

KING
KFC 200
FLIGHT CONTROL SYSTEM

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SECTION I GENERAL INFORMATION

1.1 INTRODUCTION

The purpose of this KFC 200 System Installation Manual is to provide general information for planning a KFC 200 Flight Control System Installation and to provide helpful information for operating and troubleshooting the KFC 200 System.

A specific aircraft type installation manual is issued for each aircraft type that receives a King FAA Supplemental Type Certificate (STC) approval. The appropriate manual should be obtained before an actual installation is started. The manual is supplied with the installation kits provided with each system.

1.2 SYSTEM DESCRIPTION

The KFC 200 is a two axis autopilot with optional YAW damper automatic flight control system designed and manufactured by King Radio Corporation, Olathe, Kansas. The complete system, when interfaced with other avionics components, provides complete visual guidance information and autopilot control.

The autopilot system components are presented in Table 1-1.

<u>TYPE NUMBER</u>	<u>NOMENCLATURE</u>	<u>KING PART NUMBER</u>
KA 117	Pitch Trim Adapter	065-5006-00/01/02/03
KA 118	Demodulator	071-1095-00/01
KA 285	Annunciator Panel	065-0032-00/01
KC 290	Mode Controller	065-0033-00/01
KC 292	Mode Controller (AP only)	065-0037-00/01
KC 295	Flight Computer	065-0034-XX
KG 258	Horizon Gyro	060-0020-01/02
KI 255	Flight Command Indicator	060-0014-00/01
KI 256	Flight Command Indicator	060-0017-00/01
KM 275	Servo Mount	065-0030-00/01
KM 276	Servo Mount	065-0031-00/01
KM 277	Trim Servo Mount	065-0041-00/01/02
KS 270	Pitch Servo	065-0027-00/05
KS 271	Primary Servo	065-0028-00/05
KS 272	Trim Servo	065-0029-XX
KS 273	Trim Servo	065-0040-00/02
KCS 55A	Compass System	066-3046-XX
KA 141	Auto Pilot Monitor	065-5018-00/01
KA 142	Trim Adapter	065-5020-XX
KA 144	Servo Regulator	065-5021-00
KA 132	Accelerometer	065-5011-00
KAS 297	Altitude Select	065-0046-02
<u>Optional Yaw Damp System</u>		
KC 291	Yaw Controller	065-0035-00/01
KC 296	Yaw Computer	065-0036-00/01
KG 257	Rate Gyro Mount	071-4027-00/02
KM 275	Servo Mount	065-0030-00/01
KS 271	Primary Servo	065-0028-00/04
KRG 331	Rate Gyro	060-0024-00

TABLE 1-1 AUTOPILOT/YAW DAMP SYSTEM COMPONENTS

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1.2.1 TWO-AXIS AUTOPILOT SYSTEM

The following discussion of the KFC 200 two axis autopilot system should be referenced to Figure 1-2.

Mode selection and vertical trimming is provided by the KC 290 Mode Controller. The KA 285 Annunciator Panel continuously displays the mode status of the Autopilot System. The system is built around the KC 295 Flight Computer where all mode commands, signal commands and feedback signals are processed for transmission to the servo actuators.

Pitch control is provided by the KS 270 Pitch Servo and its associated KM 275 Servo Mount. Pitch Trim control is provided by the KS 272 Trim Servo and its associated KM 275, 276, or 277 Servo Mount. Roll control is provided by a KS 271 Primary Servo and KM 275 Servo Mount. Course and heading datum are provided by the KI 525A Pictorial Navigation Indicator as well as displaying the existing horizontal situation.

Pitch and Roll Attitude information is provided by the KI 255 or the KI 256 Flight Command Indicator and Pitch and Roll commands are displayed by the command bars of the indicator. Static pressure is input to the KC 295 for altitude hold control. An optional KAS 297 may be added to the system to provide automatic altitude capture capability. In the KFC 200 Autopilot only System, the KI 256 is replaced with a KG 258 Attitude Gyro. The KC 290 is replaced with a KC 292 which has a Pitch Effort meter in place of the Flight Director button. The Autopilot only System uses a different adapter board in the KC 295 computer.

1.2.2 YAW DAMP SYSTEM DESCRIPTION

The following discussion of the KFC 200 Yaw Damp System should be referenced to Figure 1-3.

Yaw damp mode selection and annunciation is provided by the KC 291 Mode controller. The KC 296 Yaw Computer receives YAW rate signals from the KG 257 or KRG 331 Yaw Gyro and roll crossfeed from the KC 295 Flight Computer for turn coordination. These signals are processed and sent to a KS 271 Primary Servo with KM 275 Servo Mount for yaw damping control.

1.2.3 KCS 55A COMPASS SYSTEM

The KCS 55A Compass System is normally sold with the KFC 200 System as a package. However, if the potential installation is already equipped with a compass system, the KCS 55A may be deleted from the order.

1.3 MODES OF OPERATION

MODE	GUIDANCE DISPLAY PROVIDED
Attitude Reference	Power on, no modes selected Existing Roll, Pitch and Heading
Flight Director	Pitch Attitude and wings level command.
Heading Select/Preselect NAV (VOR and RNAV)	Roll command to Selected Heading Roll command to capture and track OMNI and RNAV Course
Approach (ILS, VOR & RNAV)	Roll and Pitch command to Capture and Track LOC and GS beams, VOR and RNAV Approach course.
Back Course	Roll Command to Capture and Track Reverse LOC Course.
Go Around	Pitch/Wings level command to missed approach Climb Attitude.

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MODE	GUIDANCE DISPLAY PROVIDED
Altitude Hold	Pitch Command to Hold Altitude
Vertical Trim	Pitch Command to Trim engaged Altitude or Pitch Attitude
Autopilot	Display and control response to all selected Flight Director Modes plus: 2 or 3 axis rate stabilization Automatic Pitch Trim
Control Wheel Steering	Manual flight maneuvering with Flight Director/Autopilot in synchronize mode.
Manual Electric Trim	Electric Pitch Trim is active when the Autopilot is disengage.
Altitude Preselect	Pitch Command to capture preselected Altitude

1.4 SYSTEM TECHNICAL CHARACTERISTICS

The KFC 200 Flight Control System technical characteristics are listed as follows:

1.4.1 PERFORMANCE LIMITS AND ACCURACIES

Altitude Stability	-1000 to 35,000 \pm 30 feet
Directional Stability	360 degrees \pm 2 degrees
Maximum Bank Angles:	
Heading Modes	23 degrees \pm 3 degrees 18 \pm 3 depending on certification
NAV and APPR Modes	23 degrees \pm 3 degrees 18 \pm 3 depending on certification
Maximum Pitch Commands	
Pitch Attitude Hold	+ 15 degrees from normal attitude
Altitude Hold	(Pitch up 16 ^o degrees;
Glideslope	Pitch Down 11 ^o degrees)
Vertical Trim Rates	
Pitch Attitude Hold	1.0 \pm .2 degrees/second
Alt Hold	600 \pm 100 feet/minute

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1.4.2 INTERFACE REQUIREMENTS

DIFFERENTIAL

RNAV Computer	Differential 2 wire 30mV/NM deviation error for Flight Control Steering when enroute, 120mV/NM when in RNAV APPR.
VOR/LOC Receiver	Differential 2 wire course deviation, $\pm 150\text{mV} = \pm 10$ degrees VOR course deviation. $\pm 150\text{mV} = \pm 2.5$ degrees LOC deviation.
Glideslope Receiver	Differential 2 wire glidepath deviation $\pm 150\text{mV} = \pm .7$ degrees path error.
Glideslope Warning	250mV = Valid 130mV or less - Invalid
Marker Receiver	Middle Marker lights with a minimum of 2.5VDC or peak AC.

1.4.3 COMPLIANCE

TSO Compliance	FAA-TSO-C52a and C9c
Environmental	DO-138 Category (as application)

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<u>UNIT TYPE</u>	<u>UNIT PART NUMBER</u>	<u>WT. (Lbs)</u>	<u>DESCRIPTION</u>
KM 275	065-0030-00 thru 065-0030-40	1.0	Primary Servo Mount 91 Tooth Output Gear
KM 276	065-0031-00	1.0	Trim Servo Mount, 91 Tooth Output Gear
	065-0031-01	1.0	Trim Servo Mount, 77 Tooth Output Gear
	065-0031-02	1.0	Trim Servo Mount, 91 Tooth Output Gear
	065-0031-03	1.0	Trim Servo Mount, 77 Tooth Output Gear
	065-0031-04	1.0	Trim Servo Mount, 91 Tooth Output Gear
	065-0031-20	1.0	Trim Servo Mount, 91 tooth Output Gear
	065-0031-21	1.0	Trim Servo Mount, 91 tooth Output Gear
	065-0031-22	1.0	Trim Servo Mount, 77 Tooth Output Gear
	065-0031-23	1.0	Trim Servo Mount, 91 Tooth Output Gear
	065-0031-24	1.0	Trim Servo Mount, 77 Tooth Output Gear
KM 277	065-0041-00	1.0	Trim Servo mount 91 Tooth Output Gear
	065-0041-01	1.0	Trim Servo Mount, 77 Tooth Output Gear
	065-0041-02	1.0	Trim Servo Mount, 86 Tooth Output Gear
KS 270	065-0027-01	2.2	Pitch Servo 5 RPM, 6 in-lb Switch
	065-0027-02	2.2	Pitch Servo 2 1/2 RPM, 6 in-lb Switch
	065-0027-03	2.2	Pitch Servo 5, RPM 11 in-lb Switch
	065-0027-04	2.2	Pitch Servo
	065-0027-05	2.2	Pitch Servo 5 RPM, 3 +1 -0 in-lb Switch

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UNIT TYPE	UNIT PART NUMBER	WT. (Lbs)	DESCRIPTION
KS 271	065-0028-00	2.2	Primary Servo 15 RPM
	065-0028-01	2.2	Primary Servo 5 RPM
	065-0028-02	2.2	Primary Servo 2 RPM
	065-0028-03	2.2	Primary Servo 2.5 RPM
	065-0028-04	2.2	Primary Servo 15 RPM
	065-0028-05	2.2	Primary Servo 4 RPM
KA 132	065-5011-00	.23	Acceleration Switch
KA 141	065-5018-00/02	1.0	A.P. Monitor
KA 142	065-5020-00/02	.3	Trim Adapter
KA 144	065-5021-00	1.0	Servo Regulator
KAS 297	065-0046-00/03	1.2	Altitude Select
KRG 331	060-0024-00	.76	Rate Gyro

UNIT TYPE	UNIT PART NUMBER	WT. (Lbs)	DESCRIPTION				
			MATING KM 276 TYPE/LOAD	INPUT POWER VOLTAGE	MANUAL TRIM SPEED		
					REVS.	GREATER THAN	LESS THAN
KS 272	065-0029-01	2.2	-00/12#	+28VDC	2	31 sec.	48 sec.
KS 272	065-0029-02	2.2	-01/20#	+14VDC	5	51 sec.	66 sec.
KS 272	065-0029-03	2.2	-01/20#	+14VDC	5	17 sec.	26 sec.
KS 272	065-0029-04	2.2	-00/12#	+28VDC	2	48 sec.	70 sec.
KS 272	065-0029-05	2.2	-01/20#	+14VDC	2	55 sec.	75 sec.
KS 272	065-0029-06	2.2	-00/10#	+28VDC	5	18.9 sec.	25.2 sec.
KS 272	065-0029-07	2.2	-00/12#	+14VDC	5	15 sec.	23 sec.
KS 272	065-0029-08	2.2	-01/12#	+14VDC	10	10 sec.	18 sec.
KS 272	065-0029-09	2.2	-00/12#	+14VDC	1	15.5 sec.	23.5 sec.
KS 272	065-0029-10	2.2	-00/10#	+28VDC	3	18.5 sec.	23.5 sec.
KS 272	065-0029-11	2.2	-00/20#	+14VDC	5	13.0 sec.	21.0 sec.
KS 272	065-0029-12	2.2	-00/20#	+14VDC	3	32 sec.	44 sec.
KS 272	065-0029-13	2.2	-00/12#	+28VDC	2	40 sec.	45 sec.
KS 272	065-0029-14	2.2	-00/20#	+28VDC	5	9.5 sec.	17.5 sec.
KS 272	065-0029-15	2.2	-01/12#	+14VDC	5	9.0 sec.	14.0 sec.
KS 272	065-0029-16	2.2	-00/20#	+28VDC	2	19 sec.	27 sec.
KS 272	065-0029-17	2.2	-00/20#	+28VDC	2	23 sec.	33 sec.
KS 272	065-0029-18	2.2	-00/20#	+14VDC	1	36 sec.	48 sec.
KS 272	065-0029-19	2.2	-01/12#	+28VDC	5	43 sec.	64 sec.
KS 272	065-0029-21	2.2	-00/20#	+14VDC	2	23 sec.	33 sec.
KS 272	065-0029-22	2.2	-00/20#	+28VDC	2	22 sec.	32 sec.
KS 272	065-0029-24	2.2	-00/12#	+28VDC	5	24 sec.	34 sec.
KS 272	065-0029-25	2.2	-00/12#	+14VDC	2	17 sec.	25 sec.
KS 272	065-0029-26	2.2	-01/12#	+14VDC	6	8 sec.	12 sec.
KS 272	065-0029-27	2.2	-00/20#	+28VDC	2	32 sec.	48 sec.
KS 272	065-0029-28	2.2	See Note 1	+14VDC	5	8 sec.	12 sec.
KS 272	065-0029-29	2.2	-00/20#	+28VDC	2	23 sec.	33 sec.
KS 272	065-0029-30	2.2	-00/20#	+14VDC	2	24 sec.	34 sec.
KS 272	065-0029-31	2.2	-00/20#	+28VDC	2	24 sec.	34 sec.
KS 272	065-0029-32	2.2	-00/20#	+28VDC	2	24 sec.	32 sec.
KS 272	065-0029-33	2.2	-00/20#	+28VDC	2	37 sec.	49 sec.
KS 272	065-0029-34	2.2	-00/20#	+28VDC	2	24 sec.	32 sec.
KS 272	065-0029-35	2.2	-00/20#	+14VDC	2	19 sec.	27 sec.
KS 272	065-0029-36	2.2	-00/20#	+28VDC	2	21 sec.	29 sec.
KS 272	065-0029-37	2.2	-00/20#	+28VDC	4	27.5 sec.	35 sec.
KS 272	065-0029-38	2.2	-00/20#	+14VDC	4	27.5 sec.	35 sec.

Note 1: Use KM 276 with a 029-0415-02 Gear and a 12# Load.

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UNIT TYPE	UNIT PART NUMBER	WT. (Lbs)	DESCRIPTION				
			MATING KM 276 TYPE/LOAD	INPUT POWER VOLTAGE	MANUAL TRIM SPEED		
					REVS.	GREATER THAN	LESS THAN
KS 273	065-0040-00	2.2	-00/12 lb.	+28VDC	1	12 sec.	18 sec.
	065-0040-01	2.2	-00/12 lb.	+14VDC	1	12 sec.	18 sec.
	065-0040-02	2.2	-00/12 lb.	+28VDC	3	29 sec.	41 sec.

1.5.2 COMPASS SYSTEM

The KFC 200 Flight Control System requires that a compass system be installed in the aircraft. The King KCS 55/55A Compass System is normally sold with the KFC 200 System as a complete package.

The KCS 55A Compass System consists of the following units:

UNIT TYPE	UNIT PART NUMBER	WT. (Lbs.)	DESCRIPTION
KA 51A	071-1053-01	.3	Slaving Accessory 5V lighting black panel
	071-1053-02	.3	Slaving Accessory 5V lighting gray panel
	071-1053-03	.3	Slaving Accessory 14V lighting black panel
	071-1053-04	.3	Slaving Accessory 28V lighting black panel
	071-1053-05	.3	Slaving Accessory 28V lighting gray panel
KG 102A	060-0015-00	4.8	Directional Gyro
KI 525A	066-3046-00	4.0	Pictorial Navigation Indicator
	066-3046-01		Pictoria/Navigation Indicator w/Heading Transmitter
KMT 112	071-1052-00	.3	Magnetic Azimuth Transmitter

Other possibilities exist:

- A. KCS 55 Compass System. If the aircraft is already equipped with this system the KFC 200 System may be ordered with the KCS 55A Compass System deleted. No interfacing units are required to operate the KFC 200 with the KCS 55.

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B. Dual NAV Receiver System with KNI 520 Navigation Indicator.

The KA 118 Demodulator, KPN 071-1095-00/01, and its installation kit must be used with this system.

The KNI 520 part number is:

066-3011-04 w/blue-white Lighting and Course Datum Synchro.
066-3011-05 w/red light and Course Datum Synchro.
066-3011-06 w/lighting and Course Datum Synchro.

An equivalent NAV indicator may be substituted for the KNI 520.

A 400Hz AC power source is required for this installation. The KCS 55A is also required with this system. (See paragraph 2.6, Interconnects page 2-48 thru 2-53 and paragraph 6.8.6 KA 118 alignment, page 6-107 and 6-108).

1.6 UNIT TECHNICAL CHARACTERISTICS

This section provides a detailed look at the components of the KFC 200 System. Component specifications and theory of operation are enclosed. Additional information can be found in the individual Maintenance/Overhaul manuals.

1.6.1 KA 117 PITCH TRIM ADAPTER

1.6.1.1 Description

The KA 117 interfaces the KC 295 Computer with pitch trim systems in those installations which require special trim actuators other than the KS 272.

Trim drive power is provided by a 4-transistor power bridge which causes the trim motor to operate in a pulsing mode. The pulse duty cycle is established by command conditioning circuitry which adjusts the trim rate to a proportional value of the autopilot's pitch command.

Also included are monitor command logic, time delay logic, steering diodes for proper routing of solenoid and transfer relay commands.

1.6.1.2 Technical Characteristics

SPECIFICATION	CHARACTERISTICS
SIZE:	4.8 x 3.3 x 1.70 inches (12.2 x 8.4 x 4.32 centimeters)
WEIGHT:	.5 lbs (.23Kg)
MOUNTING:	4 #6 screws
MATING CONNECTOR:	KPN 030-0107-23 Upper 030-0107-20 Lower
TSO COMPLIANCE:	None
DD-138 ENVIRONMENTAL CATEGORIES:	None
POWER INPUTS:	+28V 5A
SIGNAL INPUTS:	0 to +28V
SIGNAL OUTPUT:	0 to +22V pulsed

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1.6.2 KA 118 DEMODULATOR

1.6.2.1 Description

The KA 118 Demodulator is used to interface ARINC navigation indicators as NAV #2 with the KFC 200 System. AC course datum signals are demodulated and scaled for proper presentation to the KFC 200 System. With the -00 demodulator, an AC excitation signal is generated in the KA 118 for the Indicator. With the -01 demodulator, the aircraft 26V 400Hz supply is used as the reference. Gain and null checks must be performed after the system is installed. The KA 118 also has a Heading Select demodulator channel, when ARINC HSI's with Synchro Heading Select and Course Datum outputs are connected to the KFC 200 both channels of the KA 118 are used.

1.6.2.2 Technical Characteristics

SPECIFICATION	CHARACTERISTICS
SIZE:	3.30 x 4.80 x 1.70 inches 8.38 x 12.19 x 4.32 centimeters
WEIGHT:	0.2 lbs (.09Kg)
MOUNTING:	4 #6 screws
MATING CONNECTOR:	030-0107-18
TSO COMPLIANCE:	TSO C9c
DO-138 ENVIRONMENTAL CATEGORIES	BAJAAAXXXXXX
POWER INPUTS:	28VDC at 0.4a or 14VDC at 0.3a <u>+15VDC at 5mA</u>
INPUT SCALE FACTOR:	200 - 400mVAC/ ⁰ in phase Rt Course Datum and Heading Select
OUTPUT SCALE FACTOR:	0.2VDC/ ⁰ Course Datum + Rt 0.55VDC/ ⁰ Heading Select + Rt

1.6.3 KA 285 ANNUNCIATOR PANEL

1.6.3.1 Description

The KA 285 Annunciator Panel indicates, by means of lighted display, which of fifteen flight director, Autopilot and Marker Beacon Modes are active, so the pilot is continuously aware of the operating status of the system. The display is either lighted when the pilot depresses the Mode Select buttons of the KC 290 Mode Controller or by commands from the Marker Receiver or Flight Computer.

The KA 285 is normally mounted in the instrument panel above the primary Flight Director instrument, directly in front of the pilot. It contains a photocell and associated light dimming circuitry which provides a clearly readable display under all cockpit light conditions including direct sunlight.

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1.6.3.2 TECHNICAL CHARACTERISTICS

SPECIFICATIONS	CHARACTERISTICS
SIZE:	3.55 x 1.19 x 3.55 inches nominal (9.01 x 3.02 x 9.02 centimeters) including connector
WEIGHT:	0.5 lbs (.23 Kg)
MOUNTING:	Panel mounted with two #4 flathead screws
MATING CONNECTOR:	KPN 030-0107-15
TSO COMPLIANCE:	TSO C52a, C9c
DO-138 ENVIRONMENTAL CATEGORIES:	DA/KM/AAAXXXXXX
POWER INPUTS:	14VDC with 1.2A max. current for -00 flavor 28VDC with .9A max. current for -01 flavor
SIGNAL INPUTS:	Each set of mode lights are activated when the appropriate line is grounded except the Marker Beacon Lights which are activated by the Marker Receiver.

1.6.4 KC 290 MODE CONTROLLER/KC 292 MODE CONTROLLER

1.6.4.1 Description

The KC 290 Mode Controller is panel or pedestal-mounted and serves as the control unit for both Flight Director and Autopilot. This device contains the switches necessary to engage the Flight Director, engage the Autopilot, select the mode of operation and to generate command signals to trim the pitch axis. Flight Director mode selection is provided by the six push button switches. The Autopilot is engaged with the solenoid-held, toggle switch located on the right hand side of the unit. The mode engagements are annunciated on the KA 285 annunciator panel. The -01 version has an Autopilot DISCONNECT Alerter output to sound a 2 second solid tone when the Autopilot is disconnected. The KC 292 is used in Autopilot only systems. The KC 292 has a Pitch effort meter instead of a Flight Director engage button. The meter indicates pitch effort to the pilot so that he will not engage the Autopilot into a full up or full down pitch.

1.6.4.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	3.550 x 1.770 x 3.98 inches nominal including connector (9.02 x 4.50 x 10.11 centimeters)
WEIGHT:	.5 lbs (.23Kg)
MOUNTING:	2 #4-40 Hex capscrews accessible through holes in front of unit
MATING CONNECTOR:	Two KPN 030-0107-13 Upper 030-0107-14 Lower
TSO COMPLIANCE:	TSO C52a and TSO C9c
DO-138 ENVIRONMENTAL CATEGORIES:	DAJAAAXXXXXX

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SPECIFICATIONS	CHARACTERISTICS
POWER INPUTS:	14VDC w/.6A maximum current or 28VDC w/.3A maximum current +15VDC w/1mA maximum current
LIGHTING:	28VDC at .25 amp or 14V at .5 amp
SIGNAL OUTPUTS:	Six momentary switch contacts to +10VDC for Flight Director mode engagement. Solenoid held switch contacts for Autopilot engagement. One momentary switch for test. Two momentary switches for vertical trim. A two second ground signal output is available each time the solenoid held autopilot switch is deactivated (in -01 only).

1.6.5 KC 291 YAW CONTROLLER

1.6.5.1 Description

The KC 291 Yaw Controller is panel or pedestal mounted and contains the Autopilot Yaw Damper engagement switch. It is used only on the three axis models of the KFC 200. It is normally mounted in the same bracket and to the right of the KC 290 Mode Controller. When the Yaw Damp mode is engaged, "ON" is annunciated on the front of the panel. The KC 291 contains a photocell and associated light dimming circuitry which provides a clearly visible display under all cockpit conditions including direct sunlight.

1.6.5.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	.90 x 1.77 x 3.98 inches nominal including connector (2.29 x 4.50 x 10.11 centimeters)
WEIGHT:	0.1 lbs. (.05Kg)
MOUNTING:	2 #4-40 Hex capscrews accessible through holes in front of unit
MATING CONNECTOR:	KPN 030-0107-10
TSO COMPLIANCE:	TSO C19, C52a
DO-158 ENVIRONMENTAL CATEGORIES:	DAJAAAXXXXXX
LIGHTING:	14VDC w/.2 amp max current for -00 flavor 28VDC w/.1 amp max current for -01 flavor
POWER INPUTS:	+10VDC - unit provides switching function only

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1.6.6 KC 295 FLIGHT COMPUTER

1.6.6.1 Description

The KC 295 Flight Computer is the central unit in a two axis KFC 200 Flight Control System. Signals from the avionic components and other KFC 200 units are brought into the KC 295 to be processed and sent on to provide both visual and control information. The logic portion of the KC 295 contains the validity sensing and mode inhibits necessary for safe engagement into the flight control modes. The logic section also provides control signals for the analog section to accomplish correct processing of the signals at appropriate times. The analog section computes radio beam capture points, shapes and amplifies incoming signals to provide correct information during all flight maneuvers and delivers control signals to the servo actuators for control surface control.

A power supply monitor continuously checks voltages and can inhibit modes if an invalid condition exists.

An adapter board which varies with airplane type is used to conform the shaping and gain scheduling of the analog section and characteristics of the Autotrim System.

1.6.7.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	4.50 x 5.00 x 10.50 inches (11.43 x 12.70 x 26.67 centimeters) nominal.
WEIGHT:	5.4 lbs. (2.45Kg) including rack and connectors.
MOUNTING:	Rigid, King Designed Rack
TSO COMPLIANCE:	TSO C9c
DO-138 ENVIRONMENTAL CATEGORIES:	BA0AAAXXXXXX
POWER INPUTS:	28VDC/50Va Nom or 14VDC/49Va Nom
SIGNAL INPUTS:	Vertical Reference: 2 wire (H, C) (pitch and roll) 50mV AC/deg. Directional Reference: 2 wire (H, C) (Heading Datum) 550mV DC/deg Nom Course Datum: 2 wire (H, C) 220mV DC/deg Nom VOR/RNAV Receiver: 2 wire (Diff) 600/150mV DC/deg LOC/VOR Nom LOC energize sense: 1 wire Ground for LOC Glideslope Receiver: 2 wire (Diff) 214mV DC/deg Nom Glideslope Valid: 2 wire (H, C) 250mV for Valid 130mV for Invalid Middle Marker Sense: 2 wire (Diff) 2 volt DC Min. 2.5VDC pulsed or 2.5V Peak.

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SPECIFICATIONS	CHARACTERISTICS
POWER OUTPUTS:	Autotrim Sense: 2 wire polarity sense Ground = Trim Up/Dn
	Mode control: 9 wires GND to 10VDC max 1 wire -15 to +15VDC max.
	Pitch Servo Tach Feedback: 2 wire (Diff)
	Roll Servo Tach Feedback: 2 wire (Diff)
	Trim Servo Motor Monitor: 2 wire (Diff) 28VDC Max
	10VAC peak/430Hz/3Va Max (Gyro excitation)
	+15VDC/1.0Va Max
	-15VDC/1.0Va Max
	+10VDC/0.01Va Max
SIGNAL OUTPUTS:	Annunciator Light commands: 12 wires Ground for ON
	AP Switch Enable: 1 wire Ground for enable
	Servo Effort Meter: 1 wire (AP only option)
	Pitch Servo Command: 2 wire (Diff) 0 to 28VDC Max
	Roll Servo Command: 2 wire (Diff) 0 to 28VDC Max
	Trim Servo Command: 2 wire (Diff) 0 to 28VDC Max
	Servo Clutch Command: 1 wire (Diff) +14 or +28VDC Max for engage
	Roll Crossfeed to Yaw: 2 wire (Diff) (3rd Axis option only)
NOTE: H - High C - Common Diff - Differential	

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1.6.7 KC 296 YAW COMPUTER

1.6.7.1 Description

The KC 296 Yaw Computer receives yaw rate information from a yaw rate gyro and a roll angle crossfeed signal from the KC 295 Flight Computer. The KC 296 uses the above inputs to compute a servo command signal that drives the KS 271 rudder servo to damp the yaw axis. The yaw computer mode switching is controlled by the KC 290 Mode Controller and KC 291 Yaw Controller.

1.6.7.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	3.30 x 4.80 x 1.70 inches (8.38 x 12.19 x 4.32 centimeters)
WEIGHT:	0.5 Lbs. (.23Kg)
MOUNTING:	4 #6 screws
MATING CONNECTOR:	Two KPN 030-0107-16 Upper 030-0107-17 Lower
TSO COMPLIANCE:	TSO C9c
DO-138 ENVIRONMENTAL CATEGORIES:	BAJAAAXXXXXX
POWER INPUTS:	28VDC/1A nominal 14VDC/1.5A nominal
SIGNAL INPUTS:	Yaw rate $0.4V/\frac{1}{3}^{\circ}/\text{sec}$ DC Roll angle $0.2V/\frac{1}{3}^{\circ}/\text{sec}$ DC

1.6.8 KG 257 RATE GYRO MOUNT

1.6.8.1 Description

The KG 257 is a remote mounted rate gyro mount designed to provide yaw rate information for an autopilot system. DC yaw rate information is sent to the KC 296 yaw computer for processing to provide the yaw damp function of the KFC 200 System.

1.6.8.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	3.8 x 5.25 x 6.5 inches nominal (9.65 x 13.34 x 16.51 centimeter)
WEIGHT:	2.1 lbs. (.95Kg)
MOUNTING:	Mount with 4 #8 screws supplied by installer
MATING CONNECTOR:	KPN 030-2250-00 with KPN 030-1068-00 Backshell

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SPECIFICATIONS	CHARACTERISTICS
TSO COMPLIANCE:	FAA TSO C3b
POWER INPUTS:	+14VDC/2.5A (-01 units) +28VDC/0.3A (-02 units)
SIGNAL OUTPUT:	Yaw Rate 0.4VDC/°/sec (Pin C positive for CW Yaw rate)

1.6.9 KRG 331 RATE GYRO

1.6.9.1 Description

The KRG 331 Rate Gyro, (KPN 060-0024-00) is a remote mounted angular rate gyroscope normally used in the yaw axis to supply angular rate information to the flight computer to provide Yaw stabilization. The KRG 331 rate gyro is a fully TSO'd unit designed to compliment the KFC 200, KFC 250, and KFC 300 Flight Control Systems.

1.6.9.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
PHYSICAL DIMENSIONS	
Height:	2.12 inches (5.38 cm)
Width:	2.20 (5.59 cm)
Depth with connector:	5.01 inches (12.73 cm)
Depth:	4.33 inches (11 cm)
Weight:	0.76 lbs (.35Kg)
TSO:	C9c, D0-160 Env. Cat. D2A/M0/XXXXXXXXZ0000
TEMPERATURE RANGE:	-67°F (-55°C) to +158°F (+70°C)
ALTITUDE:	50,000 feet (15,000 meters)
MAXIMUM OPERATING RATE:	20°/second
POWER REQUIREMENTS:	26 VAC, 400HZ, 4.5 VA
Spinmotor	
Runup time	90 sec
Pickoff	
Scale Factor	200mV/Deg/sec

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1.6.10 KG 258 HORIZON GYRO

1.6.10.1 Description

The KG 258 Horizon Gyro is an internally lighted air driven panel mounted instrument. It houses the attitude gyro and presents a pictorial display of the aircraft pitch and roll attitudes. The -01 flavor is used for a 0° panel mount while the -02 flavor is used for an 8° panel mount. Both the -01 and -02 flavors supply the pitch and roll reference signals for the KC 295 Flight Computer.

1.6.10.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	3.55 x 3.37 x 7.31 max inches (9.02 x 8.56 x 18.57 centimeters)
WEIGHT:	3.1 lbs (1.41Kg)
MOUNTING:	Front panel mounted with four #6 Flat Head screws
MATING CONNECTOR:	KPN 030-1010-00 Hood KPN 030-2002-00 Connector Receiver KPN 030-1008-00 Lever and Pivot Assembly
TSO COMPLIANCE	C4c
DO-138 COMPLIANCE:	DA/KM/AAAXXXXXX
POWER INPUTS:	+14VDC/0.16AMP max or +28VDC/0.08AMP max (Lighting) 10VAC, 430Hz with .2 amp max.
SIGNAL INPUT:	Power and Ground for DH Light +14 or +28 Volt.
SIGNAL OUTPUT:	Attitude Reference Signals for the KC 295 Flight Computer: 50mV AC/Degrees, Roll and Pitch

1.6.11 KI 255 FLIGHT COMMAND INDICATOR

1.6.11.1 Description

The KI 255 Flight Command Indicator is an internally lighted air driven panel mounted instrument. It houses the attitude gyro and presents a pictorial display of the aircraft pitch and roll attitudes, as well as the computed Flight Director Command Display. The KI 255 also supplies the pitch and roll reference signals for the KC 295 Flight Computer.

1.6.11.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	3.750 X 3.570 X 6.30 inches nominal (9.53 x 9.07 x 16.00 centimeters)
WEIGHT:	3.1 lbs. (1.41Kg)
MOUNTING:	Front Panel Mounted with four #6 screws
MATING CONNECTOR:	KPN 030-2255-00

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SPECIFICATIONS	CHARACTERISTICS
TSO COMPLIANCE: TSO C4c, C52a	
POWER INPUT:	10VAC, 400Hz with .2 amp max 14VDC, .16 amp Max or 28V/.08 amp max.
SIGNAL INPUT:	Flight Director Command signals from the KC 295 Computer.
SIGNAL OUTPUT:	Attitude reference signals for the KC 295 Computer.

1.6.12 KI 256 FLIGHT COMMAND INDICATOR

1.6.12.1 Description

The KI 256 Flight Command Indicator is an internally air driven panel mounted instrument. It houses the attitude gyro and presents a pictorial display of the aircraft pitch and roll attitudes. The single cue command bar displays the computer flight director command. The -00 flavor is used for a 0° panel mount while the -01 is used for an 8° panel mount. Both the -00 and -01 flavor supply the pitch and roll reference signals for the KC 295 Flight Computer.

1.6.12.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	3.55 x 3.37 x 7.31 max inches (9.02 x 8.56 x 18.57 centimeters)
WEIGHT:	3.3 lbs (1.5Kg)
MOUNTING:	Front panel mounted with four #6 Flat Head screws
MATING CONNECTOR:	KPN 030-1010 Hood KPN 030-2002-00 Connector Receiver KPN 030-1008-00 (2 ea) Lever and Pivot Assembly
TSO COMPLIANCE:	C4c/C52a
DD-138 COMPLIANCE:	DA/KM/AAAXXXXXX
POWER INPUTS:	+14VDC/0.7AMP max or +28VDC/0.7AMP max 10VAC, 430Hz with .2 amp max.
SIGNAL INPUTS:	Flight Director Command signals from the KC 295 Computer. Power and Ground for DH light +14V or +28V.
SIGNAL OUTPUT:	Attitude reference signal for the KC 295 Flight Computer

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1.6.13 KS 270, 272 AND 273 SERVO ACTUATOR AND KM 275, 276, AND 277 SERVO MOUNTS.

1.6.13.1 Description

The KS 270 Pitch, KS 271 Primary, KS 272, KS 273 Trim Actuators are electrically driven servos which convert electrical autopilot error signals into mechanical forces to drive the aircraft's Pitch, Roll, Yaw and Trim control surfaces. The KM 275, 276, and 277 Servo Mount supports the KS 270, 271, 272, and 273 as the interface members between the servo and the aircraft's controls.

The servo actuators are DC motor driven units with velocity feedback. The KS 270 pitch servo houses the sense switches of the autotrim system. The KM 275, 276, and 277 houses an over-power slip clutch within the output drive capstan. This clutch setting is also selected for each individual axis of the aircraft. KS 273's are used with the KA 117.

KS 270	065-0027-01	5 RPM	6 in-lb switch	14 or 28VDC
	065-0027-02	2 1/2 RPM	6 in-lb switch	14 or 28VDC
	065-0027-03	5 RPM	11 in-lb switch	14 or 28VDC
	065-0027-04	2 1/2 RPM	11 in-lb switch	14 or 28VDC
	065-0027-05	5 RPM	3 +1 -0 in-lb switch	14 or 28VDC

KS 271	065-0028-00	15 RPM		
	065-0028-01	5 RPM		
	065-0028-02	2 RPM		
	065-0028-03	2.5 RPM		
	065-0028-04	15 RPM		
	065-0028-05	4 RPM		

UNIT TYPE	UNIT PART NUMBER	WT. (LBS)	DESCRIPTION				
			MATING KM 276 TYPE/LOAD	INPUT POWER VOLTAGE	MANUAL TRIM SPEED		
					REVS.	GREATER THAN	LESS THAN
KS 272	065-0029-01	2.2	-00/12#	+28VDC	2	31 sec.	48 sec.
	065-0029-02	2.2	-01/20#	+14VDC	5	51 sec.	66 sec.
	065-0029-03	2.2	-01/20#	+14VDC	5	17 sec.	26 sec.
	065-0029-04	2.2	-00/12#	+28VDC	2	48 sec.	70 sec.
	065-0029-05	2.2	-01/20#	+14VDC	2	55 sec.	75 sec.
	065-0029-06	2.2	-00/10#	+28VDC	5	18.9 sec.	25.2 sec.
	065-0029-07	2.2	-00/12#	+14VDC	5	15 sec.	23 sec.
	065-0029-08	2.2	-01/12#	+14VDC	10	10 sec.	18 sec.
	065-0029-09	2.2	-00/12#	+14VDC	1	15.5 sec.	23.5 sec.
	065-0029-10	2.2	-00/10#	+28VDC	3	17 sec.	22 sec.
	065-0029-11	2.2	-00/20#	+14VDC	5	13.0 sec.	21.0 sec.
	065-0029-12	2.2	-00/20#	+14VDC	3	32 sec.	44 sec.
	065-0029-13	2.2	-00/12#	+28VDC	2	40 sec.	45 sec.
	065-0029-14	2.2	-00/20#	+28VDC	5	9.5 sec.	17.5 sec.
	065-0029-15	2.2	-01/12#	+14VDC	5	9.0 sec.	14.0 sec.
	065-0029-16	2.2	-00/20#	+28VDC	2	19 sec.	27 sec.
	065-0029-17	2.2	-00/20#	+28VDC	2	23 sec.	33 sec.
	065-0029-18	2.2	-00/20#	+14VDC	1	36 sec.	48 sec.
	065-0029-19	2.2	-01/12#	+28VDC	5	43 sec.	64 sec.
	065-0029-21	2.2	-00/20#	+14VDC	2	23 sec.	33 sec.
	065-0029-22	2.2	-00/20#	+28VDC	2	22 sec.	32 sec.
	065-0029-24	2.2	-00/12#	+28VDC	5	24 sec.	34 sec.
	065-0029-25	2.2	-00/12#	+14VDC	2	17 sec.	25 sec.
	065-0029-26	2.2	-01/12#	+14VDC	6	8 sec.	12 sec.
	065-0029-27	2.2	-00/20#	+28VDC	2	32 sec.	48 sec.
	065-0029-28	2.2	See Note 1	+14VDC	5	8 sec.	12 sec.
	065-0029-29	2.2	-00/20#	+28VDC	2	23 sec.	33 sec.
	065-0029-30	2.2	-00/20#	+14VDC	2	24 sec.	34 sec.

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UNIT TYPE	UNIT PART NUMBER	WT. (LBS)	DESCRIPTION				
			MATING KM 276 TYPE/LOAD	INPUT POWER VOLTAGE	MANUAL TRIM SPEED		
					REVS.	GREATER THAN	LESS THAN
KS 272	065-0029-31	2.2	-00/20#	+28VDC	2	24 sec.	34 sec.
	065-0029-32	2.2	-00/20#	+28VDC	2	24 sec.	32 sec.
	065-0029-33	2.2	-00/20#	+28VDC	2	37 sec.	49 sec.
	065-0029-34	2.2	-00/20#	+28VDC	2	24 sec.	32 sec.
	065-0029-35	2.2	-00/20#	+14VDC	2	19 sec.	27 sec.
	065-0029-36	2.2	-00/20#	+28VDC	2	21 sec.	29 sec.
	065-0029-37	2.2	-00/20#	+28VDC	4	27.5 sec.	35 sec.
	065-0029-38	2.2	-00/20#	+14VDC	4	27.5 sec.	35 sec.
Note 1: Use KM 276 with a 029-0415-02 Gear and a 12# Load.							
KS 273	065-0040-00	2.2	-00/12 lb.	+28VDC	1	12 sec.	18 sec.
	065-0040-01	2.2	-00/12 lb.	+14VDC	1	12 sec.	18 sec.
	065-0040-02	2.2	-00/12 lb.	+28VDC	3	29 sec.	41 sec.

UNIT TYPE	UNIT PART NUMBER	DESCRIPTION
KM 275	065-0030-00 thru 065-0030-40	Mating Mount for KS 270, 271 and 273
KM 276	065-0031-00	Trim Servo Mount, 91 Tooth Output Gear
	065-0031-01	Trim Servo Mount, 77 Tooth Output Gear
	065-0031-02	Trim Servo Mount, 91 Tooth Output Gear
	065-0031-03	Trim Servo Mount, 77 Tooth Output Gear
	065-0031-04	Trim Servo Mount, 91 Tooth Output Gear
	065-0031-20	Trim Servo Mount, 91 Tooth Output Gear
	065-0031-21	Trim Servo Mount, 91 Tooth Output Gear
	065-0031-22	Trim Servo Mount, 77 Tooth Output Gear
	065-0031-23	Trim Servo Mount, 91 Tooth Output Gear
065-0031-24	Trim Servo Mount, 77 Tooth Output Gear	
KM 277	065-0041-00	Trim Servo Mount, 91 Tooth Output Gear
	065-0041-01	Trim Servo Mount, 77 Tooth Output Gear
	065-0041-02	Trim Servo Mount, 86 Tooth Output Gear

1.6.13.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	3.93 x 4.68 x 5.60 inches nominal (9.98 x 11.89 x 14.22 centimeters) excluding connector and with the servo actuator and mount bolted together.
WEIGHT:	KS 270, 271, 272: 2.2 lbs. (1.0Kg) KM 275, 276: 1.0 lbs (.45Kg)

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SPECIFICATIONS	CHARACTERISTICS
MOUNTING:	KM 275, 276, or 277 to KS 270, 271, 272 or 273 - two AN3 bolts
MAXIMUM CABLE TRAVEL:	+ 8 inches except for the KS 272 - KM 276 Trim Servo/Mount which has continuous cable travel. KM 277 is continuous chain drive.
MAXIMUM TORQUE OUTPUT:	100 in - lb.
MATING CONNECTOR SERVOS:	King Part number 030-2000-00
TSD COMPLIANCE:	TSD C9c
DO-138 ENVIRONMENTAL CATEGORIES:	BAJAAAXXXXXX
POWER INPUTS SERVOS:	+14VDC at 5A maximum +28VDC at 5A maximum
SIGNAL INPUTS SERVOS:	Servo drive command signal (0 to +15VDC) Pitch and Roll/Yaw Servos Clutch engage signal (+14 or 28VDC) Servo drive command signal (0 to +28VDC) Trim Servos.
SIGNAL OUTPUTS SERVOS:	Servo Monitor (Trim Servos) Tach feedback (Pitch, Roll and Yaw Servos)

1.6.14 KCS 55/KCS 55A COMPASS SYSTEM

Refer to the KCS 55 or KCS 55A System Maintenance/Overhaul Manual for information regarding this system and its components.

1.6.15 KA 142 TRIM ADAPTER

1.6.15.1 Description

The KA 142 interfaces the KC 295 computer with the trim systems to provide a fast auto trim when the flaps are in motion and to run the Auto trim in the same direction the flaps are moving.

Also included are monitor command logic, time delay logic, steering diodes for proper routing of solenoid and transfer relay commands.

1.6.15.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	1.259 x 3.172 x 4.016 inches nominal w/o connector (3.20) x (8.06) x (10.20) cm
WEIGHT:	0.3 lbs./1.136Kg
MOUNTING:	Four #6-32 PHP Screws
MATING CONNECTOR:	KPN 030-0107-20
TSD COMPLIANCE:	PMA unit

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SPECIFICATIONS	CHARACTERISTICS
DC POWER INPUTS:	14V Trim Power 28V Trim Power
SIGNAL INPUTS:	Auto Trim Up Drive + (in) Auto Trim Dn Drive + (in) Flaps in Motion +Dn Flaps in Motion +Up Auto Trim Up Sensor (in) Auto Trim Dn Sensor (in)
SIGNAL OUTPUTS:	Auto Trim Up Drive + (out) Auto Trim Dn Drive + (out) Auto Trim Up Sensor (out) Auto Trim Dn Sensor (out)

1.6.16 KA 141 AUTOPILOT MONITOR

1.6.16.1 Description

The KA 141 Autopilot Monitor (KPN 065-5018-00/02) is a remote mounted box which monitors the DC Pitch attitude and DC Roll attitude, producing an Autopilot Disconnect signal when the absolute rate of change of pitch or roll attitudes exceeds a preset limit. The disconnect signal can also be produced when the absolute magnitude of the pitch exceeds a set limit.

1.6.16.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
TSO COMPLIANCE	None, PMA unit
ELECTRICAL:	
Inputs:	
Roll Attitude (-00/02)	DC, $\pm 15V$, proportional to roll attitude
Pitch Attitude (-01/02)	DC, $\pm 15V$, proportional to pitch attitude
Pre-Flight Test	$\pm 15V$ true, 0V false
G Dump	0V true, +10V false
Control Wheel Steering	0V true, +10V false
Gyro Excitation	400Hz at 26VAC or 430Hz 20V peak to peak

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SPECIFICATIONS	CHARACTERISTICS
Outputs:	
A.P. Dump	0V true, +10V false
A.P. Dump, D.C. (Open Collector)	0V true, open false
Roll Dump	0V true, +10V false
Roll Clutch Monitor and Roll Clutch Monitor Return	Relay contact, open true, closed false
Pitch Dump	0V true, +10V false
Pitch Clutch Monitor and Pitch Clutch Monitor Return	Relay contact, open true, closed false
Roll Gyro and Roll Gyro Return	0 to 5VAC ramp when PFT true, a closed relay contact, false
Pitch Gyro and Pitch Gyro Return	0 to 10VAC ramp when PFT true, a closed relay contact, false
SIZE:	
Length:	10.67 inches (27.10 cm)
Width:	4 inches (10.16 cm)
Height:	1.1 inches (2.79 cm)
Weight:	1.0 pounds (.454 Kg)
POWER REQUIREMENTS:	<u>±</u> 15V @ 250mA
MAXIMUM ALTITUDE:	+50,000 feet

1.6.17 KA 144 SERVO REGULATOR

1.6.17.1 Description

The KA 144 provides a pre-regulated servo supply voltage for servos used in certain KFC 200 system certifications.

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1.6.17.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	2.100 in. x 3.500 in. x 5.500 in. (5.33) x (8.89) x (13.97) cm
WEIGHT:	1.0 lbs (.454Kg)
MOUNTING:	Rigid
MATING CONNECTOR:	Block Terminal KPN 090-0162-00
TSO COMPLIANCE:	PMA Unit
DC POWER INPUTS:	+27.5 VDC \pm 1 VDC
DC POWER OUTPUTS:	+6.3VDC \pm 1 VDC
SIGNAL INPUTS:	Self Test Open = <u>Self Test</u> Gnd Self Test = Self Test
SIGNAL OUTPUTS:	Failure Annunciator With Self Test grounded failure annunciator will sink a maximum of 100 mA current.

1.6.18 KA 132 ACCELERATION SWITCH

1.6.18.1 Description

The KA 132 is a spring-mass acceleration sensitive switch used in conjunction with the King Flight Control Systems. The KA 132 will detect a minimum acceleration change of 0.8 G during flight, disengaging the Autopilot.

1.6.18.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	1.12 x 2.12 x 2.63 inches nominal (2.84) x (5.38) x (6.68) cm
WEIGHT:	.23 lbs (.104Kg)
MOUNTING:	Shelf mounted with four #4-40 screws
SIGNAL INPUT:	+10VDC from the Flight Computer
SIGNAL OUTPUT:	+10VDC or Ground from the Flight computer
TEST INPUT:	+15VDC from the Flight Computer

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1.6.19 KAS 297 ALTITUDE SELECTOR

1.6.19.1 Description

The KAS 297 Altitude Selector is a one-half 3 inch ATI panel mounted instrument that serves as an altitude preselector, an altitude alerter, and an altitude capture guidance unit.

Altitudes from sea level to 49,900 feet may be preselected in increments of 100 feet. Automatic capture of the selected altitude may be accomplished when the "ALT ARM" pushbutton has been depressed.

Altitude alerting is provided with visual and aural warnings per FAR 91.51. The selected altitude and visual warning display is controlled by an automatic light dimming circuit that provides sufficient intensity under all cockpit lighting conditions.

If the pilot establishes a climb or a descent to a selected altitude, the Altitude Selector may be coupled to the Flight Director and the Autopilot so that automatic altitude capture may be performed.

1.6.19.2 Technical Characteristics

SPECIFICATIONS	CHARACTERISTICS
SIZE:	3.26 x 1.54 x 8.0 inches nominal (8.28 x 3.91 x 20.32 centimeters)
WEIGHT:	1.2 lbs. (.54Kg)
MOUNTING:	ARINC 1/2 ATI 3
MATING CONNECTOR:	KPN 030-2349-01
TSO COMPLIANCE:	T50C9C, C52a
DO-160 ENVIRONMENTAL CATEGORIES:	C1ASXXXXXABBBB
POWER INPUT:	28VDC with 0.35 amps max.
SIGNAL INPUT (external to KFC/KFD system):	Servoed altimeter, Barometrically corrected, DC output = Altitude invalid = +28V Gnd = valid
Signal Outputs:	Altitude Aural Alert, Altitude Visual Warning, Altitude Hold Engage, Altitude Arm Ann., Altitude Capture Guidance

1.7 UNITS AND INSTALLATION KITS

The following is a listing of all installation kits and the parts in them:

KA 117 INSTALLATION KIT KPN 050-1475-00/01

KING PART NO.	DESCRIPTION	VENDOR/VPN	QTY
030-0107-20	Connector, Lower	Viking 2VK10D/1-2	1
030-0107-23	Connector, Upper	Viking 2VK10D/1-2	1
088-0438-00	Connector, Hood	King	2
089-5903-07	Screw, PHP, #4-40 X 7 X 16	King	4
057-2048-00	Tag, Upper Connector	King	1
057-2048-01	Tag, Lower Connector	King	1

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KA 118 INSTALLATION KIT KPN 050-1510-00

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-0107-18	Connector	Viking 2VK100/1-2	1
088-0438-00	Connector, Hood	King	1
089-5903-06	Screw PH, PH #4-40 3/8"	King	2

KA 285 INSTALLATION KIT KPN 050-1463-00

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-0107-15	Connector	Viking 2VK100/1-2	1
088-0438-00	Connector, Hood	King	1
089-5111-12	Screws, 4-40 x 3/4 PFH	King	2
089-5903-07	Screw, 4-40 x 7/16 PFH	King	2

KC 290 INSTALLATION KIT KPN 050-1462-00

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-0107-13	Connector, Upper	VIKING 2VK60/1-2	1
030-0107-14	Connector, Lower	VIKING 2VK60/1-2	1
057-1798-00	Label, Upper Connector	King	1
057-1799-00	Label, Lower Connector	King	1
057-2046-00	Tag, Upper Connector	King	1
057-2047-00	Tag, Lower Connector	King	1
088-0450-00	Connector, Hood	King	2
089-5903-08	Screw, PHP #4-40 x 1/2	King	4

KC 291 INSTALLATION KIT KPN 050-1473-00/01

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-0107-10	Connector	Viking 2VK60/1-2	1
088-0450-00	Connector,	King	1
089-5903-08	Screw #4-40 X 1/2 PHP	King	2

KC 295 INSTALLATION KIT KPN 050-1466-00/01

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-1078-00	Connector and Hood	Positronic/GMCT 50M000Y	1
030-1076-00	Connector and Hood	Positronic/GMCT 50F000Y	1
030-1077-00	20 GA Female Pin	Positronic/FS120N	43
030-1079-00	20 GA Male Pin	Positronic/MS120N	50
030-1082-00	16 GA Female Pin	Positronic/FS116N	7
047-3374-02	Mounting Rack	King	1

KC 296 INSTALLATION KIT KPN 050-1475-00/01

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-0107-16	Connector, Upper	Viking 2VK100/1-2	1
030-0107-17	Connector, Lower	Viking 2VK100/1-2	1
088-0438-00	Connector, Hood	King	2
089-5903-07	Screw, PHP, #4-40 x 7/16	King	4

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KG 257 INSTALLATION KIT KPN 050-1484-00

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-2250-00	Connector		1
030-1068-00	Clamp, Cable		1

KG 258 INSTALLATION KIT KPN 050-1518-00

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-1008-00	Lever and Pivot Assy	Winchester MRA-VL	2
030-1010-00	Hood Conn	Winchester MRE20H	1
030-2002-00	Connector Rec 20 P	Winchester MRA 20SN7	1
047-3937-01	Nut Plate	King	1
057-2177-00	Tag, DH Mask	King	1
057-2105-02	Decal, Cutout	King	1
089-5115-12	Screw, 6-32 x 3/4, FHP	King	4

KI 255 INSTALLATION KIT KPN 050-1470-00

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-2255-00	Connector, 12 pin	Amphenol/165-10	1
089-5115-12	Screw, 6-32 x 3/4 PFH		4

KI 256 INSTALLATION KIT KPN 050-1518-00

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-1008-00	Lever and Pivot Assy	Winchester MRA-VL	2
030-1010-00	Hood Conn	Winchester MRE20H	1
030-2002-00	Connector Rec 20 P	Winchester MRA 20SN7	1
047-3937-01	Nut Plate	King	1
057-2177-00	Tag, DH Mask	King	1
057-2105-02	Decal, cutout	King	1
089-5115-12	Screw, 6-32, x 3/4, FHP	King	4

KS 270, KS 271, KS 272 AND KS 273 INSTALLATION KIT KPN 050-1450-00

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-2000-00	Connector, 14 pin	King	1
030-1008-00	Lever & Pivot Assembly	King	2
030-1009-00	Connector Hood	King	1

KA 132 INSTALLATION KIT KPN 050-1559-00

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-2190-00	Connector	GH5F-SCLSH19	1

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KAS 297 INSTALLATION KIT KPN 050-1710-00

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-2349-01	Connector 37P	HD 37F200	1
030-2351-03	Hood & Lever Assy.	MD 37.000.J-VL	1
071-4029-00	Clamp Instr.	MSP 64321	1
089-5115-12	Screw FHP 6-32	King	4
089-6461-12	Screw FHP 6-32 (Gry)	King	4

KA 142 INSTALLATION KIT KPN 050-1833-00

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-0107-20	Connector	2VK100/1-2	1
088-0438-00	Hood Connector	King	1
089-5903-07	SCR PHP 4-40 x 7/16	King	2

KRG 331 INSTALLATION KIT KPN 050-1865-00

<u>KING PART NO.</u>	<u>DESCRIPTION</u>	<u>VENDOR/VPN</u>	<u>QTY</u>
030-2184-00	Connector 9 pins	M9SL\$H19	1
089-2286-03	Threaded Insert	A-4-60	3
089-2286-04	Threaded Insert	A-4-85	3
089-5903-10	SCR PHP #4-40 x 5/8	King	3
089-8025-30	Washer Flat	King	3

1.8 ACCESSORIES REQUIRED

In addition to the items listed in paragraph 1.5, various other components are also essential for complete system operation. These are listed in paragraph 1.8.1 which indicates their usage in the KFC 200 System and applicable part number.

1.8.1 ASSOCIATED EQUIPMENT

<u>COMPONENT DESCRIPTION</u>	<u>USAGE</u>	<u>RECOMMENDED MANUFACTURER AND TYPE</u>
VOR/LOC Receiver	Radio Guidance	King KX 165 or KN 72 Converter or equivalent
Glideslope Receiver	Glideslope Deviation	KN 75 or equivalent
Marker Receiver	Drives marker lights in KA 285 Annunciator and provides gain switching for ILS approaches.	KMA 24 or equivalent

1.9 ACCESSORIES REQUIRED BUT SUPPLIED SEPERATELY

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1.9.1 KFC 200 FLIGHT CONTROL SYSTEM INSTALLATION MANUALS AND FLIGHT MANUAL SUPPLEMENTS

The specific Aircraft Installation Manual and Flight Manual Supplement Part Number are herein listed for reference. The appropriate manual is supplied with each installation kit listed in this section.

<u>MANUFACTURER</u>	<u>TYPE/MODEL</u>	<u>INSTALLATION MANUAL P/N</u>	<u>FLIGHT MANUAL SUPPLEMENT P/N</u>
Beechcraft	Bonanza 36	006-0203-00	006-0323-00 Integrated Flight Director/ Autopilot System 006-0323-01 Autopilot only System
	Bonanza A36 S/N E-571 and Below	006-0203-00	006-0305-00 Integrated Flight Director/Autopilot System 006-0305-01 Autopilot only system
	Bonanza A36 S/N E-572 thru E-925	006-0203-00	006-0305-00 Integrated Flight Director/Autopilot System 006-0305-01 Autopilot only System
Beechcraft	Bonanza A36 S/N E-926 thru E-1240 except E-1111	006-0203-00	006-0345-00 Yaw Only 006-0305-00 Integrated Flight Director/Autopilot System 006-0305-01 Autopilot only System
	Bonanza A36 S/N E-1111, E-1241 thru E-1624	006-0203-00	006-0345-00 Yaw Only 006-0305-00 Integrated Flight Director/Autopilot System 006-0305-01 Autopilot only System
	Bonanza A36 (S/N E-1625 and after) A36TC all S/N's B36TC all S/N's	006-0233-00 006-0233-01 Altitude selector Options	006-0374-00 Integrated Flight Director/Autopilot System

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<u>MANUFACTURER</u>	<u>TYPE/MODEL</u>	<u>INSTALLATION MANUAL P/N</u>	<u>FLIGHT MANUAL SUPPLEMENT P/N</u>
Beechcraft	Bonanza A36 (S/N E-1625) and after A36TC all S/N's		006-0374-01 Autopilot only System
	Bonanza F33A S/N CE-316 thru CE-510	006-0203-00	006-0308-00 Integrated Flight Director/Autopilot System 006-0308-01 Autopilot only System
	Bonanza F33A S/N CE-511 thru E-680	006-0203-00	006-0308-00 Integrated Flight Director/Autopilot System 006-0308-01 Autopilot only System
	Bonanza F33A S/N CE-681 thru CE-775, except CE-748	006-0203-00	006-0308-00 Integrated Flight Director/Autopilot System 006-0308-01 Autopilot only System
	Bonanza F33A S/N CE-748, CE-776 and after	006-0203-00	006-0308-00 Integrated Flight Director/Autopilot System 006-0308-01 Autopilot only System
Beechcraft	Bonanza K35	006-0201-00	006-0325-00 Integrated Flight Director/Autopilot System 006-0325-01 Autopilot only System
	Bonanza M35	006-0201-00	006-0325-00 Integrated Flight Director/Autopilot only System 006-0325-01 Autopilot only system
	Bonanza N35	006-0201-00	006-0325-00 Integrated Flight Director/Autopilot System

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<u>MANUFACTURER</u>	<u>TYPE/MODEL</u>	<u>INSTALLATION MANUAL P/N</u>	<u>FLIGHT MANUAL SUPPLEMENT P/N</u>
	Bonanza N35		006-0325-01 Autopilot only System
	Bonanza P35	006-0201-00	006-0325-00 Integrated Flight Director/Autopilot Systems
			006-0325-01 Autopilot only System
Beechcraft	Bonanza S35	006-0201-00	006-0325-00 Integrated Flight Director/ Autopilot System
			006-0325-01 Autopilot only System
			006-0344-00 Yaw Only
	Bonanza V35, V35A, V35B, V35TC, V35ATC, V35BTC (S/N D-9961 and below)	006-0201-00	006-0301-00 Integrated Flight Director/Autopilot System V35B and V35BTC
			006-0301-01 Autopilot only System, V35B and V35BTC
			006-0325-00 Integrated Flight Director/ Autopilot System, V35, V35A, V35TC, V35 ATC
			006-0325-01 Autopilot only System V35, V35A, V35TC, V35ATC
			006-0344-00 Yaw only
Beechcraft	Bonanza V35B S/N D-9962 thru D-10119, except D-10097	006-0201-00	006-0301-00 Integrated Flight Director/Autopilot
			006-0301-01 Autopilot only System
			006-0344-00 Yaw Only
	Bonanza V35B S/N D-10097, D-10120 and after	006-0201-00	006-0301-00 Integrated Flight Director/Autopilot System
			006-0301-01 Autopilot Only System

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<u>MANUFACTURER</u>	<u>TYPE/MODEL</u>	<u>INSTALLATION MANUAL P/N</u>	<u>FLIGHT MANUAL SUPPLEMENT P/N</u>
			006-0344-00 Yaw Only
	Baron 95-55 and 95-A55	006-0200-00 006-0200-01 Altitude Select Option	006-0321-00 Integrated Flight Director/Autopilot System 006-0321-01 Autopilot only System
	Baron 95-B55 S/N TC 1699 and below	006-0200-00 006-0200-01 Altitude Select Option	006-0303-00 Integrated/Flight Director/Autopilot System 006-0303-01 Autopilot only System
	Baron 95-B55 S/N 1700 and above	006-0200-00 006-0200-01 Altitude Select Option	006-0303-00 Integrated Flight Director/Autopilot System 006-0303-01 Autopilot only System
	Baron 95-C55	006-0200-00 006-0200-01 Altitude Select Option	006-0331-00 Integrated/Flight Director/Autopilot System 006-0331-01 Autopilot only System
	Baron 055	006-0200-00 006-0200-01 Altitude Select Option	006-0320-00 Integrated/Flight Director/Autopilot System 006-0320-01 Autopilot only System
Beechcraft	Baron E-55 and E55A	006-0200-00 006-0200-01	006-0300-00 Integrated Flight Director/Autopilot System 006-0300-01 Autopilot only System
	Baron 58	006-0200-00 006-0200-01 Altitude Select Option	006-304-00 Integrated Flight Director/Autopilot System 006-0304-01 Autopilot only System

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<u>MANUFACTURER</u>	<u>TYPE/MODEL</u>	<u>INSTALLATION MANUAL P/N</u>	<u>FLIGHT MANUAL SUPPLEMENT P/N</u>
	Baron 58P and 58PA	006-0200-00 006-0200-01 Altitude Select Option	006-0306-00 Integrated Flight Director/Autopilot System 006-0306-01 Autopilot only System
	Baron 58TC and 58TCA	006-0200-00 006-0200-01 Altitude Select Option	006-0306-00 Integrated Flight Director/Autopilot System 006-0306-01 Autopilot only System
Beechcraft	Debonair 35-B33	006-0221-00	006-0346-00 Integrated Flight Director/Autopilot System 006-0346-01 Autopilot only System
	Debonair 35-C33A	006-0221-00	006-0346-00 Integrated Flight Director/Autopilot System 006-0346-01 Autopilot only System
	Duchess 76 S/N ME-182 and below	006-0229-00	006-0368-00 Integrated Flight Director/Autopilot System 006-0368-01 Autopilot only System
	Duchess 76 S/N ME-183 and above	006-0229-00	006-0368-00 Integrated Flight Director/Autopilot System 006-0368-01 Autopilot only System
Piper	Arrow II PA28R-200	006-0208-00	006-0311-00 Integrated Flight Director/Autopilot system

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<u>MANUFACTURER</u>	<u>TYPE/MODEL</u>	<u>INSTALLATION MANUAL P/N</u>	<u>FLIGHT MANUAL SUPPLEMENT P/N</u>
			006-0311-01 Autopilot only System
	Arrow III PA28R-201, PA28R-201T	006-0208-00	006-0350-00 Integrated Flight Director/Autopilot System
			006-0350-01 Autopilot Only System
	Arrow IV PA28R-201, PA28RT-201T	006-0235-00	006-0375-00 Integrated Flight Director/Autopilot System
			006-0375-01 Autopilot only System
	Lance PA32R-300	006-0212-00	006-0316-00 Integrated Flight Director/Autopilot
			006-0316-01 Autopilot only System
Piper	Lance PA32RT-300 PA32RT-300T	006-0224-00	006-0362-00 Integrated Flight Director/Autopilot System
			006-0362-01 Autopilot only System
	Saratoga S.P. PA-32R-301 PA-32R-301T	006-0240-00	006-0382-00 Integrated Flight Director/Autopilot System
	Seminole PA-44-180	006-0237-00	006-0380-00 Integrated Flight Director/Autopilot System
			006-0380-01 Autopilot only system
	Seneca II PA34200T	006-0202-00	006-0302-00 Integrated Flight Director/Autopilot System
			006-0302-01 Autopilot only System
Piper	Aztec C PA23-250 S/N 27-3676 thru 27-3943	006-0205-00	006-0307-00 Integrated Flight Director/Autopilot System

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<u>MANUFACTURER</u>	<u>TYPE/MODEL</u>	<u>INSTALLATION MANUAL P/N</u>	<u>FLIGHT MANUAL SUPPLEMENT P/N</u>
			006-0307-01 Autopilot only system
	Aztec PA 23-250 D8E S/N 27-3944 thru 7554-186	006-0205-00	006-0307-00 Integrated Flight Director/Autopilot System
			006-0307-01 Autopilot only System
	Aztec PA23-250 F S/N 7654001 and above	006-0205-00	006-0322-00 Integrated Flight Director/Autopilot System
			006-0322-01 Autopilot only System
	Navajo C PA31 S/N PA31 -712 thru PA31-931	006-0206-00	006-0312-00 Integrated Flight Director/Autopilot System
			006-0312-01 Autopilot only System
Piper	Navajo C PA-31 S/N PA31-932 and above	006-0206-00	006-0312-00 Integrated Flight Director/Autopilot System
			006-0312-01 Autopilot only System
	Navajo CR PA31-325	006-0206-00	006-0354-00 Integrated Flight Director/Autopilot System
			006-0354-01 Autopilot Only System
	Navajo Chieftan PA31-350	006-0206-00	006-0309-00 Integrated Flight Director/Autopilot System
			006-0309-01 Autopilot only System
Cessna	Skylane 182P and 182Q S/N 18265965 and Below, 14V	006-0222-00	006-0347-00 Integrated Flight Director/Autopilot System
			006-0347-01 Autopilot Only System

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<u>MANUFACTURER</u>	<u>TYPE/MODEL</u>	<u>INSTALLATION MANUAL P/N</u>	<u>FLIGHT MANUAL SUPPLEMENT P/N</u>
Cessna	Skylane 182Q S/N 18265966 and above, 28V	006-0222-00	006-0347-00 Integrated Flight Director/Autopilot System 006-0347-01 Autopilot only System.
	Skylane RG Model R182 and Turbo Skyland RG, Model TR182	006-0226-00	006-0365-00/01/02 KT256/KG258
	Cessna Stationair 6 Model U206 6 and Cessna Turbo Stationair 6 Model TV206G S/N V20604075 and above	006-0231-00	006-0370-00 Integrated Flight Director/Autopilot System 006-0370-01 Autopilot only System
Cessna	Cessna Stationair 6 Model U206G and Cessna Turbo Stationair 6 Model TU206G S/N U20604074 and below	006-0231-00	006-0370-00 Integrated Flight Director/autopilot system 006-0370-01 Autopilot only System
	Cessna	Centurion 210K, T210K	006-0210-00 006-0314-00 Integrated Flight Director/Autopilot System 006-0314-01 Autopilot only System
Cessna	Centurion 210L, T210L 210M and T210M Through 1977 Model year	006-0210-00	006-0314-00 Integrated Flight Director/Autopilot System 006-0314-01 Autopilot only System
	Centurion 210M, T210M, 210N, T210N 1978 Model Year and after	006-0210-00	006-0314-00 Integrated Flight Director/Autopilot System for 210M, T210M

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<u>MANUFACTURER</u>	<u>TYPE/MODEL</u>	<u>INSTALLATION MANUAL P/N</u>	<u>FLIGHT MANUAL SUPPLEMENT P/N</u>
			006-0314-01 Autopilot only System for 210M, T210M
			006-0372-00 Integrated Flight Director/ Autopilot System for 210N, T210N
			006-0372-01 Autopilot only system for 210N, T210N
	Cessna Pressurized Centurion P210N	0006-0234-00	006-0373-00 Integrated flight Direction/Autopilot System
			006-0373-01 Autopilot only System
	Cessna 310P, T310P, 310Q, T310Q	006-0218-00	006-0336-00 Integrated Flight Director/Autopilot System
			006-0336-01 Autopilot only System
	Cessna 310R, T310R through 1977 Model Year and after	006-0218-00	006-0336-00 Integrated Flight Director/Autopilot System
			006-0336-01 Autopilot Only System
	Cessna 310R, T310R 1978 Model Year and after	006-0218-00	006-0336-00 Integrated Flight Director/Autopilot System
			006-0336-01 Autopilot Only System
	Cessna 340A Through 1977 Model Year	006-0219-00	006-0335-00 Integrated Flight Director/Autopilot System

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<u>MANUFACTURER</u>	<u>TYPE/MODEL</u>	<u>INSTALLATION MANUAL P/N</u>	<u>FLIGHT MANUAL SUPPLEMENT P/N</u>
Cessna			006-0335-01 Autopilot only System
	Cessna 340A 1978 Model year and after	006-0219-00	006-0335-00 Integrated Flight Director/Autopilot System 006-0335-01 Integrated Flight Director/Autopilot System
	Cessna 402C	006-0228-00 006-0225-01 Altitude Select Option	006-0367-00 Integrated Flight Director/Autopilot System 006-0367-01 Autopilot only System
	Cessna 404	006-0220-00 006-0220-01 Altitude Select Option	006-0348-00 Integrated Flight Director/Autopilot System 006-0348-01 Autopilot Only System
	Cessna 414A	006-0225-00 006-0225-01 Altitude Select	006-0363-00 Integrated Flight Director/Autopilot System 006-0363-01 Autopilot Only System
	Cessna 421C 1979 and before	006-0215-00 006-0225-01 Altitude Select Option	006-0327-00 Integrated Flight Director/Autopilot System 006-0327-01 Autopilot only System
	Cessna 421C 1980 and after	006-0215-00 006-0225-01 Attitude Select Option	006-0327-00/01 KI 256/KG 258
Aerostar	Aerostar 600	006-0207-00	006-0310-00 Integrated Flight Director/Autopilot System 006-0310-01 Autopilot Only System

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<u>MANUFACTURER</u>	<u>TYPE/MODEL</u>	<u>INSTALLATION MANUAL P/N</u>	<u>FLIGHT MANUAL SUPPLEMENT P/N</u>
	Aerostar 601	006-0207-00	006-0310-00 Integrated Flight Director/Autopilot System
			006-0310-01 Autopilot only System
	Aerostar 601P	006-0207-00	006-0310-00 Integrated Flight Director/Autopilot System
		006-0207-01 Altitude Select Option	006-0310-01 Autopilot Only System
Rockwell	Rockwell 112, 112B, 112TC, 112TCA	006-0216-00	006-0341-00 Integrated Flight Director/Autopilot System
			006-0341-01 Autopilot Only System
			006-0342-00 Manual Electric Trim System
	Rockwell 114	006-0216-00	006-0328-00 Integrated Flight Director/Autopilot System
			006-0328-01 Autopilot Only System
			006-0332-00 Manual Electric Trim System
Mooney	Mooney M20F S/N 22-1305 and above	006-0214-00	006-0318-00 Integrated Flight Director/Autopilot System
			006-0318-01 Autopilot Only System
			006-0326-00 Yaw Only
			006-0329-00 Manual Electric Trim System

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<u>MANUFACTURER</u>	<u>TYPE/MODEL</u>	<u>INSTALLATION MANUAL P/N</u>	<u>FLIGHT MANUAL SUPPLEMENT P/N</u>
	Mooney M20J	006-0214-00	006-0318-00 Integrated Flight Director/Autopilot System
			006-0318-01 Autopilot Only System
			006-0326-00 Yaw only
Mooney	Mooney M20J		006-0329-00 Manual Electric Trim System
	Mooney M20J S/N 24-0939 24-1094 and after	006-0230-00	006-0384-00/01 KI 256/KG 258
	Mooney M20K	006-0230-00	006-0369-00 Integrated Flight Director/Autopilot System
		006-0230-01 Altitude Selector Option	006-0369-01 Autopilot Only System
Bellanca	Viking 17-30A, 17-31A, and 17-31ATC	006-0217-00	006-0333-00 Integrated Flight Director/Autopilot System
			006-0333-01 Autopilot Only System
			006-0334-00 Manual Electric Trim System

1.10 GOVERNMENTAL APPROVAL

In most countries, governmental approval such as an FAA Supplemental Type Certificate (STC) is required before the components of the KFC 200 System may be installed in any aircraft.