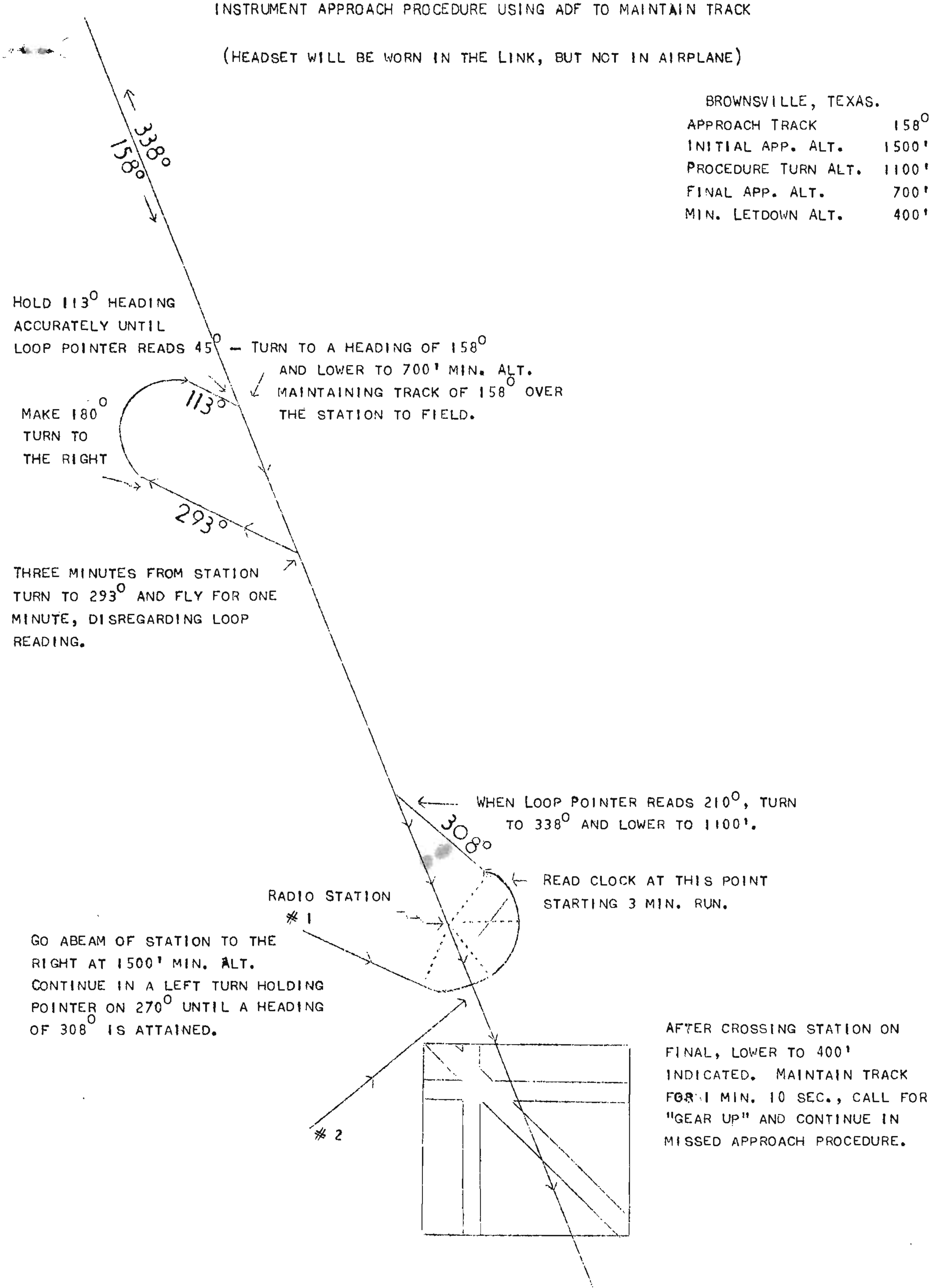
INSTRUMENT APPROACH PROCEDURE USING ADF TO MAINTAIN TRACK

(HEADSET WILL BE WORN IN THE LINK, BUT NOT IN AIRPLANE)

BROWNSVILLE, TEXAS.

APPROACH TRACK	158°
INITIAL APP. ALT.	1500'
PROCEDURE TURN ALT.	1100'
FINAL APP. ALT.	700'
MIN. LETDOWN ALT.	400'



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1. Approach the station so as to pass the airplane Abeam (to the right) of the station and continue in a left turn, holding the Loop Pointer on 270° until a gyro heading of 308° is reached. (Timing of problem begins at this point.)

2. Continue on a gyro heading of 308° until the Loop Pointer reads 210°. Lower to 1100 feet; gear down; approach power.

3. When the Loop Pointer reaches 210°, turn to a heading of 338°.

   Note: Check the arrival over the intended track by reference to the Loop Pointer. If the airplane is over the intended track, the Pointer will indicate 180°. If the plane has been subject to drift, the Loop Pointer will indicate the number of degrees which the airplane is to the left or right of the intended track.

   (a) If the Pointer indicates 170° (less than 180°), then the actual track is 10° to the left of the intended track.

   (b) If the Pointer indicates 190° (greater than 180°), the actual track is 10° to the right of the intended track.

   Before attempting to correct for drift, the aircraft must be returned to the intended track. In the case of (a) above, the airplane has blown to the left of the intended track and a heading should be assumed that will intercept the intended track at an angle of 30°, which in this case would be 8° ($338^\circ + 30^\circ$). Upon assuming this heading, the Loop Pointer will read 30° to the right of the tail, or 150° upon arriving over the intended track.

   Similarly, in case (b) above in which the aircraft has drifted to the right of the intended track, a return to the track will be made on a heading of 308° ($338^\circ - 30^\circ$) and the Pointer will indicate 210° upon arriving over the intended track.

4. When 3 minutes North of station, make procedure turn (as per diagram) and after heading in at 158° lower to 700 feet.

5. Maintain a track of 158°, correcting for drift as necessary by reference to the Loop Pointer.

   Note: While flying a heading of 158°, if Loop Pointer indicates 0°, the airplane is over the intended track.

   (a) If the Loop reads 350° (that is, less than 360°), then the actual track is to the right of the intended track.

(b) If the Loop reads 10° (that is, greater than 0°), the actual track is to the left of the intended track.

Before attempting to correct for wind, the airplane must be returned to the intended track. In the case of (a) above, the aircraft has blown to the right of the intended track and a heading should be assumed which will intercept the intended track at an angle of 30°, which in this case would be 128°. The Loop Pointer will read 30° upon arrival over the intended track.

In case (b) above, the airplane has blown to the left of the intended track and a heading should be assumed which will intercept the intended track at an angle of 30°, which in this case would be 188°. The Loop Pointer will read 330° upon arrival over the intended track.

In cases (a) and (b), outbound on the 338 track, a 10° wind correction angle is assumed, ((a) Heading: 348°; Loop: 170°) ((b) Heading: 328°; Loop: 190°). If the Loop Pointer indication tends to become less than 10° off the tail, the correction angle should be decreased. Conversely, if the indication tends to become greater than 10° off the tail, the correction angle should be increased.

In cases (a) and (b), inbound on the 158° track, a 10° wind correction angle is assumed, ((a) Heading: 148°; Loop: 10°) ((b) Heading: 168°; Loop: 350°). If the Loop Pointer indication tends to become less than 10° off the nose, the correction angle should be increased. Conversely, if the indication tends to become greater than 10° off the nose, the correction angle should be decreased.

6. Cross the station and descend to minimum altitude (400 feet), maintaining this altitude and track of 158° for 1 minute, 10 seconds after crossing the station.

7. If contact is not established within 1 minute, 10 seconds, continue with missed approach procedure.

Q SIGNALS (LISTED AS TO USE)
TAUGHT IN IMC

DEPARTURE AND DESTINATION.

** QAA*- I expect to arrive at______ at______(time). (ETA)

** QAB - I am making for______. (Or make for__________).

** QAC - I am returning to ____.(Or return to__________).

** QAD - I left_______(place of departure) at _______(time).

** QAL* - I am going to land at______. (Or land at __________.)

MESSAGE HANDLING.

QPZ* - Affirmative (Yes).

QQZ* - Negative (No, Not).

** QRJ - I cannot receive you. Your signals are weak.

** QRK* - The readability of your signals is_________(1 to 5).

** QRS - Send more slowly (_______words per minute).

QRU* - I have nothing for you.

INT QRU* - Have you anything for me?

** QSA* - The strength of your signals is ________(1 to 5).

** QTC - I have________messages for you (or for_________).

FREQUENCY AND TUNING.

QHF - Your frequency is slightly (or________Kc's) high.

QLF - Your frequency is slightly (or________Kc's) low.

** QMF* - Your frequency is correct.

** QSV* - Send a series of V's.

** QSY - Change to transmission on ______Kc's without changing the type of wave, or; change to transmission on another wave.

** QZF - Zero beat (tune) your transmitter to my frequency (or to the frequency of_______).

METEOROLOGICAL.

** QFE* - The present barometric pressure not reduced to sea level, at the surface of_______airdrome (name of airdrome) is __________.

QRM I am being interfered with

* Training Standard Minimum.

** These may be used in the form of a question by transmitting INT preceding the operating signal. Example: INT QMF - How does my frequency check?

Q SIGNALS (LISTED AS TO USE)
TAUGHT IN ROP

AUTHENTICATION.

* QIA*- Check your authentication of last transmission (or message_______).

QKA*- Authentication of this message is__________.

QPA*- Authentication challenge is _____________.

BEARINGS AND DIRECTION FINDING PROCEDURE.

** QDL*- I intend to ask for a series of bearings.

**QDM*- The magnetic course to steer, with zero wind, to reach me is_______ (degrees) at_______(time).

QDY*- The magnetic course to steer, with zero wind, to reach me (or_______) is___________(degrees) at______(time). There is a balloon barrage within 6Ø miles of me on that track.

** QGF - Your position in relation to my station (or to________) is expressed as the magnetic course to steer with zero wind, and the distance, is________ degrees ________miles.

QPN*- Increase height to enable more accurate bearings to be completed.

** QTE* - Your true bearing in relation to me (or________) is_________(degrees).

** QTF*- The position of your station by D/F is _________.

** QTH*- My position is______latitude and________longitude (or by any other way of showing it).

QTN*- Send your call sign followed by a 2Ø second dash (repeated____times).

* Training Standard Minimum.

** QUJ - The true course to steer, with zero wind, to reach me is______degrees at_______(time).

REPORTS DURING FLIGHT.

** QBC - Here is the latest meteorological observation made by me from the aircraft.

** QTI - My true course is_____degrees.

** QTJ - My speed is______knots (or _________m.p.h.).

MESSAGE HANDLING.

** QJM - Check encipherment of message (or portions indicated) and repeat.

** QMM*- I have (or_____has)__________ messages (numeral indicating number of messages may be followed by O, OP, P, or K to indicate precedence).

** QWZ - I am using____(1. RFKOH card for the_____day of the month; 2. Bomber code card for the____day of the month; 3. Aircraft reporting card for the____ day of the month; 4. ALAMETCO (request) card numbered______; 5. Meteorological card for the____day of the month.

**These may be used in the form of a question by transmitting $\overline{\text{INT}}$ preceding the operating signal. Example: INT QMF - How does my frequency check?

PROSIGNS--MEANINGS AND EXAMPLES

A	Originator's Sign	$\overline{IMI}$	Repeat
$\overline{AA}$	Unknown Station	$\overline{HM}$ $\overline{HM}$ $\overline{HM}$	Radio Silence (Emergency Silence)
AA	All After	$\overline{INT}$	Interrogatory
AB	All Before	J	Verify and Repeat
$\overline{AR}$	End of Transmission	K	Go Ahead
$\overline{AS}$	Wait	N	Not Received or Exempted
B	More to Follow	NR	Station Serial Number
$\overline{BT}$	Long Break	O	Urgent (Emergency)
C	Correct or "Correct Version is ______"	OP	Operational Priority (Immediate)
D	Deferred	P	Priority (Important)
EEEEEEEE	Error	R	Received (Also Routine)
F	Do Not Answer	T	Transmit To
G	Repeat Back	V	From
GR	Group(s)	WA	Word After
ii —	Separative Sign	W	For Information To

Student Notes: