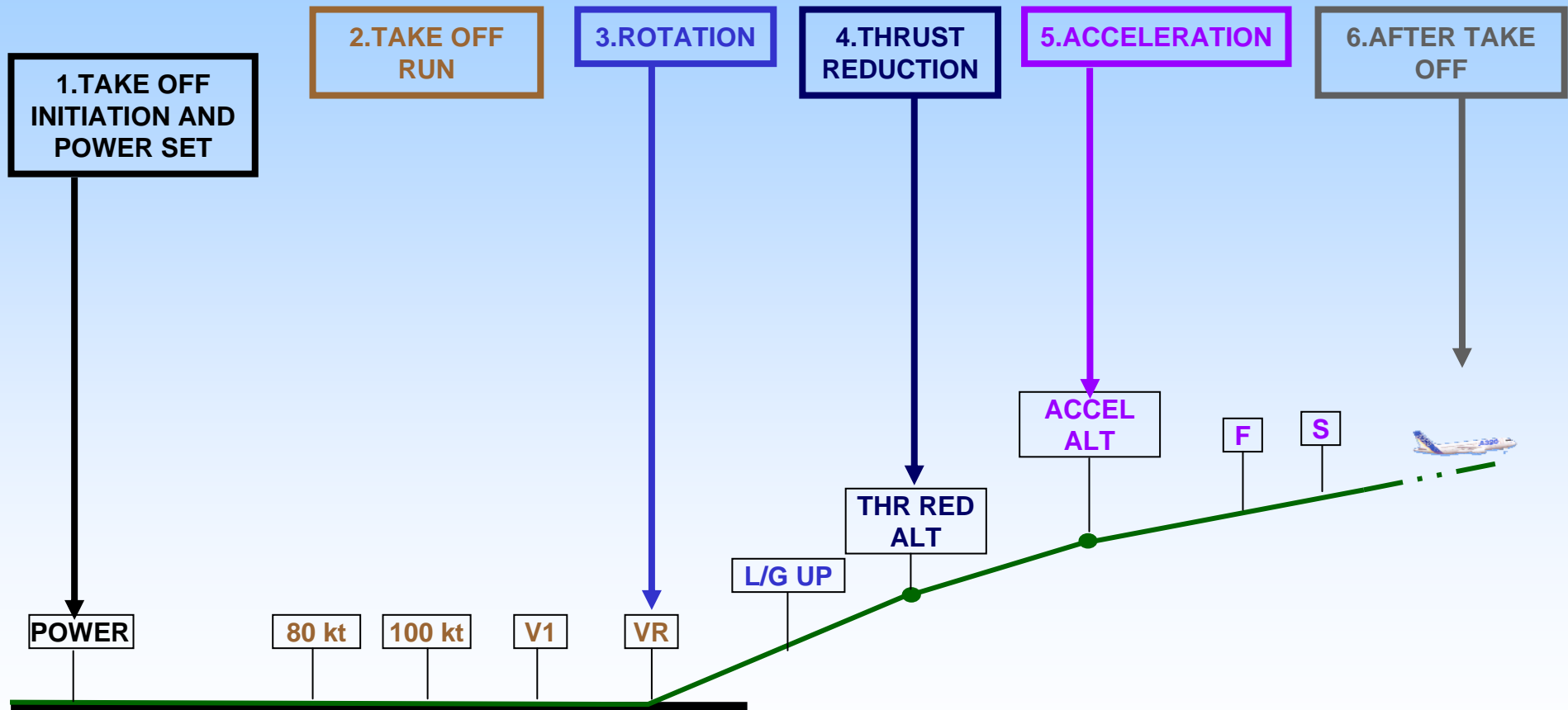


# TAKE OFF



PF

PNF

## 1. TAKEOFF INITIATION AND POWER SET

ANNOUNCE....."TAKE OFF"

CHRONO.....START

BRAKES.....RELEASE

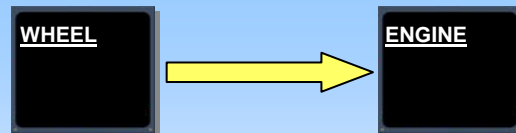
THRUST LEVERS...

... 1) From IDLE to 50 % N1 (1.05 EPR)

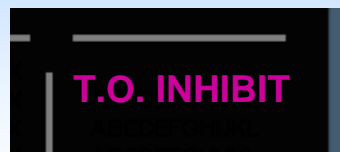
... 2) From Both engines THR stabilized to T/O THR

CHRONO.....START

- ECAM SD auto - switching



- Computer inhibits warnings and cautions.



PF

PNF

## 2. TAKEOFF RUN

ANNOUNCE FMA.....

FMA..... CHECK 

ANNOUNCE....."CHECKED"

*BEFORE 80 kt*

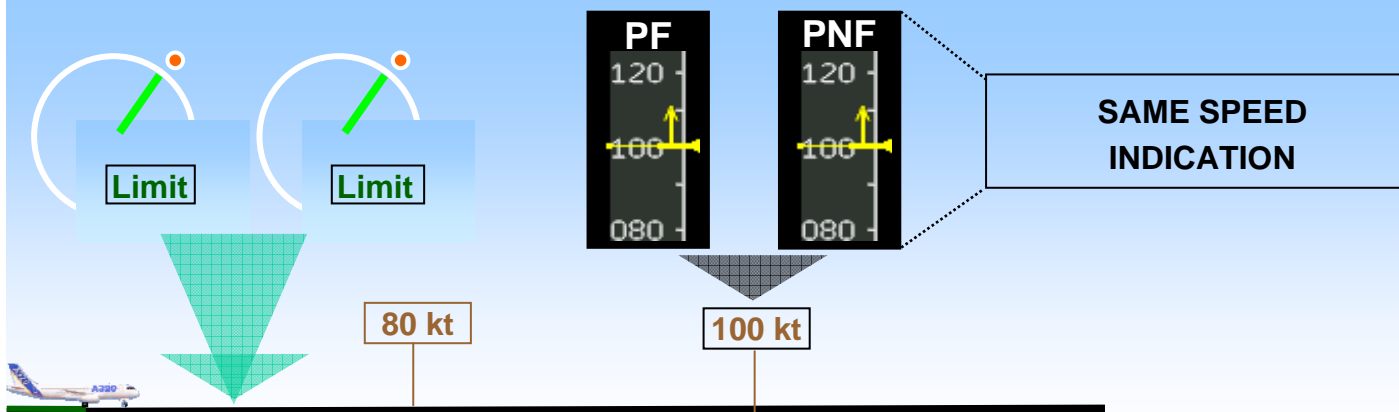
N1(EPR).....CHECK

ANNOUNCE....."POWER SET"

*AT 100 kt*

ANNOUNCE....."ONE HUNDRED KNOTS"

ANNOUNCE....."CHECKED"



PF

PNF

### 3.a. ROTATION

AT V1

ANNOUNCE....."V1"

At VR

ANNOUNCE....."ROTATE"

ROTATION.....PERFORM

WHEN V/S positive and RA positive

ANNOUNCE....."POSITIVE CLB"

ORDER....."GEAR UP"

L/G.....UP

ANNOUNCE....."GEAR UP"

GRND SPLR.....DISARM

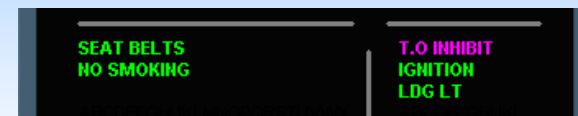
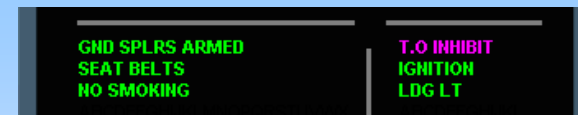
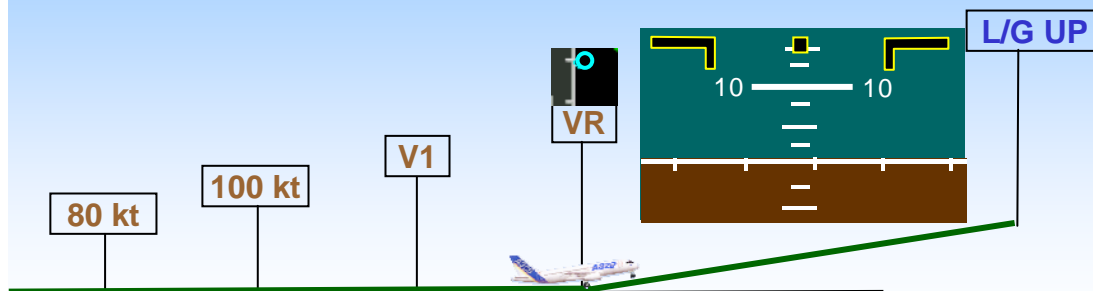
EXTERIOR LIGHTS.....SET



ORDER....."AUTOPILOT ON"

A/P.....ON (on PF SIDE)

➤ AP is available 5 sec after lift off (100 ft).



**Note:** With CFM engines, IGNITION is displayed only if IGN/START mode has been selected.

PF

PNF

3.b. PRESELECTED HEADING

ANNOUNCE FMA ..... "AP 1 (or 2)"

FMA.....CHECKED

ANNOUNCE....."CHECKED"

*If RWY TRK mode is engaged:*

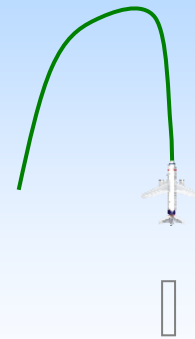
HDG.....PULL or MANAGE

➤ **RWY TRK** mode keeps the aircraft on the runway track memorized at 30 ft RA.



**Pull HDG Knob**  
To maintain runway HDG

Or



**Push HDG Knob:**  
NAV mode is engaged

PF

PNF

4. THRUST REDUCTION

FMA

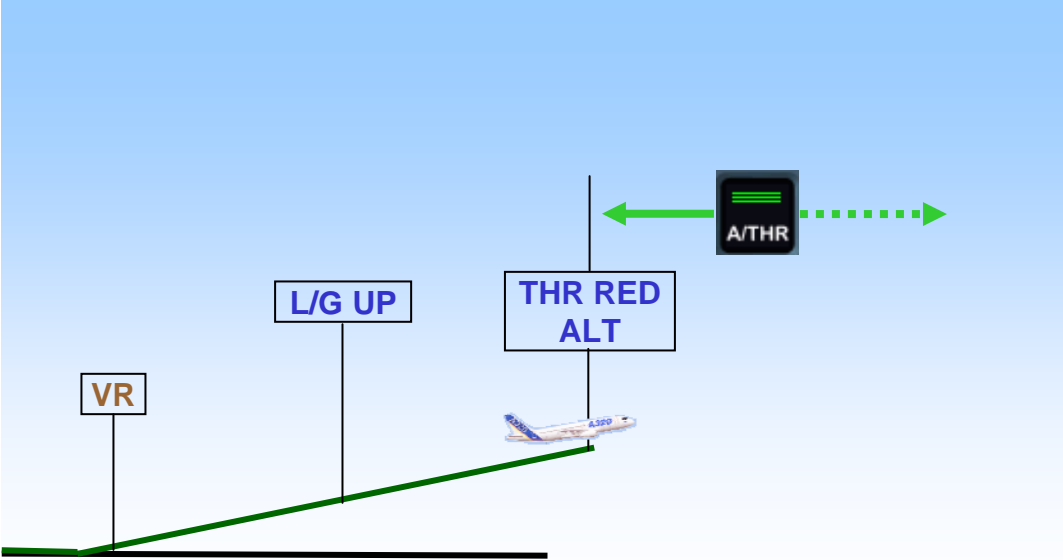
When LVR CLB flashing on FMA

THRUST LEVERS.....CL 

FMA

If takeoff was performed with packs off:

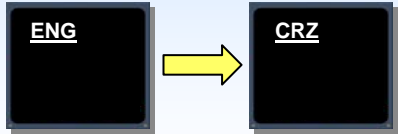
PACKS 1 and 2 .....ON 



➤ 1500 ft AGL or 2 min after lift off :



➤ ECAM SD auto – switching :



PF

PNF

### 5. ACCELERATION

*At acceleration altitude*

*FMA*

*At F speed with positive speed trend*

ORDER....."FLAPS 1"

ANNOUNCE....."SPEED CHECKED"

FLAPS 1.....SELECT



CONFIRM....."FLAPS 1"

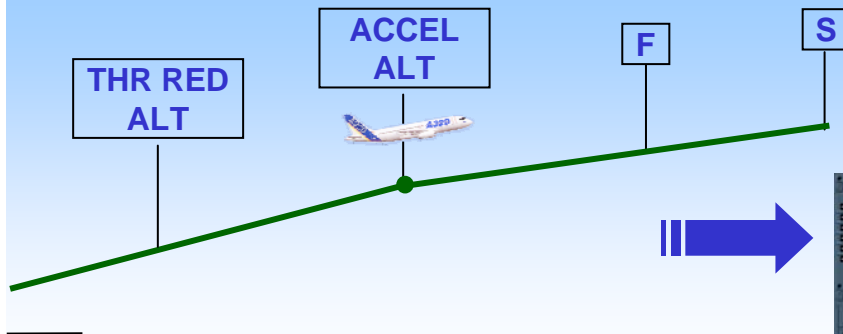
*At S speed with positive speed trend*

ORDER....."FLAPS 0"

ANNOUNCE....."SPEED CHECKED"

FLAPS 0.....SELECT

CONFIRM....."FLAPS 0"



➤ Target speed change



PF

PNF

6. AFTER TAKEOFF

APU BLEED/MASTER SW.....AS RQRD

ENG MODE SEL.....AS RQRD

TCAS.....TA/RA

ANTI ICE.....AS RQRD



PF

PNF

7. TRANSITION ALT

At transition altitude :

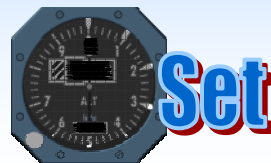
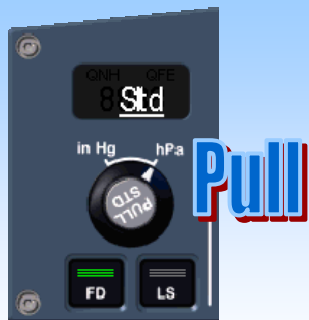
ANNOUNCE....."PULL STANDARD"  
BARO REF .....PULL STANDARD

BARO REF .....PULL STANDARD  
ANNOUNCE....."STANDARD CROSS-CHECKED"

ALT .....CHECK  
ANNOUNCE....."CHECKED"

ANNOUNCE....."PASSING FL XX, now"

AFTER T/O CLIMB C/L



THE END...

PF

PNF

## 2. TAKEOFF RUN

ANNOUNCE FMA

Typical announcement is :

“MAN TOGA (or MAN FLX XX), SRS, RWY,  
A/THR *blue*”

FMA..... CHECK 

ANNOUNCE.....”CHECKED”

*BEFORE 80 kt*

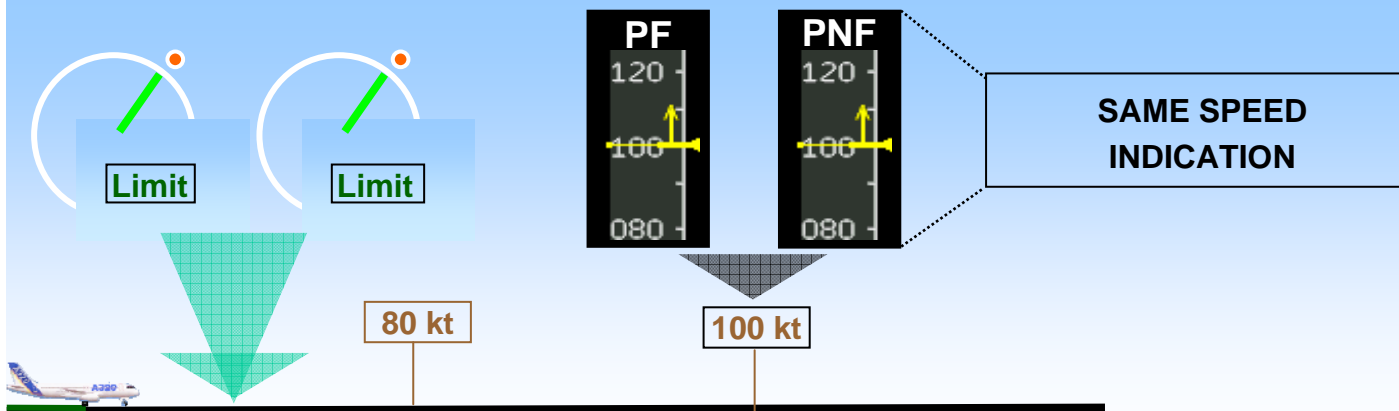
N1(EPR).....CHECK

ANNOUNCE.....”POWER SET”

*AT 100 kt*

ANNOUNCE.....”ONE HUNDRED KNOTS”

ANNOUNCE.....”CHECKED”



PF

PNF

### 3.a. ROTATION

AT V1

ANNOUNCE....."V1"

At VR

ANNOUNCE....."ROTATE"

ROTATION.....PERFORM

WHEN V/S positive and RA positive

ANNOUNCE....."POSITIVE CLB"

ORDER....."GEAR UP"

L/G.....UP

➤ Set NOSE and RWY TURN OFF lights switches to OFF

ANNOUNCE....."GEAR UP"

➤ LAND lights should be left ON

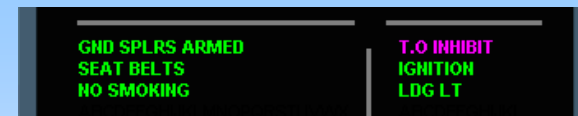
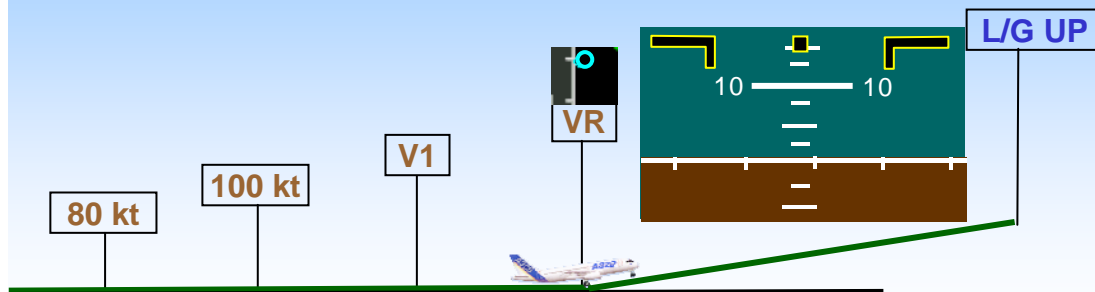
GRND SPLR.....DISARM

EXTERIOR LIGHTS.....SET 

ORDER....."AUTOPILOT ON"

A/P.....ON (on PF SIDE)

➤ AP is available 5 sec after lift off (100 ft).



**Note:** With CFM engines, IGNITION is displayed only if IGN/START mode has been selected.

PF

PNF

### 4. THRUST REDUCTION

FMA

When LVR CLB flashing on FMA

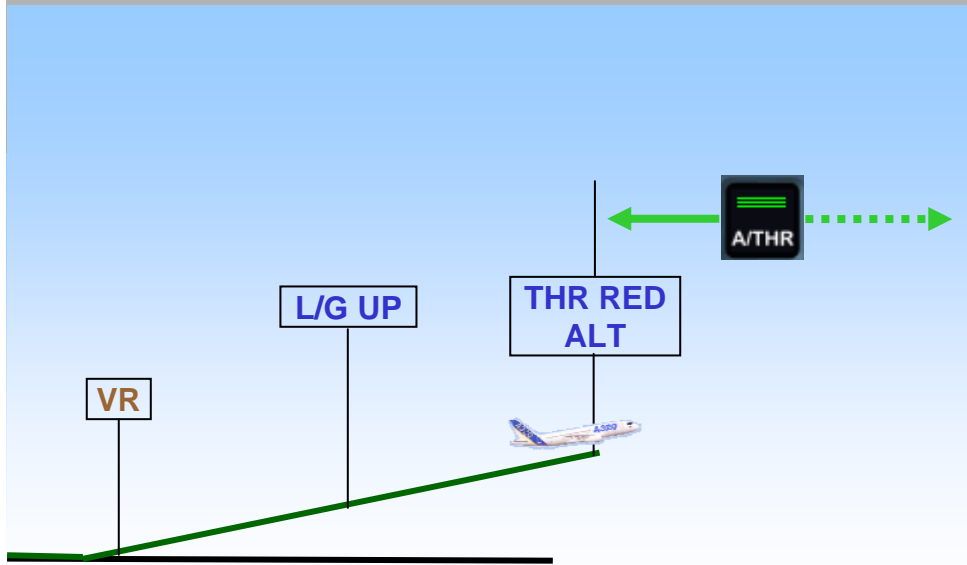
THRUST LEVERS.....CL 

THR RED ALT ~ 1500 ft AGL is the default value of the FMS, It can be modified by the pilot as required by the procedure

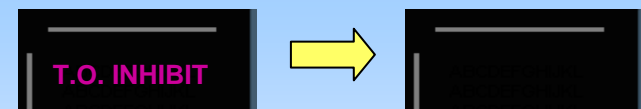
FMA

If takeoff was performed with packs off:

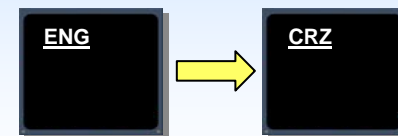
PACKS 1 and 2 .....ON 



➤ 1500 ft AGL or 2 min after lift off :



➤ ECAM SD auto – switching :



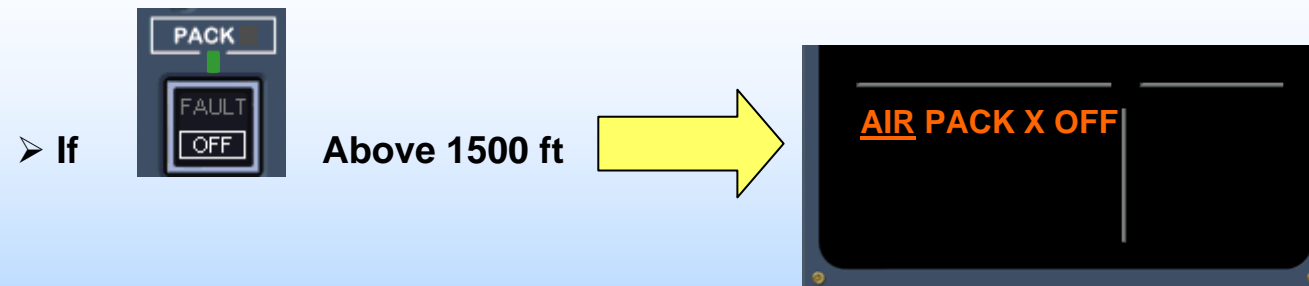
## ONE PACK



- Do not select PACK 1 ON before reducing Takeoff Thrust, otherwise :



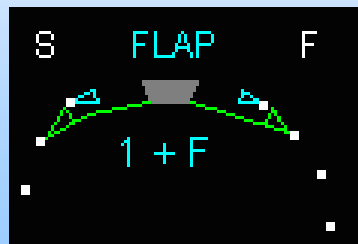
- Second pack selection is delayed until clean configuration.
  - It may be selected earlier, in order to avoid ECAM caution activation,
  - but not earlier than 10 seconds after PACK 1 ON, for passenger comfort



## FLAPS



- For T/O in CONF **1+F** minimum flap retraction speed “F” is not displayed.
- When CONF 1+F is selected, auto retraction of flaps to CONF **1** occurs at 210 kt
- Announce “FLAPS X” as soon as the proper position has been selected



# FLIGHT PHASE SWITCHING CONDITIONS



FLIGHT PHASES	OPTIMUM SPEED PROFILE	SWITCHING CONDITIONS TO NEXT PHASE
PREFLIGHT	/	SRS take off mode engaged and N1 > 85% (EPR >= 1.25) or Ground Speed > 90 kt
TAKE OFF	V2 (V2 + 10)	At acceleration altitude or by engagement of another vertical mode
CLIMB	ECON CLB SPD / MACH	Reaching cruise FL
CRUISE	ECON CRZ MACH	At descent initiation (if distance to DEST < 200 NM and no step descent)
DESCENT	ECON DES MACH / SPD	- Over flying (DECEL) pseudo waypoint with NAV (or LOC*/LOC) mode engaged and altitude < 7200 ft AGL - Manual activation of the approach phase.
APPROACH	Vapp (GS Min)	1. To Go Around : when thrust levers at TO.GA detent or 2. To Done: 30 seconds after landing or 3. To Climb: when inserting a new CRZ FL
GO AROUND	Vapp or current SPD whichever is greater. Green Dot at ACC ALT	1. To Approach : Manual activation of the approach phase or 2. To Climb: Above acceleration altitude by - Selecting ALTN or - inserting NEW DEST and CRZ FL
DONE	/	To preflight when INIT or PERF key depressed

PF

PNF

## 6. AFTER TAKEOFF

APU BLEED/MASTER SW.....AS RQRD

ENG MODE SEL.....AS RQRD

TCAS.....TA/RA

ANTI ICE.....AS RQRD



### Select :

- APU BLEED to OFF,      if APU      has been used during T/O
- IGN,      in case of      severe turbulence or heavy rain
  
- TA/RA,      if TA      has been used during T/O
- ENG ANTI ICE,      in case of      expected icing conditions