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| **TO 1C-17A-1**    **FLIGHT MANUAL**  **DELTA SIMULATIONS**  **C-17A**  **AIRCRAFT**  **ALPHA-NO PUBLIC RELEASE**    MILITARY TRANSPORT AIRCRAFT  **FOR SIMULATION USE ONLY**  **JULY 2023**  Page Intentionally Left Blank |
| REVISIONS  |  |  |  |  | | --- | --- | --- | --- | | **Date** | **Version** | **Contributors** | **Changes** | | 2022/01/30 | 1.0 | Destroyer121 | Baseline Version | | 2022/02/01 | 1.1 | Destroyer121 | Minor Spelling fixes | | 2023/01/03 | 2.0 | Inax | New User Manual | | 2023/05/22 | 3.0 | Destroyer121 | CAWS, Startup, Fixes | | 2023/09/10 | 4.0 | Destroyer121 | Updated legibility | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  |   Page Intentionally Left Blank  Table of Contents  [REVISIONS 1-3](#_Toc135663079)  [Chapter 1 INTRODUCTION 1-7](#_Toc135663080)  [History 1-7](#_Toc135663081)  [RECENT UsAGE 1-8](#_Toc135663082)  [About the project 1-7](#_Toc135663083)  [Chapter 2 AIRCRAFT OVERVIEW 2-11](#_Toc135663084)  [abbreviations 2-11](#_Toc135663085)  [Aircraft specification 2-15](#_Toc135663086)  [aircraft PERORMANCE AND limitations 2-17](#_Toc135663087)  [Weight and balance 2-20](#_Toc135663088)  [Chapter 3 SYSTEMS 3-22](#_Toc135663089)  [AIRFRAME 3-22](#_Toc135663090)  [BRAKE SYSTEM 3-22](#_Toc135663091)  [COMMUNICATION 3-22](#_Toc135663092)  [ELECTRICAL SYSTEM 3-22](#_Toc135663093)  [ENGINES 3-22](#_Toc135663094)  [lIGHTING 3-22](#_Toc135663095)  [FLIGHT CONTROL 3-24](#_Toc135663096)  [CENTRAL AURAL WARNING SYSTEM 3-24](#_Toc135663097)  [Chapter 4 Standard OPERATING PROCEDURES 4-32](#_Toc135663098)  [Exterior Safety Inspection 4-32](#_Toc135663099)  [Interior safety inspection 4-33](#_Toc135663100)  [exterior inspection 4-35](#_Toc135663101)  [COCKPIT PREPARATION 4-36](#_Toc135663102)  [before engine start 4-41](#_Toc135663103)  [engine start 4-42](#_Toc135663104)  [before taxi 4-43](#_Toc135663105)  [before takeoff 4-45](#_Toc135663106)  [takeoff 4-46](#_Toc135663107)  [after takeoff/CLIMB 4-47](#_Toc135663108)  [cruise 4-48](#_Toc135663109)  [descent 4-49](#_Toc135663110)  [approach 4-50](#_Toc135663111)  [before landing 4-51](#_Toc135663112)  [landing 4-52](#_Toc135663113)  [go around 4-53](#_Toc135663114)  [after landing 4-54](#_Toc135663115)  [engine shutdown 4-55](#_Toc135663116)  [securing the aircraft 4-56](#_Toc135663117)  [Chapter 5 supplemental operATIng procedures 5-58](#_Toc135663118)  [REVERSE THRUST BACKING 5-58](#_Toc135663119)  [STAR TURN 5-59](#_Toc135663120)  [REVERSE THRUST BACKING 5-59](#_Toc135663121)  [PENETRATION DESCENT 5-60](#_Toc135663122)  [descent 5-60](#_Toc135663123)  [approach 5-60](#_Toc135663124)  [TACTICAL DESCENT 5-61](#_Toc135663125)  [descent 5-61](#_Toc135663126)  [approach 5-61](#_Toc135663127)  [ASSAULT LANDINGS 5-62](#_Toc135663128)  [approach 5-62](#_Toc135663129)  [TOUCH AND GO LANDINGS 5-63](#_Toc135663130)  [ENROUTE STOP CHECKLIST 5-64](#_Toc135663131)  [oPERATIONAL STOP 5-66](#_Toc135663132)  [ALERT COCKPIT PROCEDURE 5-66](#_Toc135663133)  [ALERT START PROCEDURES 5-66](#_Toc135663134)  [SEMI PREPARED AIRFIELD OPERATIONS 5-66](#_Toc135663135)  [Chapter 6 simulator troubleshooting 6-67](#_Toc135663136)  [Chapter 7 other information 7-67](#_Toc135663137) |
| INTRODUCTION About the project Delta Simulations was founded in March of 2021, with its first project being the C-17 Globemaster. The team has grown from one to over a dozen developers located around the world. They are all talented individuals who work on projects like this during their limited time off. If you are interested in contributing please fill out the form below.  Discord: <https://discord.com/invite/T99hTme8PS>  Team Application: <https://discord.com/invite/T99hTme8PS>  As a freeware organization, we often have to self-fund necessary software, equipment, and subscriptions to keep our projects going. After 2 years of development and hundreds, if not thousands, of dollars invested into these projects, we are looking to make the group more sustainable in the long term. So, we have decided to open up donations. Donors get a special role on our discord server, as well as sneak peaks of our development.  Paypal: <https://www.paypal.com/donate/?hosted_button_id=XAQGKR96M7ZH8> History In the 1970s, the United States Air Force was heavily engaged in the Vietnam War. The USAF played a crucial role in the deployment of the troops, bombing, and aerial attacks to help the Army of the Republic of Vietnam. They realized they required a modernization in their fleet. They had used the Lockheed C130 Hercules, which was around 20 years old at the time. On November 13, 1972, the USAF selected the Boeing Corporation and the McDonnell Douglas Corporation to begin a competitive development of a medium-sized tactical aircraft. They both received 181.1 million US dollars (The equivalent of 1.4 billion US dollars in today’s currency). The program was later dropped but then picked up again by the USAF for a larger project.  McDonnell Douglas, who developed the YC-15 project, used the YC-15 project to design what is known now as the C-17 Globemaster III. In January 1986, McDonnell Douglas was awarded 3.4 billion US Dollars (The equivalent of 12.2 billion dollars in today’s currency) by the USAF for 210 aircraft, which the order later reduced to 120 aircraft.  The first flight of the McDonnell Douglas was made on September 15, 1991. Issues began to rise after the testing program. The design load, the weight, the fuel burn, the payload, and the range specification did not meet the requirements set by the USAF. The Department of Defense reduced the contract size to only 40 aircraft. McDonnell Douglas delayed the program until 1995 to resolve the issues.  Since then, the Department of Defense ordered 184 additional C-17 Globemaster III under both McDonnell Douglas and Boeing. Other countries had an interest in the program. Notably, the Royal Air Force, the Royal Australian Air Force, the Royal Canadian Air Force, and the United Arab Emirates Air Force ordered the C-17. The last aircraft in production was completed in 2015. RECENT UsAGE The C-17 Globemaster III has been involved in numerous missions throughout its service history, ranging from humanitarian aid and disaster relief to military operations. Here are a few examples:  **Royal Australia Air Force**   |  |  | | --- | --- | | **2007** | Deliveries of supplies to Papua New Guinea | | **2008** | Deliveries of emergency equipment to Burma | | **2009** | Supply missions to the Middle East | | **2009** | Deliveries of supplies and evacuation team to Samoa | | **2009** | Deliveries of medical personnel in Indonesia | | **2010** | Deliveries of emergency supply to Pakistan | | **2011** | Deliveries of supplies to the Queensland region in Australia | | **2011** | Deliveries of emergency response personnel for Operation Pacific Assist | | **2011** | Deliveries of humanitarian supplies to Libya | | **2011** | Transportation of water purification plant to Samoa | | **2012** | Equipment transportation out of Al Minhad Base | | **2012** | Transportation of supplies to Fiji and Samoa | | **2013** | UN Mission to reinforce peacekeeping | | **2013** | Transportation of civilian medical team and equipment to Cebu in Philippines | | **2014** | Weapon deliveries to Iraq | | **2014** | Transportation of international police officers and equipment between the Netherlands and Kharkiv in Ukraine | | **2015** | Transportation of supplies in Antarctica | | **2021** | Kabul Airlift | | **2022** | Delivery of military equipment to Ukraine |   **Royal Canadian Air Force**   |  |  | | --- | --- | | **BOXTOP** | Deliveries of supplies to Alert. | | **UNIFER** | Support of the Security Forces of Ukraine | | **FREQUENCE** | Transportation of French military equipment between France and the Sahel Region. | | **HESTIA** | Humanitarian help to the 2010 Haiti Earthquake | | **MOBILE** | Protection of the civils in Libya | | **AEGIS** | Evacuation of afghan refugees. | | **GLOBE** | Airlift support out of Panama Pacifico | | **RENAISSANCE** | Rapid oversea deployments for bushfire relief. |   **India Air Force**   |  |  | | --- | --- | | **2013** | Deployment to Tajikistan | | **2013** | Support of Indian peacekeepers in Rwanda | | **2015** | Evacuation from the Yemen crisis | | **2015** | Deliveries of rescue and relief to Nepal | | **2016** | Evacuation from South Sudan | | **2020** | Troop deployments to the India-China border standoff |   **Europe**   |  |  | | --- | --- | | **2009** | Support of the International Security Assistance Force | | **2010** | Haiti Earthquake relief | | **2010** | Pakistan flood relief | | **2011** | Operation Unified Protector in Libya | | **2013** | United Nations Multidimensional Integrated Stabilization Mission in Mali | | **2014** | EUFOR RCA in Central African Republic | | **2014** | Support for the investigation of Malaysia Airlines MH17 in Ukraine | | **2015** | Resolute Support Mission | | **2017** | Hurricane Relief in St-Marteens | | **2021** | Evacuation of Kabul |   **Qatar**   |  |  | | --- | --- | | **2011** | Operation Odyssey Dawn | | **2010** | Haiti Earthquake relief |   **United Arab Emirates**  **Royal Air Force**   |  |  | | --- | --- | | **2003** | Support on the Iraq war | | **2011** | Support to the Libya | | **2013** | Transportation of French military equipment to Mali | | **2013** | Transportation of aid efforts to Philippines |   **United States**   |  |  | | --- | --- | | **2004** | Humanitarian help to India with the 2004 earthquake and tsunami | | **2014** | Humanitarian help to Liberia for the Ebola virus epidemic | | **2021** | Kabul Airlift | | **2010** | Haiti Earthquake relief |  AIRCRAFT OVERVIEWabbreviations  |  |  |  |  |  | | --- | --- | --- | --- | --- | | **A** |  |  | **C** |  | | **A/S** | Airspeed |  | **CIU** | Control Indicator Unit | | **ACL** | Allowable Cabin Load |  | **CKPT** | Cockpit | | **ACM** | Additional Crew Member |  | **CKT** | Circuit | | **ACT** | Active Side of CNC Display |  | **CLB** | Climb | | **ACTR** | Actuator |  | **CLK** | Clock | | **ADC** | Air Data Computer |  | **CLR** | Clear | | **ADS** | Aerial Delivery System |  | **CMD** | Command | | **ADS-A** | Automatic Dependent Surveillance System |  | **CMDS** | Counter Measures Dispensing System | | **ADSC** | Aerial Delivery System Controller |  | **CMU** | Communication Management Unit | | **ADS** | Aerial Delivery System Panel |  | **CNX** | Cancel | | **AEOO** | Aeromedical Evacuation Operations Officer |  | **COMM** | Communications | | **AFCS** | Automatic Flight Control System |  | **CONFIG** | Configuration | | **AGS** | Automatic Ground Spoilers |  | **CONT** | Continuous | | **AIDS** | Aircraft Integrated Data System |  | **CP** | Copilot | | **ALPHA** | Minimum speed to protect against Stall |  | **CRS** | Course | | **ALT** | Altimeter or Altitude |  | **CRT** | Cathode Ray Tube | | **ALTN** | Alternate |  | **CRZ** | Cruise | | **ANT** | Antenna |  | **CSA** | Control Stick Assembly | | **ANVIS** | Airman’s Night Vision Imaging System |  | **CSTR** | Constraint | | **AOA** | Angle of Attack |  | **CTR** | Center | | **AP** | Autopilot |  | **CVR** | Cockpit Voice Recorder | | **APPR** | Approach |  |  |  | | **APU** | Auxiliary Power Unit |  | **D** |  | | **AT** | Autothrottle |  | **DB** | Database | | **ATS** | Autothrottle System |  | **DECEL** | Decelerate | | **ATT** | Attitude |  | **DECR** | Decrease | | **AUD** | Audio |  | **DEG** | Degree | | **AUTO** | Automatic |  | **DES** | Descent | | **AUX** | Auxiliary |  | **DET** | Detector | | **AV** | Avionics |  | **DEV** | Deviation | |  |  |  | **DH** | Decision Height | | **B** |  |  | **DIR** | Direction | | **B/D** | Bottom of Descent |  | **DISAG** | Disagree | | **BARO** | Barometric |  | **DISCH** | Discharged | | **BATT** | Battery |  | **DISP** | Display | | **BC** | Bus Controller |  | **DIST** | Distance | | **BCN** | Beacon |  | **DME** | Distance Measuring Equipment | | **BD** | Bearing and Distance |  | **DN** | Down | | **BRG** | Bearing |  | **DNAV** | Degraded Navigation | | **BRT** | Bright |  | **DRT** | Derated Thrust | |  |  |  | **DSBL** | Disable | | **C** |  |  | **DTG** | Distance To Go | | **C/PDLC** | Controller/Pilot Data Link Communication |  | **DU** | Display Unit | | **CAT I** | Category I Approach |  |  |  | | **CAT II** | Category II Approach |  | **E** |  | | **CAT III** | Category III Approach |  | **E/R** | Extended Range | | **CAT** | Category |  | **ECS** | Environmental Control System | | **CAWS** | Central Aural Warning System |  | **EDS** | Electronic Display System | | **CB** | Circuit Breakers |  | **EEC** | Electronic Engine Control | | **CDI** | Course Deviation Indicator |  | **EDS** | Electronic Display System | | **CDU** | Control Display Unit |  | **EEC** | Electronic Engine Control | | **CG** | Center of Gravity |  | **EFCS** | Electronic Flight Control System | | **CHAN** | Channel |  | **EFIS** | Electronic Flight Instrument System | |  |  |  |  |  | | **E** |  |  | **I** |  | | **EFOB** | Estimated Fuel On Board |  | **INBD** | Inboard | | **EGT** | Exhaust Gas Temperature |  | **IND** | Indicated | | **ELEV** | Elevation |  | **INHB** | Inhibit | | **ENG** | Engine |  | **INIT** | Initialize | | **ENT** | Entered |  | **INST** | Instrument | | **EPR** | Engine Pressure Ratio |  | **INTCP** | Intercept | | **EPS** | Electrical Power System |  | **INTL** | Internal | | **ETI** | Elapsed Time Indicator |  | **IR** | Infrared | | **EXT** | Extend, Extraction, External |  | **IRS** | Inertial Reference System | |  |  |  | **ISOL** | Isolation or Isolated | | **F** |  |  |  |  | | **F-PLAN** | Flight Plan |  | **J** |  | | **FAC** | Final Approach Course |  | **JETT** | Jettison | | **FC** | Flight Control |  |  |  | | **FCC** | Flight Control Computer |  | **L** |  | | **FCU** | Fuel Control Unit |  | **LCD** | Liquid Crystal Display | | **FF** | Fuel Flow |  | **LCL** | Local | | **FIREX** | Fire Extinguisher |  | **LD** | Load | | **FLT** | Flight |  | **LDG** | Landing | | **FMA** | Flight Mode Annunciation |  | **LED** | Light Emitting Diode | | **FN** | Flight Nurse |  | **LG** | Length | | **FOB** | Fuel On Board |  | **LH** | Left Hand | | **FP** | Fuel Pressure |  | **LIM** | Limit | | **FPA** | Flight Path Angle |  | **LKD** | Locked | | **FPFL** | Flight Plan Fuel Load |  | **LM** | Loadmaster | | **FPS** | Feet per Second |  | **LNAV** | Lateral Navigation | | **FPV** | Flight Path Vector |  | **LT** | Light | | **FREQ** | Frequency |  | **LVL** | Level | | **FSLG** | Fuselage |  | **LWR** | Lower | | **FSP** | Fuel System Panel |  |  |  | |  |  |  | **M** |  | | **G** |  |  | **MAG** | Magnetic | | **G/A** | Go Around |  | **MAINT** | Maintenance | | **G/S** | Glide Slope |  | **MAN** | Manual | | **GCU** | Generator Control Unit |  | **MAX** | Maximum Thrust | | **GEN** | Generator |  | **MB** | Mission Bus | | **GND** | Ground |  | **MBIT** | Maintenance BIT | | **GPS** | Global Positioning System |  | **MCL** | Master Caution Light | | **GPWS** | Ground Proximity Warning System |  | **MCT** | Maximum Continuous Thrust | | **GRAD** | Gradient |  | **MDA** | Minimum Descent Altitude | | **GWT** | Gross Weight |  | **MECH** | Mechanical | |  |  |  | **MFC** | Multifunction Control | | **H** |  |  | **MFD** | Multifunction Display | | **HDG** | Heading |  | **MIC** | Microphone | | **HE** | Heavy Equipment |  | **MIN** | Minimum | | **HPT** | High Pressure Turbine |  | **MLG** | Main Landing Gear | | **HS** | Horizontal Stabilizer |  | **MON** | Monitor | | **HUD** | Head Up Display |  | **MSG** | Message | | **HYD** | Hydraulic |  | **MSN** | Mission | |  |  |  | **MW** | Master Warning | | **I** |  |  | **MWL** | Master Warning Lights | | **IBIT** | Initiated Bit |  |  |  | | **ICS** | Intercom System |  | **N** |  | | **ID** | Identification |  | **N1** | Low Stage Compressor RPM | | **IDENT** | Identifier |  | **N2** | High Stage Compressor RPM | | **IDG** | Integrated Drive Generator |  | **NAV** | Navigation | | **IGN** | Ignition |  | **ND** | Navigation Display | | **ILS** | Instrument Landing System |  | **NLG** | Nose Landing Gear | | **IMC** | Instrument Meteorological Conditions |  | **NML** | Normal | |  |  |  |  |  | | **N** |  |  | **S** |  | | **NORM** | Normal |  | **SAT** | Static Air Temperature | | **NVG** | Night Vision Goggles |  | **SATCOM** | Satellite Communications | | **NWS** | Nose Wheel Steering |  | **SEC** | Secondary | |  |  |  | **SEL** | Select | | **O** |  |  | **SEQ** | Sequence | | **OBST** | Obstacle |  | **SOL** | Souls On Boar | | **OP** | Operative |  | **SPD** | Speed | | **OPR** | Operate |  | **SPD BRK** | Speedbrake | | **ORIG** | Original |  | **SPL** | Spoiler | | **OUTBD** | Outboard |  | **SQL** | Squelch | | **OVHD** | Overhead |  | **STAB** | Stabilizer | | **OVHT** | Overheat |  | **STAT** | Status | | **OW** | Operating Weight |  | **STD** | Standard | |  |  |  | **SYS** | System | | **P** |  |  |  |  | | **P** | Pilot |  | **T** |  | | **PA** | Passenger Address, Pressure Altitude |  | **T/O** | Takeoff | | **PART** | Partial |  | **TAC** | Tactical | | **PCH** | Pitch |  | **TAT** | Total Air Temperature | | **PERS** | Personnel |  | **TAWS** | Terrain Awareness Warning System | | **POS** | Position |  | **TAZ** | Tactical Avoidance Zone | | **PPOS** | Present Position |  | **TBD** | To Be Determined | | **PRE** | Presets |  | **TCAS** | Traffic Collision Avoidance System | | **PRED** | Prediction, Predicted |  | **TOD** | Time Of Day | | **PRESS** | Pressurization |  | **TOGA** | Takeoff/Go-Around | | **PRI** | Primary |  | **TOGW** | Takeoff Gross Weight | | **PRGM** | Program |  | **TOLD** | Takeoff and Landing Data | | **PROG** | Progress |  | **TURB** | Turbulence Mode | | **PROX** | Proximity |  |  |  | | **PSI** | Pounds per Square Inch |  | **U** |  | | **PT** | Point |  | **UHF** | Ultra-High Frequency | | **PTT** | Push to Talk |  | **UNLK** | Unlock | | **PW** | Pratt And Whitney |  | **UV** | Ultraviolet | | **PWR** | Power |  |  |  | |  |  |  | **V** |  | | **Q** |  |  | **V/S** | Vertical Speed | | **QNH** | Sea Level Atmospheric Temperature |  | **VAPP** | Approach Speed | | **QTY** | Quantity |  | **VBMAX** | Brake Limit Speed | |  |  |  | **VH** | Level Flight Maximum Speed | | **R** |  |  | **VROT** | Rotation Speed | | **R/C** | Rate of Climb |  | **VEL** | Velocity | | **RA** | Radar Altimeter, Radio Altitude |  | **VMC** | Visual Meteorological Condition | | **RAD** | Radio |  | **VNAV** | Vertical Navigation | | **RAT** | Ram Air Turbine |  | **VV** | Vertical Velocity | | **RDR** | Radar |  |  |  | | **REC** | Receive |  | **W** |  | | **REF** | Reference |  | **WACS** | Warning and Caution System | | **REVR** | Reverse |  | **WOW** | Weight On Wheels | | **RH** | Right Hand |  | **WPT** | Waypoint | | **RSVR** | Reservoir |  | **WT** | Weight | | **RTE** | Route |  | **WX** | Weather | | **RTG** | Rating |  | **WXR** | Weather Radar | | **RTO** | Rejected Take Off |  |  |  | | **RUD** | Rudder |  | **X** |  | | **RWY** | Runway |  | **X-FEED** | Crossfeed | |  |  |  | **XW** | Crosswind | | **S** |  |  |  |  | | **S/N** | Standby/Normal |  | **Z** |  | | **S/O** | Shutoff |  | **ZFW** | Zero Fuel Weight |   Page Intentionally Left Blank Aircraft specification  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Exterior Dimensions | | | |  | Interior Dimensions | | | Span | 169 ft 10 in. | | |  | Width | 216 in. | | Length | | 174 ft. | |  | Length | 1056 in. | | Height | | 55ft 1 in. | |  | Height | 148 in. | | Wing Sweep | | 25° | |  |  |  | | Wing Area | | 3800 sq ft. | |  | Weights | | |  | |  | |  | Operating Weight | 282500 lb. | | Speeds | | | |  | Maximum Payload | 170900 lb. | | Maximum Range Cruise Speed | | 0.74 M | |  | Zero Fuel Weight | 447400 lb. | | Typical Long Range Cruise Speed | | 0.76 M | |  | Usable Fuel Capacity | 36508 gal. | | Service Ceiling | | 45 000 ft. | |  | Maximum Ramp Weight | 586000 lb. | |  | |  | |  | Maximum Takeoff Gross Weight | 585000 lb. | | Engines | |  | |  | Design Landing Gross Weight | 435800 lb. | | 4 x Pratt & Whitney F177-PW100 | | |  |  | Maximum Landing Gross Weight | 585000 lb. |        aircraft PERORMANCE AND limitations  |  |  |  |  | | --- | --- | --- | --- | | **Maximum OAT For Takeoff** | | | | | Airfield Pressure Altitude (FT) | Max OAT (Deg C) | Airfield Pressure Altitude | Max OAT (Deg C) | | -2 000 | 49 | 7 500 | 39 | | 0 | 49 | 8 000 | 38 | | 500 | 49 | 8 500 | 37 | | 1 000 | 49 | 9 000 | 36 | | 1 500 | 49 | 9 500 | 35 | | 2 000 | 49 | 10 000 | 34 | | 2 500 | 49 | 10 500 | 33 | | 3 000 | 48 | 11 000 | 32 | | 3 500 | 47 | 11 001 | 27 | | 4 000 | 46 | 11 500 | 26 | | 4 500 | 45 | 12 000 | 25 | | 5 000 | 44 | 12 500 | 24 | | 5 500 | 43 | 13 000 | 23 | | 6 000 | 42 | 13 500 | 22 | | 6 500 | 41 | 14 000 | 21 | | 7 000 | 40 |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Engine Operating Limitations** | | | | | | **Operating Conditions** | | **Operating Limits** | | | | Thrust Settings | Time Limit | Maximum EGT | Minimum Oil Pressure | MAX Oil Temp | | MAX/DRT | 5 MIN | 655°C | 80 PSI | 177°C | | INT | - | 625°C | 80 PSI | 177°C | | MCT | - | 625°C | 80 PSI | 177°C | | IDLE/IDLE REVERSE | - | 460 / 490°C | 70 PSI | 177°C | | STARTING | - | 495°C | - |  | | REVERSE | - | 635°C | 80 PSI | 177°C |  |  |  |  | | --- | --- | --- | | **Maneuver Limitations for Abnormal Configuration – In-Flight Reverse Thrust** | | | | Gross Weight (lb) | Zero Fuel Weight (lb) | Load Factor (G) | | 585 000 | 447 400 | 1.40 | | 549 000 | 399 200 | 1.55 | | 423 000 | 356 500 | 1.85 |  |  |  |  | | --- | --- | --- | | **Airspeed Limitations** | | | | **Item** | **Configuration** | **Airspeed Limit** | | Maximum Airspeed | Clean | 350 KCAS/Mach 0.825 | | Thrust Reverser In Flight | Extend/Slow | 350 KCAS/Mach 0.825 | | Thrust Reverser On Ground | Extend/Slow | 182 KCAS | | Slats | Extend | 280 KCAS/Mach 0.62 | | Slats | Retract | 270 KCAS/Mach 0.62 | | Flaps | 1/2 | 250 KCAS/Mach 0.62 | | Flaps | 3/4 | 190 KCAS/Mach 0.62 | | Flaps | Full | 175 KCAS/Mach 0.62 | | Speed brakes | Full |  | | Landing Gear | Extending | 250 KCAS | | Landing Gear | Retracting | 225 KCAS | | Landing Gear | Down/Locked | 250 KCAS | | Air Deflector | Open | 250 KCAS | | Troop Doors | Opening/Open | 250 KCAS | | Cargo Door/Ramp | Opening/Open | 250 KCAS | | Pilots Windows | Open | 205 KCAS |  |  |  |  | | --- | --- | --- | | **Maximum Landing Touchdown Sink Rate** | | | | **Landing Gross Weight (lb)** | **Zero Fuel Weight (lb)** | **Feet/Min** | | 585 000 | 447 600 | 600 | | 502 100 | 447 400 | 660 | | 435 800 | 400 500 | 750 |   Page Intentionally Left Blank Weight and balance   Page Intentionally Left Blank SYSTEMSAIRFRAME The C-17 Globemaster III is a high wing aircraft. BRAKE SYSTEMCOMMUNICATIONELECTRICAL SYSTEMENGINESlIGHTING |

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| FLIGHT CONTROLCENTRAL AURAL WARNING SYSTEM  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Alert Indicated** | **Aural Alert**  **Characteristic** | **Visual Indication** | **Condition Indicated** | **Silence** | **Test** | | ALTITUDE | “C” chord once for a second. | None | Approach within 1,000 ft. of selected altitude and approach within 250 ft. of selected altitude. | Not required | None | | ALTITUDE DEVIATION | “C” chord once followed by repeated word “ALTITUDE” | None | Aircraft deviates more than 250 ft. from the selected altitude once the aircraft has approached the selected altitude within 250 ft. | Approach selected altitude within 250 ft. or press reset switch on AFCS panel. | None | | APU FIRE | Three successive fast bell sounds followed by and alternates with words “APU FIRE.” | MASTER WARNING light. APU Fire light. Fire Loop A and B lights on remote panels. | Fire/overheat in APU compartment. | Press MASTER WARNING light or deactivate. Other lights remained illuminated until heat condition is cleared. | Press Loop A and Loop B switches simultaneously. | | AUTO THROTTLE | Warble sound once followed by repeated words “AUTO THROTTLE.” | Autothrottle disconnect annunciator on pilot and copilot instrument panel. | Autothrottle disengaged. | Reset by pushing autothrottle disconnect button on throttle or re-engage ATS, | None | | AUTOPILOT | Warble sound once followed by repeated words “AUTO PILOT.” | Autopilot disconnect annunciator on pilot and copilot instrument panel. | Autopilot disengaged. | Reset by pushing autopilot disconnect button on control switch or re-engage autopilot. | None | | CABIN ALTITUDE | Warning atenson followed by repeated words “CABIN ALTITUDE.” | WAP message and MASTER WARNING light. | Cabin altitude has exceeded 10,000 feet. | Descend or repressurize cabin, or press MASTER WARNING light. | None | | DECISION HEIGHT | The word “MINIMUMS” and a tone will sound upon reaching selected altitudes. | DH shown on both side PFD’s when condition is met. | Altitude at selected DH. | None required | None | | ENGINE FIRE | Two successive fast bell sounds followed by repeated words “FIRE, NUMBER 1 ENGINE” and/or No. 2, 3 or 4 engine as appropriate. | MASTER WARNING light. Associated FIRE HANDLE PULL Handle, LOOPS A and B lights and X ENG fuel light. | Fire/overheat in engine nacelle. | Alert silenced by pulling fire handle or pressing MASTER WARNING light. Lights remained illuminated until fire is out. | Press Loop A and Loop B switches simultaneously. | | FUEL TANK PRESSURE | Warning atenson once followed by repeated words “FUEL TANK PRESSURE.” | Fuel tank pressure warning light, MASTER WARNING light, FUEL INERT cue. | Left or right wing fuel tank overpressure/underpressure. | Press MASTER WARNING light. | None | | GROUND PROXIMITY MODE 1 | The word “SINKRATE” continues until condition is corrected. | Red GROUND PROX lights on glareshield. | Excessive rate of descent within 10,000 feet of terrain. | Reduce sink rate. | GPWS test. | | GROUND PROXIMITY MODE 2A | Whoop-whoop sound followed by and alternates with words “TERRAIN, FLY-UP.” Alert continues until condition is corrected. | Red GROUND PROX lights on glareshield. | Excessive terrain closure. | Fly up | GPWS test. | | GROUND PROXIMITY MODE 2B | The words “TERRAIN, FLY-UP” continue until condition is corrected. No attenuation. | Red GROUND PROX lights on glareshield. | Excessive terrain closure – flap at setting of ½ detent or greater. | Fly up | GPWS test. | | GROUND PROXIMITY MODE 3B | The word “SINKING” continues until condition is corrected. | Red GROUND PROX lights on glareshield. | Accumulated altitude loss after TO/GA while below 500 ft. | Fly up | GPWS test. | | GROUND PROXIMITY MODE 4A | Whoop sound followed by words “TOO LOW, GEAR.” Alert continues until condition is corrected or reset. | Red GROUND PROX lights on glareshield. | Inadvertent proximity to terrain, gear up, 1/2 flap detent or less. | 1. Press Aural Silence button on the pedestal. 2. Lower the landing gear or SEL altitude to minimize low level nuisance warning. | GPWS test. | | GROUND PROXIMITY MODE 4B | Whoop sound followed by words “TOO LOW, GEAR.” Alert continues until condition is corrected. | Red GROUND PROX lights on glareshield. | Gear up and flap handle past 1/2 detent. | Lower the landing gear or SEL altitude to minimize low level nuisance warning. | GPWS test. | | GROUND PROXIMITY MODE 4C | Whoop sound followed by words “TOO LOW, FLAPS.” Alert continues until condition is corrected or reset. | Red GROUND PROX lights on glareshield. | Incorrect flap configuration below 500 feet. |  | GPWS test. | | GROUND PROXIMITY MODE 5A |  | Red GROUND PROX lights on glareshield. |  |  | GPWS test. | | GROUND PROXIMITY MODE 5B |  | Red GROUND PROX lights on glareshield. |  |  | GPWS test. | | MASTER CAUTION | Caution tone once | MASTER CAUTION light | One or more WAP caution messages or distributed cautions are illuminated. | None | None | | MDA | The word “MINIMUMS” and a “C” chord will sound upon reaching selected altitudes. |  |  |  |  | | OVERSPEEDS |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | | PERFORMANCE DECREASE WINDSHEAR | The word “WINDSHEAR” repeats at least three times. | PFD warning alert of WINDSHEAR. | MC calculated performance decrease windshear. | Clears when condition resolves. | None | | PITCH AUTHORITY | Warning atenson followed by repeated words “PITCH AUTHORITY.” | MASTER WARNING light and PITCH AUTHORITY message on the WAP. | Pitch control is out of trim because the stabilizer is at the deflection limit and the elevator is mistrimmed by 50% of the full hinge capability. | Press the MASTER WARNING light. | None | | STALL | Warning Klaxon once followed by word “STALL.” | Primary flight displays. | Approaching stall condition for flap/slat configuration. | Correct stall conditions. | Stall test switch. | | STABILIZER MOTION |  |  |  |  |  | | TAKEOFF WARNING |  |  |  |  |  | |

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| Standard OPERATING PROCEDURES **NOTE: Text in grey is INOP / NOT IMPLEMENTED** Exterior Safety Inspection P | GROUND SUPPORT FIRE EXTINGUISHER(S). . . . . . . . . . . . . . . . . . . **IN PLACE**  P | EXTERNAL POWER CART. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | NOSE GEAR PIN. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **INSTALLED**  P | GROUND WIRES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | APU INTAKE AND EXHAUST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CLEAR**  P | MAIN LANDING GEAR CHOCKS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . **INSTALLED** Interior safety inspection CP | SAFETY SWITCH PINS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **INSTALLED**  CP | DEFENSIVE SYSTEM WOW MAINT ORIDE SWITCHES. . . . . . . . . . . **NORMAL**  CP | CIRCUIT BREAKERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | CMDS SYS ARMED SWITCHLIGHT. . . . . . . . . . . . . . . . . . . . . . **EXTINGUISHED**  CP | CMDS JETT SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | GEAR HANDLE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **DOWN**  CP | ENGINE IGNITION NORM/ORIDE SWITCH. . . . . . . . . . . . . . . . . . . . . . . . **NORM**  CP | ENGINE IGNITION SELECTOR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | ENGINE SHUT OFF SWITCHES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | FLOW LINE PWR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ALTN**  CP | GND OPS PWR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | EMERG PWR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | BATT SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON/LOCKED**  CP | DC X TIE SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **TIE**  CP | XFER BUSES SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | EMERG PWR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | XFER BUSES SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **NORM**  CP | L/R AV BUS SWITCHES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AUTO**  CP | WAP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | FUEL PANEL SWITCHLIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | HYD PANEL SWITCHLIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | ENVIR PANEL SWITCHLIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | COM 1/VHF RADIOS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | APU/ENG FIRE DETECTION SYS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | LOOP A AND LOOP B PUSHBUTTONS. . . . . . . . . . . . . . . . **PRESS**  CP | LOOP A AND LOOP B LIGHTS . . . . . . . . . . . . . . . . **10 AMBER ON**  CP | FIRE PULL LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **4 RED ON**  CP | MASTER WARNING LIGHTS. . . . . . . . . . . . . . . . . . . . . . **2 RED ON**  CP | APU FIRE LIGHT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **RED ON**  CP | WAP CUE MESSAGE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **APU**  CP | CAWS ACTIVATION RESULTS. . . . . . . . . . . . . . . . **AS EXPECTED**  CP | EXT PWR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | APU. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **START/RUN/LOAD**  CP | FIREX AGENT DISCHARGE 1 POWER CB. . . . . . . . . . . . . **VERIFY**  CP | APU PWR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | START CONTR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **RUN**  CP | START CONTR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . **START**  CP | FUEL BOOST PUMP #3. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | EMERG PWR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AUTO**  CP | AC X TIE SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AUTO**  CP | AC/DC BUS TIE SWITCH FLOW LINES. . . . . . . . . . . . . . . . . . . . . **ILLUMINATED**  CP | SMOKE DETECTION SYS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ARM**  CP | BAILOUT ALARM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **TEST**  CP | EMERG LT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ARM**  CP | GND OPS PWR STICH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED** exterior inspection P | GROUND SUPPORT FIRE EXTINGUISHERS. . . . . . . . . . . . . . . . . . . . . **IN PLACE**  P | NOSE AREA. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | NOSE WHEEL WELL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | FORWARD FUSELAGE, RIGHT SIDE, AND BOTTOM. . . . . . . . . . . . . . . . **VERIFY**  P | RIGHT WHEEL POD AND CENTER FUSELAGE. . . . . . . . . . . . . . . . . . . . **VERIFY**  P | SPR PANEL AND RECEPTACLES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | RIGHT WING SURFACE AND FLAPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | ENGINE #3 AND #4 AREAS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | RIGHT WING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | AFT FUSELAGE AND TAIL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | LEFT WING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | ENGINE #1 AND #2 AREAS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | LEFT WING SURFACES AND FLAPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | LEFT WING POD AND CENTER FUSELAGE. . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | FORWARD FUSELAGE, LEFT SIDE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | CREW ENTRANCE DOOR AND LADDER. . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY** COCKPIT PREPARATION CP | GND OPS PWR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | FLIGHT DECK EQUIPMENT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | CIRCUIT BREAKERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | MAINTENANCE INTERFACE PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . **CLOSED**  CP | UARRSI DOOR HANDLE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CLOSED**  P | FLAPS/SLAT HANDLE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | PARKING BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | WAP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | INTERIOR/EXTERIOR LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | ANNUNCIATOR/DIGITAL LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **TEST**  CP | A/R ANN. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | ANN/DIGT TEST PUSHBUTTON. . . . . . . . . . . . . . . . . . . . . . **HOLD**  CP | ANN/DIGT TEST PUSHBUTTON. . . . . . . . . . . . . . . . . . . **RELEASE**  CP | AR/ANN. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | IRU 1, 2, 3, 4 SWITCHES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | SENSOR SWITCHING PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | HUD, MCD AND MFD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ADJUSTED**  CP | COMM/NAV RADIOS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | IRMS CIPHER KEYS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | STANDBY FLIGHT INSTRUMENTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | FLOW LINE PWR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **NORM**  CP | FCC ELECTIC PFBIT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ACCOMPLISH**  CP | SCEFC ELECTRIC PFBIT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ACCOMPLISH**  CP | FCS ACTR PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **EFCS**  CP | EFCS RESET PUSHBUTTON. . . . . . . . . . . . . . . . . . . . . . **PRESSED**  CP | SEFC PREFLT SWITCHLIGHT. . . . . . . . . . . . . . **PRESS AND HOLD**  CP | AR MODE SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **PRESS**  CP | SCEFC PRFLT SWITCHLIGHT. . . . . . . . . . . . . . . . . . . . . . **RELEASE**  CP | FCC PREFLT SWITCHLIGHT. . . . . . . . . . . . . . . **PRESS AND HOLD**  CP | AUTOPILOT DISENGAGE SWITCH. . . . . . . . . . . . . . . . . . . . **PRESS**  CP | FCC PREFLT SWITCHLIGHT. . . . . . . . . . . . . . . . . . . . . . . **RELEASE**  CP | ELT SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **NORM**  CP | FED ARM SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **DISARM**  CP | COMM SWITCH PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | CVR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | CVR TEST PUSHBUTTON. . . . . . . . . . . . . . . . . **PRESS AND HOLD**  CP | CVR TEST RESULT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AUDIBLE**  CP | CVR TEST PUSHBUTTON. . . . . . . . . . . . . . . . . . . . . . . . . **RELEASE**  CP | INERT PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | WINGS VENT SWITCHLIGHTS. . . . . . . . . . . . . . . . . . . . . . **CLOSED**  CP | OBIGGS LEFT AND RIGHT SWITCHLIGHTS. . . . . . . . . . . . . . . . **ON**  CP | FUEL TANK PRESSURE LIGHT. . . . . . . . . . . . . . . . **EXTINGUISHED**  CP | ELECTRICAL PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | FUEL PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  **Aerial Refueling Missions**  CP | A/R ANN. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | UARSSI DOOR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OPEN**  CP | A/R MASTER SWITCHES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | A/R READY LIGHT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | A/R ANN. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | A/R MASTER SWITCHES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | UARRSI DOOR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CLOSED**  **Other Missions**  CP | ENG SHUT OFF SWITCHES. . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | FUEL QTY CHAN SEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AUTO**  CP | FWD AND AFT PUMPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | X-FEED VALVES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CLOSED**  CP | FILL VALVES AND XFER PUMPS. . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | UPPER ROW SWITCHLIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | HYD PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | HYDRAULIC PUMPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | HYDRAULIC SYSTEM QUANTITIES. . . . . . . . . . . . . . . . . . . **VERIFY**  CP | ENVIR PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | REMOTE TEMP CONTR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | COMPT AIR FLOW. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | RAM AIR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **HOLD**  CP | TRIM AIR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | AVIONICS COOL ORIDE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | HI FLOW. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | ENG PNEUMATIC SOV SWITCHLIGHT. . . . . . . . . . . . . . . . . . . **OFF**  CP | STALL TEST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **TEST**  CP | N°1. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **TURN AND HOLD**  CP | AURAL ALERT AND SHAKERS. . . . . . . . . . . . . . . . . . . **ACTIVATED**  CP | ANTI ICE PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | W/S DEFOG. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | L AND R W/S ANTI-ICE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | WING ANTI-ICE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | ENG ANTI-ICE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | PROBE HEAT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | PERS WARN SIGNS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | NO SMOKING SIGN. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | SEAT BELTS SIGN. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | OXYGEN MASK SWITCHLIGHT. . . . . . . . . . . . . . . **EXTINGUISHED**  CP | ENGINE FIRE PULL HANDLES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .**ALL IN**  CP | STBY ENG SEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **N2**  CP | ANTI-SKID/BRAKE TEMP SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ARM**  CP | OXY CROSS FEED SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CLOSE**  CP | CREW MANUAL OXYGEN SHUTOFF VALVE. . . . . . . . . . . . . . . . . . . . . . . **OPEN**  CP | OXYGEN QUANTITY. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | OXYGEN. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | MASK. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CLEANED**  CP | OXYGEN PRESSURE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | REGULATOR SUPPLY LEVER. . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | DILUTER LEVER. . . . . . . . . . . . . . . . . . . . . . . . . . . . **100% OXYGEN**  CP | MASK, HEADSEHT, HOSE, AND CONNECTORS. . . . **CONNECTED**  CP | MICROPHONE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | PURGE VALVE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CLOSED**  CP | SUPPLY LEVER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | SUPPLY LEVER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | EMERGENCY TOGGLE LEVER. . . . . . . . . . . . . . . . . . **EMERGENCY**  CP | EMERGENCY TOGGLE LEVER. . . . . . . . . . . . . . . . . . . . . **NORMAL**  CP | PURGE VALVE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OPEN**  CP | QUICK-DON ASSEMBLY. . . . . . . . . . . . . . . . . . . . . . . . . . . **STOWED**  CP | ICS PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | MWS/IRC, CIU PANELS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | CMDS PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | DEFENSIVE SYSTEMS PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | ADS PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | RADAR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **STANDBY**  CP | HDG REF SEL SWITCHES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | CABIN PRESS PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | MISSION COMPUTER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **INITIALIZED**  P | MISSION COMPUTER DATA. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | POSITION. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | FLIGHT PLAN. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | TOLD DATA. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | SKE PREFLIGHT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED**  P | AIR DROP DATA. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | IRU 1, 2, 3, 4. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **NAV**  CP | IFF. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | SKE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | COCKPIT PRINTER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | SCEFC HYDRAULIC PFBIT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | FCC HYDRAULIC PFBIT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | TRIM SYSTEMS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | AIRLINE OPERATIONAL CONTROL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | FCS ACTR PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **FULL MECH**  CP | EFCS RESET PUSHBUTTON. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **PRESS**  P | DEPARTURE BRIEFING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** before engine start CP | COMM RADIOS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | OXYGEN. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFIED AND ON**  P | APU AND EXTERNAL EQUIPMENT. . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | PARKING BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  P | CHOCKS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **REMOVE**  P | WAP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | FUEL QUANTITY. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | FUEL MANAGEMENT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | ACM/PASSENGER BRIEFING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED**  P | EXTERIOR CLEARANCE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ALL CLEAR**  CP | BEFORE ENGINE START CHECKLIST. . . . . . . . . . . . . . . . . . . . . . **COMPLETED** engine start CP | MFD 2, 3. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET FOR ENGINE START**  CP | NAV LIGHT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | ANTI-COLLISION LIGHT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **FSLG/WING**  P | ENGINE IGNITION SELECTOR SWITCH. . . . . . . . . . . . . . . **SET A OR B OR A&B**  P | FUEL USED PUSHBUTTON. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **RESET**  P | THROTTLE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **IDLE OR IDLE REV**  P | BLEED AIR SUPPLY PRESSURE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | ENGINE START. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **START**  P | IGNITION. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SELECTED**  P | START BUTTON. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **PRESS**  P | ENGINE SHUTOFF SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  P | ENGINE PARAMETERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  REPEAT FOR EACH ENGINES.  P | ENVIR PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  P | ENG PNEUMATIC SOV SWITCHLIGHTS. . . . . . . . . . . . . . . . . . . **OPEN**  P | APU AIR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  P | ISOL VALVE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CLOSED**  CP | ENGINE ANTI-ICE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | PROBE HEAT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | ENGINE START CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** before taxi P | DC X TIE SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AUTO**  P | IRCM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | HYDRAULIC XFER PUMP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AUTO**  P | FLAPS/SLATS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | FCS ACTR PANEL FLAP SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . **ECFS**  P | FLAPS/SLATS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **FULL/EXTN**  P | FLAPS/SLATS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **UP/RET**  P | FLIGHT CONTROLS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | FLIGHT CONTROL SURFACES. . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | FCS ACTR PANEL SWITCHES. . . . . . . . . . . . . . . . . . . . . . . . . . . **EFCS**  P | FLIGHT CONTROL SURFACES. . . . . . . . . . . . . . . . . . **VERIFY IN EFCS**  P | APU AND EXTERNAL EQUIPMENT. . . . . . . . . . . . . . . **OFF AND DISCONNECTED**  P | SKE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | TCAS/TAWS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | FCC HYDRAULIC PREFLT TEST. . . . . . . . . . . . . . . . . . . . . . . . . . . . **ACCOMPLISH**  P | SEFC HYDRAULIC PREFLT TEST. . . . . . . . . . . . . . . . . . . . . . . . . . . **ACCOMPLISH**  P | FCC AND SCEFC PREFLT TEST SWITCHLIGHTS. . . . . . . . . . . . **EXTINGUISHED**  P | EFCS RESET PUSHBUTTON. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **PRESS**  PF | TOGA MODE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ENGAGED**  P | TOLD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | STBY ENG SEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **EPR**  CP | THRUST RATING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  CP | FLAP INDEX. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET \_\_**  P | STABILIZER RUDDER AND AILERON TRIMS. . . . . . . . . . . **\_\_\_\_\_ DEGREES, 0, 0**  P | ALTIMETERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  PF | DEPARTURE BRIEFING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED**  LM | MAINTENANCE LADDER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SECURED**  P | GROUND CLEARANCE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ALL CLEAR**  CP | MCD MSG/STS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | COCKPIT WINDOWS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CLOSED**  CP | HYDRAULIC RESERVOIR TEMPERATURES. . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | SAFETY SWITCH PINS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | WAP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  LM | LOADMASTER REPORT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OBTAIN**  CP | BEFORE TAXI CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** before takeoff PF | BRAKES, STEERING, CONTROL STICK. . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PF | FLIGHT INSTRUMENTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PNF | SPOILERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ARM**  PNF | RADAR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | DEFENSIVE SYSTEM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | SKE FCI. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | PROBE HEAT SWITCHLIGHT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  PNF | FUEL BOOST PUMPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  PF | WAP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PF | SLATS/FLAPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SLATS EXTENDS, FLAPS ½**  PNF | HYDRAULIC RESERVOIR TEMPERATURE. . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PNF | EXTERIOR LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | IFF. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | BEFORE TAKEOFF CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** takeoff PF | BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **HOLD**  PF | THRUST SETTINGS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **1.15 EPR**  PF | THRUST SETTINGS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **STABILIZED**  PF | BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **RELEASE**  PNF | 80 KNOTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ANNOUNCE**  PF | FMA. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY CLMP**  PNF | ROTATE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ANNOUNCE**  PF | ROTATION. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **PERFORM**  PF | PITCH TARGET. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **12°** after takeoff/CLIMB PNF | POSITIVE RATE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ANNOUNCE**  PF | GEAR UP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ORDER**  PNF | LANDING GEAR LEVER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SELECT UP**  PNF | GEAR UP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CONFIRM THREE GREEN**  PF | AUTOPILOT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PF | FLAPS UP . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ORDER**  PNF | FLAPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SELECT UP**  PF | CLIMB POWER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ANNOUNCE**  PNF | CLIMB THRUST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SELECT MCT OR INT**  PF | SLATS UP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ANNOUNCE**  PNF | SLATS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SELECT UP**  PF | CLIMB SPEED. . . . . . . **250 KCAS UNTIL 10,000 FT/310KCAS ABOVE 10,000 FT**  PNF | SPOILERS SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **DISARM**  PNF | ANTI ICE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | PRESSURIZATION/AIR CONDITIONING PACKS. . . . . . . . . . . . . . . . **VERIFY ON**  CP | CREW OXYGEN QUANTITY. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **\_\_ LITERS**  PNF | DEFENSIVE SYSTEM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | AFTER TAKEOFF CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** cruise PNF | ALTIMETERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  PNF | ANTI-ICE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | PRESSURIZATION. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | CREW OXYGEN QUANTITY . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **\_\_ LITERS**  PNF | EXTERIOR LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | ENGINE IGNITION SELECTOR SWITCH. . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | PERS WARN SIGNS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | DEFENSIVE SYSTEM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | CRUISE CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** descent PNF | RADAR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | OBIGGS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  PNF | ENGINE IGNITION SELECTOR SWITCH. . . . . . . . . . . . . . . . . . . **A OR B OR A&B**  PNF | ANTI-ICE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | DEFENSIVE SYSTEM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | PERS WARN SIGNS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  PNF | DESCENT CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** approach PF | APPROACH MODE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ENGAGE**  PNF | EXTERIOR LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  PNF | ALTIMETERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  PNF | CABIN PRESSURIZATION. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PF | TOLD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PNF | FLAP INDEX. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET \_\_\_\_**  PNF | THRUST RATING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PF | CREW BRIEFING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED**  PNF | WAP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PNF | DEFENSIVE SYSTEM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | APPROACH CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** before landing PF | SLATS/FLAPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SLATS EXTENDED, FLAPS \_\_\_**  PNF | LANDING GEAR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **DOWN**  PNF | SPOILER SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ARM**  PNF | DEFENSIVE SYSTEM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | BEFORE LANDING CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** landing PNF | FLAPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SELECT ¾ OR FULL**  PF | FPV. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **BETWEEN -1.0 AND 1.5 DEGREES**  PNF | 300 FEET. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ANNOUNCE**  PNF | 50 FEET. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ANNOUNCE**   * **AT TOUCHDOWN**   PF | THROTTLE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **REV IDLE**  PNF | ENGINE PARAMETERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CONFIRM**  PF | BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **APPLY**   * **AT 70 KNOTS**   PF | THROTTLE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **NORMAL IDLE** go around PF | THROTTLES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **MAX/TOGA**  PNF | FLAPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **1/2**  PF | PITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ROTATE**  PF | SPEED. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ACCELERATE**  PF | FD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **FOLLOW**  PF | GEAR UP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ORDER**  PNF | LANDING GEAR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SELECT UP** after landing PNF | FLAPS/SLATS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **UP/RET**  PNF | SPOILER SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **DISARM**  PNF | IFF. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **STBY**  PNF | RADAR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  PNF | PRESSURIZATION. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **DEPRESSURISED**  PNF | IRCM MODE . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **STBY**  PNF | EXTERIOR LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | ADITS DOWNLOAD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PF | CARGO DOOR AND RAMP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PF | OUTBOARD ENGINES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PF | OUTBOARD ENGINES EPR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **1.5**  PF | DC X TIE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **TIE**  PF | OUTBOARD ENGINES FUEL BOOST PUMP. . . . . . . . . . . . . . . . **OFF**  PF | PROBE HEAT SWITCHLIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  PF | ENGINE #1 AND #4 ENG SHUT OFF SWITCH. . . . . . . . . . . . . . . **OFF**  PNF | AFTER LANDING CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** engine shutdown P | PARKING BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  P | CREW ENTRY DOOR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CLEARED TO OPEN**  P | TRIM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET 0**  CP | SKE AND RDR BCN. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  P | DC X TIE SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **TIE**  P | APU/EXT PWR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | APU. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **START**  P | APU/EXT PWR SWITCHES. . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | ENVIR PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  P | APU BLEED AIR VALVE. . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | BLEED AIR ISOL VALVE. . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | ENGINE PNEUMATIC SOV SWITCHLIGHT. . . . . . . . . . **AS REQUIRED**  P | FUEL PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  P | FUEL FWD/AFT BOOST PUMP SWITCHLIGHTS. . . . . . . . . . . . . . **OFF**  P | ENGINE IGNITION SELECTOR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  P | ENGINE IGNITION NORM/ORIDE SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . **NORM**  CP | PROBE HEAT SWITCHLIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | ANTI ICE PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  P | FLAPS/SLATS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | FCS ACTR PANEL SWITCHES. . . . . . . . . . . . . . . . . . . . . . . . **FULL MECH/MECH/OFF**  P | THROTTLES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **IDLE**  CP | HYD PUMPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  P | ENG SHUT OFF SWITCHES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | ENGINE SHUTDOWN CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** securing the aircraft CP | INTERIOR AND EXTERIOR LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | PERS WARN SIGNS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | IRU SWITCHES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | OBIGGS LEFT AND RIGHT SWITCHLIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | HUD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  P | HUD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | MFD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | STBY ATTITUDE INDICATORS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CAGED**  CP | STBY ENG SEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | OXYGEN . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **100% / OFF**  CP | SC ZERO. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | IRCM/UDM CARD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | MCD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  LM | CHOCKS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **INSTALLED**  CP | PARKING BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  P | SAFETY SWITCH PINS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | DEFENSIVE SYSTEM WOW MAINT ORIDE SWITCH. . . . . . . . . . . . . . . . . **NORMAL**  CP | CMDS SYS ARMED SWITCHLIGHT. . . . . . . . . . . . . . . . . . . . . . . . . **EXTINGUISHED**  CP | CMDS JETT SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | COCKPIT PRINTER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | L/R PACKS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | APU/EXT PWR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | GND OPS PWR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | EMERG LT SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | DC X TIE SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AUTO**  CP | EMERG PWR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | APU PWR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | EXT PWR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | XFER BUSES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | EMERG PWR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | BATT SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  Page Intentionally Left Blank   supplemental operATIng proceduresREVERSE THRUST BACKING  |  | | --- | | **Caution** | | The aircraft is able to back up at full ramp weight (586 000 lbs) up to a 2% slope. |   CM | BRIEFING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED**  LM | LOADMASTER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **IN POSITION**  LM | LOADMASTER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **IN CONTACT**  P | THRUST LEVERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **REVERSE IDLE**   * **If all four engines extend over the same ground surfaces:**   P | OUTBOARD ENGINES. . . . . . . . . . . . . . . . . . . . . . . . . **SET ¾ REVERSE THRUST**  P | INBOARD ENGINES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET REVERSE IDLE**   * **If an outboard engine extends over unprepared or debris covered surfaces:**   P | OUTBOARD ENGINES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET REVERSE IDLE**  P | INBOARD ENGINES. . . . . . . . . . . . . . . . **SET REVERSE THRUST AS REQUIRED**   * **When backing is completed:**   P | THRUST LEVERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **FORWARD**  P | BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED** STAR TURN CM | BRIEFING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED**   * **When the outboard main gear tires are at the edge of the runway:**   P | THRUST LEVERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **FWD IDLE**  P | STEERING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **FULL TOWARD RWY CENTER**  P | ENGINES OUTSIDE THE TURN. . . . . . . . . . . . . . . . . . . . . . . . **SET POWER SLOWLY**   * **When the nose gear reaches the opposite edge of the runway:**   P | NOSE WHEEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CENTER**  CM | REVERSE THRUST BACKING PROCEDURES. . . . . . . . . . . . . . . . . . . . . **APPLY**   |  |  |  | | --- | --- | --- | | REVERSE THRUST BACKING  |  | | --- | | **Caution** | | The aircraft is able to back up at full ramp weight (586 000 lbs) up to a 2% slope. |   CM | BRIEFING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED**  LM | LOADMASTER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **IN POSITION**  LM | LOADMASTER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **IN CONTACT**  P | THRUST LEVERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **REVERSE IDLE**   * **If all four engines extend over the same ground surfaces:**   P | OUTBOARD ENGINES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET ¾ REVERSE THRUST**  P | INBOARD ENGINES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET REVERSE IDLE**   * **If an outboard engine extends over unprepared or debris covered surfaces:**   P | OUTBOARD ENGINES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET REVERSE IDLE**  P | INBOARD ENGINES. . . . . . . . . . . . . . . . . . . . . . . . . . . **SET REVERSE THRUST AS REQUIRED**   * **When backing is completed:**   P | THRUST LEVERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **FORWARD**  P | BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED** |   P | BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **RELEASE**  P | NOSE STEERING. . . . . . . . . . . . . . . . . . . . . **OPPOSITE DIRECTION FROM TURN**   * **When main gear reaches the edge of the runway:**   P | THRUST LEVERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **FORWARD**  P | BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  Restart the procedures until the aircraft is at the correct position. PENETRATION DESCENT CM | DESCENT PROCEDURES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **APPLY**   |  | | --- | | descent PNF | RADAR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | OBIGGS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  PNF | ENGINE IGNITION SELECTOR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **A OR B OR A&B**  PNF | ANTI-ICE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | DEFENSIVE SYSTEM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | PERS WARN SIGNS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  PNF | DESCENT CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** |   CM | APPROACH CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **APPLY**   |  | | --- | | approach PF | APPROACH MODE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ENGAGE**  PNF | EXTERIOR LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  PNF | ALTIMETERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  PNF | CABIN PRESSURIZATION. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PF | TOLD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PNF | FLAP INDEX. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET \_\_\_\_**  PNF | THRUST RATING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PF | CREW BRIEFING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED**  PNF | WAP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PNF | DEFENSIVE SYSTEM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | APPROACH CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** |   P | FLAPS/SLATS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET RETRACTED**  P | THRUST LEVERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **FWD IDLE**  P | AIR SPEED. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **MAINTAIN 230-250 KCAS**  P | SPEED BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | SLATS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**   * **When reaching 1000 feet above penetration altitude:**   P | VERTICAL SPEED. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **REDUCE BY HALF**  P | SPEED BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **RETRACT**  P | AIR SPEED. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **REDUCE TO VMMA** TACTICAL DESCENT CM | DESCENT PROCEDURES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **APPLY**   |  | | --- | | descent PNF | RADAR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | OBIGGS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  PNF | ENGINE IGNITION SELECTOR SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **A OR B OR A&B**  PNF | ANTI-ICE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | DEFENSIVE SYSTEM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | PERS WARN SIGNS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  PNF | DESCENT CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** |   CM | APPROACH CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **APPLY**   |  | | --- | | approach PF | APPROACH MODE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ENGAGE**  PNF | EXTERIOR LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  PNF | ALTIMETERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  PNF | CABIN PRESSURIZATION. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PF | TOLD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PNF | FLAP INDEX. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET \_\_\_\_**  PNF | THRUST RATING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PF | CREW BRIEFING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED**  PNF | WAP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PNF | DEFENSIVE SYSTEM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | APPROACH CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** |   P | LANDING GEARS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **UP**  P | FLAPS/SLATS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET RETRACTED**  P | SPEEDBRAKE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **DEPLOYED**  P | THRUST LEVERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **REVERSE THRUST IDLE**  P | DESCENT AIR SPEED. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **320 KCAS**   * **When reaching 2 000 feet above desired altitude:**   P | THRUST LEVERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **FWD IDLE** ASSAULT LANDINGS CM | APPROACH CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **APPLY**   |  | | --- | | approach PF | APPROACH MODE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ENGAGE**  PNF | EXTERIOR LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  PNF | ALTIMETERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  PNF | CABIN PRESSURIZATION. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PF | TOLD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PNF | FLAP INDEX. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET \_\_\_\_**  PNF | THRUST RATING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PF | CREW BRIEFING. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED**  PNF | WAP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  PNF | DEFENSIVE SYSTEM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PNF | APPROACH CHECKLIST. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **COMPLETED** |  * **When approach is stabilized:**   P | PACAH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ENGAGE**  P | THRUST LEVERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET FPV**  PNF | 300 FEET AGL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ADVISE**  PNF | 50 FEET AGL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ADVISE**  P | TOUCHDOWN RATE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **360 FPM** TOUCH AND GO LANDINGS  * **After the main gear touchdown:**   P | THRUST LEVERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET IDLE**   * **After the nose wheel touchdown:**   PF | FLAPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ANNOUNCE “FLAPS ½”**  PF | THRUST LEVERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ADVANCE 1 INCH**  PNF | FLAPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET ½**  PNF | FLAPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CONFIRM SET ½**  PNF | ENGINES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CONFIRM ACCELERATING**  PNF | TRIM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **RESET AS REQUIRED**  PF | THROTTLES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  PF | TOGA SWITCH. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **PRESS** ENROUTE STOP CHECKLIST ARRIVAL:  CP | INTERIOR LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | EXTERIOR LIGHTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | IRU SWITCHES 1, 2, 3, 4. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | SKE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | RDR BCN. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | MISSION PLAN DOWNLOAD. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  LM | CHOCKS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  LM | GROUND WIRES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | PARKING BRAKES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SET**  P | SAFETY SWITCH PINS/IRCM. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | WOW MAINT ORIDE SWITCHES. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **NORMAL**  CP | CMDS SYS ARMED. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **EXTINGUISHED**  P | CMDS JETT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  P | L/R PACK. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  CP | OBIGGS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  P | APU/EXT PWR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  LM | EXT PWR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  LM | PAPERWORK. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OBTAINED**  LM | PERSONNEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **DISEMBARKED**  LM | INRL HORN INHIBIT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  LM | STABILIZER STRUTS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  LM | CARGO DOOR/RAMP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **AS REQUIRED**  DEPARTURE:  CP | FLIGHT DECK EQUIPMENT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **SECURED**  CP | CIRCUIT BREAKERS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | MAINTENANCE INTERFACE PANEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **CLOSED**  P | PARKING BRAKE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  P | WAP. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  P | HYD PUMPS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  P | HYD SYS FLUID QTY. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | APU/ENG FIRE DETECTION SYS. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **TEST**  P | STBY ENG SEL. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **N2**  CP | W/S DEFOG. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **ON**  CP | L & R W/S ANTI-ICE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | WING ANTI-ICE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  CP | ENG ANTI-ICE. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **OFF**  P | OXYGEN QUANTITY. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **VERIFY**  CP | MISSION COMPUTER. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **INITIALIZE**  P | RADAR. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **STBY**  P | IRU 1, 2, 3, 4. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **INITIALIZE**  P | EFCS RESET. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **PRESS** oPERATIONAL STOPALERT COCKPIT PROCEDUREALERT START PROCEDURESSEMI PREPARED AIRFIELD OPERATIONSsimulator troubleshootingother information |