.M. & NOTES
PROJ DESCRIPTION	- SOCATA 225 -

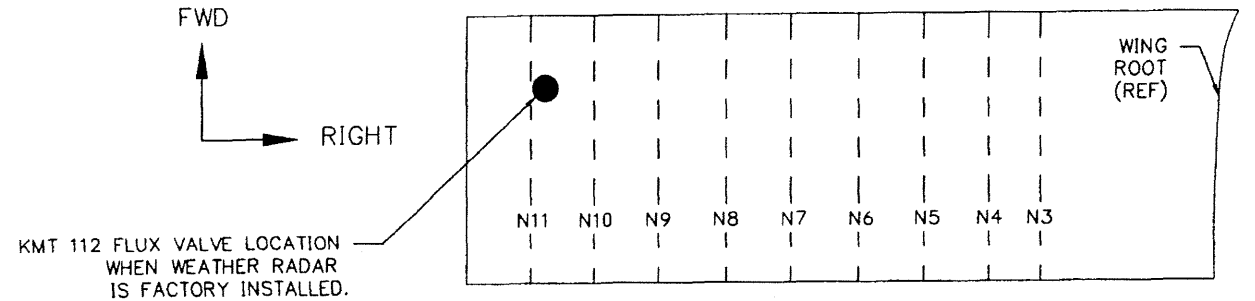


INSTRUMENT PANEL
VIEW LOOKING FORWARD

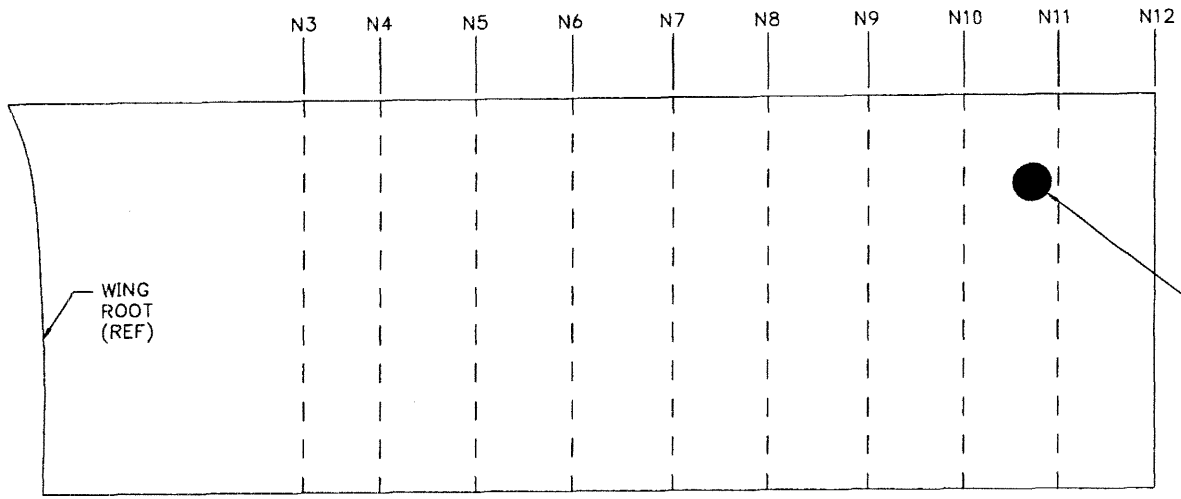
Alliedsignal Inc.	OLATHE KANSAS USA
NAME	KCS 55A INSTALLATION
DRN: LAH	
CHK: DK	
DATE	11-99
NUMBER	159-08246-5005
SHT	3
SHT REV	-
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	INSTRUMENT PANEL LAYOUT
PROJ DESCRIPTION	- SOCATA 225 -



KG 102A DIRECTIONAL GYRO INSTL
VIEW LOOKING LEFT



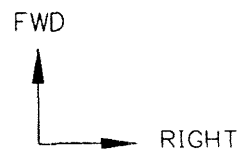
VIEW LOOKING DOWN
TOP OF THE LEFT WING
KMT 112 INSTALLATION, WITH WEATHER RADAR



KMT 112 FLUX VALVE
(ITEM 3)

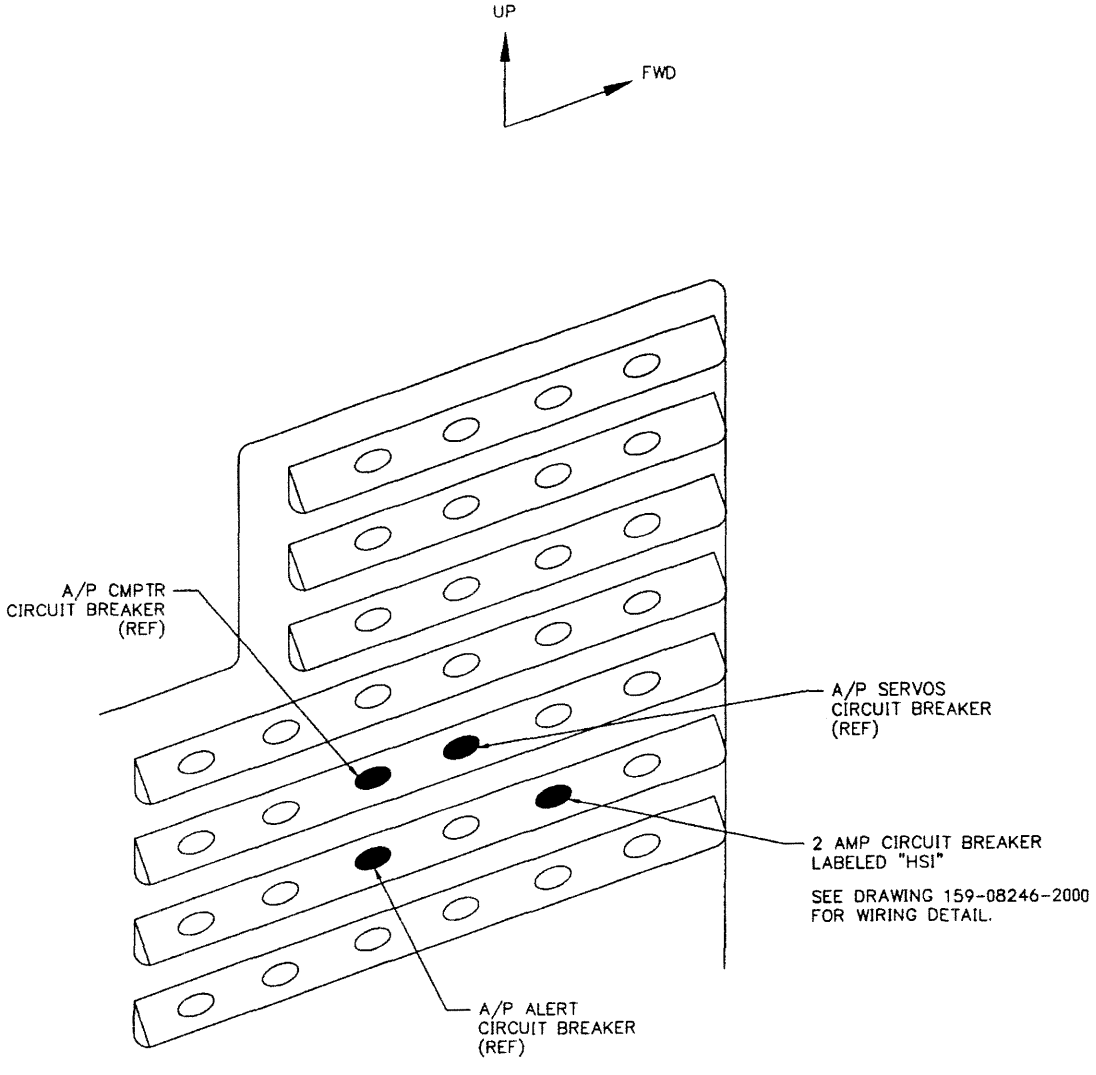
REMOVE THE INSPECTION PLATE
FROM THE TOP OF THE WING

INSTALL THE KMT 112 FLUX VALVE
ON THE EXISTING BRACKET
USING KIT: 050-01361-0000



VIEW LOOKING DOWN
TOP OF THE RIGHT WING
KMT 112 INSTALLATION

Autodesk Inc.	OLATHE KANSAS USA
NAME	KCS 55A INSTALL
DRN: DK CHK: DK	
DATE	9-99
NUMBER	159-08246-5005
SHT	5
SHT REV	-
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	FLUX VALVE
PROJ DESCRIPTION	- SOCATA 225 -



VIEW LOOKING DOWN AND LEFT
LEFT SIDE OF THE COCKPIT
MAIN CIRCUIT BREAKER PANEL

APPENDIX B.

APPENDIX B CONTAINS THE FOLLOWING ELECTRICAL INSTALLATION DRAWING

DRAWING NUMBER	DESCRIPTION	REVISION	DATE
159-08246-2000	WIRING DIAGRAM KFC 225 SOCATA TB 20/21	A	11/1/00

Honeywell
Honeywell International Inc.
OLATHE KANSAS 66062

NAME: WIRING DIAGRAM KFC 225 SOCATA

DRN: AJK
CHK:

DATE: 08/99

NUMBER: 159-08246-2000

SHT: 1

SHT REV: A

SEE SHT 1 FOR REV HISTORY

SCALE: NONE

SHT DESCRIPTION: REVISION HISTORY & PARTS LIST

PROJ DESCRIPTION: - SOCATA KFC 225 -

STATUS	
SHT	REV
1	A
2	A
3	A
4	A
5	A
6	A
7	A
8	A
9	A

SHT REV REFLECTS REVISION LEVEL OF DRAWING PACKAGE WHEN SHEET WAS LAST CHANGED.

REVISION HISTORY

REV NO	SHEETS	DESCRIPTION
-	1-9	FIRST RELEASE. APPVD: K PRESTON DATE: 9/9/99
A	ALL	CHANGE TITLE BLOCK TO HONEYWELL
A	1	- CHANGE DIODE MODULE P/N FROM M8174/24-2D002 TO 030-03450-0001 - ADDED SG465 CONNECTOR & RESISTOR PARTS - REVISION HISTORY UPDATE
A	2	- CHANGED ALLIEDSIGNAL REFS TO HONEYWELL
A	3	- MOVE ALT ENCDR TO BUS 1 - CLARIFY WARNING LIGHT PANEL REFS - CORRECT AP MASTER BULB TERMINALS - CORRECT AP MASTER C/C SWITCH TERMINAL - REMOVE 20GA SPEC ON AP MASTER TO AP DISC SWITCH - CHANGED DG UNIT DESIGNATOR TO KG 102A
A	5	- SHOW XPDR LINES ON P2252
A	6	- CHANGE LOWER KC 225 PLUG DESIGNATOR TO P2251
A	9	- SHOW XPDR LINES ON P2252 - ADDED DETAIL TO EHI 40 OPTION APPVD: DATE: 11/1/00

ITM	CONNECTOR DESIGNATION	UNIT	PART DESCRIPTION	PART NUMBER	P/O KIT
1	P130A1	KEA 130A	SCR LOCK	030-01025-0000	050-02175-0000
2			HOOD	030-01065-0000	
3			CONNECTOR	030-02347-0001	
4	P130A2		CONNECTOR	030-02528-0000	
5	-		LIGHT TRAY 28V	071-01522-0028	N/A
6	P51B1	KA 51B	CONNECTOR	030-02423-0000	050-01928-0000
7	P51B2		CONNECTOR	030-02421-0000	
8	P2561	KI 256	CONNECTOR	030-02002-0000	050-01518-0000
9			LEVER/PIVOT	030-01008-0000	
10			HOOD	030-01010-0000	
11	P1001	KCM 100	SOCKETS	030-01157-0011	050-03245-0000
12			HOOD/LEVER	030-02351-0005	
13			CONNECTOR	030-01171-0000	
14	P102A1	KG 102A	CONNECTOR	030-02221-0000	050-01410-0000
15			HOOD	030-02154-0000	
16	P525A1	KI 525A	CONNECTOR	030-02153-0000	050-01344-0000
17			HOOD	030-02154-0000	
18	P525A2		CONNECTOR	030-02178-0000	
19			HOOD	030-02154-0000	
20	P1121	KMT 112	CONNECTOR	030-02190-0000	050-01361-0000
21	P271C1	KS 271C	CONNECTOR	030-03248-0000	050-00398-0000
22		(ROLL)	LEVER/PIVOT	030-01008-0000	
23			SOCKET	030-01280-0000	
24			HOOD	030-01009-0000	
25			SOCKET GUIDE	090-00348-0000	
26			PIN GUIDE	090-00348-0001	
27	P270C1	KS 270C	CONNECTOR	030-03248-0000	050-00398-0000
28		(PITCH)	LEVER/PIVOT	030-01008-0000	
29			SOCKET	030-01280-0000	
30			HOOD	030-01009-0000	
31			SOCKET GUIDE	090-00348-0000	
32			PIN GUIDE	090-00348-0001	
33	P272C1	KS 272C	CONNECTOR	030-03248-0000	050-00398-0000
34		(TRIM)	LEVER/PIVOT	030-01008-0000	
35			SOCKET	030-01280-0000	
36			HOOD	030-01009-0000	
37			SOCKET GUIDE	090-00348-0000	
38			PIN GUIDE	090-00348-0001	
39	W100	-	SONALERT	038-00008-0000	REF
40	P2251	KC 225	CONNECTOR	030-02667-0001	050-03401-0000
41			STRAIN RELIEF	047-12246-0003	
42			SOCKET CONTACTS	030-01451-0000	
43	P2252		CONNECTOR	030-03296-0001	
44			STRAIN RELIEF	047-12245-0003	
45			SOCKET CONTACTS	030-01451-0000	
46	-		FERRITE BEAD	013-00045-0001	
47	PD2321		RS 232 DATA PORT	033-00230-0000	

ITM	CONNECTOR DESIGNATION	UNIT	PART DESCRIPTION	PART NUMBER	P/O KIT
48	A100	-	AP TRIM FAIL ANN	031-00785-0757	REF
49	S100	-	MET SWITCH	200-09187-0000	REF
50	S101	-	CWS SWITCH	031-00330-0000	REF
51	S102	-	AP DISC SWITCH	031-00428-0000	REF
52	S103	-	GA SWITCH	031-00514-0000	REF
53	AS100	-	AP MASTER SWITCH	031-00783-0828	REF
54	CR100	-	DIODE MODULE	030-03450-0001	REF
55	J100	-	CONNECTOR, 2S	030-02417-0000	REF
56	J100	-	SOCKET CONTACT	030-02417-0001	REF
57	P100	-	CONNECTOR, 2P	030-02602-0000	REF
58	P100	-	PIN CONTACT	030-01297-0000	REF
59	P3461	KEA 346	CONNECTOR	030-02148-0001	050-01884-0000
60	P465XX	SG 465	CONTACTS	030-01311-0000	REF
61	P4651X	SG 465	CONNECTOR	030-02707-0002	050-02719-XXXX
62	P4652X	SG 465	CONNECTOR	030-02707-0000	
63	-	R1, R3	10K OHM, 1/4W, 5%	131-00103-0023	REF
64	-	R2, R4	150 OHM, 1/4W, 5%	131-00151-0023	REF

NOTES:

* AN ASTERISK FOLLOWING A PIN IDENTIFIER DENOTES A LOWER CASE LETTER.

1. STRANDED WIRE USED SHALL MEET OR EXCEED MIL-W-22759/16 SPEC. SHIELDED WIRE SHALL MEET OR EXCEED MIL-C-27500 SPEC. ALL WIRES ARE 22 AWG UNLESS OTHERWISE NOTED.

SINGLE CONDUCTOR SHIELDED
TWISTED PAIR SHIELDED
TWISTED TRIPLE SHIELDED
GROUND
KC 225 BACKPLATE GROUND
NO CONNECTION
CONNECTION
EXISTING WIRE
FERRITE BEAD
CAPPED WIRE

2. INSTALL SHIELDED WIRES WHERE INDICATED AND GROUND ONLY WHERE INDICATED.

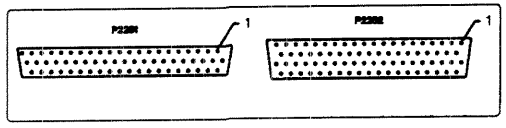
3. UNLESS OTHERWISE NOTED, POWER AND CHASSIS GROUNDS, MAX LENGTH 18 INCHES. UNLESS OTHERWISE NOTED, ALL SHIELD GROUNDS MUST BE LOCAL, MAX LENGTH 6 INCHES FROM BREAKOUT. MAX WIRE EXPOSURE OF SHIELDED WIRE 5 INCHES.

4 OPTIONAL WIRING IF GPS ROLL STEERING IS DESIRED WHEN A KLN 90B OR KLN 900 IS INSTALLED. REFER TO THE 006-00776-0000 INSTALLATION MAINTENENACE MANUAL FOR MINIMUM HARDWARE AND SOFTWARE REQUIREMENTS OF THESE UNITS.

5. KC 225 HARNESS CONNECTOR IDENTIFICATION AS FOLLOWS:

- P2251 IS A 62 POSITION 22 GAUGE SOCKET CONNECTOR.
- P2252 IS A 78 POSITION 22 GAUGE SOCKET CONNECTOR.
- STUD GROUND: FOUR 6-32 STUDS ARE PROVIDED FOR SHIELD GROUNDING.

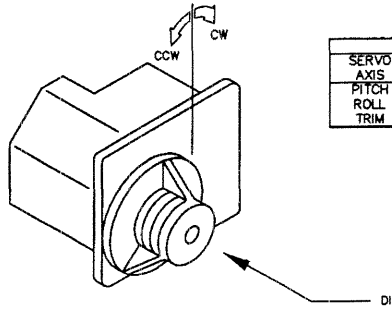
CONNECTOR ORIENTATION AS VIEWED FROM UNIT ENTRY



6 COLORS SHOWN ARE FOR REFERENCE ONLY. CAP AND STOW UNUSED WIRES.

7 CONFIGURATION MODULE WIRES, MAX CONNECTOR TO CONNECTOR LENGTH 48 INCHES.

8 FOR SERVO DIRECTION, VIEW SERVO/CAPSTAN ASSEMBLY AS SHOWN BELOW:



SERVO PHASING		
SERVO AXIS	REFERENCE CONTROL DIRECTION	CAPSTAN ROTATION
PITCH	NOSE UP	CW
ROLL	RIGHT WING DOWN	CCW
TRIM	NOSE UP	CW

9 P2252-37 (MIDDLE MARKER GAIN) IS DESIGNED TO WORK WITH A MARKER RECEIVER THAT SUPPLIES > 5VDC ONLY WHEN THE MIDDLE MARKER SIGNAL IS RECEIVED. THIS MARKER RECEIVER OUTPUT SHOULD REMAIN LOW WHEN THE MARKER RECEIVER IS IN TEST MODE.

10 EACH SERVO/CLUTCH POWER WIRE MUST NOT BE DAISY-CHAINED, BUT SHOULD BE CONNECTED TOGETHER AT A COMMON DISTRIBUTION POINT SUCH AS A TERMINAL STRIP/JUNCTION BLOCK OR EQUIVALENT DEVICE.

11 SOCATA TB 20/21 HARNESS STRAP DEFINITION IS AS FOLLOWS:

AIRCRAFT MODEL	STRAP CODE	GROUNDED PINS (P2251)
TB20/21	07	29,30,31

12 IF A GPS IS USED FOR AUTOPILOT GUIDANCE, CONNECT P2252-34 WITH THE FOLLOWING LOGIC:
- GROUND = GPS CONNECTED TO AUTOPILOT
- OPEN = GPS NOT CONNECTED TO THE AUTOPILOT.

13 THE "OBS RESOLVER B" FUNCTION IS USED ON A KI 525A P/N 066-03046-0007. THIS INPUT IS WIRED DIFFERENTLY DEPENDING ON WHICH TYPE OF NAV CONVERTER IS USED. REFERENCE KCS 55A INSTALLATION MANUAL 006-00111-XXXX FOR FURTHER DETAILS.

14 PART OF THE KCS 55A COMPASS SYSTEM.

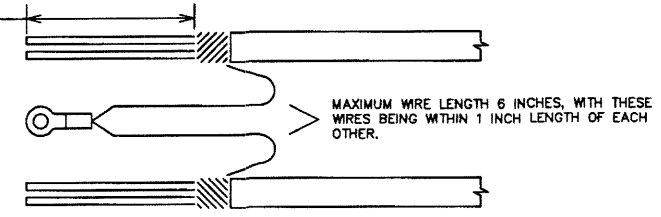
15 DIODES USED IN THIS DIAGRAM ARE 1N4007 (P/N 007-06048-0000) UNLESS OTHERWISE NOTED.

16 REGARDING THE KC 225: SHIELD WIRE TERMINATIONS MAY BE DONE IN THE FOLLOWING COMBINATIONS TO MINIMIZE THE TERMINAL LUG CONGESTION ON THE KC 225 REAR CONNECTOR PLATE:

TERMINAL PART NUMBER 010-00068-0023 (22-16 NYLON TERMINAL)
ACCEPTS A SINGLE WIRE FROM 22 GA TO 16 GA MEETING MIL-W-22759 WIRESPEC.
* THESE WIRES MAY BE TWO 20 GA WIRES, TWO 22 GA WIRES, A COMBINATION OF ONE 20 GA WIRE AND ONE 22 GA WIRE, OR THREE 22 GA WIRES.

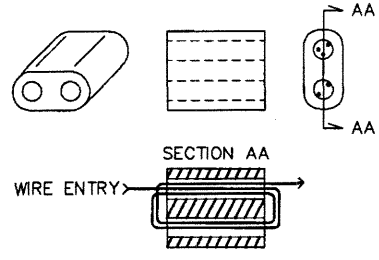
* - WHENEVER POSSIBLE, TWIST WIRES TOGETHER IN THE SAME DIRECTION AS THE INDIVIDUAL STRANDS.

USING THE ABOVE GUIDELINES, UP TO THREE SHIELDS MAY BE TERMINATED TO ONE TERMINAL LUG AS FOLLOWS:



A MAXIMUM OF 4 TERMINAL LUGS MAY BE INSTALLED ON EACH GROUNDING STUD OF THE KC 225 CONNECTOR PLATE. UNDER NO CIRCUMSTANCES SHOULD CURRENT-CARRYING WIRES BE COMBINED WITH NON-CURRENT (SHIELD) WIRES IN THE SAME CRIMP TERMINAL.

17 TO INSTALL FERRITE BEAD, INSERT THE WIRE END INTO ONE HOLE, AND LOOP IT AROUND INTO THE OTHER HOLE. REPEAT THIS UNTIL THE WIRE HAS MADE 2 1/2 TURNS SO THAT THE WIRE EXITS THE BEAD OPPOSITE THE END IT ENTERED. LOCATE FERRITE BEADS WITHIN 6 INCHES OF THE KC 225 HARNESS CONNECTORS. REFERENCE DETAIL BELOW:



NOTE THAT ADDITIONAL WIRE LENGTH OF APPROXIMATELY 3 INCHES IS REQUIRED TO ACCOMMODATE THE INSTALLATION OF THE FERRITE BEAD.

18 ALL THESE NAV SIGNALS NEED TO BE RELAY SWITCHED WHEN A GPS IS INSTALLED WITH INTENT TO BE DISPLAYED ON THE HSI. THE ILS ENERGIZE INPUT TO THE KC 225 ACCEPTS THE STANDARD ILS DISCRETE FROM A NAV/LOC RECEIVER OR IT MAY ACCEPT A GROUND SIGNAL WHEN THE GPS IS DISPLAYED ON THE HSI AND IT IS IN THE APPROACH ACTIVE MODE. NOTE: THE SWITCHING RELAY USED MUST BE CAPABLE OF PROPERLY SWITCHING LO-LEVEL (DRY CIRCUIT) SIGNAL LEVELS.

19 QUICK DISCONNECT DEVICES SHOWN ON THIS DIAGRAM ARE FOR REFERENCE PURPOSES ONLY.

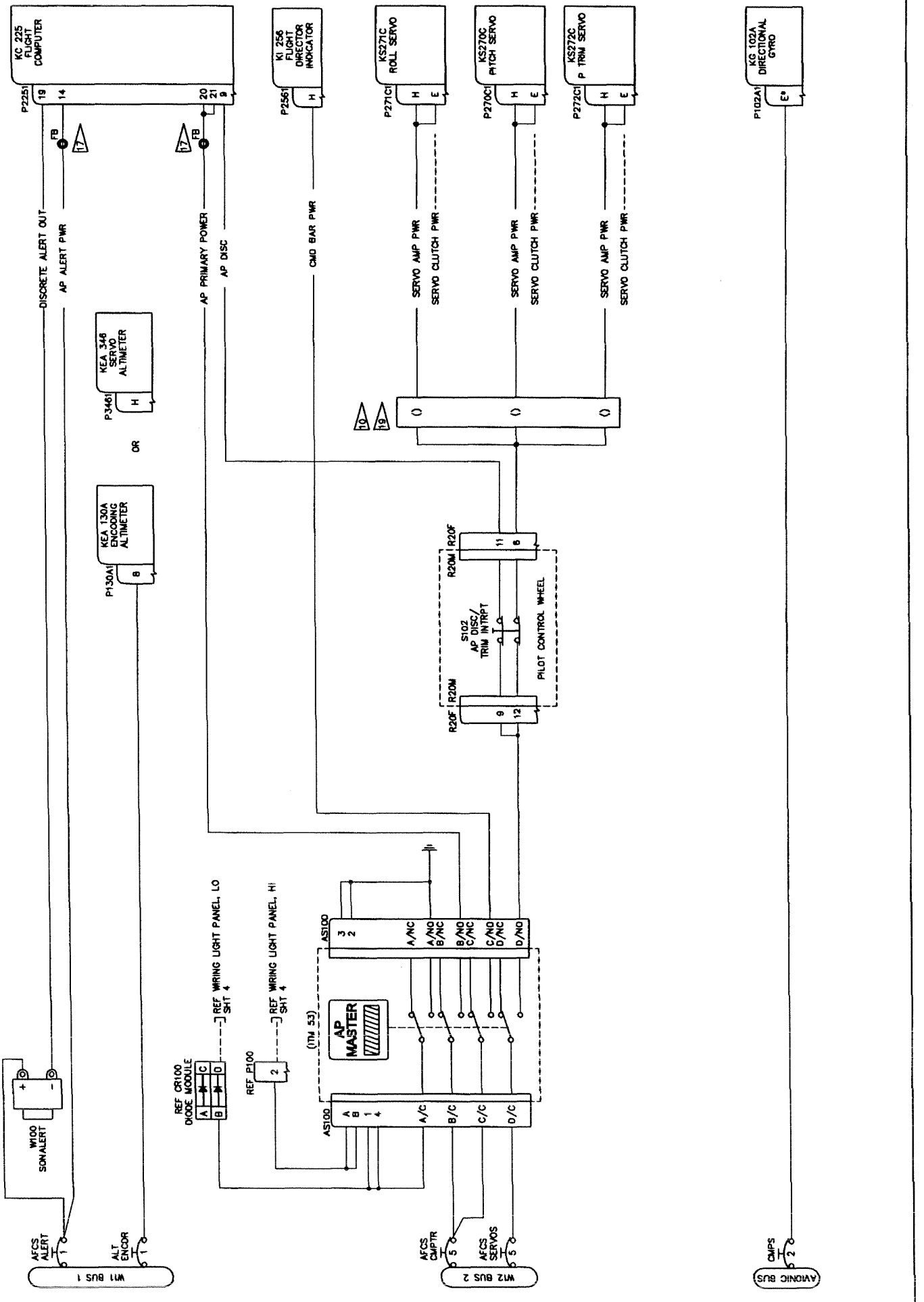
20 MODIFY THE EXISTING AIRCRAFT WARNING PANEL AS SHOWN. AFTER MODIFICATION, PERMANENTLY MARK THE PANEL AS FOLLOWS.

THIS PART HAS BEEN MODIFIED IN ACCORDANCE WITH HONEYWELL MASTER DRAWING LIST 159-08246-0001.

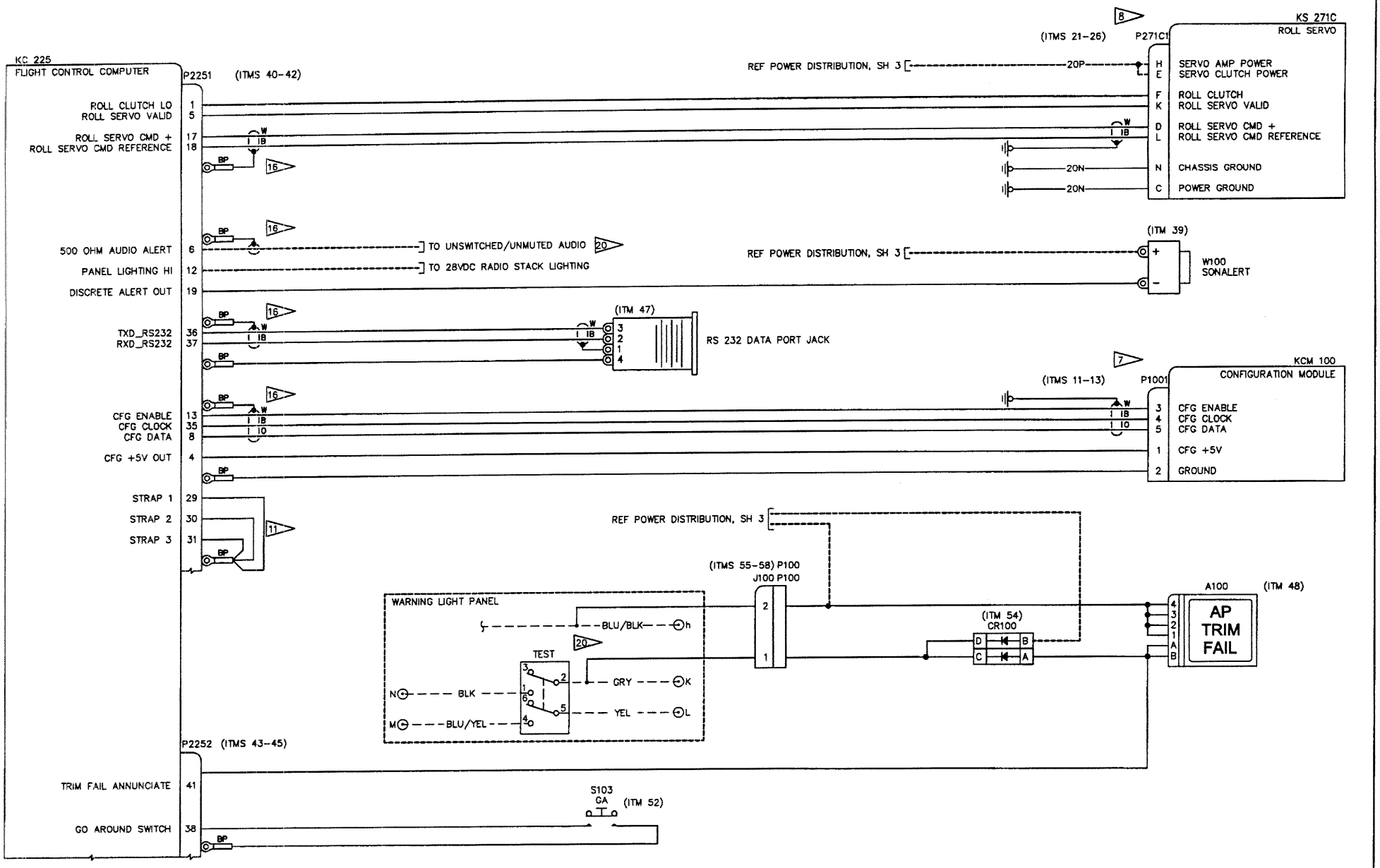
21 OPTIONAL INTERFACE. INTERFACE THE KEA 346 AS SHOWN IN LIEU OF THE KEA 130A.

22 OPTIONAL INTERFACE. INTERFACE THE EHI 40 AS SHOWN IN LIEU OF THE KCS 55A COMPASS SYSTEM. THE INSTALLAER IS RESPONSIBLE FOR APPROVING THE EHI 40 IN THE AIRCRAFT.

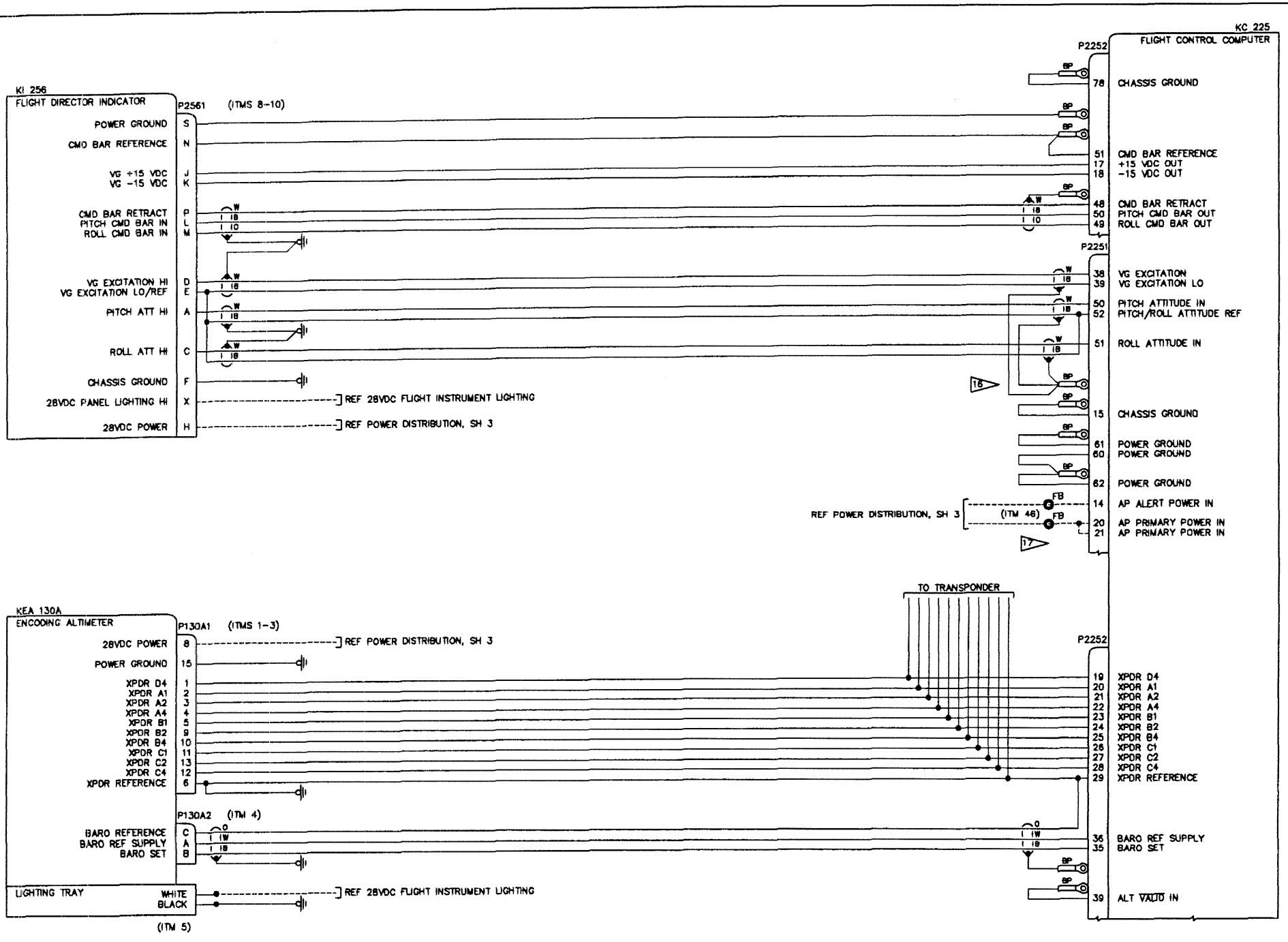
Honeywell
Honeywell International Inc.
OLATHE KANSAS 66062
NAME
WIRING DIAGRAM KFC 225 SOCATA
DRN: AJK
CHK: EJD
DATE 08/99
NUMBER 159-08246-2000
SHT 2
SHT REV A
SEE SHT 1 FOR REV HISTORY
SCALE NONE
SHT DESCRIPTION NOTES
PROJ DESCRIPTION - SOCATA KFC 225 -



Honeywell International Inc.	OLATHE KANSAS 66062	NAME WIRING DIAGRAM KFC 225 – SOCATA	DRN: AJK CHK: KP	DATE 08/99	NUMBER 159-05246-2000	SHT 3	SHT REV A	SEE SHT 1 FOR REV HISTORY	SCALE NONE	SHT DESCRIPTION POWER DISTRIBUTION	PROJ DESCRIPTION – SOCATA KFC 225 –

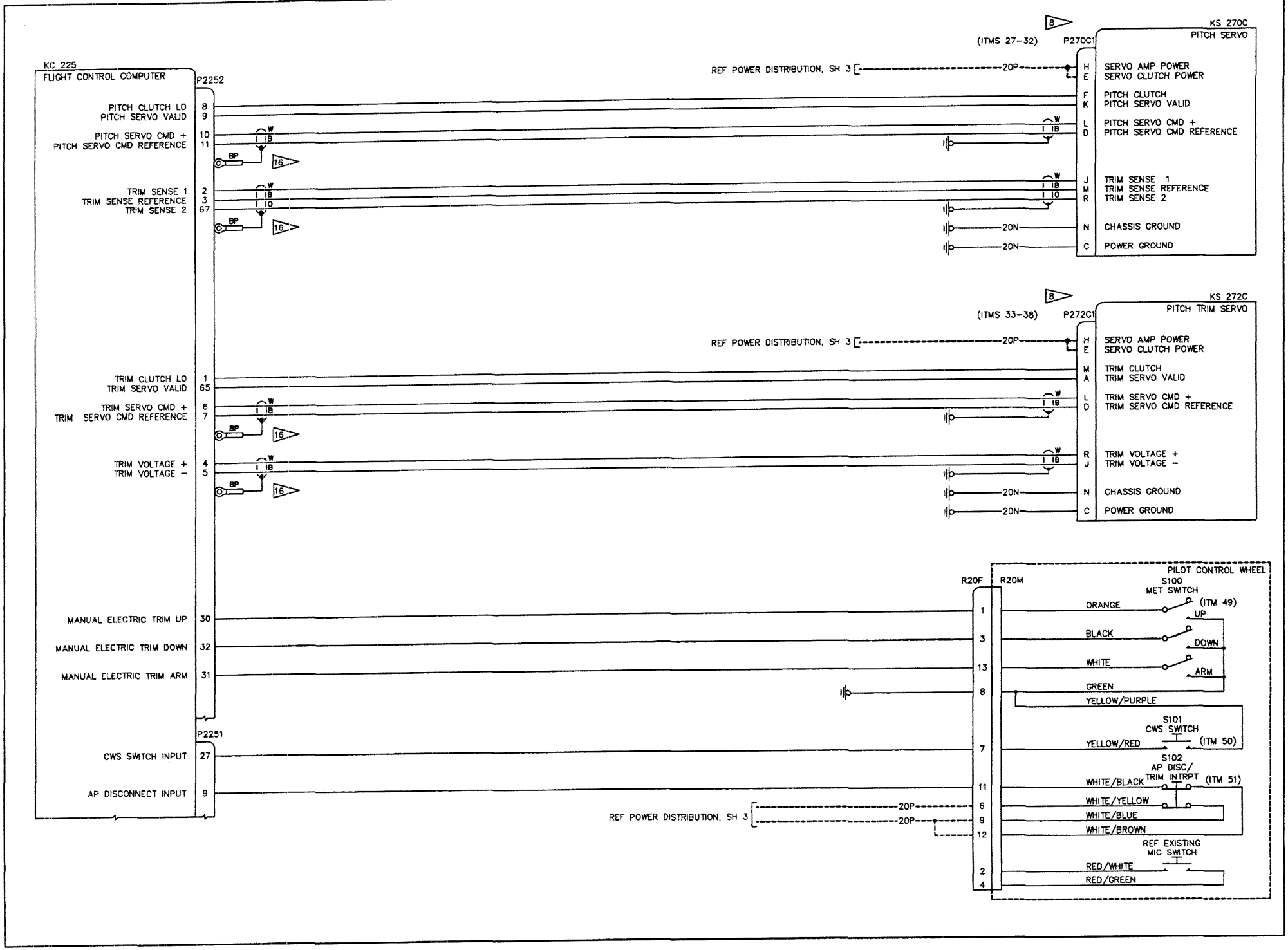


Honeywell	Honeywell International Inc.
QUARTZ KANSAS 66062	
NAME	
WIRING DIAGRAM KFC 225 SOCATA	
DRN: AJK	
CHK: [illegible]	
DATE	08/99
NUMBER	159-08246-2000
SHT	4
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	ROLL AXIS, CONFIG. MOD., TRIM FAIL ANNUN., RS 232
PROJ DESCRIPTION	- SOCATA KFC 225 -



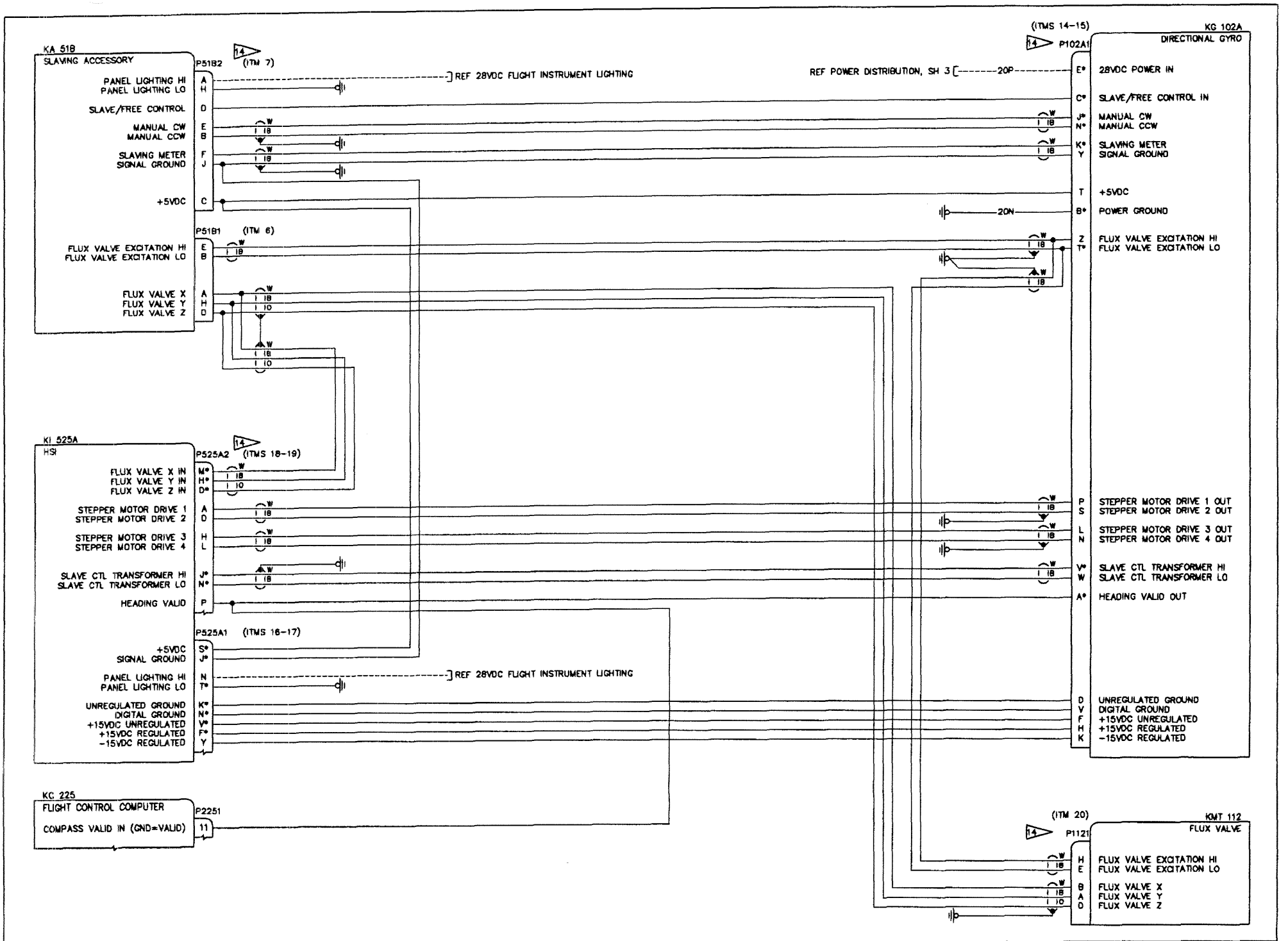
Honeywell
Honeywell International Inc.
OLATHE KANSAS 66062

NAME	WRING DIAGRAM KFC 225 SOCATA
CHK: KEP	DRN: A.JK
DATE	08/99
NUMBER	159-08245-2000
SHT	5
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	KI 256 ATTITUDE GYRO KEA 130A ENCODING ALTIMETER
PROJ DESCRIPTION	- SOCATA KFC 225 -

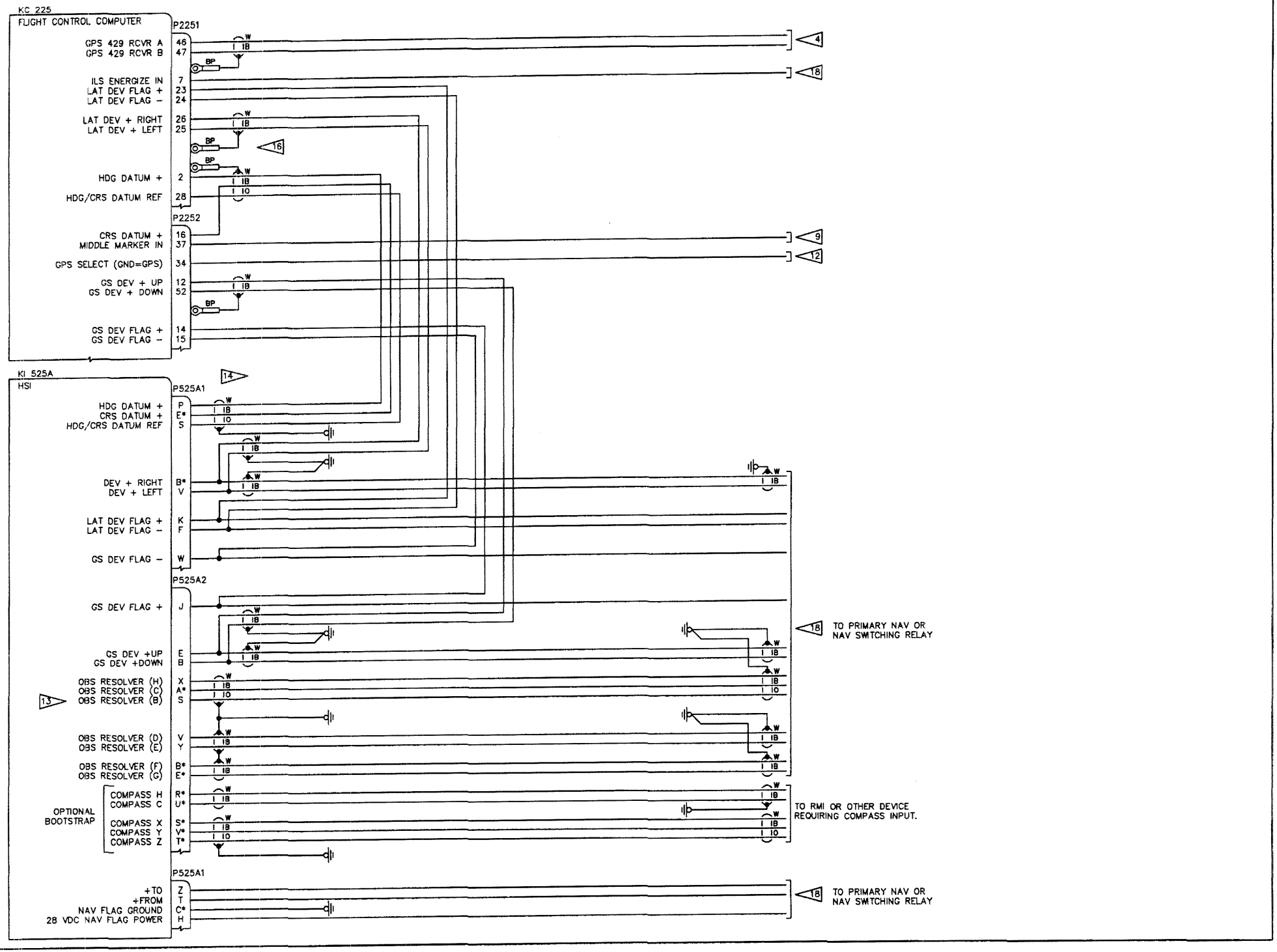


Honeywell
Honeywell International Inc.
OLATHE KANSAS 66062

NAME	WIRING DIAGRAM KFC 225 SOCATA
DRN: AJK	
CHK: KEP	
DATE	08/99
NUMBER	159-08246-2000
SHT	6
SHT REV	A
SEE SHT 1 FOR REV HISTORY	
SCALE	NONE
SHT DESCRIPTION	PITCH AXIS, PITCH TRIM, MANUAL ELECTRIC TRIM
PROJ DESCRIPTION	- SOCATA KFC 225 -



Honeywell
Honeywell International Inc.
OLATHE KANSAS 66062
NAME
WIRING DIAGRAM KFC 225 SOCATA
DRN: A.JK
CHK: KEP
DATE 08/99
NUMBER 159-08246-2000
SHT 7
SHT REV A
SEE SHT 1 FOR REV HISTORY
SCALE NONE
SHT DESCRIPTION KCS 55A COMPASS SYSTEM
PROJ DESCRIPTION - SOCATA KFC 225 -



Honeywell
Honeywell International Inc.
OLATHE KANSAS 66062

NAME: WIRING DIAGRAM KFC 225 SOCATA

DRN: AJK
CHK: KEV

DATE: 08/99

NUMBER: 159-08246-2000

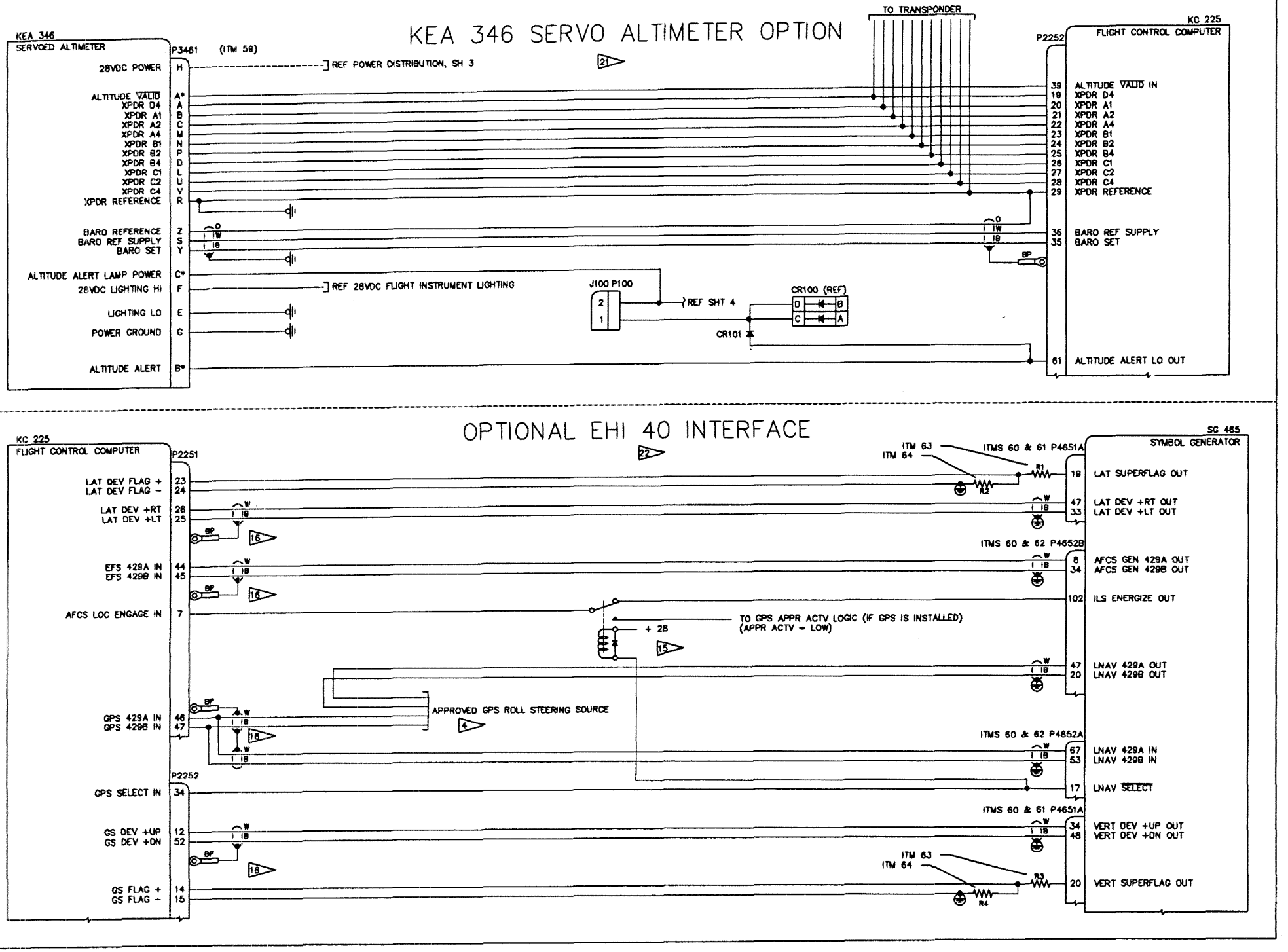
SHT: 8
SHT REV: A

SEE SHT 1 FOR REV HISTORY

SCALE: NONE

SHT DESCRIPTION: NAV SIGNALS INTERFACE (KI 525A)

PROJ DESCRIPTION: – SOCATA KFC 225 –



Honeywell
Honeywell International Inc.
OLATHE, KANSAS 66062

NAME
WRING DIAGRAM KFC 225 SOCATA

DRN: A.JK
CHK: KEP

DATE
08/99

NUMBER
159-08246-2000

SHT
9

SHT REV
A

SEE SHT 1 FOR REV HISTORY

SCALE
NONE

SHT DESCRIPTION
OPTIONAL INTERFACES KEA 346 AND EHI 40

PROJ DESCRIPTION
– SOCATA KFC 225 –

Honeywell

Installation/Maintenance Manual Discrepancy Notification

This manual is maintained by Honeywell Certification Engineering Department. This manual supports the installation and/or maintenance of the ***BENDIX/KING®*** equipment and systems for the aircraft type and Supplemental Type Certificate designated on the cover of this manual. If a discrepancy is found in this manual, please mail or fax this form (or a copy) as well as copy of the page(s) with the discrepancy noted. The recommended change(s) will be evaluated and incorporated into the manual as necessary at the time of the next revision.

Honeywell International Inc.
Electronics & Avionics Systems
One Technology Center
23500 W 105th Street
Olathe, KS 66061

Attention: Certification Engineering
Mail Drop #1
FAX (913) 782-0345

Name: _____

Company: _____

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Manual Number and Revision: _____

Discrepancy: _____

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