

PIPER AIRCRAFT CORPORATION

LOCK HAVEN, PENNA.

REPORT 1359
Supplement No. 1
PAGE 1

MODEL PA-24-260

SUPPLEMENT NO. 1 TO PIPER MODEL PA-24-260 FLIGHT MANUAL

THIS DOCUMENT MUST BE ATTACHED
TO THE BASIC AIRPLANE FLIGHT
MANUAL AND KEPT IN THE AIRPLANE
WHEN THE ITEM OF EQUIPMENT
DESIGNATED BELOW IS INSTALLED.

Approval Basis CAR 3 and 410
Approved June 30, 1965
Piper Model PA-24-260
Equipped with Piper Altimatic
II With Automatic Trim
Normal Category Only

FAA IDENTIFICATION NO. _____

INSTALLATION OF PIPER ALTIMATIC MODEL AK089 WITH AUTOMATIC TRIM

Placards:

- *(1) Below the directional gyro:

PULL TO SELECT HEADING

- (2) To the right of the control console:

PIPER ALTIMATIC PILOT
INSTRUCTIONS

LIMITATIONS:

1. Pilot off during take-off and landing.
2. Pilot off above 180 MPH.

NORMAL OPERATION:

1. Refer to Flight Manual.

EMERGENCY:

1. Disengage Altimatic Controls
2. Altimatic may be overpowered manually.

- (3) To the right of the Pitch Control Knob:

PULL
ALT
HOLD

- (4) To the left of the PITCH CONTROL KNOB:

UP

*Not applicable when
Piper 3 inch. face
gyros are installed.

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Placards: (Cont'd.)

(5) On left Control Wheel

NOSE	DOWN
TRIM	UP

Operating Instructions;

Prior to operating the Altimatic Pilot, check the vacuum and ascertain that the directional gyro and artificial horizon are functioning properly. For daytime operation the dim switch must be pushed in for trim indication on the trim or servo effort lights. This switch also controls the dial lights of the altitude scale.

Pitch trim is automatically accomplished when the pitch engage knob in the console is rotated clockwise. This will keep the effort lights out.

With the Altimatic Pilot Turned Off: The airplane can be trimmed (1) manually with the crank or (2) by actuating the switch on the pilot's control wheel. Push toggle switch forward for nose down trim and rearward for nose up trim.

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SECTION I - AUTOMATIC HEADING SELECTOR

- (1) Directionally trim the aircraft.
- (2) Set the directional gyro with the magnetic compass.
*Uncage by pulling fully out and engaging with the heading selector card. Spinning or excessive precession will result if D.G. is not fully uncaged.
- (3) Select the desired heading at the top of the heading selector card index mark.
- (4) Subsequent course changes may be made by turning the heading select knob.
- (5) After reaching a safe altitude, turn "ROLL" engage knob clockwise to engage the roll portion of the autopilot. At this time, a pitch servo effort light may come on. This has no effect on the aircraft until the pitch servo is engaged. See Section II or III.
- (6) The "TURN TRIM" knob located to the right of artificial horizon (below the D.G. when Piper 3 inch face gyros are installed) should be used to bring the exact heading, shown on the D.G. card, into agreement with the course selector.
- (7) Steeper banks (additional 8 deg.) may be obtained by adding any portion of the "TURN TRIM" Knob, but it must be repositioned at the termination of the turn.

*Not applicable when Piper 3 inch face gyros are installed.

SECTION II - MANUAL PITCH CONTROL

- (1) Push in "PITCH CONTROL" Knob and rotate until aircraft reaches desired attitude.
- (2) Turn the "PITCH" engage knob clockwise to engage pitch portion of the autopilot.
- (3) Subsequent changes in pitch attitude may be made by rotating the "PITCH CONTROL" knob in the appropriate direction.

NOTE:

- (1) Never disengage the pitch servo without having a firm grip on the control wheel.

SECTION III - ALTIMATIC ALTITUDE SELECT

- (1) Select the desired altitude on the console dial.
- (2) Center the "PITCH CONTROL" knob and pull out.
- (3) Engage the "PITCH" engage knob, rocking the wheel gently fore and aft, if necessary.
- (4) On reaching desired altitude, adjust altimatic dial scale to match altimeter using CAL knob.
- (5) Recalibration will be necessary only when altimeter is reset.
- (6) The "PITCH CONTROL" knob may be used to allow the autopilot to:
 - (a) Compensate for loading. With C.G. forward, climb and descent speeds will be normal with knob centered. With C.G. rearward, about 10° downward rotation of the knob will allow normal climb and descent airspeeds.

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- (b) Change speed of the airplane by as much as \pm 10 MPH, by positioning the "PITCH CONTROL" knob full up or down.
- (7) Climbs and descents may be made by selecting a new altitude on the console scale. The Altitude Selector knob should be turned very slowly at first to avoid an abrupt change of attitude, when it is evident that further movement of the knob will produce no further attitude change, the knob may then be rotated more quickly.
- (8) One complete revolution of the Altitude selector knob will result in an altitude change of about 500 feet.

NOTE:

- (1) Never disengage pitch servo without having a firm grip on the control wheel.

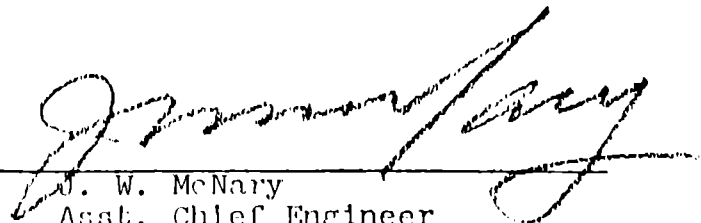
WITH PIPER RADIO COUPLER INSTALLED

The autopilot is coupled to the VOR NAV receiver in the modes indicated on the function switch.

In the Heading (HDG) mode, the autopilot is controlled by the directional gyro.

SECTION IV - EMERGENCY PROCEDURES

1. In the event of malfunction, turn both pitch and roll servo knobs completely counterclockwise, disengaging both axes of altimatic from the control system.
2. Altimatic may be overpowered by exertion of 16 ± 3 pounds of force on either control wheel for roll servo, and 20 ± 3 pounds fore or aft on either control wheel for pitch servo.
3. In case of pitch control interference, a replaceable break-away link is installed on the stabilator control cable which will break at $40 \begin{smallmatrix} +5 \\ -3 \end{smallmatrix}$ lbs. push or pull. This break-away feature will completely isolate the pitch servo from the aircraft control system.
4. In cruise configuration, altimatic malfunction with a 3 second recovery delay results in a 15° bank and 200 foot altitude loss.
5. In approach configuration, altimatic malfunction with a 1 second recovery delay results in a 15° bank and 100 foot altitude loss.



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