

NDBs

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- **Ex: NDB Hold**
- **Ex: NDB Approach at Leicester**

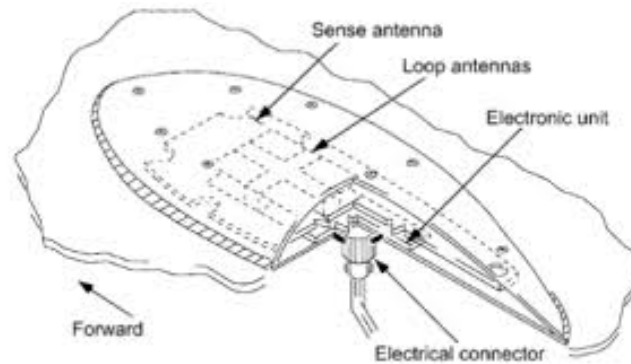
NDB / ADF RECAP

How NDB WORKS

Non Directional Beacon



Antennas



Receiver & Instrument



NDB / ADF RECAP

PRE-FLIGHT CHECKS

- AIP CHECK ENR 4.1

Name of Station/ MAG Var/ VOR Declination	Ident	Frequency (Channel)	Hours of Operation	Coordinates	DME Aerial Elevation	Remarks
HENTON NDB 0.4°W	HEN	433.500 kHz	H24	514535.07N 0004725.05W		Range 30 nm.

- OR AIP AD ENTRY

EGBG AD 2.19 RADIO NAVIGATION AND LANDING AIDS

Type of Aid CAT of ILS/MLS (For VOR/ILS/MLS, give VAR)	Ident	Frequency	Hours of Operation	Position of transmitting antenna co- ordinates	Elevation of DME transmitting antenna	Remarks
1	2	3	4	5	6	7
NDB	LE	383.500 kHz	0800-1700 (0700- 1600); and by ar- rangement.	523623N 0010206W		On AD. Range 10 nm. Normally radiates H24.

- ALSO CHECK NOTAMS

NDB / ADF RECAP

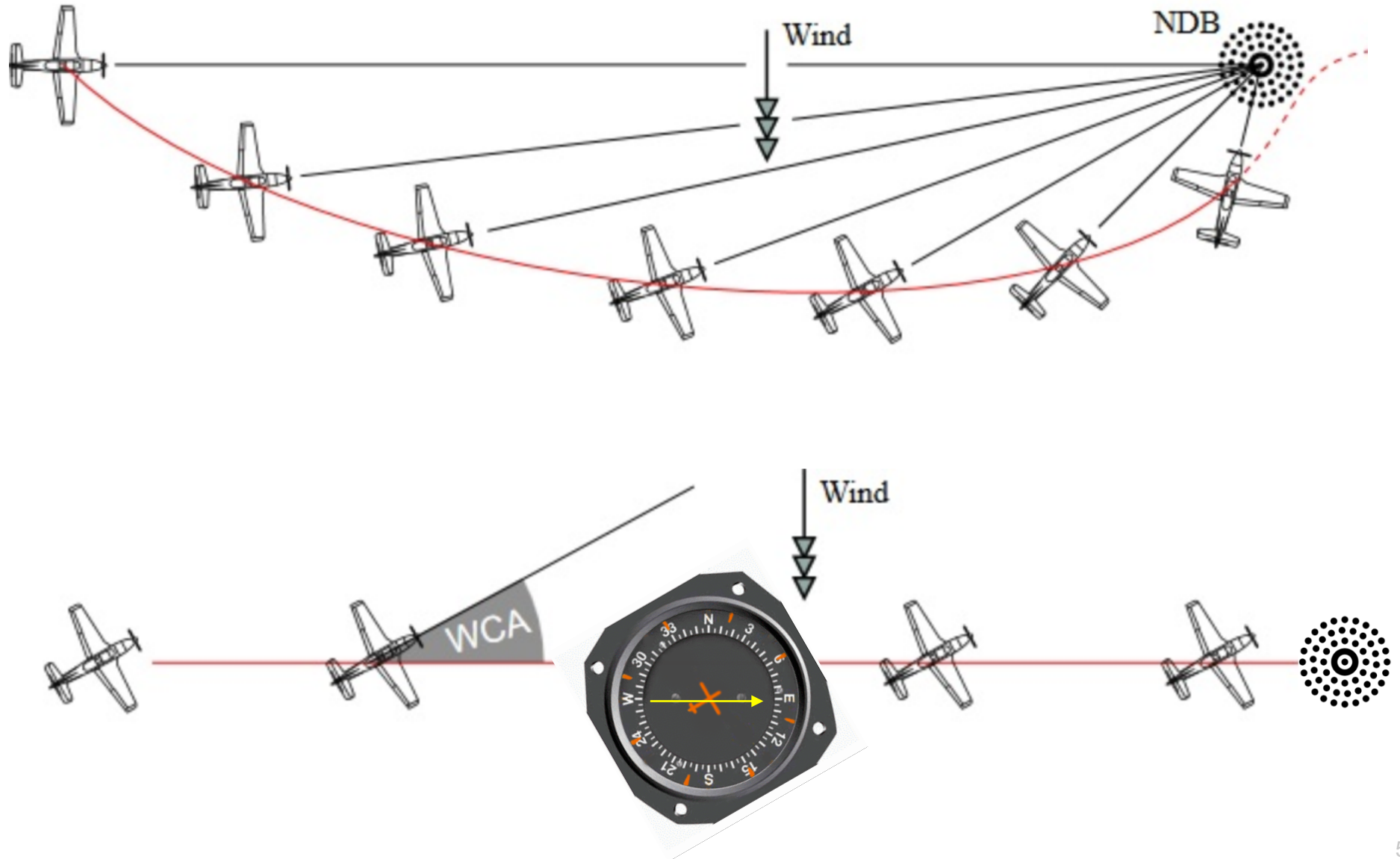
TUNING & SELECTION



- TUNE TO NDB FREQUENCY (LE 383.5)
- ADF BUTTON PRESSED
- IDENT (LISTEN FOR MORSE). VOLUME CONTROL
 - MAY NEED BFO BUTTON FOR SOME NDBS
- NEEDLE SHOULD MOVE
 - NOTE **No FLAGS TO SHOW FAULTS** UNLIKE VOR

NDB / ADF RECAP

HOMING VS TRACKING



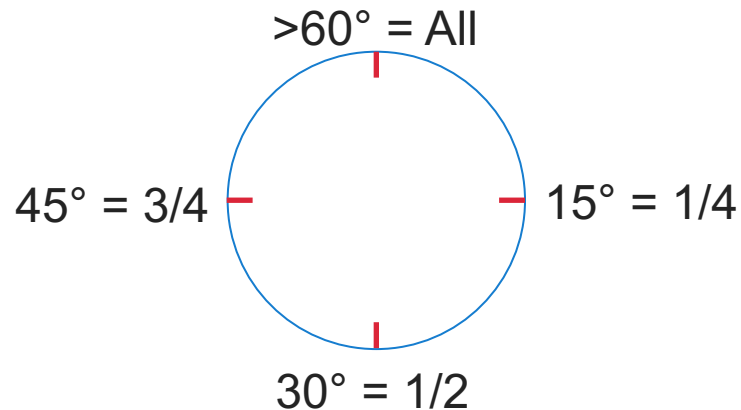
NDB / ADF RECAP

WIND CORRECTIONS

- MAX DRIFT

$$\frac{\text{Windspeed} \times 60}{\text{TAS}} \quad \text{or at 90kt} = \text{Windspeed} \times \frac{2}{3}$$

- CLOCK CODE (BASED ON WIND DIRECTION VS NOSE OF AIRCRAFT)



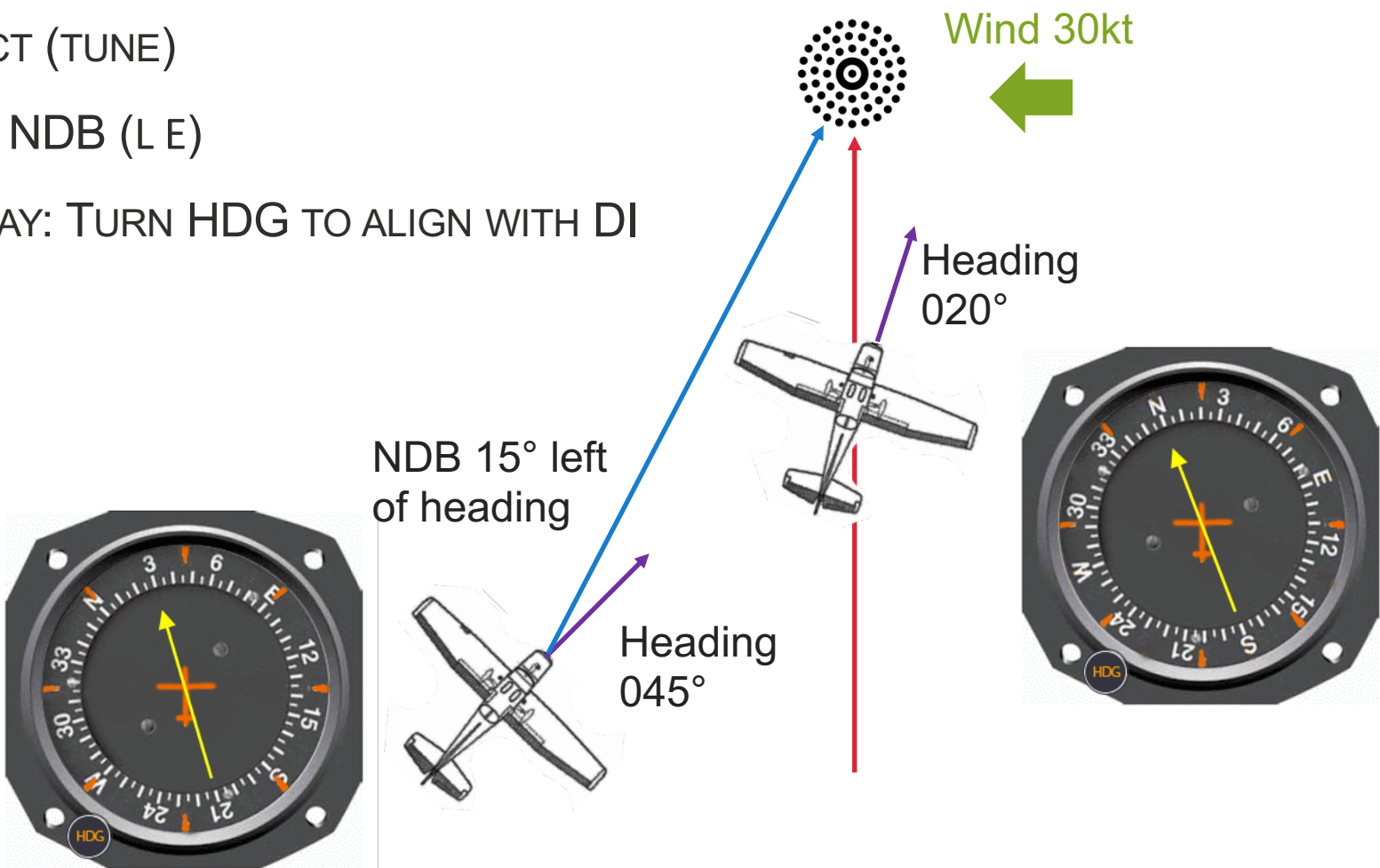
- FOR HOLDING, NEED 3 X DRIFT AS A WIND CORRECTION ON OUTBOUND LEG

Ex 19: NDB TRACKING

AIM: TO USE THE NDB/ADF TO TRACK TO/FROM AND INTERCEPT AN NDB RADIAL

- T** OTHER AIRPLANES, INSTRUMENT NOT WORKING, GROUND STATION NOT WORKING
- E** MISREADING DISPLAY, INCORRECT FREQUENCY
- M** LOOKOUT (INSTRUCTOR), DOC, IDENT

- SELECT (TUNE)
- IDENT NDB (L E)
- DISPLAY: TURN HDG TO ALIGN WITH DI

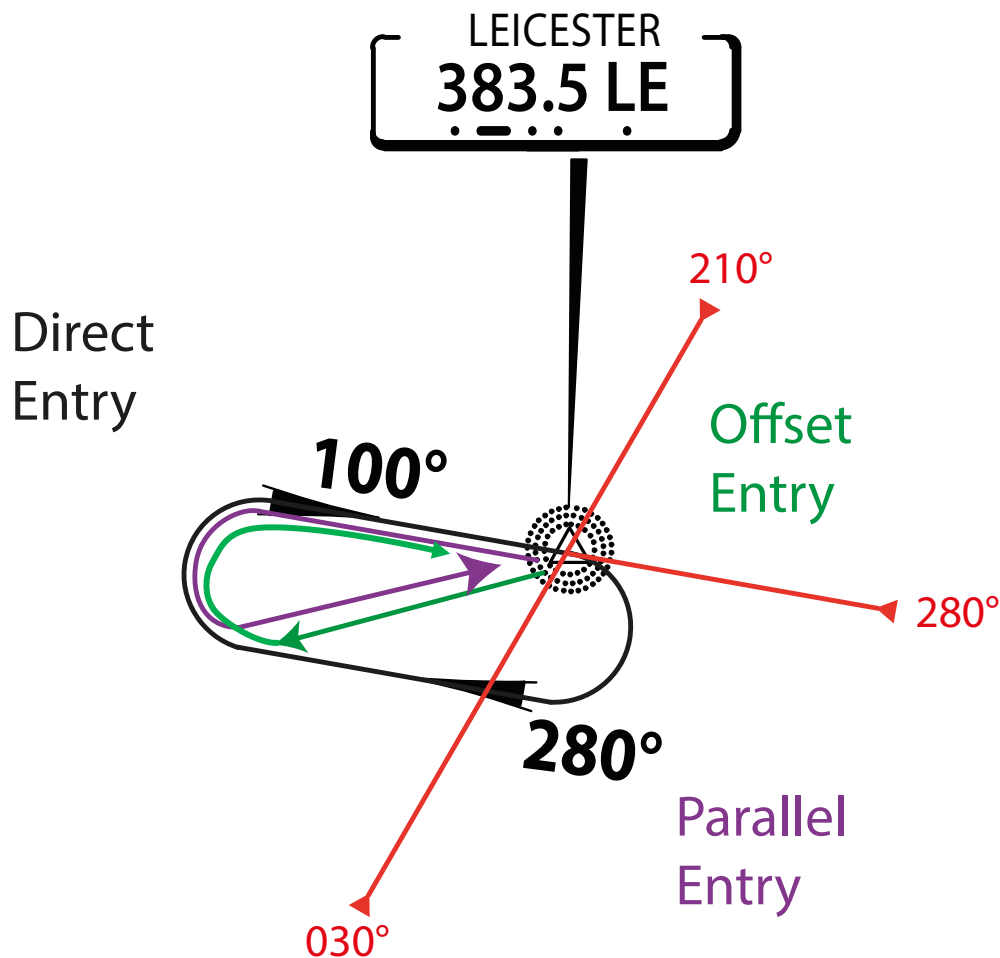


Ex 19: NDB Hold 1

AIM: TO JOIN AND MAINTAIN THE HOLD AT LEICESTER

T OTHER AIRPLANES, INSTRUMENT NOT WORKING, GROUND STATION NOT WORKING
E MISREADING DISPLAY, INCORRECT FREQUENCY
M LOOKOUT (INSTRUCTOR), DOC, IDENT

- SID BEFORE BEACON
- ENTER HOLD DEPENDING ON APPROACH COURSE
- DIRECT (HEADING 030° TO 210°)
 - TURN RIGHT OVER BEACON TO 280°
 - START TIMER ABEAM BEACON
 - AFTER 1 MIN, TURN RIGHT TO BEACON
- OFFSET (HEADING 210° TO 280°)
 - TURN OVER BEACON TO 250°
 - START TIMER
 - AFTER 1 MIN TURN RIGHT TO BEACON
- PARALLEL (HEADING 280° TO 030°)
 - TURN OVER BEACON TO 280°
 - START TIMER
 - AFTER 1 MIN TURN LEFT BACK TO BEACON

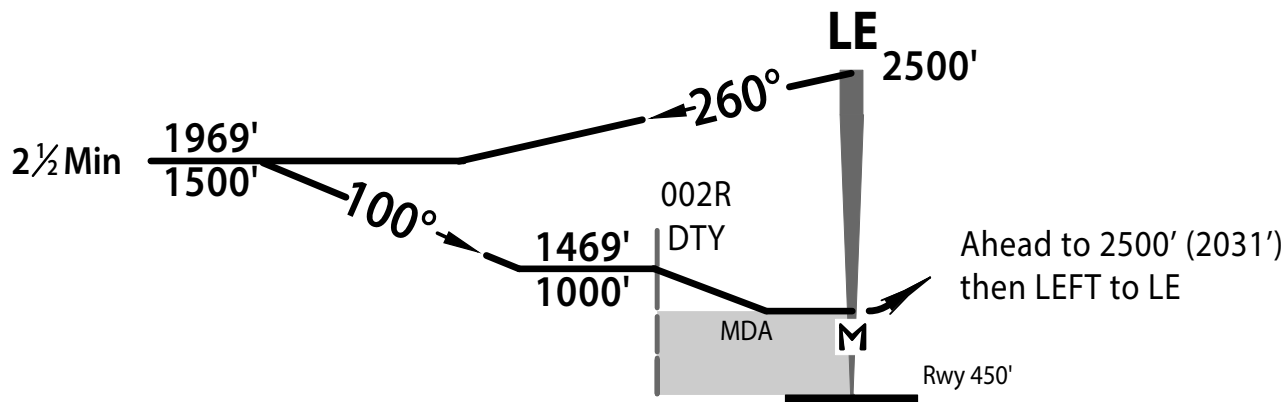
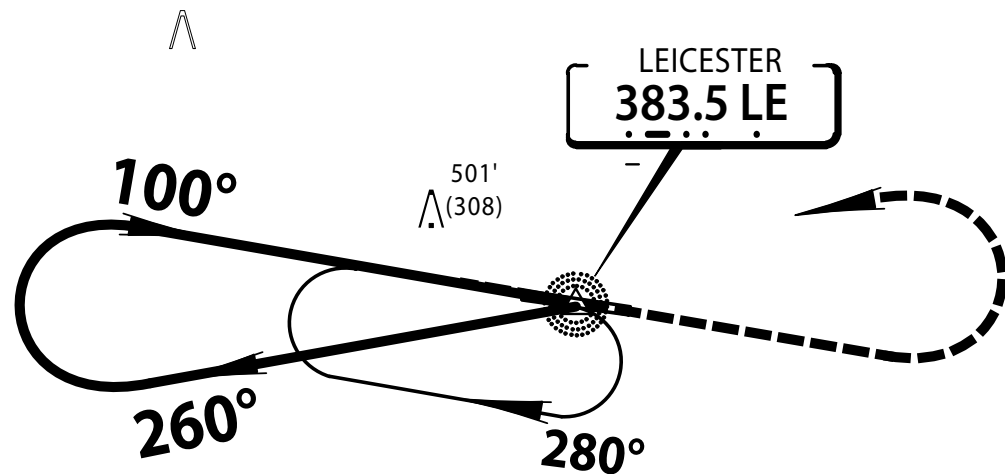


NDB 10 APPROACH TO LEICESTER

AIM: TO SAFELY AND SUCCESSFULLY FLY AN NDB APPROACH TO RUNWAY 10 AT LEICESTER

T OTHER AIRPLANES, INSTRUMENT NOT WORKING, GROUND STATION NOT WORKING
E MISREADING DISPLAY, INCORRECT PROCEDURE FOLLOWED
M LOOKOUT (INSTRUCTOR), SID, TYPE OF APPROACH AND CHECKS, MSA, WX

- FREDA + SID BEFORE BEACON (BOTH NDB AND VOR)
- OVERHEAD BEACON 2500'
 - TWIST (SET QFE)
 - TURN 260°
 - TIME (START CLOCK)
 - TALK "BEACON OUTBOUND"
 - THROTTLE (1900 RPM)
- DESCEND – 90KTS, TO 1500 QFE
- BUMPFICH ON WAY OUTBOUND
- 2.5 MINS OUT
- TURN RIGHT INBOUND 100° (+/- CORR)
- CALL "BASE TURN COMPLETE"
- DESCEND – 1000 QFE
- PASS DTY 002R
- DESCEND TO 600 QFE



NDB 28 APPROACH TO LEICESTER

AIM: TO SAFELY AND SUCCESSFULLY FLY AN NDB APPROACH TO RUNWAY 28 AT LEICESTER

T OTHER AIRPLANES, INSTRUMENT NOT WORKING, GROUND STATION NOT WORKING
E MISREADING DISPLAY, INCORRECT PROCEDURE FOLLOWED
M LOOKOUT (INSTRUCTOR), SID, TYPE OF APPROACH AND CHECKS, MSA, WX

- FREDA + SID BEFORE BEACON (BOTH NDB AND VOR)
- OVERHEAD BEACON 2500'
 - TWIST (SET QFE)
 - TURN 120°
 - TIME (START CLOCK)
 - TALK "BEACON OUTBOUND"
 - THROTTLE (1900 RPM)
- DESCEND – 90KTS, TO 1500 QFE
- BUMPFICH ON WAY OUTBOUND
- 2.5 MINS OUT
- TURN LEFT INBOUND 280° (+/- CORR)
- CALL "BASE TURN COMPLETE"
- DESCEND – 1000 QFE
- PASS DTY 012R
- DESCEND TO 600 QFE

