

S-TEC CORPORATION
SYSTEM 20/30
AUTOMATIC FLIGHT CONTROL SYSTEM

FAA APPROVED FOR
BEECH MODELS H35, J35, K35, M35, N35, AND P35

PER STC SA09342AC-D
(14 VOLT SYSTEM)

INSTALLATION MODEL

ST-773

NOTICE TO THE INSTALLER

The Approval of the installation of this system is not applicable to specific aircraft having other previously approved modifications, unless it is determined the interrelationship between this change and the other approved modifications will introduce no adverse effect upon the airworthiness of the aircraft.

SERVO INSTALLATIONS

NOTICE TO INSTALLER

The S-TEC System 60 Autopilot utilizes slow speed servo actuators for improved control smoothness and safety. The reduced speed however makes the aircraft cable tensions and autopilot bridle cable tensions very important control system rigging tension to the manufacturers specifications, and to properly tension the bridle cable per the instructions provided.

NOTICE TO THE INSTALLER

When Optional Autopilot Disconnect Switch and Optional Remote Mode Select Switch are both installed in conjunction with the Altitude Engage/Disengage Switch, additional conductors will be required to the control wheel. Use existing open leads where available or order S-TEC nineteen conductor Coil Cord, P/N 3934.

MASTER DRAWING LIST

FOR: ST-773

STC: SA09342AC-D

DRAWING NO.	DESCRIPTION	SIZE	REVISION
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DRAWINGS THAT ARE REQUIRED FOR THE INSTALLER TO MAKE THE INSTALLATION:

700	Bul., Gen. Inst'l. Information (Rev. 3)		10-08-97
92949	Master Drawing List, Bul. No. 700 (Rev. C)		10-08-97
873	Bul., Installation, ST-773		2-16-98
0503 ✓	Procedure, Clutch Torq. Adj.	A	B
7603 ✓	Installation, Roll Servo	D	K
7612 ✓	Installation, Roll Servo	D	G
7633 ✓	Installation, Pitch Servo	D	C
76268 ✓	Installation, Control Wheel Switches	C	D
76277 ✓	Installation, Control Wheel Switches (Early Beech)	C	C
76278 ✓	Installation, Control Wheel Switches	C	B
76925 ✓	Installation, Piezo Alarm	B	-
76976 ✓	Installation, Sys. 30 Pitch Computer	D	-

DRAWINGS THAT DEFINE THE DESIGN BUT ARE NOT REQUIRED FOR THE INSTALLER TO MAKE THE INSTALLATION:

0105-()	Outline Drawing, Roll/Yaw/Trim Servo, 14V	D	O
0107-()	Outline Drawing, Pitch Servo, 14V	D	O
0111-()	Outline Drawing, Pressure Transducer	B	F
01260-()	Outline Drawing, Turn Coordinator/ Roll Computer	D	D
01261-()	Outline Drawing, Pitch Computer	C	C
0201-()	Final Assy., 0105-() Roll/Yaw Servo, 14VDC (SHEET 2)	D	Q
0203-()	Final Assembly, 0107-() Pitch Servo, 14VDC (SHEET 2)	D	P
0213	Final Assy., Pressure Transducer	B	C
02251-()	Final Assembly, Pitch Computer	C	D
02252 & -()	Final Assy., 01260 Turn Coordinator/ Roll Computer	C	E
3953-()	Coil Cord Assy., (5 Conductor)	A	B
39188-()	Cable Assy., Sys. 20/30 (Roll)	D	F
39189-()	Cable Assembly, Sys. 20/30 (Pitch)	D	J
4116	Bushing	A	C
4117	Roller	A	A

CHECKED: 

PART NO.: 921076

DATE: 2-16-98

SHEET: 1 of 3
Form No. 8626-1

MASTER DRAWING LIST
REVISION REFERENCE SHEET

FOR: ST-773

STC: SA09342AC-D

REV. LETTER	DESCRIPTION OF REVISION	DATE REV.
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CHECKED: *Bill Thomas*

DATE: 2-16-98

PART NO.: 921076

SHEET: 3 of 3
Form No. 8626-2

SECTION I.

INTRODUCTION

The S-TEC System 20 Roll Axis Automatic Flight Control System was designed to provide rate based roll stability with operating modes providing roll command, VOR/LOC tracking, and optional heading control when a D.G. or heading system is interfaced with the system.

The S-TEC System 30 Roll and Pitch Axis Automatic Flight Control System provides these roll functions plus altitude hold capability. When properly installed, these systems should provide long, maintenance free service.

The information contained in this data package is intended to provide the installer with all necessary data to install either of these two systems in any of the aircraft models for which the system was approved.

Read the Installation Manual thoroughly, and familiarize yourself with the associated drawings and data before beginning the installation.

SYSTEM 30 PITCH COMPUTER INSTALLATION

GROUP III

Drawing No. 76976

1. The pitch computer is to be installed in the aft section of the fuselage just aft of F.S. 151.00 in accordance with instructions provided on Drawing No. 76976. Remove aft baggage compartment close-out panel to gain access to this area.
2. Loosely attach the (items 2 and 3) brackets using two each (items 5, 6, and 7) hardware. Place this assembly in the aircraft at dimensions shown on drawing. Temporarily clamp the (item 3) bracket to, two each longitudinal stringer. Using the holes in the (item 2) bracket as a guide match drill .166 dia. through the stringers four places. Secure bracket to stringers using the (items 5, 6, and 7) hardware. Place (item 4) bracket on aft face of bulkhead 151.00 and flush vertically with under side of (item 2) bracket. Using the holes in (item 2) bracket as a guide, match drill .166 dia. through (item 4) bracket three places. Secure brackets together using three each (items 5, 6, and 7) hardware. Match drill .166 dia through (item 4) bracket and bulkhead 151.00 two places. Secure (item 4) bracket to aircraft structure using two each (items 5, 6, and 7) hardware. Tighten hardware securing (items 2 and 3) brackets together.
3. Place the (item 1) pitch computer on the (item 2) bracket at the dimensions shown on the drawing. Using the four each holes in the flanges of the (item 1) pitch computer match drill .166 dia. four places through the (item 2) bracket. Secure the pitch computer to the (item 2) bracket using four each (items 5, 6, and 7) hardware.

NOTE: If a previously installed radio rack exists in the area of the pitch computer installation, and it is determined that the existing radio shelf has adequate space and structure to support the pitch computer, the pitch computer may be installed on the radio shelf in accordance with instructions provided on Drawing No. 76896 (Bulletin 700).

4. Route electrical cable and secure in accordance with AC 43.13-1A Chapter 11, section 7, paragraph 514. Refer to wiring section of the installation bulletin for wiring information.

DIRECTION OF ROTATION:

THE SERVO ASSEMBLY, FOR THIS APPLICATION, REQUIRES CCW ROTATION OF THE CAPSTAN, AS VIEWED FROM THE CAPSTAN END.

1. With servo still holding fixture and capstan free to rotate, apply +12 volts to Pins 1 and 3, and a Ground to Pins 2 and 4 of the servo connector. Note the direction of rotation of the servo capstan, as viewed from the capstan end.
2. To reverse the direction of rotation reverse Pins 3 and 4 at the connector on the servo pigtail.

P/n 5-279 pins

10. Position the ailerons in neutral position and with the ball facing forward attach the ends of the bridle cable to the aileron control cable with the cable clamps called out on Drawing No. 7603.
11. Tension the bridle cable to 15 ± 2 lbs. torque and cable clamp bolts to 55 ± 5 in. lbs. and check that clamp halves have a minimum gap of .005 after torquing.
12. Install the (item 15) roller as shown and position the roller so that the bridle cable does not contact the left skin where it exits the aircraft.
13. Operate controls from stop to stop and determine that the bridle cable is aligned with the capstan grooves and does not contact the groove flanges. Determine that no binding or restriction exists in the control system. The bridle cable clamps can be adjusted (rotated) to align the bridle cable with the capstan grooves.

9. Position the aileron in neutral position and with the ball facing forward attach the ends of the bridle cable to the aileron control cable with one 6122 clamp at the outboard end of the bridle cable and one 6121 clamp inboard.
10. Tension the bridle cable to 15 ± 2 lbs. and torque cable clamp bolts to 55 ± 5 in. lbs. and check that clamp halves have a minimum gap of .005 after torquing.
11. Modify the existing cable rub strip as described in Detail "D" on Drawing No. 7612 and reinstall using existing hardware.
12. Position (item 15) bracket under stringer as shown and drill attaching holes. Secure with hardware shown.
13. Attach roller assembly to (item 15) bracket and adjust against bridle cable as described in Note 6 on Drawing.
14. Operate controls from stop to stop and determine that the bridle cable is aligned with the capstan grooves and does not contact the groove flanges. Determine that no binding or restriction exists in the control system. The bridle cable clamps can be adjusted (rotated) to align the bridle cable with the capstan grooves.

SERVICE INFORMATION
PITCH SERVO

APPLIES TO: INSTALLATION MODEL ST-773

Drawing No. 0503

The Servo Actuator is supplied from the factory with the clutch set at 5 in. lbs. or less, and wired to cause the capstan to rotate in a counterclockwise direction, (as viewed from the capstan end) when +12 volts is applied to Pin 3, and Ground to Pin 4 of the servo connector. Prior to installation in the aircraft, the servo clutch must be adjusted and the direction of rotation established as called out below.

CLUTCH ADJUSTMENT:

THE SERVO ASSEMBLY FOR THIS APPLICATION REQUIRED 1 .032 THICK TENSION WASHERS (P/N 1253) AND 2 .040 THICK TENSION WASHERS (P/N 1253-1). THE SERVO CLUTCH SETTING IS TO BE 31 IN. LBS. \pm 1.

1. Position servo assembly in a holding fixture or soft jawed vise, with capstan side of base plate up.
2. Remove cotter pin from end of servo shaft and remove nut and shim washers. Install or replace tension washers to provide proper number and thickness as called out above.

NOTE: Further disassembly of the clutch assembly is not necessary and is not recommended.

3. Reinstall the shim washers and nut. Tighten nut to a starting position and temporarily install cotter pin. Place pins on the 6622-1 tool into the index holes on the capstan and insert torque wrench drive lug into tool. Energize servo solenoid and motor and read output torque on torque wrench.

NOTE: A currently calibrated torque wrench graduated in one in. lb. increments is required.

4. Tighten or loosen nut as necessary to establish the proper torque as specified above \pm 1 in. lb. If specified torque cannot be obtained with nut castellation aligned for cotter pin, remove or add shim washers to change nut height to allow cotter pin insertion with clutch torque at correct value. Replace and secure cotter pin.
5. After bridle cable has been installed and properly wrapped on the capstan as called out in the installation data, install the capstan cable guards and cover as shown on Drawing No. 0503. Use the screws installed in top of cable guards to snug cable guards against base plate.

NOTE: The capstan cable guards, for safety reasons, have by design been made frangible when handled independently. Therefore care should be exercised during installation.

PITCH SERVO INSTALLATION
(System 30)

Drawing No. 7633

GROUP VII

1. The pitch servo is to be installed between Fuselage Station 179.0 and 209.0, and attached to the lower fuselage stringer flanges as shown on Drawing No. 7633.
2. Adjust servo clutch torque and determine proper direction of capstan rotation per service instruction. Wrap bridle cable on capstan (View A-A) and install capstan cable guards and cover.
3. Position (item 2) bracket into aircraft structure as shown. Match drill bracket and stringer flanges and secure in place with (item 9) screws, (item 10) washers, and (item 11) nuts.
4. Temporarily attach (item 3) bracket to (item 2) bracket with four (item 14) screws, four (item 10) washers, and four (item 11) nuts.
5. With servo properly oriented, temporarily attach lower end of servo base plate to (item 3) bracket with hardware called out.
6. Using the slots provided in (item 2) and (item 3) brackets, position the servo capstan centered under upper elevator cable, with servo base plate parallel to elevator cable and secure attaching hardware.
7. Attach upper end of (item 5) bracket to top aft corner of servo base plate. Match drill through (item 2) bracket at lower end of (item 5) bracket and attach (item 5) bracket to (item 2) bracket.
8. Attach upper end of (item 4) bracket to top forward corner of servo base plate. Match drill through flange at lower end of (item 4) bracket and attach to bulkhead with hardware shown.
9. With bridle cable center ball positioned as shown in (View A-A) and elevators in the full down position, attach ends of bridle cable to upper elevator cable with (item 12) cable clamps. Rotate clamps on elevator cable to provide proper cable alignment to capstan grooves. Adjust bridle cable tension and cable clamp bolt torque as noted on installation Drawing No. 7633. Secure all attaching hardware.
10. Operate elevator control system through complete range of travel and check for any binding or restrictions caused by this installation.

PLACARDS INSTALLATION

GROUP XII

1. Install Placard 5610 "AP" directly above or below the autopilot circuit breaker.
- *2. Install Placard 56113 "AP DISCONNECT" under the nut on the autopilot disconnect switch.
3. Install Placard 56112 "ALT. ENG./DISENG." under nut on the altitude engage/disengage switch.
4. Install Placard 56207 "AP/OFF" under the nut on the autopilot master switch.
5. Install Placard 56234 "PUSH HOLD A/P DISC" behind turn command knob of turn coordinator/roll computer.
- **6. Install Placard 56246 "A/P MODE SELECT" under the nut on the mode select switch.
7. Remove the appropriate supplement from the back of this installation bulletin, fill in the blanks, and insert in the supplemental section of the appropriate document.

NOTE: The FAA Type Certificate Data Sheet for any particular aircraft will list the appropriate document and/or placards required for that aircraft.

*Placard required only when optional autopilot disconnect switch is being installed.

**Placard required only when optional autopilot mode select switch is being installed.

COMPONENT WEIGHTS AND CURRENT DRAIN

COMPONENT WEIGHTS

01260-() Turn Coordinator/Roll Computer	2.30 lbs.
01261-() Pitch Computer	1.10 lbs.
0105-() Roll Servo	2.90 lbs.
0107-() Pitch Servo	2.90 lbs.
0111-() Transducer19 lbs.
6406-() Directional Gyro	3.40 lbs.
39188-() Cable Assembly (Roll)	1.00 lbs.
39189-() Cable Assembly (Pitch)	1.00 lbs.
Installation Brackets and Hardware	***

***Varies with Installation

CURRENT DRAIN

Maximum Continuous	
System 20	2 Amps
System 30	3 Amps

PART NO. QTY. DESCRIPTION SPEC. NO.

FOR BEECH MODELS N35 AND P35

GROUP IV

0105-R9	1	Roll Servo	TSO C9c
6002	1	Bracket	PMA
1301C1032-10A	4	Bolt	AN3-5A
1201C10-063A	8	Washer	AN960-10
1406C1032A	4	Nut	AN365-1032
6004	1	Bracket	PMA
1108C832-7A	6	Screw	AN525-832R7
1201C8-031A	7	Washer	AN960-8
1406C832A	7	Nut	AN365-832
6121	1	Clamp, Bridle Cable	PMA
7002-1	1	Cable Assy., Bridle	PMA
6120	1	Clamp, Cushion	MS21919WDG8
1108C832-24A	1	Screw	AN525-832R24
4116	1	Bushing	PMA
4117	1	Roller	PMA
6122	1	Clamp, Bridle Cable	PMA

FOR BEECH MODELS H35, J35, K35, AND M35

GROUP IVa

0105-R9	1	Roll Servo	TSO C9c
6002	1	Bracket	PMA
1301C1032-10A	4	Bolt	AN3-5A
1201C10-063A	7	Washer	AN960-10
1406C1032A	3	Nut	AN365-1032
6021	1	Bracket	PMA
1108C832-7A	6	Screw	AN525-832R7
1201C8-031A	8	Washer	AN960-8
1406C832A	7	Nut	AN365-832
6121	1	Clamp, Bridle Cable	PMA
7002-1	1	Cable Assy., Bridle	PMA
6120	1	Clamp, Cushion	MS21919WDG8
1457	1	Nut-Clip	PMA
6122	1	Clamp, Bridle Cable	PMA
60376	1	Bracket	PMA
1108C832-24A	1	Screw	AN525-832R24
4116	1	Bushing	PMA
4117	1	Roller	PMA



SECTION II.

2-16-98

PARTS LIST

ST-773-30
SYSTEM 30
(14 VOLT SYSTEM)

BEECH MODELS H35, J35, K35, M35, N35, AND P35

PART NO.	QTY.	DESCRIPTION	SPEC. NO.
GROUP I			
01260-1-0-14	1	Turn Coordinator/ Roll Computer	TSO C3d, C9c
GROUP II			
6406-14L	1	Directional Gyro	TSO C5c
*GROUP III			
01261-0-14	1	Pitch Computer	TSO C9c
6014	1✓	Bracket	PMA
6020	1✓	Bracket	PMA
6015	1✓	Bracket	PMA
1406C832A	15✓	Nut	PMA
1108C832-7A	15✓	Screw	AN365-832
1201C8-031A	15✓	Washer	AN525-832R7
1108C832-8A	4✓	Screw	AN960-8 AN525-832R8

*Part No. 1108C832-8A required only when computer is being installed per Drawing No. 76896.

PART NO.	QTY.	DESCRIPTION	SPEC. NO.
*GROUP V			
3532	1✓	Disconnect Switch	PMA
1454	1✓	Decorative Nut	PMA
5804	1✓	Switch Plunger Cap	PMA
3953-1	1✓	Coil Cord	PMA
1614	1✓	Grommet	MS35489-6
5226	2✓	Splice, Closed End	PMA
GROUP VI			
3532	1✓	Switch	PMA
1454	1✓	Decorative Nut	PMA
5838	1✓	Switch Plunger Cap	PMA
5279	2✓	Socket	PMA
GROUP VII			
0107-P4	1	Pitch Servo	TSO C9c
6059	1✓	Bracket	PMA
6060	1✓	Bracket	PMA
6061	1✓	Bracket	PMA
6062	1✓	Bracket	PMA
1301C1032-8A	5✓	Bolt	AN3-4A
1201C10-063A	5✓	Washer	AN960-10
1406C1032A	5✓	Nut	AN365-1032
1108C832-7A	9✓	Screw	AN525-832R7
1201C8-031A	13✓	Washer	AN960-8
1406C832A	13✓	Nut	AN365-832
7001-1	1✓	Bridle Cable Assy.	PMA
6121	2✓	Cable Clamp	PMA
1108C832-8A	4✓	Screw	AN525-832R8
GROUP VIII			
0111	1	Transducer	PMA
0807-1	36"✓	Hose	PMA
4134	1✓	Tee	PMA

*Ship P/N 3934 in place of P/N 3953-1 only on Special Request when additional conductors are required for installation of options. See "Notice To The Installer" at the front of this bulletin.

2-16-98

PARTS LIST

*ST-773-30P
(14 VOLT SYSTEM)

BEECH MODELS H35, J35, K35, M35, N35, AND P35

PART NO. QTY. DESCRIPTION SPEC. NO.

GROUP I AND GROUP II
NOT REQUIRED

**GROUP III

01261-0-14	1	Pitch Computer	TSO C9c
6014	1	Bracket	PMA
6020	1	Bracket	PMA
6015	1	Bracket	PMA
1406C832A	15	Nut	AN365-832
1108C832-7A	15	Screw	AN525-832R7
1201C8-031A	15	Washer	AN960-8
1108C832-8A	4	Screw	AN525-832R8

GROUP IV THROUGH GROUP VI
NOT REQUIRED

*Ship P/N 3934 in place of P/N 3953-1 only on Special Request when additional conductors are required for installation of options. See "Notice To The Installer" at the front of this bulletin.

**Part No. 1108C832-8A required only when computer is being installed per Drawing No. 76896.

PART NO.	QTY.	DESCRIPTION	SPEC. NO.
GROUP XI			
39189-26	1	Cable Assembly Sys 20/30 (Pitch)	PMA
5279	5	Contact, Socket	PMA
GROUP XII			
56112	1	Placard, ALT ENG/DISENG	PMA
891671	1	Supplement	

S-TEC CORPORATION
SYSTEM 20/30
AUTOMATIC FLIGHT CONTROL SYSTEM

GENERAL INSTALLATION
INFORMATION
BULLETIN NO.

700

FAA APPROVED
BULLETIN NO. 700

S-TEC Corporation
One S-TEC Way
Mineral Wells Municipal Airport
Mineral Wells, TX 76067-9236

REVISION REFERENCE SHEET

Original Bulletin, General Installation Information Bulletin No. 700,
System 20/30, dated 1-06-97.

Revision (1) dated 4-01-97 (Minor Change)
Updated Master Drawing List. Reference FECO # 2000.

Revision (2) dated 7-17-97 (Minor Change)
Revised Pitch Computer writeup. Reference FECO # 2025.

Revision (3) dated 10-08-97 (Minor Change)
Revised Wiring Installation writeup. Removed King KG107 D.G. from
approved heading systems list. Reference FECO # 2079.

Revision (4) dated 7-01-98 (Minor Change)
Revised Wiring Installation to add note for extension cable assembly.
Reference FECO # 2248.

MASTER DRAWING LIST

FOR: Bulletin No. 700

DRAWING NO.	DESCRIPTION	SIZE	REVISION
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DRAWINGS THAT ARE REQUIRED FOR THE INSTALLER TO MAKE THE INSTALLATION:

700	Bulletin, General Installation Information	(Rev. 4)	7-01-98
0570 ✓	Procedure, Heading Circuit Component Selection	A	-
7602 ✓	Installation, Directional Gyro	C	F
7624 ✓	Installation, Transducer	C	H
76895 ✓	Installation, Turn Coordinator/Roll Computer	C	-
76896 ✓	Installation, Pitch Computer	C	A
76917 ✓	Installation, AP Mode Select Switch	B	-
10113 ✓	Schematic, External Wiring Interconnect - Sys. 20/30	C	C
10114 ✓	Schematic, Heading System Interconnect Detail - Sys. 20/30	D	A
99204 ✓	Wiring Pictorial, System 20/30	C	-

DRAWINGS THAT DEFINE THE DESIGN BUT ARE NOT REQUIRED BY THE INSTALLER TO MAKE THE INSTALLATION:

39249-()	Extension Cable Assembly, Pitch and Roll	C	A
39250-()	Extension Cable Assembly, Trim	C	A
39251-()	Extension Cable Assembly, Transducer	C	A

CHECKED: Bill Thomas

PART NO.: 92949

DATE: 1-06-97

SHEET: 1 of 2
Form No. 8626-1

MASTER DRAWING LIST
REVISION REFERENCE SHEET

FOR: Bulletin No. 700

REV. LETTER	DESCRIPTION OF REVISION	DATE REV.
A	Rev. Bul. 700. Updated MDL.	4-01-97
B	Rev. Bul. 700.	7-17-97
C	Rev. Bul. 700, Dwg. 10113, 10114, 76896.	10-08-97
D	Rev. Bul. 700. Added Dwg. 39249-(), 39250-(), 39251-().	7-01-98

CHECKED: Bill Thomas

DATE: 1-06-97

PART NO.: 92949

SHEET: 2 of 2
Form No. 8626-2

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Ground Checks and Flight Adjustment Procedures Page 3-1
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SECTION I.

INTRODUCTION

This bulletin provides detailed installation information for the System 20/30 autopilot components which are not airframe peculiar in their installation requirements, such as, panel mounted instruments, panel mounted programmer, system interconnect wiring, and options.

This bulletin must be used in conjunction with the installation manual provided for each specific STC installation.

TURN COORDINATOR/ROLL COMPUTER INSTALLATION
(System 20/30)

Drawing No. 76895

Remove the existing turn coordinator from the instrument panel. Modify the panel cut out and/or mounting hole locations (if required) and install the new Turn Coordinator/Roll Computer using three 6-32 screws (5/8" length max.). Refer to wiring section for electrical connection information.

*PITCH COMPUTER INSTALLATION
(System 30)

Drawing No. 76896

1. Locate an area forward of the instrument panel with a clear area adequate to install the Pitch Computer (approximately 6 inches). The selected location shall have adequate structure to support the unit and its wiring. Ref. AC 43.13-2A, Chapter 1, section 2d.
2. Use the existing holes in the flanges of the pitch computer as a guide to mark and drill four each .166 dia. holes through the structure. Secure pitch computer to structure with the hardware called out on drawing.
3. Route the electrical cable and secure in accordance with AC 43.13-1A, Chapter 11, section 7, so as to clear all control cables. Refer to electrical section of this installation bulletin for additional electrical information.
4. The pitch computer must be installed with the attaching flanges down and must be level with the aircraft's lateral and longitudinal axis $\pm 10^\circ$.

*Some installations require specific mounting location. These instructions are for use only when no other installation information is specified in installation bulletin.

*ALTITUDE TRANSDUCER INSTALLATION
(System 30)

Drawing No. 7624

1. The altitude transducer is packaged in an ABS plastic container with integral mounting pads. The transducer weighs only 3.2 ozs. including the connector.
2. Select a location forward of the instrument panel providing the required mounting space and a flat area for attachment. The transducer may be attached to a horizontal or a vertical surface, but must be positioned so that the hose bib centerline is in a horizontal plane. The mounting location should be of adequate strength to support the transducer (3.2 ozs.) and should be rigid enough to preclude excessive vibration. Drill two .166 dia. mounting holes and attach to aircraft structure with AN hardware called out.
3. Connect transducer to aircraft static system as shown on Drawing No. 7624. Static system connection and hose routing must be accomplished in a manner that will preclude the addition of any low spots in the existing static system.

NOTE: At the conclusion of the installation, conduct a static system check in accordance with FAR Part 43, Appendix E to assure compliance of the static system to the requirements of 91.411. (Reference FAR 23.1325.)

4. Route the transducer electrical cable to the transducer in accordance with the instructions provided in the wiring section of this bulletin.

*Some installations require specific mounting location. These instructions for use only when no other installation information specified in installation bulletin.

*WIRING INSTALLATION
Roll Section

Drawing No. 99204
Drawing No. 10113
Drawing No. 10114
Drawing No. 0570

1. Attach the 44 pin connector of the 39188-() cable harness to the plug on the Turn Coordinator/Roll Computer and route the cable leads with connectors to their respective component and plug into mating connector.
2. Route the open end of cable assembly 39186-() from the roll servo to the 44 pin connector at the turn coordinator/roll computer and pin into connector per Drawing No. 10113.
3. Drill a 7/16 diameter hole in the instrument panel, preferably in the area of existing circuit breakers, and install the 4906 (5 amp) autopilot circuit breaker.
4. Locate an area on the instrument panel for the autopilot master switch and attach the 56207 master switch placard. Using the placard as a template, drill a .250 dia. hole through the instrument panel in the desired switch location, and install the 3520 autopilot master switch with the nut provided.
5. Route and connect the lead marked "rheostat" to the instrument or radio light dimmer.
6. Connect the two white 22 AWG wires marked VOR/LOC + LT and VOR/LOC + RT to the desired NAV indicator or NAV source.
7. If the optional autopilot disconnect switch is to be installed, route the two leads marked "A/P Disc" to the autopilot disconnect switch installed in the control wheel.
8. If the optional "Mode Select" switch is to be installed, crimp two each 5279 pins on two each 22 AWG. wires and insert them into pins 17 and 41 of the 44 pin Turn Coordinator/Roll Computer. Route open ends to pilot's control wheel and connect to switch.
9. Fabricate a 20 AWG (min) wire from the load side of the autopilot circuit breaker to the autopilot master switch. Connect the buss side of the circuit breaker to the existing buss bar as indicated on drawing.
10. Route and connect the lead marked "T/C A+" to the load side of the existing turn and bank circuit breaker (5 amp max.). Route and connect the lead marked "A/P A+" to the switched side of the A/P master switch. Route and connect the lead marked "Gnd" to airframe ground.

*NOTE: All field fabricated wiring must meet or exceed the requirements of MIL-W-22759/16 and be routed and secured in accordance with AC 43.13-1A, Chapter 11, Section 7. Wire sizes are to be as noted on applicable Drawings.

CONTINUED

The main cable assembly is wired to connect directly to an S-TEC P/N 6406-() D.G. If an H.S.I. or other optional D.G. is installed, some modification of the main cable assembly will be required. A modification to the roll computer board in the programmer/computer will also be required. Refer to Drawing No. 10114 for interface information to various heading systems and Drawing No. 0570 for Turn Coordinator/Roll Computer modification and component location.

NOTE: Due to variations in electrical cable routing in an aircraft, occasionally a servo or transducer lead may be too short. An extension cable for the applicable servo or transducer lead may be ordered and installed in accordance with the installation instructions of this bulletin and the instructions provided on S-TEC Service Letter SL 98-002 (provided with extension cable). The extension cables can ONLY be ordered in 2 foot increments up to 8 feet long. The dash number of the part represents the total assembly length in 1 inch increments. (Example: 39249-24 is to be 24 inches long.)

Extension Cable Assembly part numbers are as follows:

Roll and Pitch Servos	39249-()
Trim Servo	39250-()
Transducer	39251-()

WIRING INSTALLATION Pitch Section

11. Attach the 44 pin connector of the 39189-() cable harness to the plug on the Pitch Computer and route the cable leads with connectors to their respective component and plug into mating connector.
12. Route the open end of cable assembly 39191-() from the pitch servo to the 44 pin connector at the pitch computer and pin to connector per Drawing No. 10113.
13. Route and connect wiring of "Pitch Interface" cable to the Turn Coordinator/Roll Computer using Drawing No. 10113.
14. Route and connect the red wire of the "Pitch Interface" cable (A/P A+) to the switched side of the A/P master switch.
15. Route and connect the black wire of the "Pitch Interface" cable (rheostat) to the same location that the roll section "rheostat" wire is connected.

16. Route the open end of the cable assembly 39159-() tagged "Altitude Switch" to the "Alt. Engage/Disengage" switch installed in the control wheel.
17. Route and connect the lead marked "Gnd" to airframe ground.
18. When the piezo alarm is being installed, connect the white wire from the cable tagged "Piezo Alarm" to the positive side of the horn and the blue/white wire to the negative side.

SECTION II.

OPTIONS

OPTIONAL HEADING HOLD

The System 20/30 as a basic system, provides roll stability with roll command and short term Heading Hold capability. Optional Heading Hold may be added by installing a Directional Gyro as described below or by using heading information provided by one of the heading systems listed.

REMOTE MODE SELECT SWITCH
OPTIONAL

Drawing NO. 76917

A single pole, single throw, normally open momentary contact switch is provided that can be installed in the pilot's control wheel to provide remote "MODE SELECT" Switching. Install the switch in a convenient location on the pilot's control wheel. A 1/4" dia. hole is required for mounting purposes. Use open wires in existing coil cord to connect switch to autopilot electrical system. Reference wiring section of this bulletin for wiring information.

NOTE: Avoid any modification that would deteriorate or compromise the structural integrity of the control wheel.

DIRECTIONAL GYRO INSTALLATION
OPTIONAL

Drawing No. 7602

Remove the existing Directional Gyro from the instrument panel. Modify the panel cut out and/or mounting hole locations (if required) and install the new Directional Gyro using three 6-32 screws, maximum 3/8" long. Use fittings and plumbing removed from previously installed gyro to plumb the new Directional Gyro. Refer to wiring section for electrical connection information.

NOTE: If the aircraft is not equipped with central instrument air filter, acquire and install a filter adequate to provide instrument inlet air filtering with a minimum efficiency of 95% on .3 micron particles.

The vacuum or pressure system must be capable of providing 4.5 - 5.2 in. of vacuum or pressure and maintain a minimum of 2.0 cubic feet per minute of airflow across the gyro.

CONTINUED

The following S-TEC Directional Gyros are approved for and may be used with the System 20/30 Autopilot.

S-TEC P/N's:		AIM P/N's:
6406-14L	Lighted 14V (Round Bezel)	*200-19 Unlighted (Round Bezel)
6406-28L	Lighted 28V (Round Bezel)	*200-19L Lighted (Round Bezel)

*These instruments contain optional bootstrap output. Synchro transmitter is standard 26 VAC 400 Hz rotor, 11.8 VAC stator zeroed to ARINC standards.

The following heading systems are approved for use with the System 20/30 Autopilot and may be used in place of the S-TEC Directional Gyro.

D.G.:

Sigma-Tek	IU262-014-11	(DC)	Sigma-Tek	IU262-014-13	(DC)
Sigma-Tek	IU262-015-12	(DC)			
EDO	52D54	(AC)			
EDO	52D154	(AC)			
EDO	52D254	(DC)			

HSI:

Aeronetics	8000	(AC)	
Bendix	IN831A	(AC)	P/N 4000172-8504, -8505 only
Bendix	HSD 880	(DC)	
Cessna	IG-832A/832C	(DC)	
Cessna	IG-895A	(DC)	
Century	NSD 1000	(DC)	
Collins	PN101	(AC)	331A-3G and 331A-6 P/R indicators containing HDG and CRS synchros
EDO	NSD360/360A	(DC)	
EDO	DG360	(DC)	
King	KCS-55/55A	(DC)	
King	KPI-550/550A	(AC)	
Narco	HSI-100/100S	(AC)	
Sigma-Tek	IU445-004-9	(DC)	
S-TEC	ST-180	(AC)	

Refer to wiring section of this bulletin and heading system manufacturer's service/installation information for interface information.

GROUND CHECKS AND FLIGHT ADJUSTMENT PROCEDURES

SYSTEM 20

GROUND CHECKS:

1. Turn aircraft master and radio master "ON", as required, to provide system voltage to the autopilot circuit breaker.
2. Check autopilot circuit breaker "ENGAGED".
3. Toggle AP master to "ON". Observe all lights and annunciators illuminate. When turn coordinator gyro has reached operational RPM the "RDY" light will illuminate. After "RDY" light illuminates, push and release the mode select knob, STB will illuminate. Rotate the turn command knob left then right. Note that the control wheel follows commanded input.

NOTE: When a heading system is installed, center the heading bug under the indice on the heading instrument. Center the turn command knob and push and release knob; "HDG" will illuminate. Rotate the heading bug on the heading instrument. to the right, then to the left of the center indice and note that the control wheel follows direction of commanded input. Center heading bug on indice.

4. Tune the NAV receiver to the local OMNI Station or simulated signal and center the needle on the OBS/CDI instrument. Select "TRK LO" mode by pushing the mode select knob and rotate the OMNI bearing selector right and then left. Control wheel should move right with right needle deflection and left with left needle deflection. Perform the same test with the system in the "TRK HI" mode.
5. With NAV needle centered, scroll through to the "TRK LO" mode. Remove the lower right hand attaching screw on the Turn Coordinator/Roll Computer. Adjust the roll centering (3 turn pot accessible through the lower right hand attaching screw of the Turn Coordinator/Roll Computer). Adjust for zero roll servo activity with centered CDI needle.
6. If the Optional Mode Select Switch is installed, depress the switch and ensure that the A/P Mode (Roll only) changes simultaneously when the switch is depressed.
7. Overpower roll servo both directions - be alert for excessive play or noise while overriding servo. Momentarily depress the AP disconnect switch on the control wheel (if installed). If the A/P disconnect switch is not installed, push and hold the mode select knob for approximately 2 seconds and the A/P will automatically disconnect. Rotate the control wheel left and right and determine that the servo solenoid disengages.
8. Toggle autopilot master switch to "OFF".

*For normal operating instructions refer to System 20/30 Pilot's Operating Handbook.

FLIGHT ADJUSTMENTS:

The in-flight adjustments for this system consist of one (3 turn) adjustable pot (roll centering) located under the lower right hand attaching screw on the Turn Coordinator/Roll Computer.

1. Fly the aircraft to smooth air, and trim for level flight. Remove the lower right hand attach screw.
2. Check autopilot circuit breaker "IN" and toggle AP master to "ON" position.
3. Maneuver aircraft to desired radial on OBS, and engage "TRK LO" mode on the Turn Coordinator/Roll Computer. Allow aircraft time to establish on course.
4. Check roll center adjustment in "TRK LO" mode and fine adjust (if necessary) to fly a centered needle.
5. If directional gyro or heading system is installed, center heading bug and engage HDG mode on the Turn Coordinator/Roll Computer. Check heading bug centered $\pm 3^\circ$.

NOTE: Roll centering pot is a 3 turn pot and should be adjusted in very small increments. Allow sufficient time between adjustments for system to stabilize. Clockwise rotation of pot produces right turn and counterclockwise rotation produces left turn.

6. Replace lower right hand attaching screw in Turn Coordinator/Roll Computer.
7. Conduct a functional (operational) test of the system. Refer to the POH Supplement for operational information.

NOTE: If rudder is incorrectly trimmed, the autopilot will cause the aircraft to fly with a wing low in an effort to maintain the selected heading.

SYSTEM 30

GROUND CHECKS:

1. Turn aircraft master and radio master "ON", as required, to provide system voltage to the autopilot circuit breaker.
2. Check autopilot circuit breaker "ENGAGED."
3. Toggle AP master to "ON". Observe all lights and annunciators illuminate. When turn coordinator gyro has reached operational RPM the "RDY" light will illuminate. After "RDY" light illuminates, push and release the mode select knob, STB will illuminate. Rotate the turn command knob left then right. Note that the control wheel follows commanded input.

NOTE: When a heading system is installed, center the heading bug under the indice on the heading instrument. Center the turn command knob and push and release knob; "HDG" will illuminate. Rotate the heading bug on the heading instrument. to the right, then to the left of the center indice and note that the control wheel follows direction of commanded input. Center heading bug on indice.

4. Tune the NAV receiver to the local OMNI Station or simulated signal and center the needle on the OBS/CDI instrument. Select "TRK LO" mode by pushing the mode select knob and rotate the OMNI bearing selector right and then left. Control wheel should move right with right needle deflection and left with left needle deflection. Perform the same test with the system in the "TRK HI" mode.
5. With NAV needle centered, scroll back to the "TRK LO" mode. Remove the lower right hand attaching screw on the Turn Coordinator/Roll Computer. Adjust the roll centering (3 turn pot accessible through the lower right hand attaching screw of the Turn Coordinator/Roll Computer). Adjust for zero roll servo activity with centered CDI needle.
6. If the Optional Mode Select Switch is installed, depress the switch and ensure that the A/P Mode (Roll only) changes simultaneously when the switch is depressed.
7. Move elevator control to neutral and depress "Alt. Engage/Disengage" switch to engage "ALT" mode (pitch). "ALT" annunciation on turn coordinator/roll computer will illuminate.
8. Overpower - Grasp control wheel and overpower autopilot in both roll and pitch. Be alert that no excessive play exists in the control system and/or between the control system and the roll and pitch servos.

9. Trim Test - Apply forward pressure (nose DN) to elevator control and hold for 3 seconds (minimum) - the "UP" annunciator will illuminate steady with the audio horn for 5 seconds and then cycle on-off approximately every 1/2 second. Apply aft pressure on the control wheel (nose UP) and hold for 3 seconds (minimum) - observe same light indication on the "DN" annunciator.
10. The altitude hold engage/disengage switch is installed in pilot's control wheel, depress once. "ALT" annunciation will extinguish. Move wheel fwd and aft and ensure that pitch servo has disconnected. Depress switch again and note that "ALT" annunciation illuminates and pitch servo re-engages.
11. If optional AP disconnect switch is installed in pilot's control wheel, depress once. If the A/P Disconnect switch is not installed, push and hold the mode select knob for approximately 2 seconds and the A/P will automatically disconnect. Note that roll and pitch servos disengage and all mode annunciations extinguish. Hold control wheel.
12. Toggle autopilot master switch to "OFF".

FLIGHT ADJUSTMENTS:

The in-flight adjustments for this system consist of one (3 turn) adjustable pot (roll centering) located under the lower right hand attaching screw on the Turn Coordinator/Roll Computer.

1. Fly the aircraft to smooth air, and trim for level flight. Remove the lower right hand Turn Coordinator/Roll Computer attach screw.
2. Check autopilot circuit breaker "IN" and toggle AP master to "ON" position.
3. Maneuver aircraft to desired radial on OBS, and engage "TRK LO" mode on the Turn Coordinator/Roll Computer. Allow aircraft time to establish on course.
4. Check roll center adjustment in "TRK LO" mode and fine adjust (if necessary) to fly a centered needle.
5. If directional gyro or heading system is installed, center heading bug and engage HDG mode on the Turn Coordinator. Check heading bug centered $\pm 3^\circ$.

NOTE: When a heading system is installed, center the heading bug under the indice on the heading instrument. Center the turn command knob and push and release knob; "HDG" will illuminate. Rotate the heading bug on the heading instrument. to the right, then to the left of the center indice and note that the control wheel follows direction of commanded input. Center heading bug on indice.

6. Replace lower right hand attaching screw in Turn Coordinator/Roll Computer.
7. Conduct a functional (operational) test of the system. Refer to the POH Supplement for operational information.

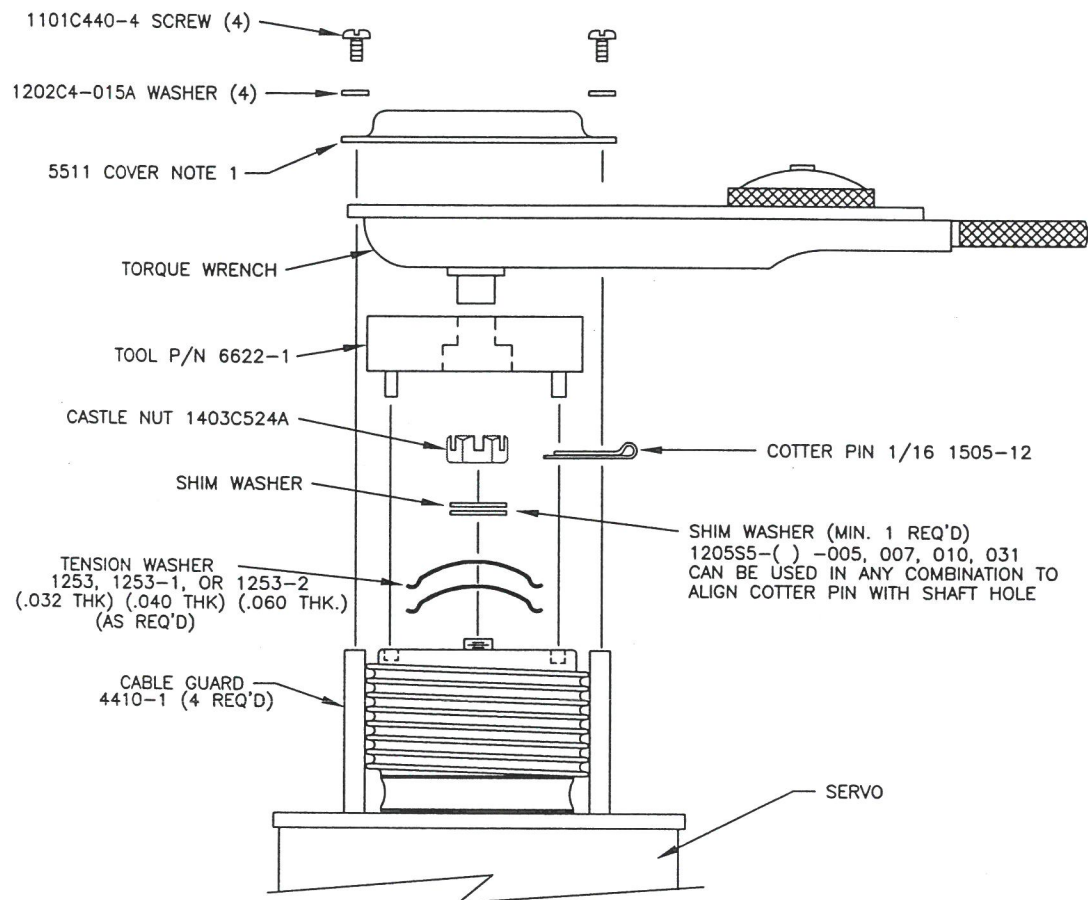
NOTE: If rudder is incorrectly trimmed, the autopilot will cause the aircraft to fly with a wing low in an effort to maintain the selected heading.

PITCH SECTION:

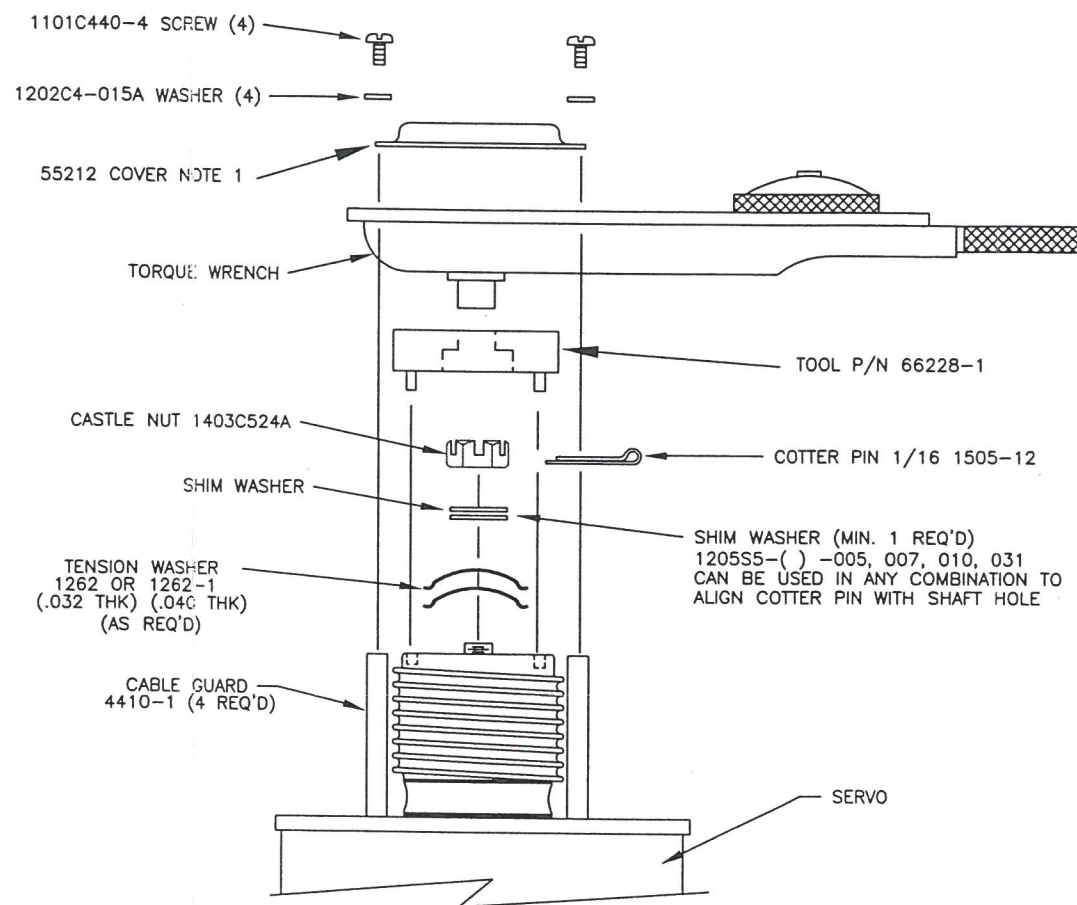
The pitch section does not require flight adjustments. Operate the pitch section in accordance with the instructions provided in the pitch section of the POH Supplement information provided in this installation kit.

NOTES:
 1. AFTER THE SERVO CAPSTAN COVER (5511 OR 55212) HAVE BEEN INSTALLED, DETERMINE THAT THERE IS NO INTERFERENCE BETWEEN CAPSTAN AND COVER.

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
-	RELEASED PER E.O. 191	3-27-80	R WADE
A	REV PER EO 1582	9-12-85	T. PIERSON
B	REV PER EO 1827	12-3-86	T. PIERSON
C	REV PER EO 7183	8-24-98	J FROST




SETUP FOR REGULAR
CAPSTAN



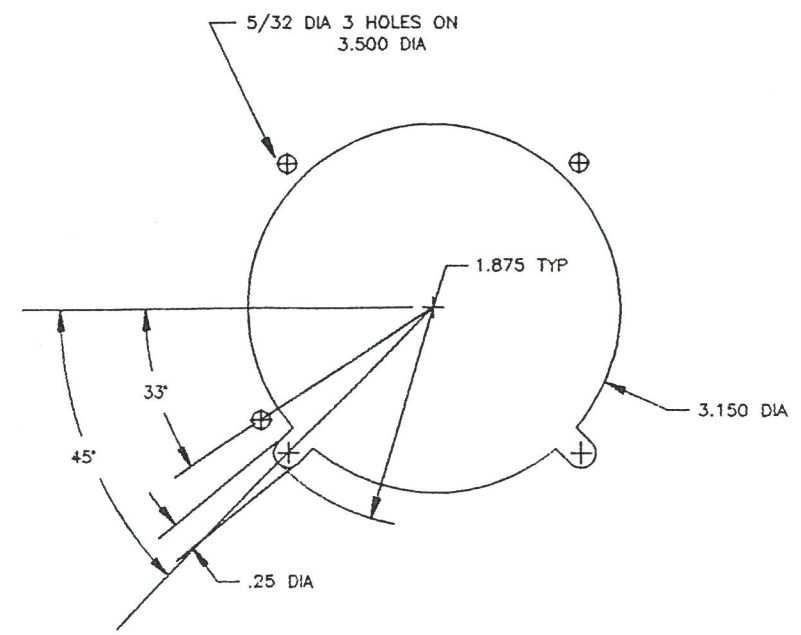
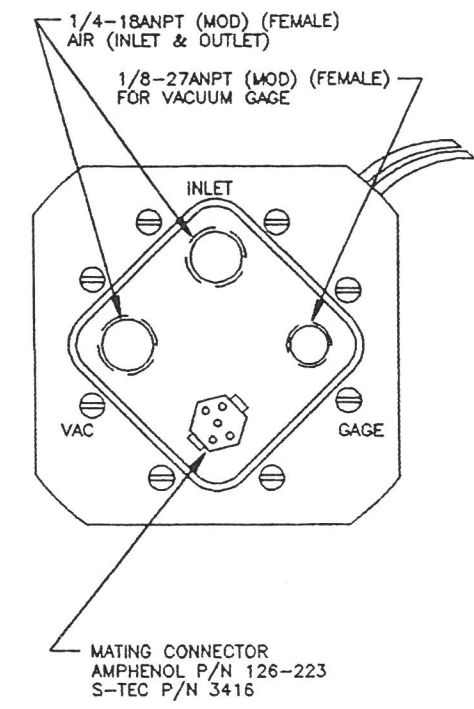
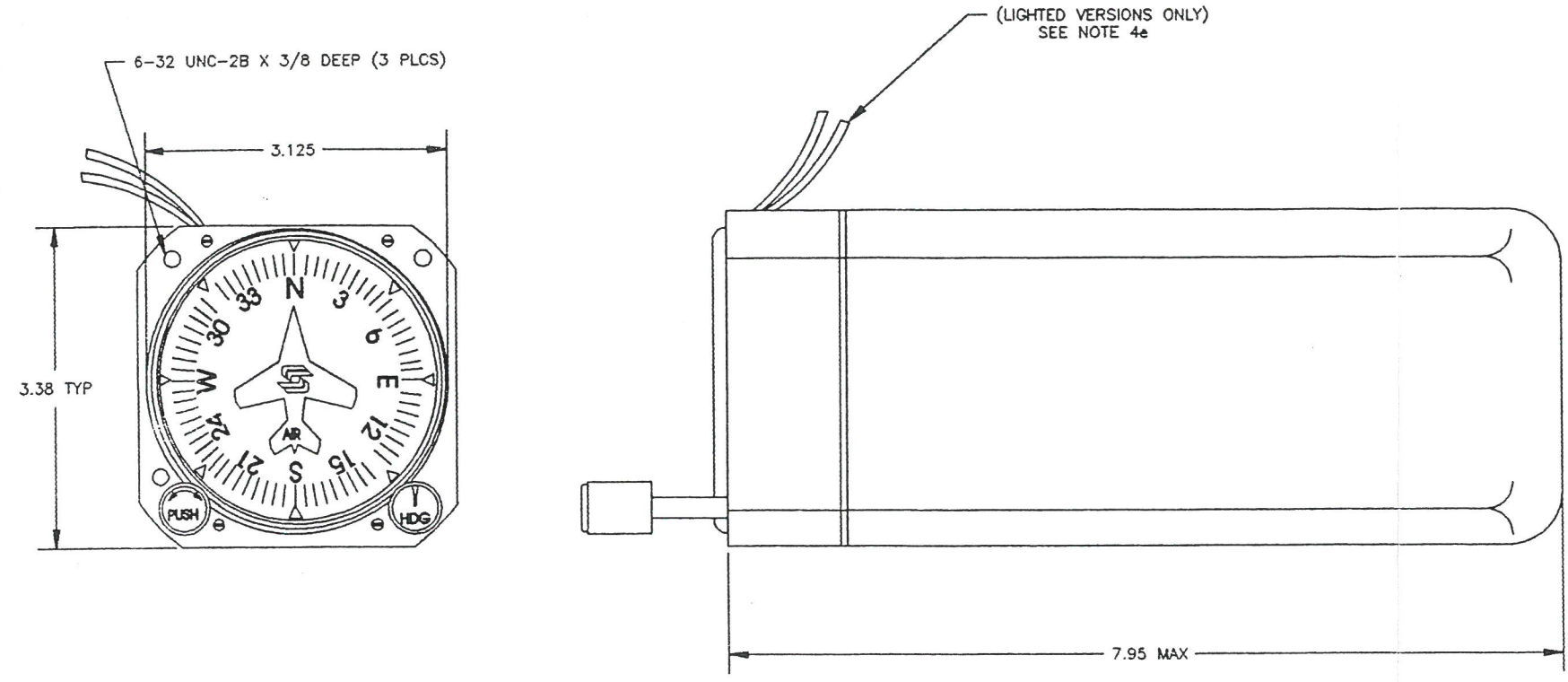
SETUP FOR SMALL
CAPSTAN

QTY	ITEM	PART NUMBER	DESCRIPTION
2			
1			

LIST OF MATERIALS

APPROVAL	DATE	 STEC Corporation One S-TEC Way Municipal Airport Mineral Wells, Tx. 76067-9236	TITLE PROCEDURE. CLUTCH TORQUE ADJUSTMENT	
DRAWN	3-24-80			
CHECKED	3-26-80			
ENGINEER	3-25-80			
APPROVED	3-26-80	SIZE B	DRAWING NO. 0503	REV C
NEXT ASSY	USED ON	SCALE N/A	DO NOT SCALE DRAWING	SHEET 1 of 1
APPLICATION				

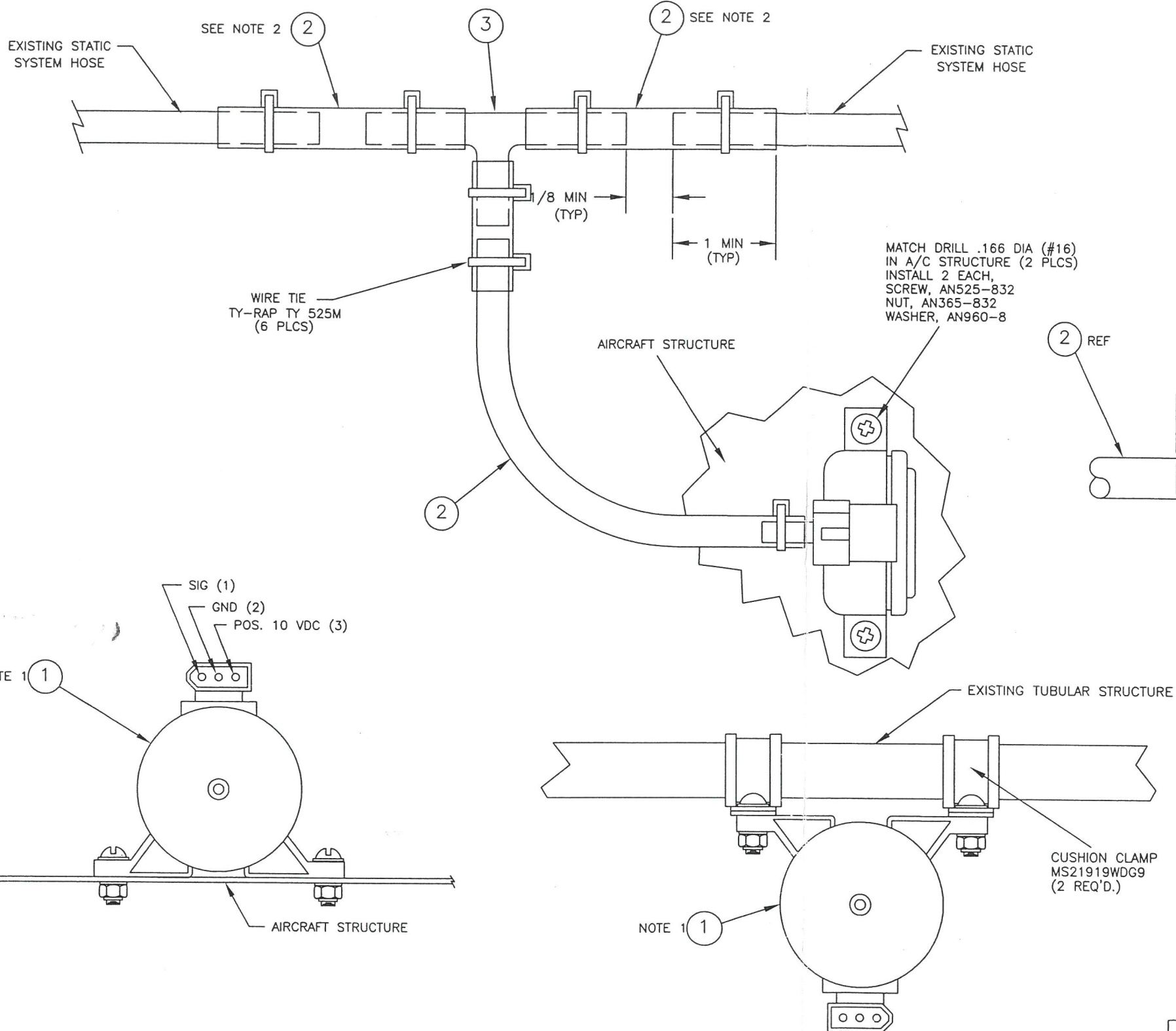
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
-	RELEASED PER E.O.		
C	REDRAW PER EO 1384	12-4-84	T. PIERSON
D	REDRAWN PER EO 4266	10-4-93	T. PIERSON
E	REV. PER FEEO 1591	2-14-94	R. TUCKER
F	REV. PER FEEO 1598	4-25-94	R. TUCKER



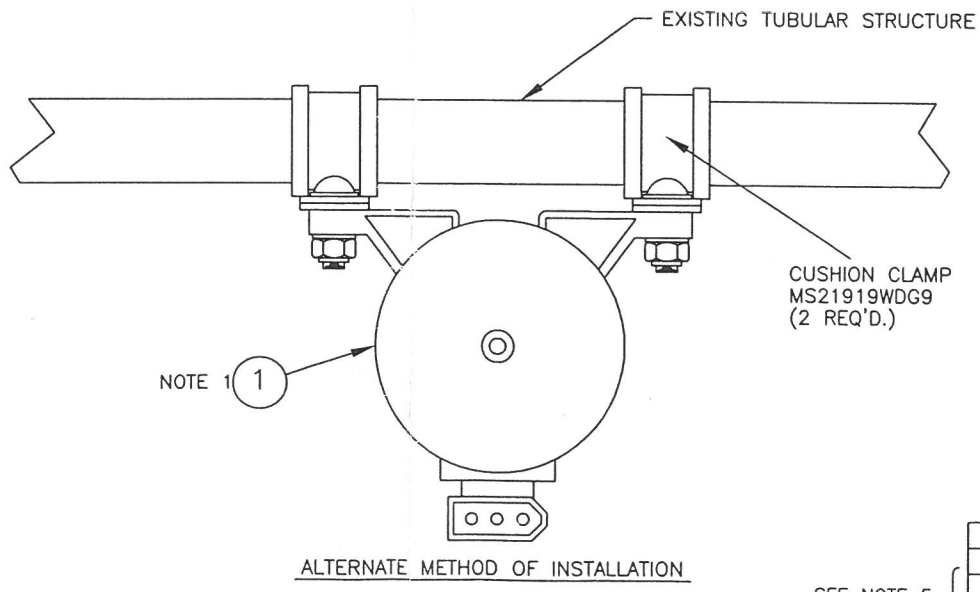
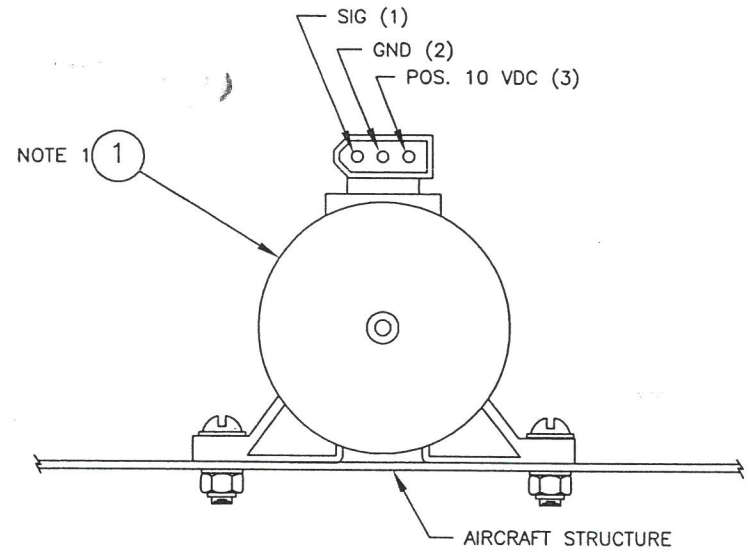
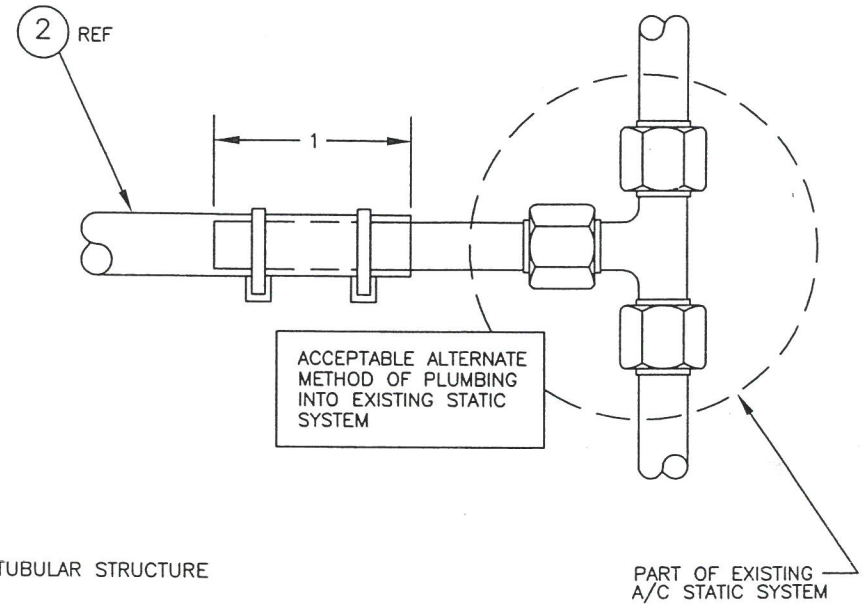
PANEL CUTOUT
(SEE NOTE 5)

- NOTES:
- WEIGHT: 3.4 lb.
 - INPUT REQUIREMENTS: 4.5 - 5.2 IN VACUUM WITH A MINIMUM OF 2.0 CUBIC FEET PER MINUTE OF AIRFLOW THROUGH THE INSTRUMENT.
 - REMOVE CARD SET KNOB TO INSTALL IN PANEL.
 - CAUTION:
 - DO NOT INSTALL THIS INSTRUMENT WITH SCREWS LONGER THAN .38 INCH PLUS PANEL THICKNESS.
 - AIR TO INLET PORT MUST BE FILTERED WITH MINIMUM EFFICIENCY OF 95% ON .3 MICRON PARTICLES.
 - INSPECT CENTRAL FILTER EVERY 100 HOURS.
 - WHEN INSTALLING HOSE FITTINGS, DO NOT EXCEED 25 IN LB'S OF TORQUE.
 - ON LIGHTED INSTRUMENT CONNECT WHITE LEAD TO AIRCRAFT INSTRUMENT LIGHT RHEOSTAT AND BLACK LEAD TO AIRCRAFT GROUND.
 - ENSURE PROPER CLEARANCE IS MAINTAINED FROM OTHER INSTALLATIONS IN PANEL BEFORE MAKING CUTOUT. REMAINING PANEL MATERIAL BETWEEN THIS CUTOUT AND ADJACENT CUTOUTS SHALL NOT BE LESS THAN THAT BETWEEN EXISTING INSTRUMENTS.

APPROVED	1-18-80	S-TEC CORPORATION FT. WOLTERS, TX	TITLE	
DRAWN R. WADE	1-18-80			INSTALLATION, DIRECTIONAL GYRO
CHECKED PWG	1-18-80			
ENGINEER E.C.	1-18-80			
APPROVED HWH	1-18-80			
DO NOT SCALE DRAWING		SIZE	DRAWING NO.	
BULLETIN 600	MATERIAL	C	7602	
NEXT ASSY	USED ON	SCALE 1=1	SHEET 1 of 1	
APPLICATION	FINISH			



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
-	RELEASED PER E.O. 268	6-2-80	R WADE
C	REDRAWN PER EO 1963	5-26-87	T. PIERSON
D	REV PER FEEO 972	7-30-87	MN
E	REV PER FEEO 1369	7-8-92	RT
F	REV PER FEEO 1431	1-4-93	RT
G	REDRAWN PER EO 4266	10-4-93	K. HALE
H	REV. PER FEEO 1589	4-11-94	R.T.
I	REV. PER FEEO 2068	8-29-97	<i>J.L.</i>



- NOTES:
1. TRANSDUCER MUST BE INSTALLED WITH HOSE BIB IN A HORIZONTAL PLANE.
 2. REMOVE 2 INCH SECTION OF EXISTING STATIC LINE FORWARD OF INSTRUMENT PANEL AND INSTALL (ITEM 3) TEE, AND CONNECT TO (ITEM 1) TRANSDUCER.
 3. FOR THOSE AIRCRAFT THAT USE 1/4 INCH HOSE IN STATIC SYSTEM DELETE SHORT SECTIONS OF (ITEM 2) HOSE AND CONNECT DIRECTLY TO (ITEM 3) TEE.
 4. STATIC SYSTEM CONNECTIONS AND HOSE ROUTING MUST BE ACCOMPLISHED IN A MANNER THAT WILL PRECLUDE THE ADDITION OF ANY LOW SPOTS IN THE EXISTING STATIC SYSTEM.
 5. REFER TO PARTS LIST SECTION IF INSTALLATION BULLETIN FOR SPECIFIC PART NO. REQUIRED FOR A PARTICULAR AIRCRAFT.

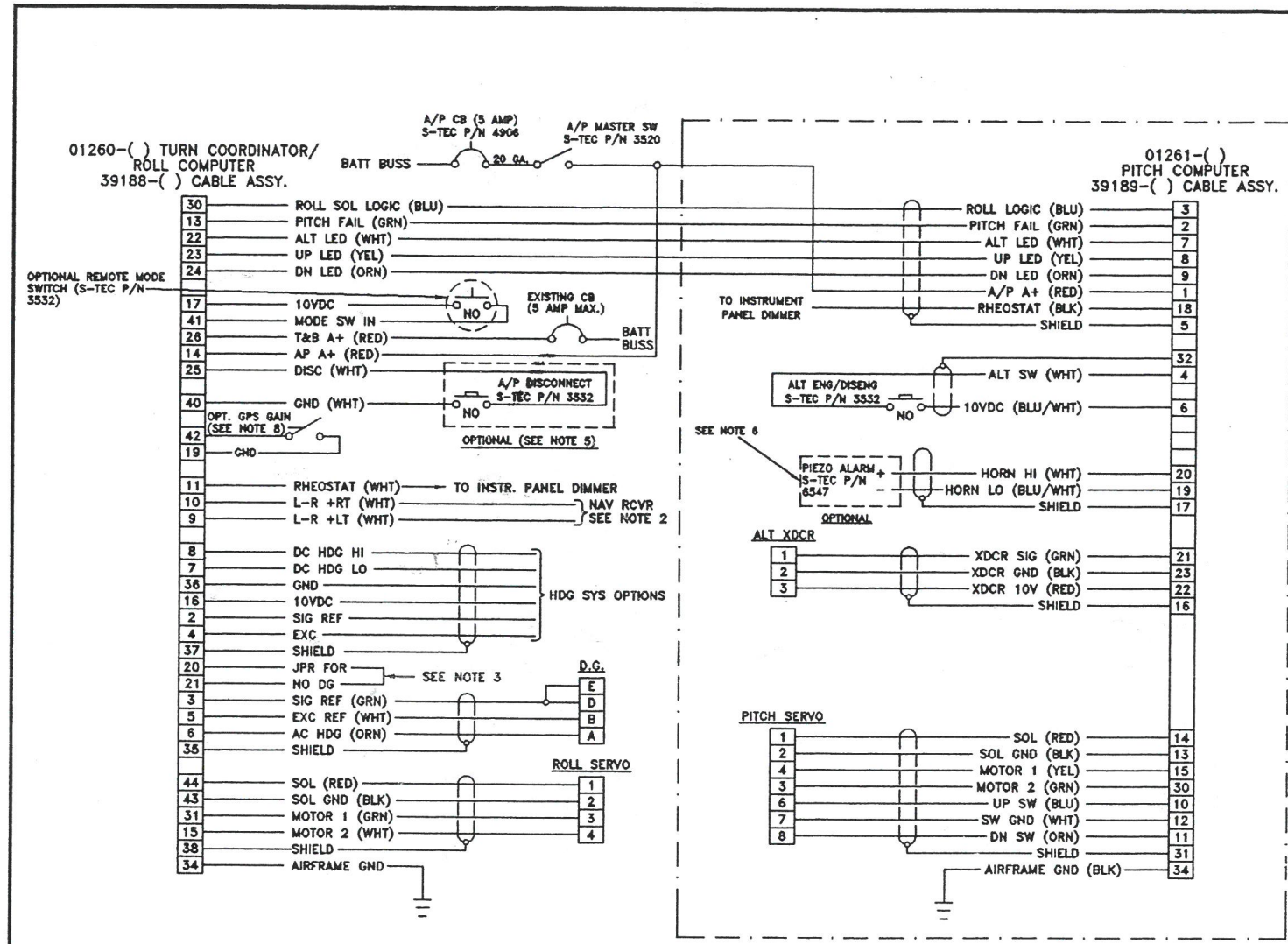
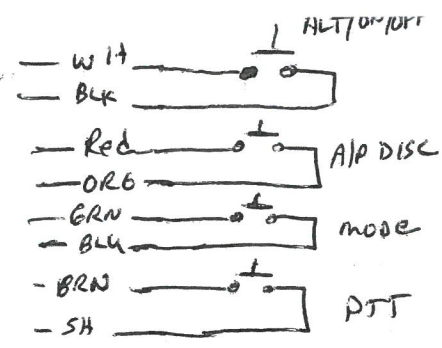
SEE NOTE 5

QTY	ITEM	PART NUMBER	DESCRIPTION
1	3	4120 OR 4134	TEE
1	2	0807 OR 0807-1	HOSE, 3/8" LONG
1	1	0111	TRANSDUCER

LIST OF MATERIALS

DRAWN J SWINSON	5-29-80	S-TEC CORPORATION FT. WOLTERS, TX
CHECKED E.C.	5-29-80	
ENGINEER P.G.	6-2-80	
APPROVED J.I.	6-2-80	
TITLE		INSTALLATION, TRANSDUCER
SIZE	C	DRAWING NO.
		7624
SCALE NA		SHEET 1 of 1

ST-138	ST-087	ST-053	TOLERANCES UNLESS OTHERWISE SPECIFIED
ST-131	ST-079	ST-052	DECIMAL: XX: +/- .005
ST-128	ST-065	ST-051	DECIMAL: XX: +/- .010
ST-116	ST-057	ST-050	FRACTIONS: +/- 1/64
ST-111	ST-056	ST-049	ANGLES: +/- 0° 30'
ST-285	ST-099	ST-035	REMOVE BURRS
ST-185	ST-090	ST-054	BREAK SHARP EDGES .010
USED ON	USED ON	BUL 100	DO NOT SCALE DRAWING
			MATERIAL
			FINISH
			APPLICATION



ADDITIONAL WIRING TO ADD PITCH SECTION

- NOTES:**
- FIELD FABRICATED WIRING TO BE 22 GA. MINIMUM (UNLESS OTHERWISE NOTED) AND MUST MEET OR EXCEED THE REQUIREMENTS OF MIL-W-22759/18. ALL WIRING TO BE ROUTED & SECURED IN ACCORDANCE WITH AC43.13-1A, CHAPTER 11, SECTION 7.
 - REFER TO RADIO MANUFACTURER'S SERVICE AND/OR INSTALLATION INFORMATION FOR SPECIFIC INTERCONNECT INFORMATION.
 - REMOVE JUMPER ACROSS PINS 20 & 21 OF THE TURN COORDINATOR/ROLL COMPUTER CONNECTOR WHEN OPTIONAL DIRECTIONAL GYRO OR A HEADING SYSTEM IS BEING INSTALLED.
 - WHEN A HEADING SYSTEM IS INSTALLED, REFER TO HEADING SYSTEM INTERCONNECT DETAILS (DWG. NO. 10114) & HEADING SYSTEM MANUFACTURERS SERVICE AND/OR INSTALLATION INTERCONNECT INFORMATION. REFER TO DWG. NO. 0570 FOR MODIFICATION REQUIRED TO ROLL BOARD OF TURN COORDINATOR/ROLL COMPUTER.
 - THE A/P DISCONNECT IS AN OPTIONAL COMPONENT. IF THE A/P DISCONNECT IS NOT USED CAP OFF THE ENDS OF THE WIRES MARKED "A/P DISCONNECT" & TIE BACK INTO WIRING BUNDLE.
 - A REMOTELY MOUNTED AUDIBLE ALARM (PIEZO ALARM, S-TEC P/N 6547) IS REQUIRED TO PROVIDE AN AUDIBLE "ELEVATOR OUT OF TRIM" INDICATION WHEN THE PITCH COMPUTER IS LOCATED OUTSIDE THE CABIN AREA.
 - ATTACH 5279 SOCKETS TO WIRE (WHERE APPLICABLE) USING 6810 CRIMPING TOOL & 6811 INSERT.
 - PIN 42 TO GND ENABLES GPS TRACK GAIN SETTING. USE ONE SET OF CONTACTS ON THE EXTERNAL AP SELECT SWITCH FOR NAV/GPS.

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
-	RELEASED PER E.O. 6099	1-6-97	W.DAVIS
A	REV. PER EO 6384	5-6-97	M.KEIRNAN
B	REV. PER EO 6444	7-21-97	M.KEIRNAN
C	REV. PER EO 6548	9-30-97	M.KEIRNAN
D	REV. PER EO 6692	12-23-97	J.FROST
E	REV. PER EO 6780	2-20-98	J.FROST

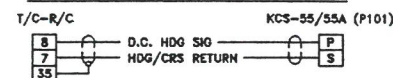
LIST OF MATERIALS	
QTY	DESCRIPTION
2	
1	

APPROVAL	DATE	<p>STEC Corporation One S-TEC Way Municipal Airport - Mineral Wells, Tx. 78067-9298</p>
DRAWN R.TUCKER	9-19-96	
CHECKED J.MOORE	9-19-96	
ENGINEER M.KEIRNAN	1-5-97	
APPROVED E.CAMERON	1-6-97	<p>TOLERANCES UNLESS OTHERWISE SPECIFIED</p> <p>DECIMAL: 100: +/- .005 DECIMAL: 20: +/- .010 FRACTIONS: +/- 1/64 ANGLES: +/- 0° 30' REMOVE BURRS BREAK SHARP EDGES .010</p>

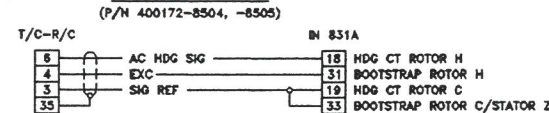
TITLE	
SCHEMATIC, EXTERNAL WIRING INTERCONNECT-SYS. 20/30	
SIZE	REV
C	D
DRAWING NO.	10113
SCALE	DO NOT SCALE DRAWING
N/A	SHEET 1 of 1

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
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A	REV. PER ED 6556	10-8-97	

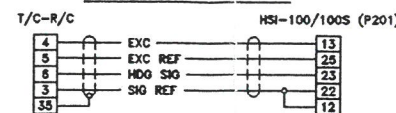
KING KCS-55/55A INTERCONNECT



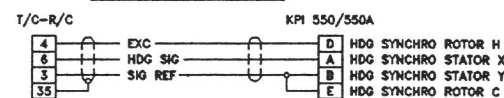
BENDIX IN 831A



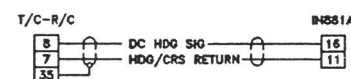
NARCO HSI-100/100S



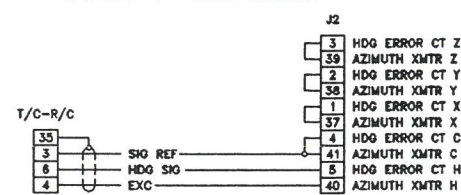
KING KPI 550/550A



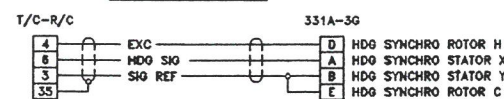
BENDIX HSD 880



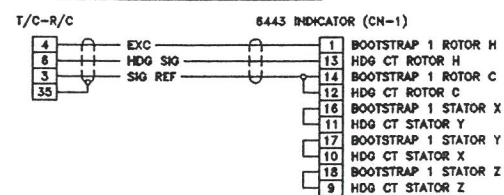
COLLINS HSI 331A-6P/6R



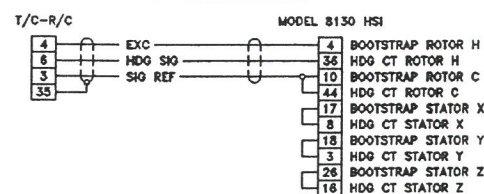
COLLINS PN-101



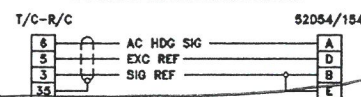
S-TEC HSI 6443 INDICATOR



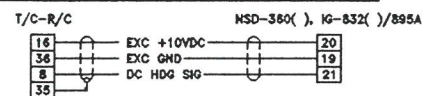
AERONETICS MODEL 8000



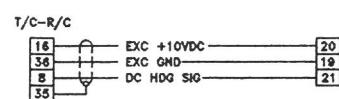
EDO 52D54 OR 52D154



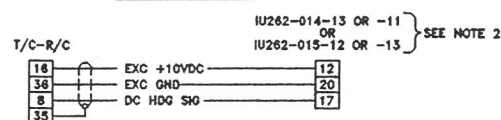
EDO NSD-360/360A, DG-360, CENTURY NSD 1000,
CESSNA ARC IG 832A/IG-832C/IG-895A



SIGMA TEK IU445-004-9



SIGMA TEK DG

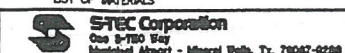


NOTES:

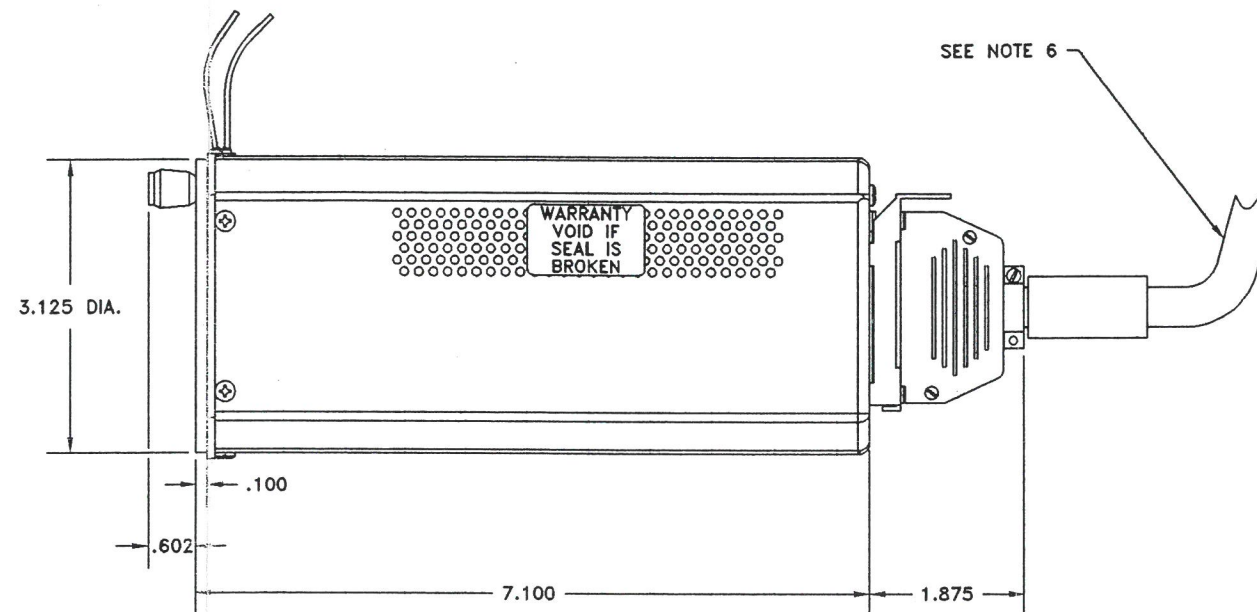
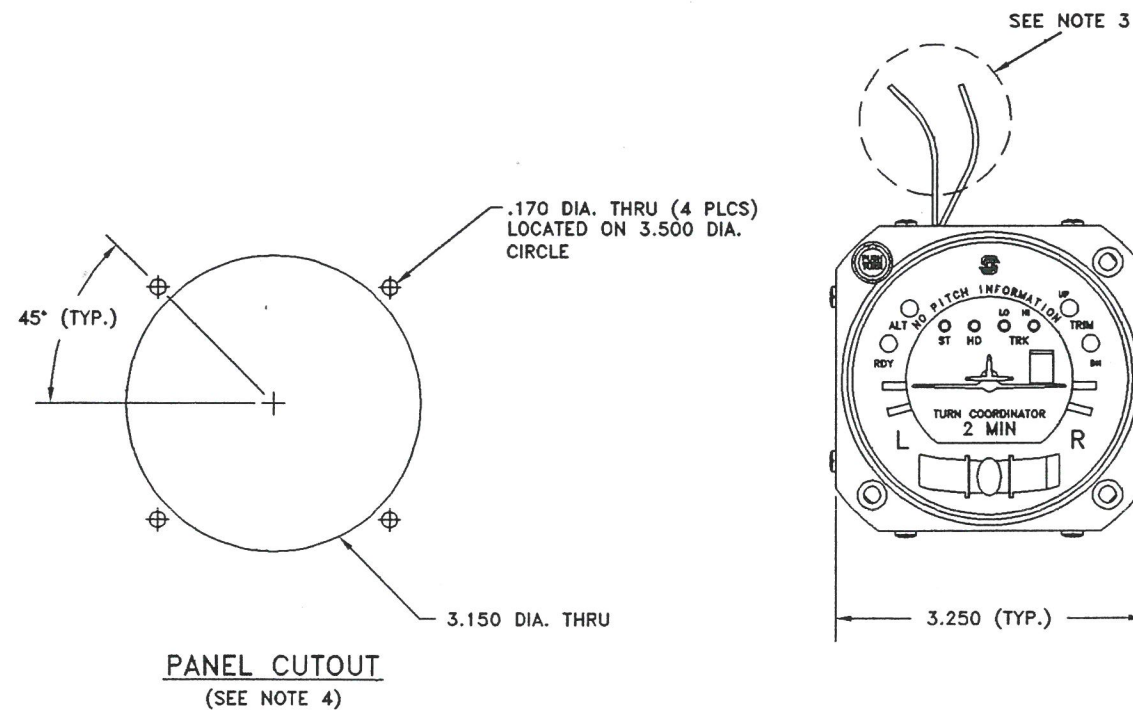
- EXISTING A/P CABLE ASSY. MAY BE USED TO INTERCONNECT SYSTEM TO ROLL COMPUTER TO DESIRED HEADING SYSTEM BY REMOVING D.G. CONNECTOR & CONNECTING EXISTING WIRES TO HDG INSTRUMENT. RE-PIN PROGRAMMER/ COMPUTER CONNECTOR AS REQUIRED.
- SIGMA-TEK IU262-033-5 OR IU262-034-8; USE STANDARD AUTOPILOT CABLE ASSY. (SAME FOR S-TEC 6406 D.G.).

QTY		ITEM	PART NUMBER	DESCRIPTION
2				
1				

LIST OF MATERIALS			
MATERIAL	APPROVAL	DATE	TITLE
N/A	DRIVEN R. TUCKER	9-17-96	SCHEMATIC, HEADING SYSTEM INTER-CONNECT DETAIL-SYS. 20/30
	CHECKED M. KERNAN	1-5-97	
	ENGINEER J. MOORE	1-5-98	
	APPROVED E. CAMERON	1-6-97	
FINISH	TOLERANCES UNLESS OTHERWISE SPECIFIED		
N/A	DIMENSIONS 100% +/- .005		
	DECIMALS: 12 : +/- .010		
	FRACTIONS: +/- 1/64		
	ANGLES: +/- 0° 30'		
	HOLE DRILLING		
	BREAK SHARP EDGES .010		
N/A	BULLETIN 700		SIZE D
N/A	USED ON		DRAWING NO. 10114
APPLICATION			REV A
			SCALE N/A DO NOT SCALE DRAWING SHEET 1 of 1



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
-	RELEASED PER E.O. 6099	1-6-97	W.DAVIS



NOTES:

1. REMOVE THE EXISTING TURN COORDINATOR FROM THE INSTRUMENT PANEL. MODIFY THE PANEL CUTOUT &/OR MOUNTING HOLE LOCATIONS (IF REQUIRED) & INSTALL THE NEW TURN COORDINATOR/ROLL COMPUTER USING THREE 6-32 SCREWS (5/8 IN. LENGTH MAX).
2. WEIGHT: 2.3 LBS. MAX.
3. CONNECT WHITE LEAD TO AIRCRAFT INSTRUMENT LIGHT RHEOSTAT AND BLACK LEAD TO AIRCRAFT GND.
4. ENSURE PROPER CLEARANCE IS MAINTAINED FROM OTHER INSTRUMENTS IN PANEL BEFORE MAKING CUTOUT. REMAINING PANEL MATERIAL BETWEEN THIS CUTOUT AND ADJACENT CUTOUTS SHALL NOT BE LESS THAN THAT BETWEEN EXISTING INSTRUMENTS.
5. REFER TO PARTS LIST SECTION OF INSTALLATION MANUAL FOR TURN COORDINATOR/ROLL COMPUTER P/N.
6. ROUTE THE ELECTRICAL CABLE & SECURE IN ACCORDANCE WITH AC43.13-1A CHAPTER 11, SECTION 7. REFER TO ELECTRICAL SECTION OF THE AUTOPILOT INSTALLATION BULLETIN FOR ADDITIONAL ELECTRICAL INFORMATION.

QTY	ITEM	PART NUMBER	DESCRIPTION
2			
1			

LIST OF MATERIALS

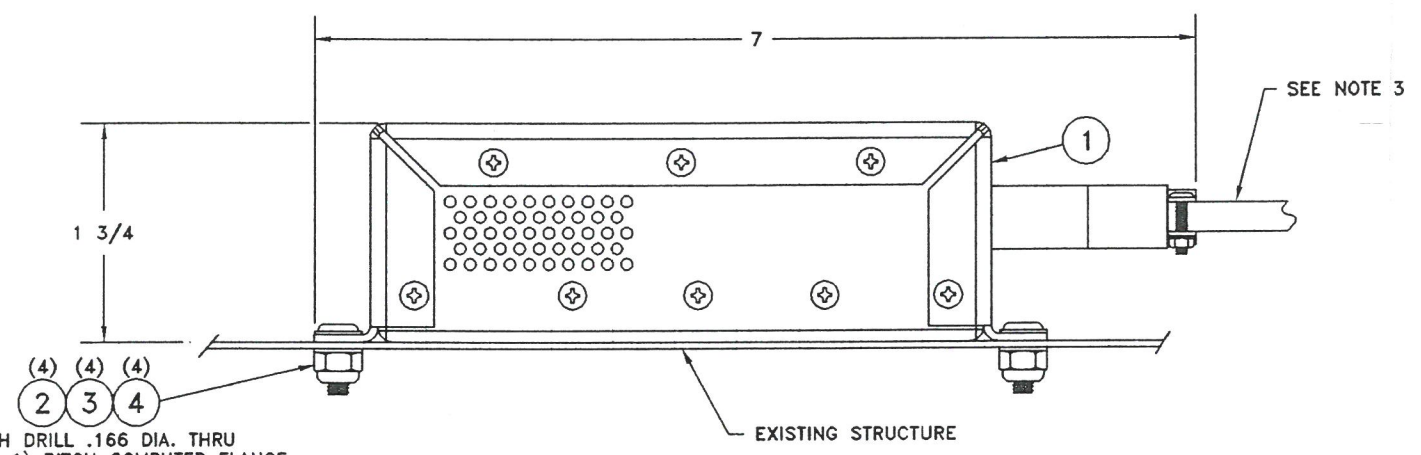
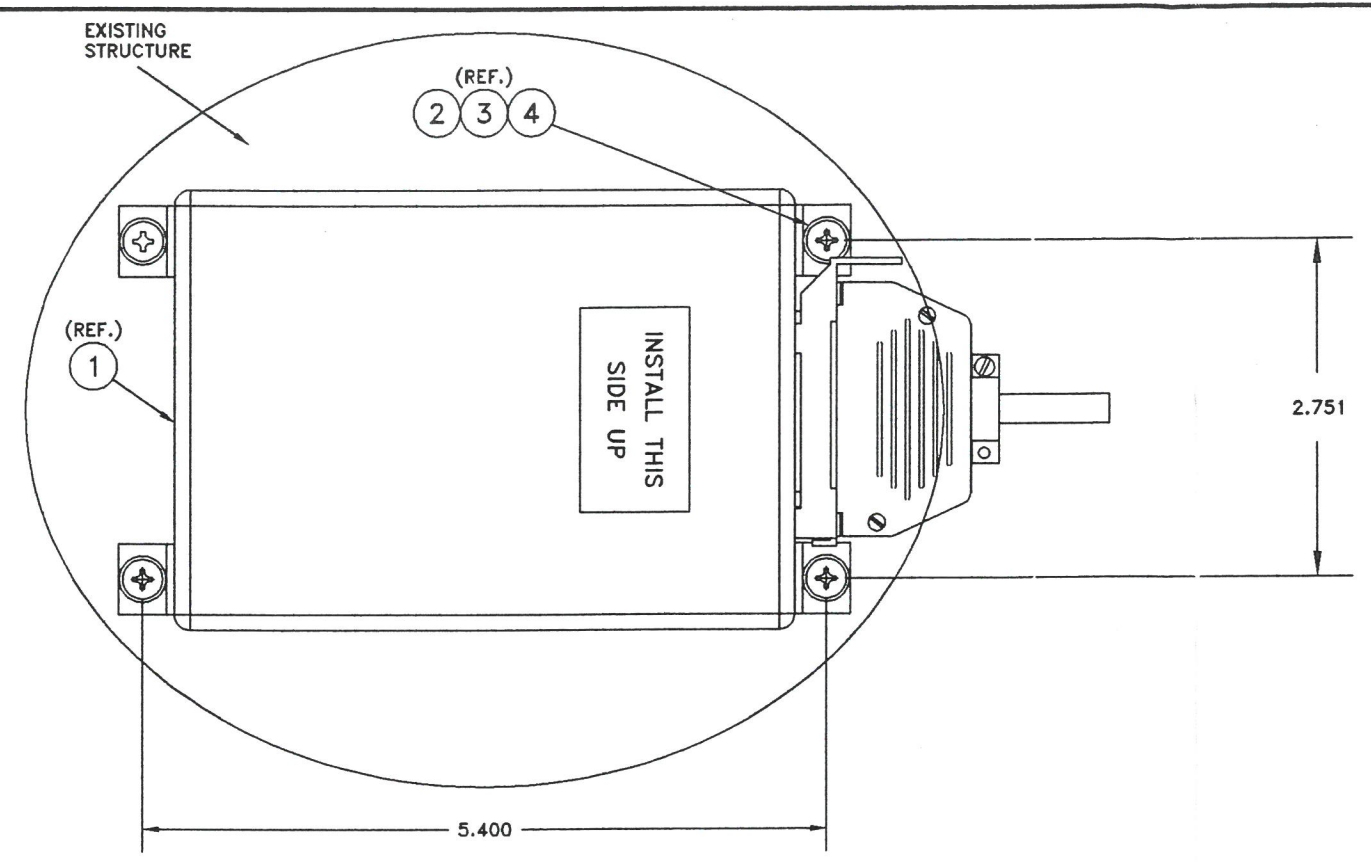
APPROVAL	DATE	STEC Corporation One 8-TEC Way Municipal Airport - Mineral Wells, Tx. 76067-9236
DRAWN R.TUCKER	9-18-96	
CHECKED J.MOORE	9-18-96	
ENGINEER M.KEIRNAN	1-5-97	
APPROVED E.CAMERON	1-6-97	

TOLERANCES UNLESS OTHERWISE SPECIFIED
 DECIMAL: XXX: +/- .005
 DECIMAL: XX: +/- .010
 FRACTIONS: +/- 1/64
 ANGLES: +/- 0° 30'
 REMOVE BURRS
 BREAK SHARP EDGES .010

TITLE		INSTALLATION, TURN COORDINATOR/ROLL COMPUTER	
SIZE	DRAWING NO.	REV	
C	76895		
SCALE	3/4	DO NOT SCALE DRAWING	SHEET 1 of 1

MATERIAL	N/A
FINISH	N/A
N/A	BULLETIN 700
NEXT ASSY	USED ON
APPLICATION	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
-	RELEASED PER E.O. 6099	1-6-97	W.DAVIS



MATCH DRILL .166 DIA. THRU
(ITEM 1) PITCH COMPUTER FLANGE
AND EXISTING STRUCTURE
(4 PLCS)

- NOTES:**
1. LOCATE AN AREA FORWARD OF THE INSTRUMENT PANEL WITH A CLEAR AREA ADEQUATE TO INSTALL THE PITCH COMPUTER (APPROXIMATELY 6 INCHES). THE SELECTED LOCATION SHALL HAVE ADEQUATE STRUCTURE TO SUPPORT THE UNIT AND ITS WIRING. (REF. AC43.13-2A, CH. 1, 2d)
 2. USE THE EXISTING HOLES IN THE FLANGES OF THE PITCH COMPUTER AS A GUIDE TO MARK AND DRILL FOUR EACH .166 DIA. HOLES THROUGH THE STRUCTURE. SECURE PITCH COMPUTER TO STRUCTURE WITH THE HARDWARE CALLED OUT ON DRAWING.
 3. ROUTE THE ELECTRICAL CABLE AND SECURE IN ACCORDANCE WITH AC43.13-1A, CHAPTER 11, SECTION 7. REFER TO ELECTRICAL SECTION OF THE AUTOPILOT INSTALLATION BULLETIN FOR ADDITIONAL ELECTRICAL INFORMATION.
 4. THE PITCH COMPUTER MUST BE INSTALLED WITH THE ATTACHING FLANGES DOWN AND MUST BE LEVEL WITH THE AIRCRAFT'S LATERAL AND LONGITUDINAL AXIS +/- 10°.
 5. REFER TO PARTS LIST SECTION OF INSTALLATION MANUAL FOR PITCH COMPUTER PART NUMBER.
 6. WEIGHT: 1.1 LBS. MAX.

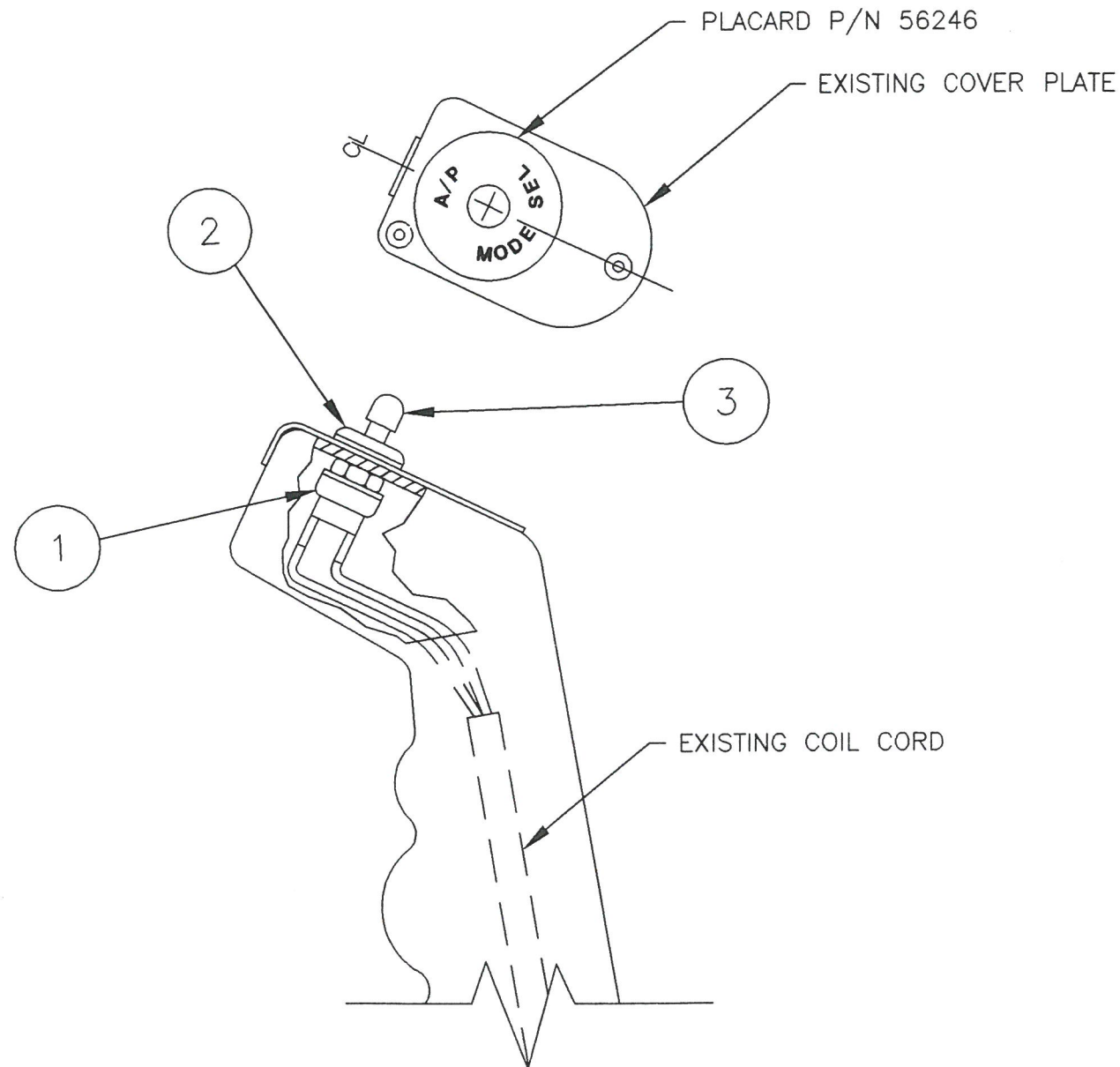
SEE NOTE 5

QTY	ITEM	PART NUMBER	DESCRIPTION
4	4	1406C832A	NUT, AN365-832
4	3	1201C8-031A	WASHER, AN960-8
4	2	1108C832-8A	SCREW, AN525-832R8
1	1	01261-()	PITCH COMPUTER

LIST OF MATERIALS

TOLERANCES UNLESS OTHERWISE SPECIFIED		DRAWN R.T. 9-23-96		S-TEC CORPORATION FT. WOLTERS, TX	
DECIMAL: .xxx: +/- .005		CHECKED J. MOORE 9-23-97			
DECIMAL: .xx: +/- .010		ENGINEER M. KEIRMAN 1-5-97		TITLE INSTALLATION, PITCH COMPUTER	
FRACTIONS: +/- 1/64		APPROVED E. CAMERON 1-6-97			
ANGLES: +/- 0° 30'		DO NOT SCALE DRAWING		SIZE	DRAWING NO.
REMOVE BURRS		MATERIAL		C	76896
BREAK SHARP EDGES .010		FINISH		SCALE	SHEET 1 OF 1
DO NOT SCALE DRAWING		NOTED			
BULLETIN 700		APPLICATION			
NEXT ASSY USED ON		FINISH			
		N/A			

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
-	RELEASED PER E.O. 6099	1-6-97	LU. DAVIS




NOTES:

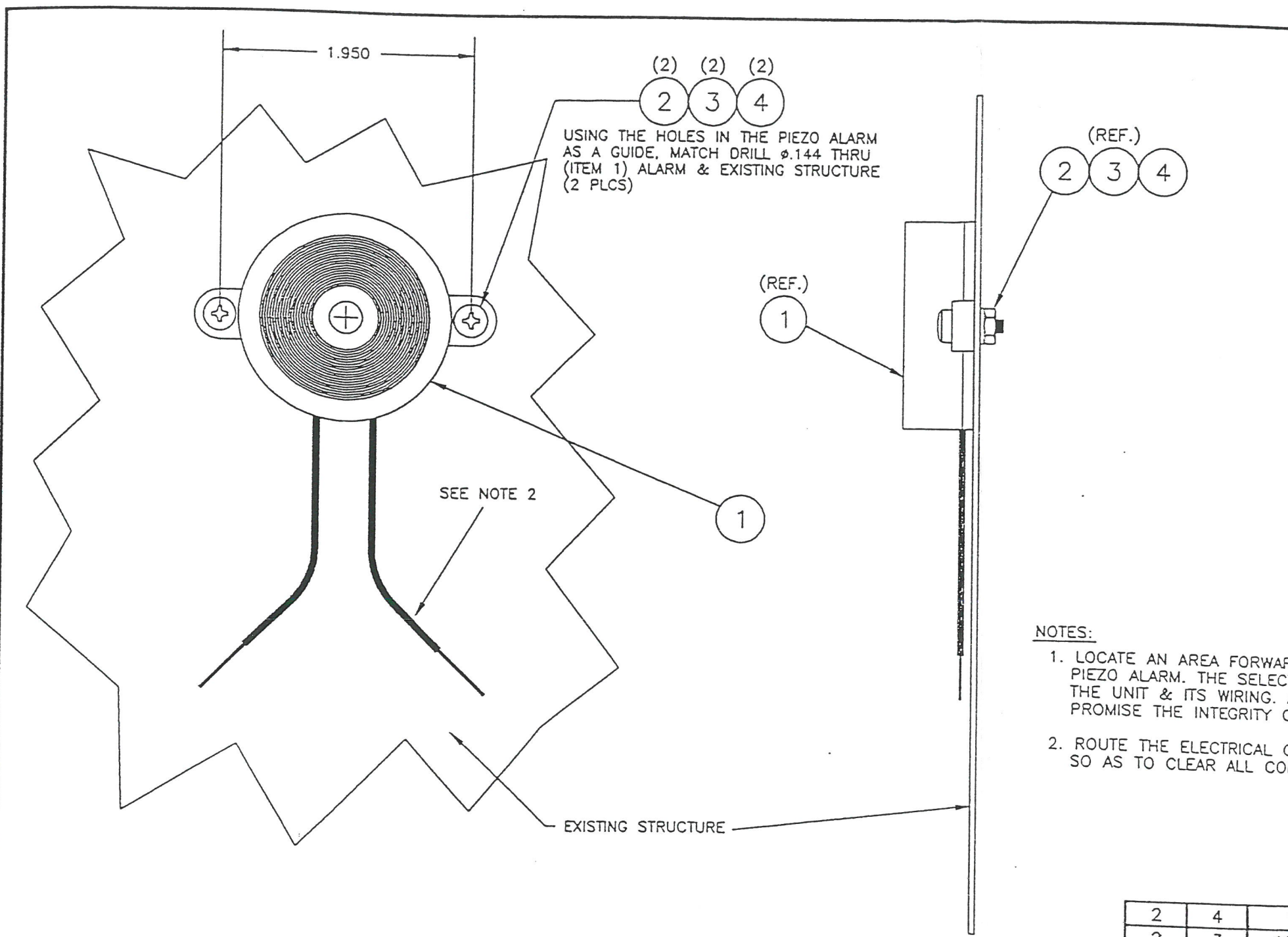
1. INSTALL SWITCH PLUNGER CAP USING A SMALL AMOUNT OF EASTMAN 910 ADHESIVE.
2. USE OPEN WIRES IN EXISTING COIL CORD TO CONNECT SWITCH TO AUTOPILOT ELECTRICAL SYSTEM. ALL SOLDER CONNECTIONS TO BE COVERED WITH HEAT SHRINK TUBING.
3. REFER TO WIRING SECTION OF THE INSTALLATION BULLETIN FOR ELECTRICAL CONNECTION INFORMATION.

QTY	ITEM	PART NUMBER	DESCRIPTION
1	3	5838	SWITCH PLUNGER CAP
1	2	1454	DECORATIVE NUT
1	1	3532	SWITCH, MOM., N.O.

LIST OF MATERIALS

		MATERIAL	TOLERANCES UNLESS OTHERWISE SPECIFIED	APPROVAL	DATE	 STEC Corporation One S-TEC Way Municipal Airport Mineral Wells, Tx. 76067-9236
		NOTED	DECIMAL: XXX: +/- .005 DECIMAL: XX : +/- .010 FRACTIONS: +/- 1/64 ANGLES: +/- 0° 30' REMOVE BURRS BREAK SHARP EDGES .010	DRAWN R.TUCKER	1-6-97	
N/A	BULLETIN 700	FINISH		CHECKED <i>[Signature]</i>	1-6-97	INSTALLATION, A/P MODE SELECT SWITCH
NEXT ASSY	USED ON	N/A		ENGINEER <i>[Signature]</i>	1-6-97	
APPLICATION				APPROVED <i>[Signature]</i>	1-6-97	SIZE B DRAWING NO. 76917 REV
				SCALE N/A DO NOT SCALE DRAWING		SHEET 1 of 1

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
-	RELEASED PER E.O. 6397	5-2-97	<i>[Signature]</i>



NOTES:


1. LOCATE AN AREA FORWARD OF THE INSTRUMENT PANEL WITH A CLEAR AREA TO INSTALL PIEZO ALARM. THE SELECTED LOCATION SHALL HAVE ADEQUATE STRUCTURE TO SUPPORT THE UNIT & ITS WIRING. AVOID ANY MODIFICATIONS THAT WOULD DETERIORATE OR COMPROMISE THE INTEGRITY OF THE AIRCRAFT STRUCTURE.
2. ROUTE THE ELECTRICAL CABLE & SECURE 1/A/W A.C.43.13-1A, CHAPTER 11, SECTION 7, SO AS TO CLEAR ALL CONTROL CABLES.

QTY	ITEM	PART NUMBER	DESCRIPTION
2	4	1406C632A	NUT, AN365-632
2	3	1201C6-031A	WASHER, AN960-6
2	2	1102C632-10A	SCREW, MS35206-231
1	1	6547	PIEZO ALARM, MURATA ERIE#PKB5-3A0

LIST OF MATERIALS

MATERIAL	TOLERANCES UNLESS OTHERWISE SPECIFIED
NOTED	DECIMAL: XXX: +/- .005 DECIMAL: XX: +/- .010 FRACTIONS: +/- 1/64 ANGLES: +/- 0° 30'
FINISH	REMOVE BURRS BREAK SHARP EDGES .010
NONE	

APPROVAL	DATE
DRAWN R.TUCKER	4-22-97
CHECKED <i>[Signature]</i>	4-23-97
ENGINEER A. J. [Signature]	4-24-97
APPROVED D. [Signature]	4-25-97


STEC Corporation
 One 8-TEC Way
 Municipal Airport
 Mineral Wells, TX. 76067-9238

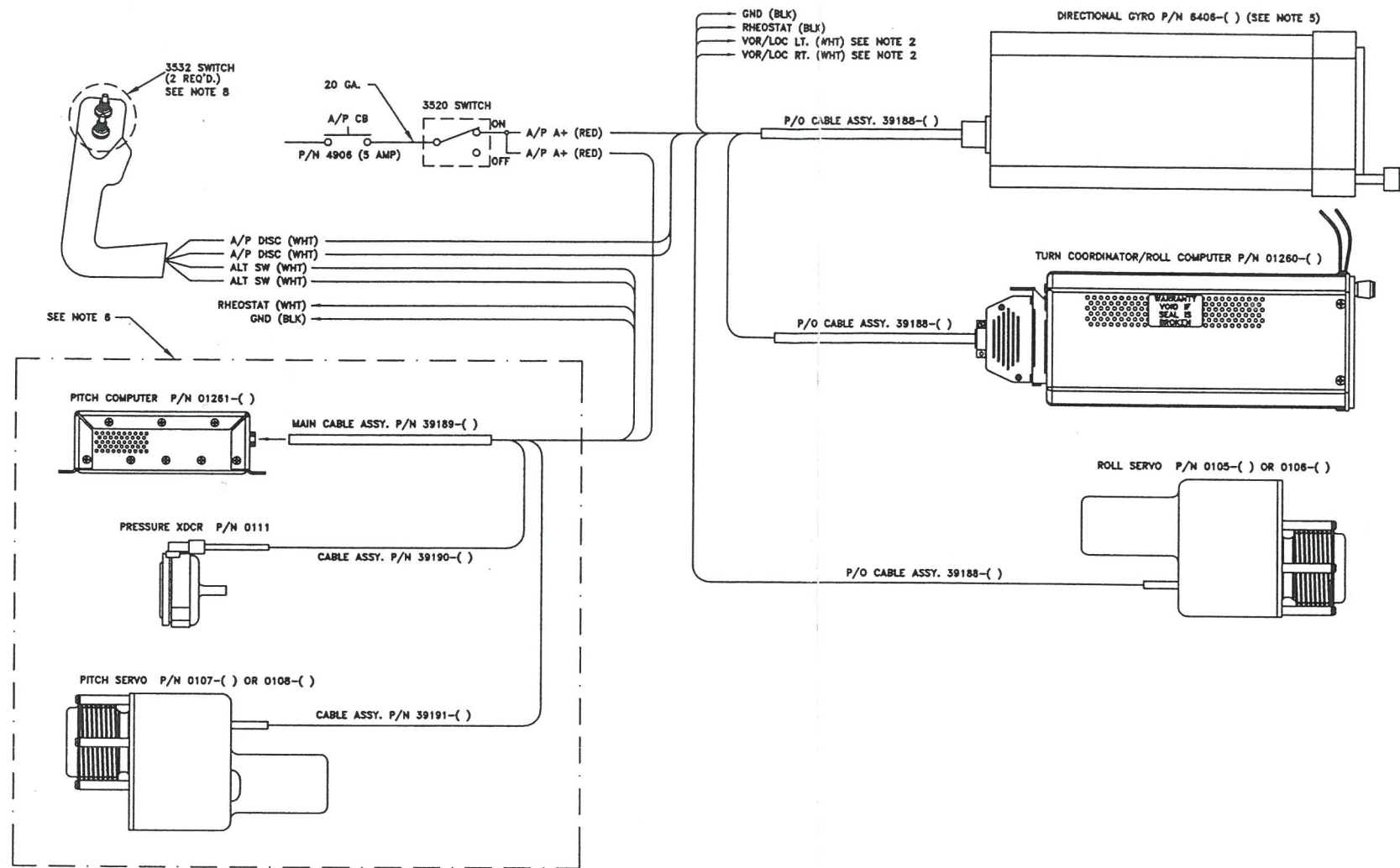
INSTALLATION, PIEZO ALARM
 TITLE

SIZE **B** DRAWING NO. **76925** REV

SCALE N/A DO NOT SCALE DRAWING SHEET 1 of 1

APPLICATION	USED ON
	SYS. 30
NEXT ASSY	

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
-	RELEASED PER E.O. 6099	1-6-97	W.DAVIS
A	REV PER EO 7011	6-17-98	J. Frost



NOTES:

1. ALL FIELD FABRICATED WIRING TO BE 22 GA., UNLESS OTHERWISE NOTED. WIRING MUST MEET OR EXCEED REQUIREMENTS OF MIL-W-22759/16. ALL WIRING IS TO BE ROUTED & SECURED IN ACCORDANCE WITH AC43.13-1A CHAPTER 11, SECTION 7.
2. USE NAVIGATIONAL EQUIPMENT MANUFACTURERS INFORMATION TO DETERMINE RADIO INTERFACE (LEFT/RIGHT INPUTS).
3. THE MAIN CABLE HARNESSES ARE TWO INDEPENDENT HARNESSES. THE 39188-() HARNESS IS FOR THE ROLL AXIS. THE 39189-() HARNESS IS FOR THE PITCH AXIS.
4. THE A/P DISCONNECT (OPTIONAL) & THE ALTITUDE ENGAGE/DISENGAGE SWITCH ARE TO BE INSTALLED IN THE LEFT GRIP OF THE PILOT'S CONTROL WHEEL.
5. THE DIRECTIONAL GYRO IS AN OPTIONAL COMPONENT. IF D.G. IS USED REMOVE JUMPER BETWEEN PINS 20 & 21 AT THE TURN COORDINATOR/ROLL COMPUTER CONNECTOR.
6. WIRING DEPICTED INSIDE DOTTED LINES IS ADDITIONAL WIRING REQUIRED TO ADD PITCH SECTION. (SYSTEM 30)
7. REFER TO PARTS LIST SECTION OF INSTALLATION MANUAL FOR TURN COORDINATOR/ROLL COMPUTER PART NUMBER.
8. ONE SWITCH (P/N 3532) IS REQUIRED FOR ALT. ENGAGE/DISENGAGE WHEN PITCH SECTION IS INSTALLED & ONE FOR OPTIONAL AUTOPILOT DISCONNECT WHEN INSTALLED.

QTY	ITEM	PART NUMBER	DESCRIPTION
2			
1			

LIST OF MATERIALS

APPROVAL	DATE	STEC Corporation One 8-TEC Way Municipal Airport - Mineral Wells, Tx. 76067-9236
DRAWN R.T.	9-20-96	
CHECKED J. MOORE	9-20-96	
ENGINEER M. KEIRNAN	1-5-97	
APPROVED E. CAMERON	1-6-97	

TITLES

**WIRING PICTORIAL,
SYSTEM 20/30**

SIZE	DRAWING NO.	REV
C	99204	A

SCALE N/A DO NOT SCALE DRAWING SHEET 1 of 1

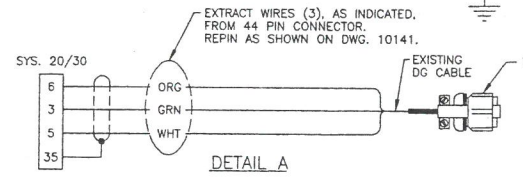
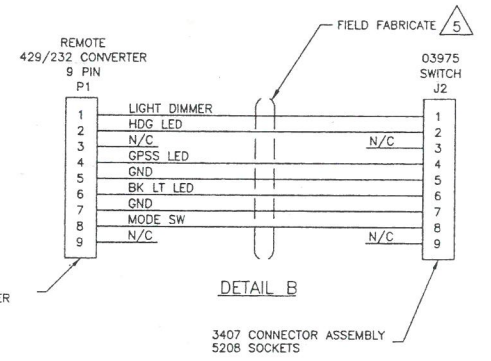
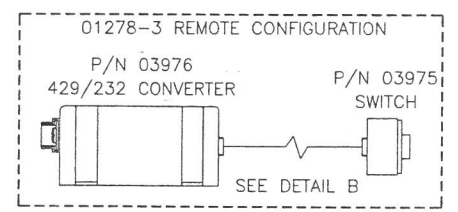
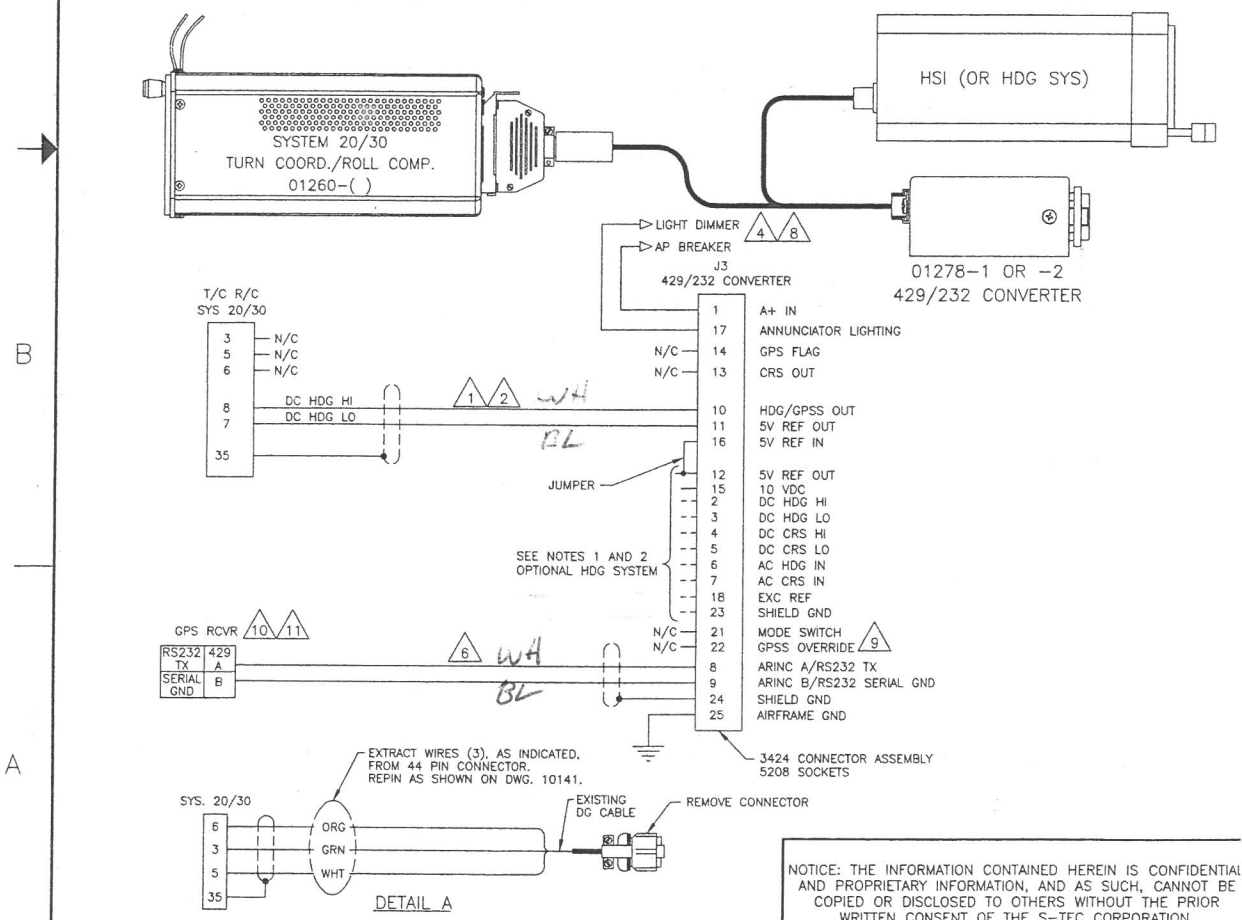
MATERIAL	N/A
FINISH	N/A
APPLICATION	BULLETIN 700 USED ON

TOLERANCES UNLESS OTHERWISE SPECIFIED
 DECIMAL: XXX: +/- .005
 DECIMAL: XX: +/- .010
 FRACTIONS: +/- 1/64
 ANGLES: +/- 0' 30"
 REMOVE BURRS
 BREAK SHARP EDGES .010

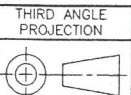
NOTES: UNLESS OTHERWISE SPECIFIED

1. FOR INSTALLATION OF GPSS IN CONJUNCTION WITH A NEW AUTOPILOT, EXISTING DG CABLE MAY BE USED. EXTRACT WIRES FROM TC/ROLL COMP CONNECTOR (SEE DETAIL A) AND INSERT INTO PINS 7 AND 8. REMOVE DG CONNECTOR AND ATTACH TO GPSS CONVERTER AS SHOWN.
FABRICATE HARNESS BETWEEN GPSS CONVERTER AND HEADING SYSTEM. REFER TO HEADING SYSTEM INTERCONNECT DETAILS (DWG. No. 10141) AND HEADING SYSTEM MANUFACTURER'S SERVICE/INSTALLATION INTERCONNECT INFORMATION.
2. FOR RETROFIT TO PREVIOUSLY INSTALLED AUTOPILOT, REMOVE EXISTING HEADING SYSTEM WIRING FROM AUTOPILOT AND ROUTE TO CONVERTER. CONNECT IN ACCORDANCE WITH DWG. No. 10141.
FABRICATE HARNESS BETWEEN GPSS CONVERTER AND AUTOPILOT AS SHOWN.
3. REFER TO DWG. No. 05101 FOR MODIFICATIONS REQUIRED TO ROLL BOARD OF THE PROGRAMMER COMPUTER. REFER TO DWG. No. 0599 FOR MODIFICATIONS REQUIRED TO GPSS CONVERTER FOR DIFFERENT HEADING SYSTEMS.
4. CAUTION: 01278-() S/N 599 AND BELOW: DO NOT CONNECT TO A DIMMING SOURCE THAT ALLOWS A VOLTAGE DROP BELOW 5 VDC. INSTALL A BRIGHT/DIM SWITCH (TOTAL BULB CURRENT DRAIN OF 62 MILLIAMPS) OR JUMPER PIN 17 TO PIN 1 (NO DIMMING).
5. FIELD FABRICATED WIRING MUST MEET OR EXCEED THE REQUIREMENTS OF MIL-W-22759/16, MIL-C-27500 AND BE ROUTED AND SECURED IN ACCORDANCE WITH AC43.13-1B, CHAPTER 11, SECTIONS 8 THROUGH 12. ALL WIRE TO BE 22GA. MINIMUM, UNLESS OTHERWISE NOTED.
6. SHOWN IS PREFERRED INSTALLATION OF 429/232 DATA FOR ALTERNATE INSTALLATION ROUTE 429/232 DATA TO THE AUTOPILOT NAV SELECT SWITCH OR RELAY, SO THE 429/232 DATA (A AND/OR B) OR RS232 (TX AND/OR SERIAL GND) IS OPEN (DISABLING THE GPSS) WHEN AUTOPILOT IS COUPLED TO VOR/LOC OR SEE NOTE 9.
7. WHEN INSTALLATION IS COMPLETED, PERFORM FUNCTIONAL AND E.M.I. CHECKS. REFERENCE INSTALLATION BULLETIN 901 SECTION 111, PAGE 3-1.
8. 01278-() S/N 600A AND ABOVE, CONNECT PIN 17 TO AIRCRAFT LIGHT DIMMER.
9. 01278-(), S/N 600A AND ABOVE: GROUND ON PIN 22 WILL CAUSE GPSS LAMP TO FLASH ON THE CONVERTER HDG/GPSS SWITCH. STEERING DATA TO AUTOPILOT IS UNCOUPLED. PIN 21 CAN BE USED FOR REMOTE SWITCHING BETWEEN HDG AND GPSS, BY MOMENTARILY GROUNDING PIN 21.
10. 01278-() SERIAL NUMBER 5000 AND UP WILL ACCEPT EITHER ARINC 429 OR RS232 ROLL STEERING FROM GPS NAVIGATOR.
11. THE UPS AVIATION TECHNOLOGY GX SERIES NAVIGATORS MUST HAVE SOFTWARE VERSION 3.4 OR GREATER INSTALLED TO PROVIDE ROLL STEERING OUTPUTS COMPATIBLE WITH GPSS 01278-() CONVERTER INTERFACE.

REVISIONS			
REV	DESCRIPTION	APPROVED	DATE
A	PROD REL PER E.O. 8578	M.KEIRNAN	11-22-99
B	REV. PER E.O. 8707	E.YORK	1-17-00
C	REV. PER FECCO 2645	E.YORK	5-25-00
D	REV. PER FECCO 2691	E.YORK	8-11-00
E	REV. PER FECCO 2759	E.YORK	10-30-00
F	REV. PER FECCO 2879	E.YORK	4-11-01
G	REV. PER FECCO 3062	<i>E.York</i>	10-03-01



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TOLERANCES		APPROVAL		DATE	
HOLE:	+0.006	DRAWN:	J.BRICKERT	11-16-99	 One S-TEC Way Mineral Wells, Tx. 76067-9236
DECIMAL:	-0.001	CHECKED:	A.KIDWELL	11-17-99	
DECIMAL:	.XXX: ± .005	ENGINEER:	E.YORK	11-18-99	
DECIMAL:	.XX: ± .01	APPROVED:	M.KEIRNAN	11-19-99	
DECIMAL:	.X: ± .1	TITLE			
ANGLES:	± 1'	WIRING PICTORIAL GPSS 429/232			
SURFACE ROUGHNESS:	125/	CONVERTER INTERFACE SYS. 20/30			
REMOVE ALL BURRS, BREAK SHARP EDGES R.015 MAX. DIMENSIONAL LIMITS APPLY AFTER FINISH/PLATING.		UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES, MILLIMETERS IN BRACKETS.		DRAWING NO. 99261	
BULLETIN 901 USED ON		SCALE NONE		DO NOT SCALE DRAWING SHEET 1 OF 1	
APPLICATION		REV G			

FORM 86281 REV A

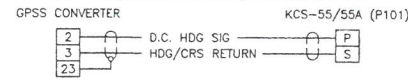
MASTER COPY

NOTES:

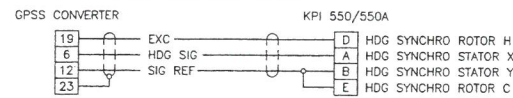
- SIGMA-TEK IU262-033-5 OR IU262-034-6; USE STANDARD AUTOPILOT CABLE ASSEMBLY (SAME FOR S-TEC 6406 D.G.).
- FIELD FABRICATED WIRING MUST MEET OR EXCEED THE REQUIREMENTS OF MIL-W-22759/16 AND BE ROUTED AND SECURED IN ACCORDANCE WITH AC43.13-1B, CHAPTER 11, SECTIONS 8 THROUGH 12. ALL WIRE TO BE 22GA. MINIMUM UNLESS OTHERWISE NOTED.

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	PROD. RELEASE PER E.O. 8578	11-22-99	M.KEIRNAN
B	REV. PER F.E.C.O. 2760	10-30-00	E.YORK
C	REV. PER ECO 11106	12-06-01	A. KIDWELL

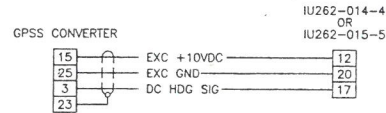
KING KCS-55/55A INTERCONNECT



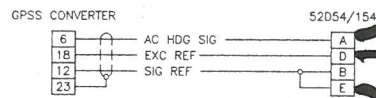
KING KPI 550/550A



EDO 52D254
(DG MODEL 4000C-5 OR -6)

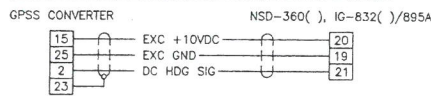


EDO 52D54 OR 52D154

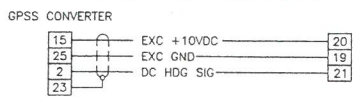


EDO NSD-360/360A, DG 360, CENTURY NSD 1000,

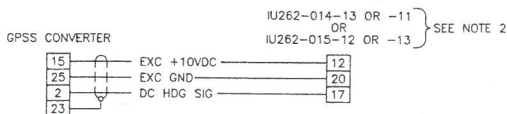
CESSNA ARC IG 832A/IG-832C/IG-895A



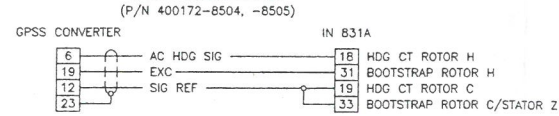
SIGMA TEK IU445-004-9



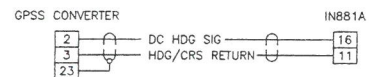
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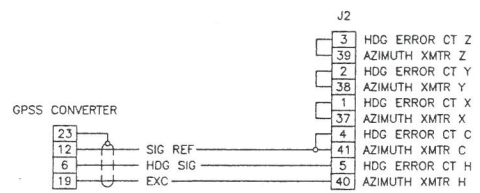
BENDIX IN 831A



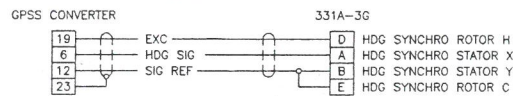
BENDIX HSD 880



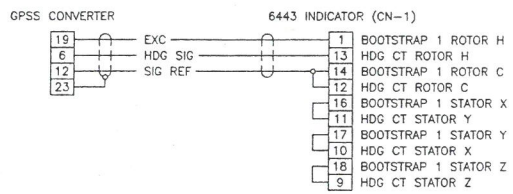
COLLINS HSI 331A-6P/6R



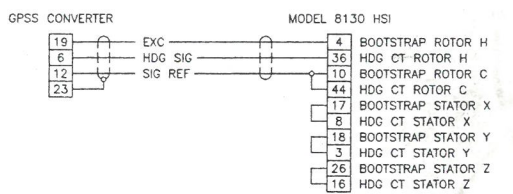
COLLINS PN-101



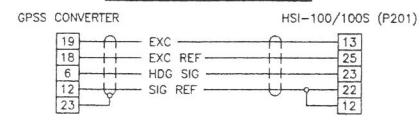
S-TEC HSI 6443 INDICATOR



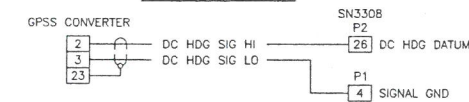
AERONETICS MODEL 8000



NARCO HSI-100/100S



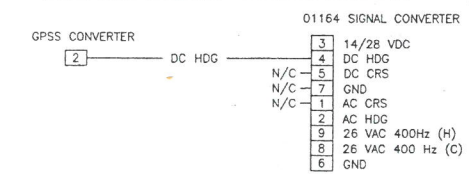
SANDEL SN3308



NOTE: SANDEL INDICATOR MUST BE CONFIGURED FOR KING KCS-55/5A HEADING SYSTEM.

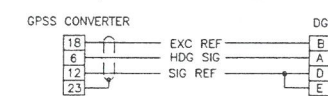
ST-500

S-TEC SIGNAL CONVERTER P/N 01164



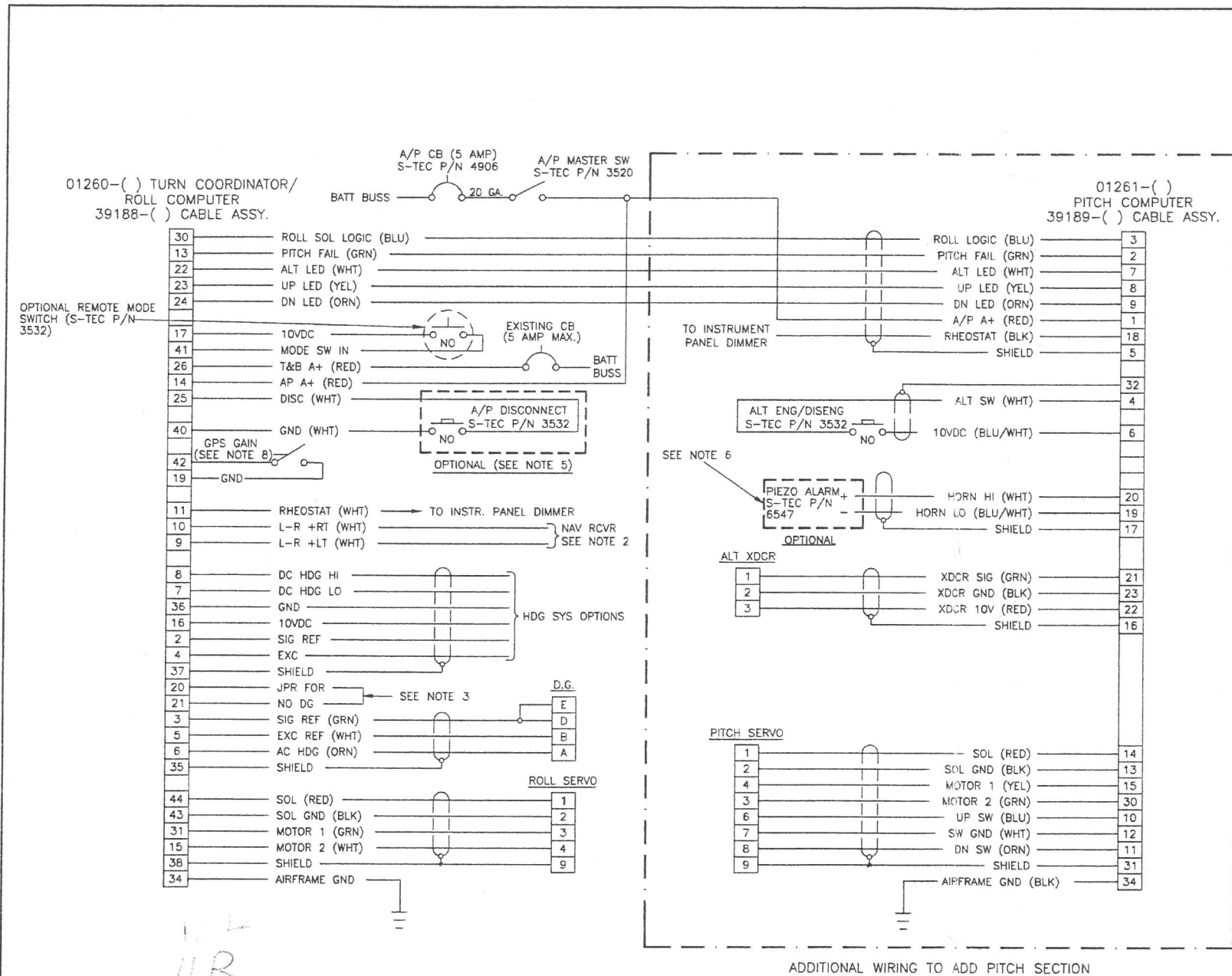
STD DG: S-TEC 6406-(),

ARC G502A, RC ALLEN RCA110-3



MASTER COPY

APPROVAL		DATE	LIST OF MATERIALS	
DRAWN	JBRICKERT	11-16-99	STEC Corporation One S-TEC Way Municipal Airport - Mineral Wells, Tx. 76067-9236	
CHECKED	A.KIDWELL	11-17-99		
ENGINEER	E.YORK	11-18-99		
APPROVED	M.KEIRNAN	11-19-99		
DECIMAL XXX: +/- .005 DECIMAL XX: +/- .010 FRACTIONS +/- 1/64 ANGLES +/- 0° 30' REMOVE BURRS BREAK SHARP EDGES .010			TITLE SCHEMATIC, GPSS HEADING SYSTEM INTERCONNECT DETAIL SYS. 20/30	
N/A	BULLETIN 901	USED ON	SIZE	DRAWING NO.
APPLICATION			D	10141
			SCALE	N/A DO NOT SCALE DRAWING
			SHEET	1 of 1



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
-	RELEASED PER E.O. 6099	1-6-97	W.DAVIS
A	REV PER EO 6384	5-6-97	M.KEIRNAN
B	REV PER EO 6444	7-21-97	M.KEIRNAN
C	REV PER EO 6548	9-30-97	M.KEIRNAN
D	REV PER EO 6692	12-23-97	J.FROST
E	REV PER EO 6780	2-20-98	M.KEIRNAN
F	REV PER EO 7506	1-20-99	J.FROST
G	REV PER EO 7572	2-24-99	J. Wilson

- NOTES:**
- FIELD FABRICATED WIRING TO BE 22 GA. MINIMUM (UNLESS OTHERWISE NOTED) AND MUST MEET OR EXCEED THE REQUIREMENTS OF MIL-W-22759/16. ALL WIRING TO BE ROUTED & SECURED IN ACCORDANCE WITH AC43.13-1A, CHAPTER 11, SECTION 7.
 - REFER TO RADIO MANUFACTURER'S SERVICE AND/OR INSTALLATION INFORMATION FOR SPECIFIC INTERCONNECT INFORMATION.
 - REMOVE JUMPER ACROSS PINS 20 & 21 OF THE TURN COORDINATOR/ROLL COMPUTER CONNECTOR WHEN OPTIONAL DIRECTIONAL GYRO OR A HEADING SYSTEM IS BEING INSTALLED.
 - WHEN A HEADING SYSTEM IS INSTALLED, REFER TO HEADING SYSTEM INTERCONNECT DETAILS (DWG. NO. 10114) & HEADING SYSTEM MANUFACTURERS SERVICE AND/OR INSTALLATION INTERCONNECT INFORMATION. REFER TO DWG. NO. 0570 FOR MODIFICATION REQUIRED TO ROLL BOARD OF TURN COORDINATOR/ROLL COMPUTER.
 - THE A/P DISCONNECT IS AN OPTIONAL COMPONENT. IF THE A/P DISCONNECT IS NOT USED CAP OFF THE ENDS OF THE WIRES MARKED "A/P DISCONNECT" & TIE BACK INTO WIRING BUNDLE.
 - A REMOTELY MOUNTED AUDIBLE ALARM (PIEZO ALARM, S-TEC P/N 6547) IS REQUIRED TO PROVIDE AN AUDIBLE "ELEVATOR OUT OF TRIM" INDICATION WHEN THE PITCH COMPUTER IS LOCATED OUTSIDE THE CABIN AREA.
 - ATTACH 5279 SOCKETS TO WIRE (WHERE APPLICABLE) USING DMC M22520/2-01 CRIMPING TOOL & DMC M22520/2-06 INSERT.
 - PIN 42 TO GND ENABLES GPS TRACK GAIN SETTING. USE ONE SET OF CONTACTS ON THE EXTERNAL AP SELECT SWITCH FOR NAV/GPS. THIS CONNECTION IS REQUIRED WHEN INTERFACING TO GPS RECEIVER.

LIST OF MATERIALS		APPROVAL		DATE	
		DRAWN	R.TUCKER	9-19-96	
		CHECKED	J.MOORE	9-19-96	
		ENGINEER	M.KEIRNAN	1-5-97	
		APPROVED	E.CAMERON	1-6-97	
TOLERANCES UNLESS OTHERWISE SPECIFIED					
DECIMAL: XXX: +/- .005					
DECIMAL: XX: +/- .010					
FRACTIONS: +/- 1/64					
ANGLES: +/- 0° 30'					
REMOVE BURRS					
BREAK SHARP EDGES .010					
BULLETIN 700		TITLE			
NEXT ASSY		SCHEMATIC, EXTERNAL WIRING INTERCONNECT-SYS. 20/30			
APPLICATIONS		SIZE	DRAWING NO.		REV
		C	10113		G
		SCALE	N/A	DO NOT SCALE DRAWING	SHEET 1 of 1

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