

SUPPLEMENTAL DATA

SECTION VIII

SUPPLEMENTAL DATA

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Airplane Flight Manual Supplements
LOG OF REVISIONS
Baron E55/E55A Airplane Flight Manual
P/N 96-590010-9

FAA Supplements must be in the aircraft for flight operation when subject equipment is installed:

Rev. No.	Part Number	Subject	Date
1	96-590011-5	Area Navigation System	9/8/72
2	131176	Nickel-Cadmium Battery Charge Current Detector	10/1/73
	131271	100-Amp Alternator System	3/27/74

98-36164

BEECHCRAFT BARONS 95-B55, 95-B55A, E55, E55A, 58, 58A LANDPLANES

AIRPLANE FLIGHT MANUAL SUPPLEMENT for the AREA NAVIGATION SYSTEM

This document is to be attached to the FAA Approved Airplane Flight Manual when the airplane is equipped with an Area Navigational System, which has been installed in accordance with Beech FAA Approved Data.

LIMITATIONS

1. This system should not be used as a primary system under IFR conditions except on approved area navigation airways and approach procedures.
2. This system can only be used with co-located facilities. (VOR and DME signals originate from the same geographical location).

NORMAL PROCEDURES

1. VHF NAV - ON
2. DME - ON
3. Mode Selector - SELECT VOR/DME, RNAV, or APPR
4. NAV Frequency - SET
5. DME Frequency - SET
6. Waypoint Bearing - SET WAYPOINT RADIAL FROM VORTAC
7. Waypoint Distance - SET WAYPOINT DISTANCE FROM VORTAC
8. OBS Control - DESIRED MAGNETIC HEADING
9. Self-Test - PRESS BUTTON (must have VOR reception)

EMERGENCY PROCEDURES

CAUTION

DME may unlock due to loss of signal with certain combinations of distance from station, altitude, and angle of bank.

1. VOR or Distance flag appears while in RNAV mode:

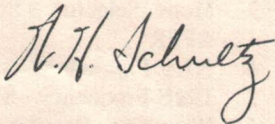
a. Selected Frequency - CHECK FOR CORRECT FREQUENCY

b. VOR or Distance Flag Intermittent or Lost - UTILIZE OTHER NAV EQUIPMENT AS REQUIRED

2. VOR or Distance flag appears while in APPR mode:

a. If flag appears while on an approach, execute published missed approach and utilize other approved facility.

Approved:



for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

BEECHCRAFT BARONS 95-55 SERIES LANDPLANES

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

NICKEL-CADMIUM BATTERY CHARGE CURRENT DETECTOR

The information in this supplement is FAA Approved material, which, along with the basic FAA Approved Airplane Flight Manual, is applicable to the operation of the airplane when equipped with the Nickel-Cadmium Battery Charge Current Detector, P/N 100-364285, approved by Letter ACE-210, dated September 25, 1973, FAA Central Region, Engineering and Manufacturing Branch, Wichita, Kansas and installed in accordance with Beech FAA Approved drawings or by Kit 60-3005.

The Battery Charge Current Detector consists of a circuit which illuminates an amber light on the instrument panel whenever the battery charge current is above normal. The system is designed for a continuous monitor of battery condition.

The purpose of the Battery Charge Current Detector is to inform the pilot of battery charge currents which may damage the battery. The system senses all battery current and provides a visual indication of above normal charge current. Following a battery engine start, the battery recharge current is very high and causes the illumination of the BATTERY CHARGE light, thus providing an automatic self test of the detector and the battery. As the battery approaches a full charge and the charge current decreases to a satisfactory amount, the light will extinguish. This will normally occur within a few minutes after an engine start,

but may require a longer time, if the battery has a low state of charge, low charge voltage per cell (20 cells battery), or low battery temperature.

The light may occasionally reappear for short intervals when heavy loads switch off, or engine speeds are varied near generator cut-in speed. High battery temperatures or high charge voltage per cell will result in a high overcharge current which will eventually damage the battery and lead to thermal runaway. Illumination of the BATTERY CHARGE light in flight alerts the pilot that conditions may exist that may eventually damage the battery. The battery should be turned off to prevent battery damage. The following procedures outline the actions to be taken in the event the BATTERY CHARGE light illuminates.

NORMAL PROCEDURES

BEFORE STARTING ENGINES

1. Caution Light (BATTERY CHARGE) - PRESS TO TEST for illumination.

DURING ENGINE START

Provided sufficient energy is used from the battery during the first engine start, the amber caution light, placarded BATTERY CHARGE, will illuminate approximately 6 seconds after the generator is on the line. This indicates a charge current above normal. The light should extinguish within 5 minutes. Failure to do so indicates a partially discharged battery. Continue to charge battery. Make a check each 90 seconds using the procedure outlined below until the charge current fails to decrease and the light extinguishes. Failure of the light to extinguish indicates an

unsatisfactory condition. The battery should be removed and checked by a qualified Nickel-Cadmium Battery shop.

1. One Alternator/Generator - OFF.
2. Engine Speed (Engine with Alternator/Generator On) - 1000 RPM (Voltmeter indicating approximately 28 volts).
3. After loadmeter needle stabilizes, momentarily turn the battery switch off and note change in meter indication.

NOTE

The change in load meter indications is the battery charge current and should be no more than .025 (only perceivable needle movement) within 5 minutes. Failure to obtain a reading below .025 within 5 minutes indicates a partially discharged battery. Continue to charge battery repeating the check each 90 seconds until the charge current decreases below .025. No decrease of charge current between checks, indicates an unsatisfactory condition. The battery should be removed and checked by a qualified Nickel-Cadmium Battery shop.

DURING CRUISE

The illumination of the amber caution light, placarded BATTERY CHARGE, in flight indicates a possible malfunction of the battery. Turn the Battery Switch - OFF. The caution light should extinguish and the flight may proceed to destination. Failure of the light to extinguish with the battery switch off indicates a battery system or a charge current detector system malfunction. The aircraft should be landed as soon as practicable. (The battery switch should be turned on for landing in order to avoid electrical transients caused by power fluctuations.) After landing perform an During Shutdown Battery Condition check.

DURING SHUTDOWN

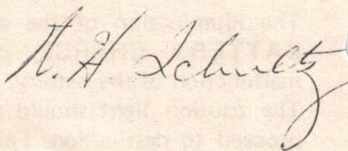
Battery - CONDITION AND CHARGE (If the BATTERY CHARGE light is extinguished, the battery is charged and the condition is good. If the light is illuminated and fails to extinguish within 3 minutes of charging, perform the following check:)

1. One Alternator/Generator - OFF.
2. Engine Speed (Engine with Alternator/Generator ON) - 1000 RPM (Voltmeter indicating approximately 28 volts).
3. After loadmeter needle stabilizes, momentarily turn the battery switch off and note change in meter indication.

NOTE

The change in loadmeter indication is the battery charge current and should be no more than .025 (only perceivable needle movement). If the result of this check is not satisfactory, allow the battery to charge repeating the check each 90 seconds. If the results are not satisfactory within 3 minutes, the battery should be removed and checked by a qualified Nickel-Cadmium Battery shop.

Approved:



for

Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

BEECHCRAFT BARON LANDPLANE

(E55/E55A and 58/58A)

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

100-AMP ALTERNATOR SYSTEM

The information in this supplement is FAA Approved material, which, along with the basic FAA Approved Airplane Flight Manual, is applicable to the operation of the airplane when equipped with two 100-Amp Alternators, installed in accordance with BEECHCRAFT drawings by Beech Kit 58-3001.

LIMITATIONS

Loadmeters indicate individual alternator output reading in percentage of load on system. Meter reading of 1.0 is a load of 100 amperes.

ENGINE INSTRUMENT MARKINGS

Loadmeter

Do not exceed (Red Radial)85

NORMAL PROCEDURES

No Change

FAA Approved

Date: March 27, 1974

P/N 131271

1 of 3

EMERGENCY PROCEDURES

EXCESSIVE LOADMETER INDICATION (over .85 Red Radial)

1. Battery Switch - OFF (Monitor Loadmeter)

If loadmeter still indicates above .85 Red Radial:

2. Non-Essential Loads - OFF
3. Battery Switch - ON

ILLUMINATION OF ALTERNATOR OUT LIGHT

In the event of the illumination of a single ALTERNATOR OUT light:

1. Check the respective loadmeter for load indication
 - a. No Load - TURN OFF AFFECTED ALTERNATOR
 - b. Remaining Loadmeter - MONITOR (load must not exceed limitation)

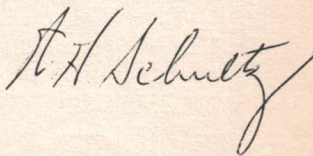
In the event of the illumination of both ALTERNATOR OUT lights:

1. Check loadmeters for load indication
 - a. No load indicates failure of regulators

2. If condition indicates malfunction of both alternator circuits:

- a. Both ALT Switches - OFF
- b. Non-Essential Loads - OFF (since only battery power will be available)

Approved:



for

Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

BEECHCRAFT BARON LANDPLANES
95-C55, 95-C55A, D55, D-55A, E-55 and E-55A
AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the
EDO-AIRE MITCHELL CENTURY IV AUTOPILOT
OR
CENTURY IV FLIGHT DIRECTOR AUOTPILOT

Reg. No. _____

Ser. No. _____

This Supplement must be used in conjunction with the applicable FAA Approved Airplane Flight Manual when EDO-AIRE MITCHELL Century IV Autopilot Model AK446 or Century IV Flight Director Autopilot Model AK446FD is installed in accordance with STC SA1808SW. The information contained herein supplements the information of the basic Airplane Flight Manual; for limitations, procedures and performance information not contained in this supplement, consult the basic Airplane Flight Manual.

LIMITATIONS

1. Maximum speed for Autopilot operation is 225 MPH CAS.
2. Minimum speed for missed approach maneuvering is 110 MPH CAS on autopilot.
3. Required Placard PN 13A660 CONDUCT TRIM CHECK PRIOR TO FLIGHT (See AFM) to be installed in clear view of pilot.
4. Autopilot OFF during take-off and landing.
5. Category I operations only.

FAA APPROVED
DATE: 2-15-74
P/N 68S159

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EDO-AIRE MITCHELL
P.O. Box 610
Mineral Wells, Texas

NORMAL PROCEDURES

AUTOPILOT

Refer to Edo-Aire Mitchell Century IV Pilots Handbook PN68S82, dated 2-1-74, for Century IV preflight and normal in-flight procedures.

TRIM SYSTEM

This aircraft is equipped with a Command Trim System designed to withstand any type of single malfunction, either mechanical or electrical, without uncontrolled operation resulting. The preflight check procedure is designed to uncover hidden failures that might otherwise go undetected. Proper operation of the electric Elevator Trim system is predicated on conducting the following preflight check before each flight. If the Trim System fails any portion of the procedure pull the trim circuit breaker and leave the circuit breaker out until trim system is repaired. Substitution of any trim system component for another model is not authorized. For Emergency interrupt information, refer to EMERGENCY PROCEDURES of this Supplement.

The command Electric Trim Switch on the left portion of the pilot's control wheel has two functions:

1. When the top bar (AP OFF) is pressed, it disconnects the autopilot.
2. When the top bar is pressed AND the rocker is moved forward, nose down trim will occur; when moved aft, nose up trim will occur.

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DATE: 2-15-74
PN 68S159

PREFLIGHT

1. Check trim circuit breaker - IN.
2. Trim Master Switch - ON.
3. AP OFF - Check normal trim operation - UP. Grasp trim wheel and check override capability. Check nose down operation. Recheck override.
4. Activate center bar only - Push rocker fore and aft - only. Trim should not operate with either separate action.
5. AP ON - Check Automatic operation by activating AP Pitch Command Disc UP then DN. Observe trim operation follows Pitch Command direction.

NOTE

In Autopilot Mode, there will be approximately a 3 second delay between operation of Pitch Command and operation of Trim.

6. Press center bar (AP OFF) - release - check AP disengagement.
7. Rotate trim wheel to check manual trim operation.

CAUTION

Recheck aircraft pitch trim to correct take-off position after Autopilot and Trim System Check.

IN FLIGHT

1. When the autopilot is engaged, pitch trim is accomplished and maintained automatically.
2. With the autopilot OFF, automatic trim is obtained by pressing and rocking the combination TRIM - AP disconnect bar on the pilot's control wheel.

SPECIAL OPERATIONS AND INFORMATION

ALTITUDE HOLD OPERATION

For best results, reduce rate of climb or descent to 500 FPM before engaging altitude hold mode. For precise altitude control in altitude hold mode, below approximately 110 MPH CAS, lower 50% (Approach) flaps.

INSTRUMENT APPROACH OPERATIONS

Initial and/or intermediate approach segments should be conducted with 50% flaps and between 120/130 MPH CAS. Upon intercepting the glide path or when passing the final approach fix (FAF) immediately lower the landing gear and reduce the power for approximately 120 MPH CAS on the final approach segment. Adjust power as necessary during remainder of approach to maintain correct airspeed. For approaches without glide path coupling, adjust pitch command disc in conjunction with power to maintain desired airspeed and descent rate.

INSTRUMENT APPROACH GO-AROUND MANEUVER

At the Decision Height (DH) or Missed Approach Point (MAP) perform the Go-Around as follows:

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DATE: 2-15-74
PN 68S159

1. Select G/A Mode at the programmer or push the remote G/A Switch, if installed.
2. Add take-off power, or power as desired.
3. Check the correct attitude and that a positive rate of climb is indicated, then raise flaps and gear.
4. Set desired HDG and select HDG mode for lateral maneuvering.

EMERGENCY PROCEDURES

This aircraft is equipped with a Master Disconnect/Interrupt Switch on the pilot's control wheel. When the switch button is depressed, it will DISCONNECT the Autopilot and Yaw Damper, if installed. When depressed AND HELD, it will INTERRUPT all Electric Elevator Trim Operations. Trim Operations will be restored when the switch is released.

In the event of an Autopilot malfunction, the Autopilot can be:

1. Disconnected by depressing the Master DISC/INTER Switch.
2. Disconnected by depressing the Trim Switch AP OFF bar.
3. Disconnected by pushing the AP Annunciator Switch on the programmer.
4. Overpowered at either control wheel.
CAUTION: Do not overpower the pitch axis for more than 3 seconds because electric trim action will increase overpower forces.

In the event of a Trim malfunction:

- a. 1. DEPRESS and HOLD the Master Trim Interrupt Switch.
2. Trim Master Switch - OFF. Retrim AC as necessary using Manual Trim System.

3. Release Master Interrupt Switch - be alert for possible Trim action.
 4. Trim Circuit Breaker - Pull. Do not operate Trim until problem is corrected.
- b. If a Trim Runaway occurs with the autopilot operating, the above procedure will disconnect the autopilot, which will immediately result in higher control wheel forces. Be prepared to manually retrim, as necessary, to eliminate undesirable forces.

ALTITUDE LOSS DURING MALFUNCTION

1. An autopilot or autotrim malfunction during climb, cruise or descent with a 3 second delay in recovery initiation could result in as much as 45° of bank and 300' of altitude loss. Maximum altitude loss was recorded at 225 MPH CAS during descent.
2. An autopilot or autotrim malfunction during an approach with a 1 second delay in recovery initiation could result in as much as 15° and 50' altitude loss. Maximum altitude loss is measured in approach configuration, gear down, and operating either coupled or uncoupled, single or multi-engine.

SINGLE ENGINE OPERATIONS

1. During cruising flight: Retrim aircraft, perform normal engine-out procedures.
2. Maneuvering flight: Disconnect Autopilot, retrim aircraft, perform normal engine-out procedures re-engage autopilot.
3. Approach:
 - a. Engine failure in final approach segment: Disconnect autopilot, fly remainder of approach manually.

- b. Engine failure prior to or during initial approach segment: Retrim aircraft, perform normal aircraft single engine procedures.
4. Maintain aircraft trim during all Single Engine Operations.

FAA APPROVED

A. W. Thomson
for Glen W. Welsh, Chief

ENGINEERING AND MANUFACTURING BRANCH
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGION, FORT WORTH, TEXAS

FAA APPROVED
DATE 2-15-74
P/N 68S159

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REGISTRATION NO. _____

SERIAL NO. _____

PAGE 1 of 1
FAA APPROVED
DATE 4/23/71
Revised 6/1/71

HARTZELL PROPELLER, INC.
AIRPLANE FLIGHT MANUAL

FOR

BEECH MODELS E55 & E55A LANDPLANES

THIS DOCUMENT MUST BE KEPT IN THE AIRPLANE AT ALL TIMES WHEN HARTZELL PROPELLERS ARE INSTALLED PER STC SA 773CE. INFORMATION CONTAINED HEREIN SUPPLEMENTS OR SUPERCEDES CORRESPONDING INFORMATION IN PLACARDS OR AIRCRAFT SPECIFICATIONS.

I LIMITATIONS

C. PROPELLERS:

1. Two Hartzell constant-speed, full feathering, three-bladed propellers. (85" @ +18)
Hubs: PHC-C3TF-2
Blades: C7663-2R.
Spinner: C-3567-1
Governor: D210439 & 210662
Pitch Settings at 30 inch station: Low 13.0° - High 83.0°
Diameter: Not over 76 inches, not under 74 inches.
2. Two Hartzell constant-speed, full feathering, two-bladed propellers. (64" @ +18)
Hub: PHC-C2TF-2C
Blades: C8475-6
Spinner: C2285-1
Governor: D210439 & 210662
Pitch Settings at 30 inch station: Low 14.5° - High 80.0°
Diameter: Not over 78 inches, not under 76 inches.

II PROCEDURES

B. EMERGENCY PROCEDURES:

1. Single-engine procedures and speeds are identical to those in the basic Airplane Flight Manual.

III PERFORMANCE

The performance information in the basic Airplane Flight Manual is applicable to this airplane with Hartzell Propellers.

APPROVED

John A. Carran
John A. Carran, Chief
Engineering & Manufacturing Branch
Central Region
Federal Aviation Administration

FAA APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT

FOR

BEECH BARON

WITH

BFGoodrich AVIONICS SYSTEMS, INC.

SKYWATCH TRAFFIC ADVISORY SYSTEM MODEL SKY497

Serial No. TE-1068

Reg. No. N333HE

This Supplement must be attached to the Approved Flight Manual when the BFGoodrich Avionics Systems, Inc. SkyWatch System Model SKY497 is installed in accordance with FAA Form 337 dated 5-16-01.

The information contained herein supplements the information of the basic Airplane Flight Manual. For Limitations, Procedures and Performance information not contained in this Supplement, consult the basic Airplane Flight Manual.

FAA Approved: J. B. G.

DATE: 5/16/01

FAA APPROVED: J. B. G.

DATE: 5/16/01

REVISION	REVISED PAGES	DESCRIPTION OF REVISION	DATE	FAA APPROVAL
A	ALL	Initial Release		

FAA APPROVED: S. Berg

DATE: 5/16/01

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FAA APPROVED: J. [Signature]

DATE: 5/16/01

I. GENERAL DESCRIPTION

A. EQUIPMENT

The SkyWatch System consists of the following:

Quantity	Description
1	TRC497 Transmitter/Receiver Computer
1	NY164/NY156 Directional Antenna

B. GENERAL

The SkyWatch System is an on-board traffic advisory system which monitors a radius of nominally 6 nautical miles about the aircraft by interrogating any "intruding" aircraft transponder, determines if a potential conflict exists with other aircraft. This is done by computing the range, altitude, bearing, and closure rate of other transponder-equipped aircraft, with respect to the SkyWatch equipped aircraft.

SkyWatch requires the following other equipment to be functional and operating:

Encoding Altimeter
Aircraft Compass (Directional Gyro)
Aircraft Suppression Bus
Squat Switch (both fixed and retractable gear aircraft)

The SkyWatch System provides a single level of threat advisory known as a Traffic Advisory (TA). The TA display indicates the relative position of an intruder when it is approximately 30 seconds from Closest Point of Approach (CPA). In addition, all aircraft detected less than 0.55nm and ± 800 feet from own aircraft will cause a TA to be generated. In airport approach/departure areas, these criteria are reduced to approximately 15-20 seconds from CPA.

The TA calls attention to a possible collision threat using the WX-1000/SkyWatch Display and the voice message "TRAFFIC, TRAFFIC." The TA is intended to assist the pilot in achieving visual acquisition of the threat aircraft.

SkyWatch is considered a backup system to the "SEE-AND-AVOID" concept and the ATC radar environment.

FAA APPROVED: J. Br...

DATE: 5/16/01

- a. Other Traffic - Any traffic within the selected display range and within $\pm 2,700$ feet vertically that is not generating a TA.
- b. Traffic Advisory (TA) - Threat information given to the pilot pertaining to the position of intruding aircraft in the immediate vicinity. The information contains no suggested maneuver.

II. LIMITATIONS AND CONDITIONS

- a. Information shown on the display is provided to the pilot as an aid to visually acquiring traffic. Pilots should maneuver their aircraft based only on ATC guidance or positive visual acquisition of the conflicting traffic. Maneuver should be consistent with ATC instructions. No maneuvers should be made based only on a Traffic Advisory. ATC should be contacted for resolution of the Traffic conflict.
- b. Operation of the SkyWatch system requires that the SkyWatch Pilots Guide be kept on the aircraft and available to the pilot at all times.
- c. SkyWatch can only detect aircraft which are transponder equipped.
- d. When operating Transponder No. 2, SKYWATCH must be turned off, that system does not have suppression.

III. NORMAL PROCEDURES

A. SELF-TEST

- a. The SkyWatch system should be tested prior to flight.
- b. The WX-1000/SkyWatch Display should present the Self-Test display.
- c. After completion of self-test, the "TRAFFIC ADVISORY SYSTEM TEST PASSED" audio annunciation will be heard and the display will revert to the standby screen.
- d. If "TRAFFIC ADVISORY SYSTEM TEST FAILED" is heard or the SKY497 FAILED screen appears the SkyWatch system should be turned OFF.

NOTE: The SELF-TEST is inhibited when the aircraft is airborne.

AA APPROVED: J. B. R.

DATE: 5/16/01

B. STANDBY CHARACTERISTICS

- a. The SkyWatch system will display SKY497 STANDBY when the aircraft is on the ground and not tracking or processing traffic information. Standby gives the system the ability to track targets while on the ground. Refer to GARMIN
- b. GNS 530 or GNS 430 Pilot's Guide Addendum for Traffic Display Interfac P/N 190-00140-10 Rev A, dated Oct 1999, to switch SKY497 from Standby to Normal Mode. The system will go back to the SKY497 STANDBY screen and will not track targets again until the system is either manually switched out of Standby, while on the ground or automatically switched out of Standby 8 seconds after the aircraft has departed.
- c. The SELF TEST works while in the SKY497 STANDBY screen by operating the GNS 530 or GNS 430, refer to GARMIN's PILOT's Guide Addendum for Traffic Display Interface Manual P/N 190-00140-10, Rev A, dated Oct 1999, pressing the TEST Button.
- d. The SkyWatch system while in flight or operating on the ground will display 3 altitude display modes: Above (ABV), Normal (NRM), and Below (BLW) These modes are activated by pressing the Altitude display mode button. Refer to the pilot's guide for the SKYWATCH Traffic Advisory System Model SKY497 P/N 009-10801-001 Rev A or latest FAA approved revision.

C. ABNORMAL PROCEDURES

- a. If "TRAFFIC ADVISORY SYSTEM TEST FAILED" is heard or the SKY497 FAILED screen appears the SkyWatch system should be turned OFF.

D. RESPOND TO TRAFFIC ADVISORIES

- a. When the SKY497 issues a TA, scan outside for the intruder aircraft. Call ATC for guidance and if you visually acquire the traffic use normal right-of-way procedures to maintain separation.
- b. Do not attempt maneuvers based solely on traffic information shown on the SKY497 display. Information on the display is provided to the flight crew as an aid in visually acquiring traffic; it is not a replacement for ATC and See & Avoid techniques.

IV. EMERGENCY PROCEDURES

No Change.

V. PERFORMANCE

No Change.

FAA APPROVED: J. B. L.

DATE: 5/16/01

Installation Center

GARMIN GNS 530 VHF Communications
Transceiver / VOR/ILS Receiver / GPS

Receiver
Repair Station # QPIR337K

Name: PENINSULA AVIONICS

Address: 14229 SW 127 ST

MIAMI, FL 33186

**FAA APPROVED FLIGHT MANUAL SUPPLEMENT
GARMIN GNS 530 VHF COMMUNICATIONS TRANSCEIVER /
VOR/ILS RECEIVER / GPS RECEIVER**

AIRCRAFT MAKE: BEECH

AIRCRAFT MODEL E-55

AIRCRAFT SERIAL NO.: TE-1068

This document must be carried in the aircraft at all times. It describes the operating procedures for the GARMIN GNS 530 navigation system when it has been installed in accordance with GARMIN Installation Manual 190-00181-02 Rev. C (Rev. A or later), and FAA Form 337 dated 5-16-1.

For aircraft with an FAA Approved Airplane Flight Manual, this document serves as the FAA Approved Flight Manual Supplement for the GARMIN GNS 530. For aircraft that do not have an approved flight manual, this document serves as the FAA Approved Supplemental Flight Manual for the GARMIN GNS 530.

The Information contained herein supplements or supersedes the basic Airplane Flight Manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this document, consult the basic Airplane Flight Manual.

Federal Aviation Administration FSDO -19

City:--MIAMI , State:--FL

FAA APPROVED

J. Be G

DATE:

5/16/01

PAGE 1 OF 8

Aircraft Make: BEECH
Aircraft Model: E-55
Aircraft Serial Number: TE-1068

GARMIN GNS 530 VHF Communications
Transceiver / VOR/ILS Receiver / GPS Receiver
N333HE

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**SECTION I
GENERAL**

1. The GNS 530 System is a fully integrated, panel mounted instrument, which contains a VHF Communications Transceiver, a VOR/ILS receiver, and a Global Positioning System (GPS) Navigation computer. The system consists of a GPS antenna, GPS Receiver, VHF VOR/LOC/GS antenna, VOR/ILS receiver, VHF COMM antenna and a VHF Communications Transceiver. The primary function of the VHF Communication portion of the equipment is to facilitate communication with Air Traffic Control. The primary function of the VOR/ILS Receiver portion of the equipment is to receive and demodulate VOR, Localizer, and Glide Slope signals. The primary function of the GPS portion of the system is to acquire signals from the GPS system satellites, recover orbital data, make range and Doppler measurements, and process this information in real-time to obtain the user's position, velocity, and time.

FAA APPROVED

[Signature]

DATE:

5/6/01

PAGE 2 OF 8

Aircraft Make: ---BEECH
Aircraft Model: ---E-55
Aircraft Serial Number: ---TE-1068

GARMIN GNS 530 VHF Communications
Transceiver / VOR/ILS Receiver / GPS Receiver
N333HE

2. Provided the GARMIN GNS 530's GPS receiver is receiving adequate usable signals, it has been demonstrated capable of and has been shown to meet the accuracy specifications for:

- VFR/IFR enroute, terminal, and non-precision instrument approach (GPS, Loran-C, VOR, VOR-DME, TACAN, NDB, NDB-DME, RNAV) operation within the U.S. National Airspace System in accordance with AC 20-138.
- North Atlantic Minimum Navigation Performance Specification (MNPS) Airspace in accordance with AC 91-49 and AC 120-33.

Navigation is accomplished using the WGS-84 (NAD-83) coordinate reference datum. Navigation data is based upon use of only the Global Positioning System (GPS) operated by the United States of America.

SECTION II LIMITATIONS

1. The GARMIN GNS 530 Pilot's Guide, P/N 190-00181-00, Rev. A, dated MAY, 2000, or later appropriate revision, must be immediately available to the flight crew whenever navigation is predicated on the use of the system.

FAA APPROVED

S. DeG

DATE:

5/6/01

PAGE 3 OF 8

Aircraft Make----BEECH
Aircraft Model:-- E-55
Aircraft Serial Number:--TE-1068

GARMIN GNS 530 VHF Communications
Transceiver / VOR/ILS Receiver / GPS Receiver
N333HE

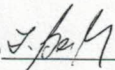
2. The GNS 530 must utilize the following or later FAA approved software versions:

Sub-System	Software Version
Main	2.00
GPS	2.00
COMM	1.22
VOR/LOC	1.25
G/S	2.00

The Main software version is displayed on the GNS 530 self test page immediately after turn-on for 5 seconds. The remaining system software versions can be verified on the AUX group sub-page 2, "SOFTWARE/DATABASE VER".

3. IFR enroute and terminal navigation predicated upon the GNS 530's GPS Receiver is prohibited unless the pilot verifies the currency of the data base or verifies each selected waypoint for accuracy by reference to current approved data.
4. Instrument approach navigation predicated upon the GNS 530's GPS Receiver must be accomplished in accordance with approved instrument approach procedures that are retrieved from the GPS equipment data base. The GPS equipment database must incorporate the current update cycle.
 - (a) Instrument approaches utilizing the GPS receiver must be conducted in the approach mode and Receiver Autonomous Integrity Monitoring (RAIM) must be available at the Final Approach Fix.
 - (b) Accomplishment of ILS, LOC, LOC-BC, LDA, SDF, MLS or any other type of approach not approved for GPS overlay with the GNS 530's GPS receiver is not authorized.
 - (c) Use of the GNS 530 VOR/ILS receiver to fly approaches not approved for GPS require VOR/ILS navigation data to be present on the external indicator.
 - (d) When an alternate airport is required by the applicable operating rules, it must be served by an approach based on other than GPS or Loran-C navigation, the aircraft must have the operational equipment capable of using that navigation aid, and the required navigation aid must be operational.

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- (e) VNAV information may be utilized for advisory information only. Use of VNAV information for Instrument Approach Procedures does not guarantee Step-Down Fix altitude protection, or arrival at approach minimums in normal position to land.
5. If not previously defined, the following default settings must be made in the "SETUP 1" menu of the GNS 530 prior to operation (refer to Pilot's Guide for procedure if necessary):
- (a) **dis, spd** $\frac{n}{k}$ (sets navigation units to "nautical miles" and "knots")
 - (b) **alt, vs** $\frac{ft}{min}$ (sets altitude units to "feet" and "feet per minute")
 - (c) **map datum** .. WGS 84 (sets map datum to WGS-84, see note below)
 - (d) **posn** deg-min (sets navigation grid units to decimal minutes)

NOTE: In some areas outside the United States, datums other than WGS-84 or NAD-83 may be used. If the GNS 530 is authorized for use by the appropriate Airworthiness authority, the required geodetic datum must be set in the GNS 530 prior to its use for navigation.

SECTION III EMERGENCY PROCEDURES

ABNORMAL PROCEDURES

1. If GARMIN GNS 530 navigation information is not available or invalid, utilize remaining operational navigation equipment as required.
2. If "RAIM POSITION WARNING" message is displayed the system will flag and no longer provide GPS based navigational guidance. The crew should revert to the GNS 530 VOR/ILS receiver or an alternate means of navigation other than the GNS 530's GPS Receiver.
3. If "RAIM IS NOT AVAILABLE" message is displayed in the enroute, terminal, or initial approach phase of flight, continue to navigate using the GPS equipment or revert to an alternate means of navigation other than the GNS 530's GPS receiver appropriate to the route and phase of flight. When continuing to use GPS navigation, position must be verified every 15 minutes using the GNS 530's VOR/ILS receiver or another IFR-approved navigation system.

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4. If "RAIM IS NOT AVAILABLE" message is displayed while on the final approach segment, GPS based navigation will continue for up to 5 minutes with approach HSI sensitivity (0.3 nautical mile). After 5 minutes the system will flag and no longer provide course guidance with approach sensitivity. Missed approach course guidance may still be available with 1 nautical mile HSI sensitivity by executing the missed approach.
5. In an in-flight emergency, depressing and holding the Comm transfer button for 2 seconds will select the emergency frequency of 121.500 Mhz into the "Active" frequency window.

SECTION IV NORMAL PROCEDURES

1. DETAILED OPERATING PROCEDURES

Normal operating procedures are described in the GARMIN GNS 530 Pilot's Guide, P/N 190-00181-00, Rev. A, dated MAY,2000, or later appropriate revision.

2. PILOTS DISPLAY

The GNS 530 System data will appear on the Pilot's No.1 NAV HSI. The source of data is either GPS or VLOC as annunciated on the display above the HSI key.

3. AUTOPILOT OPERATION

Coupling of the GNS-530 System steering information to the autopilot can be accomplished by engaging the autopilot in the NAV or APR mode. When the autopilot system is using course information supplied by the GNS530 System and the course pointer is not automatically driven to the desired track, the course pointer on the HSI must be manually set to the desired track (DTK) indicated by the GNS 530. For detailed autopilot operational instructions, refer to the FAA Approved Flight Manual Supplement for the autopilot.

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4. AUTOMATIC LOCALIZER COURSE CAPTURE

By default, the GNS 530 automatic localizer course capture feature is enabled. This feature provides a method for system navigation data present on the external indicator to be switched automatically from GPS guidance to localizer/glideslope guidance at the point of course intercept on a localizer at which GPS derived course deviation equals localizer derived course deviation. If an offset from the final approach course is being flown, it is possible that the automatic switch from the GPS course guidance to localizer/glideslope navigation data is present on the external indicator before continuing a localizer based approach beyond the final approach fix.

6. DISPLAY OF TRAFFIC ADVISORY DATA

For installations that interface the BFGoodrich SKYWATCH Traffic Advisory System (TAS) and the GNS 530, traffic data detected by the SKYWATCH will appear on the GNS 530. For detailed operating instructions regarding the interface of the GNS 530 with the SKYWATCH, refer to the FAA Approved Flight Manual Supplement for the SKYWATCH, the Pilot's Guide for the SKYWATCH and the GNS 530 Pilot's Guide for the SKYWATCH Traffic Advisory System interface.

SECTION V PERFORMANCE

No change.

SECTION VI WEIGHT AND BALANCE

See current weight and balance data.

SECTION VII

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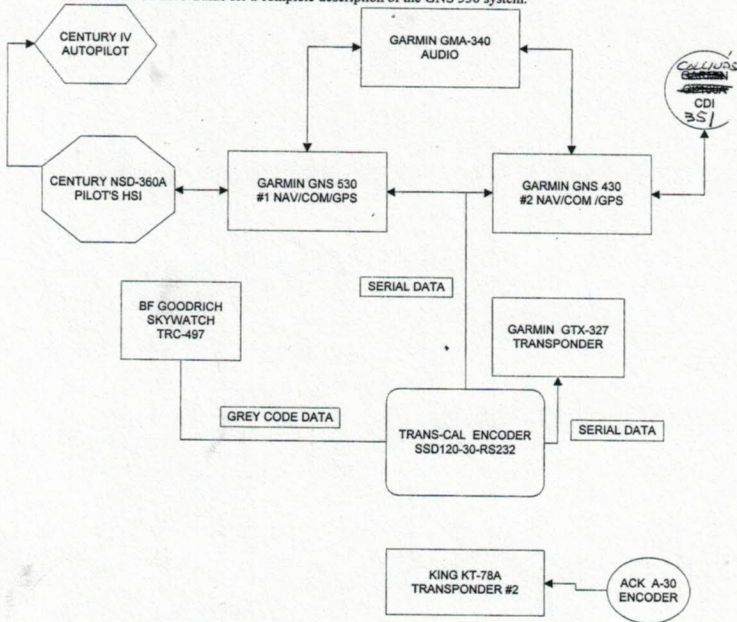
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AIRPLANE & SYSTEM DESCRIPTIONS

See GNS 530 Pilot's Guide for a complete description of the GNS 530 system.



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Installation Center

GARMIN GNS 430 VHF Communications
Transceiver / VOR/ILS Receiver / GPS Receiver

Repair Station # QPIR337K _____

Name: PENINSULA AVIONICS _____

Address: 14229 SW 127 ST _____

MIAMI, FL 33186 _____

**FAA APPROVED FLIGHT MANUAL SUPPLEMENT
GARMIN GNS 430 VHF COMMUNICATIONS TRANSCEIVER /
VOR/ILS RECEIVER / GPS RECEIVER**

AIRCRAFT MAKE: BEECH

AIRCRAFT MODEL: E-55

AIRCRAFT SERIAL NO.: TE-1068

This document must be carried in the aircraft at all times. It describes the operating procedures for the GARMIN GNC 430 navigation system when it has been installed in accordance with GARMIN Installation Manual 190-00140-02 Rev. J (Rev. A or later) and FAA Form 337 dated 5/16/01.

For aircraft with an FAA Approved Airplane Flight Manual, this document serves as the FAA Approved Flight Manual Supplement for the GARMIN GNS 430. For aircraft that do not have an approved flight manual, this document serves as the FAA Approved Supplemental Flight Manual for the GARMIN GNC 430.

The Information contained herein supplements or supersedes the basic Airplane Flight Manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this document, consult the basic Airplane Flight Manual.

FAA APPROVED

J. Dec. G. Date: 5/16/01

F.A.A. FSDO 19
Federal Aviation Administration

FAA APPROVED J. Dec. G. DATE: 5/16/01 PAGE 1 OF 8

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Aircraft Model: E-55 _____ Transceiver / VOR/ILS Receiver / GPS Receiver
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**SECTION I
GENERAL**

1. The GNS 430 System is a fully integrated, panel mounted instrument, which contains a VHF Communications Transceiver, a VOR/ILS receiver, and a Global Positioning System (GPS) Navigation computer. The system consists of a GPS antenna, GPS Receiver, VHF VOR/LOC/GS antenna, VOR/ILS receiver, VHF COMM antenna and a VHF Communications Transceiver. The primary function of the VHF Communication portion of the equipment is to facilitate communication with Air Traffic Control. The primary function of the VOR/ILS Receiver portion of the equipment is to receive and demodulate VOR, Localizer, and Glide Slope signals. The primary function of the GPS portion of the system is to acquire signals from the GPS system satellites, recover orbital data, make range and Doppler measurements, and process this information in real-time to obtain the user's position, velocity, and time.
2. Provided the GARMIN GNS 430's GPS receiver is receiving adequate usable signals; it has been demonstrated capable of and has been shown to meet the accuracy specifications for:
 - VFR/IFR enroute, terminal, and non-precision instrument approach (GPS, Loran-C, VOR, VOR-DME, TACAN, NDB, NDB-DME, RNAV) operation within the U.S. National Airspace System in accordance with AC 20-138.
 - One of the approved sensors, for a single or dual GNS 430 installation, for North Atlantic Minimum Navigation Performance Specification (MNPS) Airspace in accordance with AC 91-49 and AC 120-33.
 - The systems meets RNP5 airspace (BRNAV) requirements of AC 90-96 and in accordance with AC 20-138, and JAA AMJ 20X2 Leaflet 2 Revision 1, provided it is receiving usable navigation information from the GPS receiver.

Navigation is accomplished using the WGS-84 (NAD-83) coordinate reference datum. Navigation data is based upon use of only the Global Positioning System (GPS) operated by the United States of America.

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SECTION II LIMITATIONS

1. The GARMIN GNS 430 Pilot's Guide, P/N 190-00140-00, Rev. A, dated October, 1998, or later appropriate revision, must be immediately available to the flight crew whenever navigation is predicated on the use of the system.

The GARMIN 400 Series Pilot's Guide Addendum, Display Interface for Traffic and Weather Data, must be immediately available to the flight crew if the BFGoodrich WX-500 Stormscope® or the BFGoodrich SKYWATCH™ Traffic Advisory System (TAS) is installed.

2. The GNS 430 must utilize the following or later FAA approved software versions:

Sub-System	Software Version
Main	2.00
GPS	2.00
COMM	1.22
VOR/LOC	1.25
G/S	2.00

The Main software version is displayed on the GNS 430 self test page immediately after turn-on for 5 seconds. The remaining system software versions can be verified on the AUX group sub-page 2, "SOFTWARE/DATABASE VER".

3. IFR enroute and terminal navigation predicated upon the GNS 430's GPS Receiver is prohibited unless the pilot verifies the currency of the data base or verifies each selected waypoint for accuracy by reference to current approved data.
4. Instrument approach navigation predicated upon the GNS 430's GPS Receiver must be accomplished in accordance with approved instrument approach procedures that are retrieved from the GPS equipment data base. The GPS equipment database must incorporate the current update cycle.
 - (a) Instrument approaches utilizing the GPS receiver must be conducted in the approach mode and Receiver Autonomous Integrity Monitoring (RAIM) must be available at the Final Approach Fix.
 - (b) Accomplishment of ILS, LOC, LOC-BC, LDA, SDF, MLS or any other type of approach not approved for GPS overlay with the GNS 430's GPS receiver is not authorized.

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- (c) Use of the GNS 430 VOR/ILS receiver to fly approaches not approved for GPS require VOR/ILS navigation data to be present on the external indicator.
 - (d) When an alternate airport is required by the applicable operating rules, it must be served by an approach based on other than GPS or Loran-C navigation, the aircraft must have the operational equipment capable of using that navigation aid, and the required navigation aid must be operational.
 - (e) VNAV information may be utilized for advisory information only. Use of VNAV information for Instrument Approach Procedures does not guarantee Step-Down Fix altitude protection, or arrival at approach minimums in normal position to land.
5. If not previously defined, the following default settings must be made in the "SETUP 1" menu of the GNS 430 prior to operation (refer to Pilot's Guide for procedure if necessary):
- (a) **dis, spd** $\frac{n}{m} \frac{k}{t}$ (sets navigation units to "nautical miles" and "knots")
 - (b) **alt, vs** $\frac{f}{t}$ fpm (sets altitude units to "feet" and "feet per minute")
 - (c) **map datum** .. WGS 84 (sets map datum to WGS-84, see note below)
 - (d) **posn** deg-min (sets navigation grid units to decimal minutes)

NOTE: In some areas outside the United States, datums other than WGS-84 or NAD-83 may be used. If the GNS 430 is authorized for use by the appropriate Airworthiness authority, the required geodetic datum must be set in the GNS 430 prior to its use for navigation.

SECTION III EMERGENCY PROCEDURES

ABNORMAL PROCEDURES

1. If GARMIN GNS 430 navigation information is not available or invalid, utilize remaining operational navigation equipment as required.
2. If "RAIM POSITION WARNING" message is displayed the system will flag and no longer provide GPS based navigational guidance. The crew should revert to the GNS 430 VOR/ILS receiver or an alternate means of navigation other than the GNS 430's GPS Receiver.
3. If "RAIM IS NOT AVAILABLE" message is displayed in the enroute, terminal, or initial approach phase of flight, continue to navigate using the GPS equipment or revert to an alternate means of navigation other than the GNS 430's GPS receiver appropriate to the route

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and phase of flight. When continuing to use GPS navigation, position must be verified every 15 minutes using the GNS 430's VOR/ILS receiver or another IFR-approved navigation system.

4. If "RAIM IS NOT AVAILABLE" message is displayed while on the final approach segment, GPS based navigation will continue for up to 5 minutes with approach CDI sensitivity (0.3 nautical mile). After 5 minutes the system will flag and no longer provide course guidance with approach sensitivity. Missed approach course guidance may still be available with 1 nautical mile CDI sensitivity by executing the missed approach.
5. In an in-flight emergency, depressing and holding the Comm transfer button for 2 seconds will select the emergency frequency of 121.500 Mhz into the "Active" frequency window.

SECTION IV NORMAL PROCEDURES

1. DETAILED OPERATING PROCEDURES

Normal operating procedures are described in the GARMIN GNS 430 Pilot's Guide, P/N 190-00140-00, Rev. A, dated October 1998, or later appropriate revision.

2. PILOT'S DISPLAY

The GNS 430 System data will appear on the Pilot's HSI. The source of data is either GPS or VLOC as annunciated on the display above the CDI key.

3. AUTOPILOT

Coupling of the GNS 430 System steering information to the autopilot can be accomplished by engaging the autopilot in the NAV or APR mode.

When the autopilot system is using course information supplied by the GNS 430 System and the course pointer is not automatically driven to the desired track, the course pointer on the HSI must be manually set to the desired track (DTK) indicated by the GNS 430. For detailed autopilot operational instructions, refer to the FAA Approved Flight Manual Supplement for the autopilot.

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4. AUTOMATIC LOCALIZER COURSE CAPTURE

By default, the GNS 430 automatic localizer course capture feature is enabled. This feature provides a method for system navigation data present on the external indicators to be switched automatically from GPS guidance to localizer / glide slope guidance at the point of course intercept on a localizer at which GPS derived course deviation equals localizer derived course deviation. If an offset from the final approach course is being flown, it is possible that the automatic switch from GPS course guidance to localizer / glide slope course guidance will not occur. It is the pilot's responsibility to ensure correct system navigation data is present on the external indicator before continuing a localizer based approach beyond the final approach fix.

5. DISPLAY OF TRAFFIC ADVISORY DATA

For installations that interface the BFGoodrich SKYWATCH Traffic Advisory System (TAS) and the GNS 530, traffic data detected by the SKYWATCH will appear on the GNS 530. For detailed operating instructions regarding the interface of the GNS 530 with the SKYWATCH, refer to the FAA Approved Flight Manual Supplement for the SKYWATCH, the Pilot's Guide for the SKYWATCH and the GNS 530 Pilot's Guide for the SKYWATCH Traffic Advisory System interface.

SECTION V

PERFORMANCE

No change.

**SECTION VI
WEIGHT AND BALANCE**

See current weight and balance data.

**SECTION VII
AIRPLANE & SYSTEM DESCRIPTIONS**

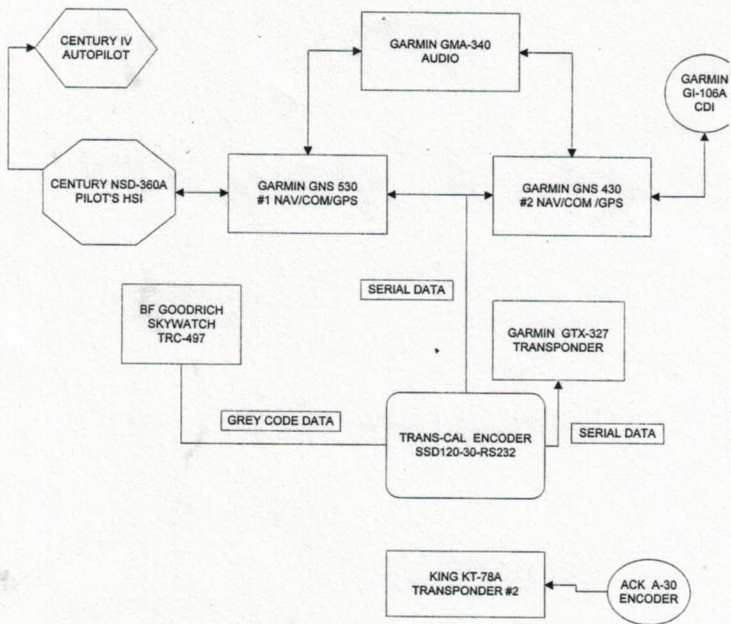
See GNS 430 Pilot's Guide for a complete description of the GNS 430 system.

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