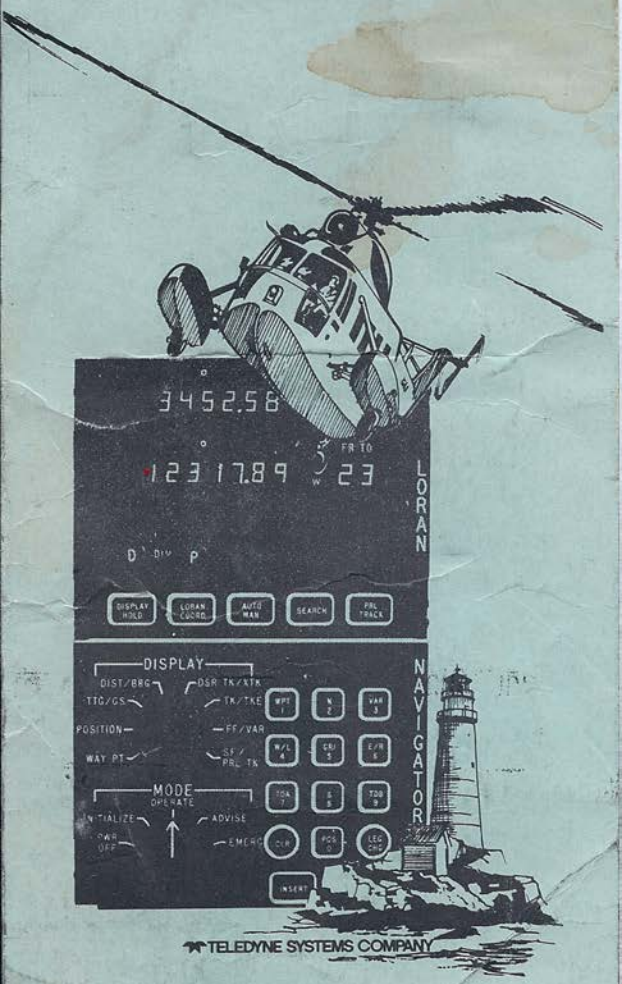
CGTO 12R5-7ARN-133-1CL-1

Vak

# AN/ARN-133(v)2
# PILOT'S CHECKLIST
**(Computer Program No. 8603509)**




TELEDYNE SYSTEMS COMPANY

*1 JULY 1980*

## INITIALIZATION

**Initial Present Position Entry**

► INITIALIZE ► POSITION

1. CLR, POS, N or S, enter latitude, INSERT, E or W, enter longitude, INSERT.

**GRI Selection**

► INITIALIZE ► TK/TKE

1. CLR, GRI, enter 4-digit GRI, INSERT.

**Secondary Advise**

► ADVISE ► TK/TKE

9930.

13 .12 ← PAIR IN USE

RECOMMENDED PAIR

**Secondary Pair Selection**

► INITIALIZE or ADVISE (inflight) ► TK/TKE

1. CLR, S, enter two secondary numbers, INSERT.

Secondary Pair Identification Scheme

| Chain Rates | | Secondaries 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| CENTRAL PACIFIC | 4990 | X | Y | | |
| CANADIAN EAST COAST | 5930 | X | Y | Z | |
| CANADIAN WEST COAST | 5990 | X | Y | Z | |
| NORTH ATLANTIC | 7930 | W | X | Z | |
| GULF OF ALASKA | 7960 | X | Y | | |
| NORWEGIAN SEA | 7970 | W | X | Y | Z |
| S.E.U.S. | 7980 | W | X | Y | Z |
| MEDITERRANEAN SEA | 7990 | X | Y | Z | |
| GREAT LAKES | 8970 | W | X | Y | |
| U.S. WEST COAST | 9940 | W | X | | Z |
| N.E.U.S. | 9960 | W | X | Y | Z |
| NORTHWEST PACIFIC | 9970 | W | X | Y | Z |
| NORTH PACIFIC | 9990 | X | Y | Z | |

**Waypoint Callup**

► WAY PT

1. CLR, WPT, enter waypoint number, INSERT.

**Waypoint Entry in Time Differences**

► WAY PT [TD] on

1. Call up desired waypoint.
2. CLR, POS, TDA
3. Enter time difference A (seven digits), INSERT
4. TDB, enter time difference B (seven digits), INSERT.

**Waypoint Entry in Lat/Long**

► WAY PT [TD] off

1. Call up desired waypoint.
2. CLR, POS, N or S
3. Enter latitude, INSERT
4. W or E, enter longitude, INSERT.

**Magnetic Variation Entry**

► INITIALIZE or OPERATE ► FF/VAR (to observe)

1. CLR, VAR, W or E, enter mag var to nearest degree, INSERT.
2. To clear mag var: CLR, VAR, INSERT.

Rho Theta

1. OPR - DIST/BRG
2. CLR, WPT, LEG CH, OLD WPT, NEW WPT, INSERT.
3. DIS - INSERT
4. BEARING - INSERT

**Leg Change Entry**

►OPERATE (DISPLAY switch to any postion)

1. CLR, LEG CHG, enter new FRom and TO numbers, INSERT.
2. To advance to the next consecutive leg:
   CLR, LEG CHG, INSERT.

**Deactivate Steering**

►OPERATE (DISPLAY switch to any position)

1. CLR, LEG CHG, 0, 0, INSERT.

**Interwaypoint Range and Bearing**

►OPERATE ►DIST/BRG

1. CLR, WPT, enter FRom and TO numbers, INSERT.
2. For range/bearing from aircraft to waypoint, enter 0 and the waypoint number.

**Converting Present Position into a Waypoint**

►OPERATE (DISPLAY switch to any position)

1. Press LORAN COORD for L/L or TD.
2. When aircraft is over point of interest, press DISPLAY HOLD.
3. CLR, WPT, enter waypoint number for position storage, INSERT.

## SYSTEM POSITION UPDATES

**Time Difference Position Update**

► OPERATE ► POSITION (System must be in track.)

To observe the update, [TD] must be on.

1. CLR, POS, TDA, enter 7 digits of time difference A, INSERT, TDB, enter 7 digits of time difference B, INSERT.
2. To clear update: CLR, POS, INSERT.

**Lat/Long Position Update**

► OPERATE ► POSITION (System must be in track.)

1. CLR, POS, N or S, enter lat., INSERT, W or E, enter long., INSERT.
2. To clear update: CLR, POS, INSERT.

**Waypoint Position Update**

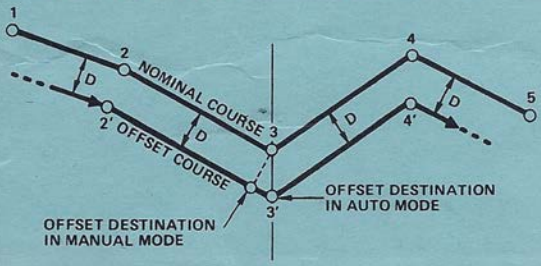
► OPERATE ► POSITION (System must be in track.)

1. CLR, POS, WPT, enter waypoint number of stored coordinates.
2. When directly over calibration point, depress INSERT.
3. To clear update: CLR, POS, INSERT.

**Parallel Track Steering**

► OPERATE ► SF/PRL TK (to observe)

1. CLR, PRL TRACK, L or R, enter offset distance (0.1-99.9 mm.), INSERT.
2. To clear parallel track steering: CLR, PRL TRACK, INSERT.




**Leg Change Entry • Deactivate Steering**
**Interwaypoint Range and Bearing**
**Converting Present Position into a Waypoint**
**System Position Updates**
**Parallel Track Steering**

**Search Pattern Entry**

►OPERATE ►SF/PRL TK [SEARCH] CS or VS

**WPT**

[A] Enter CSP waypoint:
CLR, enter number of CSP waypoint, INSERT.

[b] Enter leg length:
CLR, enter leg length (.1-99.9 nm), INSERT.

[C] Enter bearing of first leg:
CLR, enter bearing in degrees, INSERT.

[d] Enter direction of first turn & track spacing:
CLR, L or R, enter track spacing (.1-99.9 nm) INSERT.
For VS patterns depress INSERT again.

[E] Enter pattern length (for CS patterns only):
CLR, enter pattern length (1-99 nm), INSERT.

**Search Pattern Readout**

►OPERATE ►SF/PRL TK [SEARCH]

1. Depress INSERT to obtain next cue letter and previously entered search pattern data. Continue pressing INSERT until VS or CS indicator goes out.

**Search Pattern Modification**

►OPERATE ►SF/PRL TK

1. Depress SEARCH to obtain VS or CS
2. Depress INSERT until desired cue letter appears.
3. Enter new data over the old.
4. Continue pressing INSERT until VS or CS goes out.

**Commence Search Pattern**

► OPERATE ► SF/PRL TK (to observe)

1. CLR, LEG CHG, enter approach leg FRom point (usually 0, representing aircraft position), SEARCH (CS or VS), INSERT.

**Manual Leg Advance During Search**

1. CLR, LEG CHG, INSERT.

**Depart from Search Pattern, Return, and Resume Search**

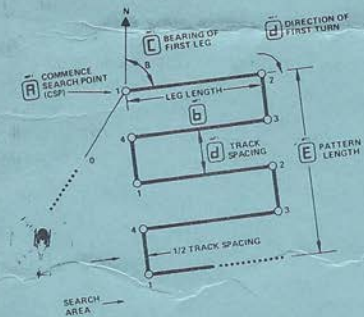
1. Depress SEARCH at point you want to leave the pattern.
2. When you want to resume search pattern where you left off, depress SEARCH again.

**Terminating Search**

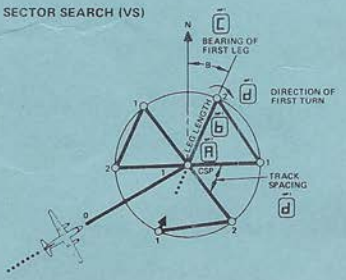
1. CLR, SEARCH, INSERT.

Doing a leg change will also terminate search and activate steering to designated waypoint.

**CREEPING LINE SEARCH (CS)**




**SECTOR SEARCH (VS)**




**Search Pattern Entry, Readout, and Modification**
**Flying Search Patterns**

**Master Independence Override**

ADVISE lights when master indep. is active. Master indep. is enabled automatically; to override the feature:

►ADVISE ►DSR TK/XTK

**1.** CLR, 4, 8, INSERT.

To remove master independence override (allow normal master independence operation).

►ADVISE ►DSR TK/XTK

**1.** CLR, 4, 0, INSERT.

**Loran Cycle Jump**

The tracking point can be moved either one cycle ahead or one cycle behind the cycle currently being tracked by the receiver.

►OPERATE ►POSITION [TD] on

**1.** CLR, GRI.
**2.** To move master, go to step 3. To move the A secondary, press TDA; to move the B secondary, press TDB.
**3.** If jump is to be to the left (−), press L; if to the right (+), press R.
**4.** Press INSERT. For A or B (−) jumps, TD should decrease by 10 microseconds; for (+) jumps, TD should increase by 10. For master jumps, the shift will be ±5, with no visible indication.

►OPERATE

**1.** CLR, REPORT, enter code, INSERT.

| Code | Type of Reporting |
|---|---|
| 0 | Automatic reporting of present position |
| 0 + (1 - 6) | Automatic reporting of displays |
| (1 - 6) | Manual reporting of displays |

Output message interval:
interval in seconds = (aircraft ID No. x 10 )*-1

**Self Test**

► INITIALIZE ►TK/TKE

**1.** CLR, GRI, ENTER 5100,

► OPERATE, ► POSITION.

**2.** ADVISE indicator should light. Displays should read:

2352.82 N
16422.04 W ±0.05 TD on -16000.00 / 36000.00 ±0.2

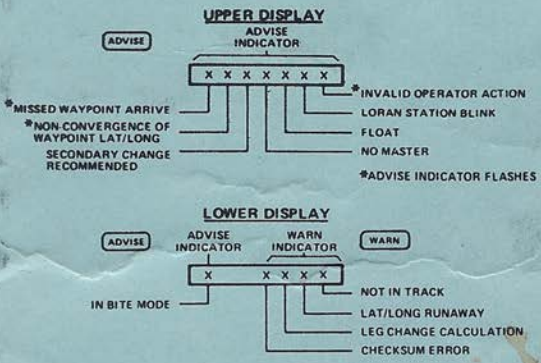
**Lamp Test**

► ADVISE ► FF/VAR

Master Independence Override • Loran Cycle Jump
Self Test • Lamp Test
Use and Warn (back)

**Advise and Warn**

To determine cause of ADVISE or WARN indications, set switches to ADVISE and DSR TK/XTK. A "1" appearing in any digit in upper or lower displays signifies condition listed below:




With MODE switch in ADVISE, system data displayed are as follows:

| | | | |
|---|---|---|---|
| ► WAY PT | TD1 / TD2 | ► DSR TK/XTK (see chart) | |
| ► POSITION | TD3 / TD4 | ► TK/TKE | GRI / Secondary pair |
| ► TTG/GS | Velocity / Envelope Counter | ► FF/VAR | Lamp test |
| ► DIST/BRG | Loran status / SNR's | ► SF/PRL TK | Memory address / Memory data |