1. TAKE OFF INITIATION AND POWER SET

2. TAKE OFF RUN

3. ROTATION

4. THRUST REDUCTION

5. ACCELERATION

6. AFTER TAKE OFF

POWER

80 kt 100 kt V1 VR

THR RED ALT

ACCEL ALT

L/G UP

F S

A320 - Version 06d
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

➢ ECAM SD
auto - switching

➢ Computer inhibits warnings and cautions.

T.O. INHIBIT
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”

SAME SPEED INDICATION
3.a. ROTATION

**AT V1**
ANNOUNCE.....................................”V1”

**At VR**
ANNOUNCE.....................................”ROTATE”

**ROTATION..................................PERFORM**

**WHEN V/S positive and RA positive**

**ORDER............................................”GEAR UP”**

ANNOUNCE..........................”POSITIVE CLB”

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.*
3.b. PRESELECTED HEADING

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
4. THRUST REDUCTION

When LVR CLB flashing on FMA

THRUST LEVERS.................................CL

FMA

If takeoff was performed with packs off:

PACKS 1 and 2 ........................................ON

FMA

➢ 1500 ft AGL or 2 min after lift off:

➢ ECAM SD auto–switching:
### 5. ACCELERATION

**At acceleration altitude**

<table>
<thead>
<tr>
<th>FMA</th>
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**At F speed with positive speed trend**

<table>
<thead>
<tr>
<th>ORDER</th>
<th>ANNOUNCE</th>
<th>FLAPS</th>
<th>CONFIRM</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;FLAPS 1&quot;</td>
<td>&quot;SPEED CHECKED&quot;</td>
<td>SPLASH</td>
<td>&quot;FLAPS 1&quot;</td>
</tr>
</tbody>
</table>

**At S speed with positive speed trend**

<table>
<thead>
<tr>
<th>ORDER</th>
<th>ANNOUNCE</th>
<th>FLAPS</th>
<th>CONFIRM</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;FLAPS 0&quot;</td>
<td>&quot;SPEED CHECKED&quot;</td>
<td>SPLASH</td>
<td>&quot;FLAPS 0&quot;</td>
</tr>
</tbody>
</table>

- **TARGET SPEED CHANGE**
  - 1st CLB SPD
  - V2
6. AFTER TAKEOFF

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

ENG MODE SEL......................AS RQRD

TCAS....................................TA/RA

ANTI ICE................................AS RQRD
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...
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”

SAME SPEED INDICATION

PF 120 100 80
PNF 120 100 80

80 kt

100 kt
3.a. Rotation

**At V1**

- **ANNOUNCE**..........................”V1”

**At VR**

- **ANNOUNCE**...........................”ROTATE”

**Rotation**..........................PERFORM

**When V/S positive and RA positive**

**Order**..........................”GEAR UP”

- Set NOSE and RWY TURN OFF lights switches to OFF
- **LAND** lights should be left ON

**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.
4. THRUST REDUCTION

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

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:
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

If Above 1500 ft
➢ 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

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<th>Flight Phases</th>
<th>Optimum Speed Profile</th>
<th>Switching Conditions to Next Phase</th>
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<tr>
<td>Preflight</td>
<td>/</td>
<td>SRS take off mode engaged and N1 &gt; 85% (EPR &gt;= 1.25) or Ground Speed &gt; 90 kt</td>
</tr>
<tr>
<td>Take Off</td>
<td>V2 (V2 + 10)</td>
<td>At acceleration altitude or by engagement of another vertical mode</td>
</tr>
<tr>
<td>Climb</td>
<td>ECON CLB SPD / Mach</td>
<td>Reaching cruise FL</td>
</tr>
<tr>
<td>Cruise</td>
<td>ECON CRZ Mach</td>
<td>At descent initiation (if distance to DEST &lt; 200 NM and no step descent)</td>
</tr>
<tr>
<td>Descent</td>
<td>ECON DES Mach / SPD</td>
<td>- Over flying (DECEL) pseudo waypoint with NAV (or LOC*/LOC) mode engaged and altitude &lt; 7200 ft AGL - Manual activation of the approach phase.</td>
</tr>
<tr>
<td>Approach</td>
<td>Vapp (GS Min)</td>
<td>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</td>
</tr>
<tr>
<td>Go Around</td>
<td>Vapp or current SPD whichever is greater, Green Dot at ACC ALT</td>
<td>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</td>
</tr>
<tr>
<td>Done</td>
<td>/</td>
<td>To preflight when INIT or PERF key depressed</td>
</tr>
</tbody>
</table>
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