

**BY ORDER OF THE COMMANDER
19TH AIRLIFT WING**

LITTLE ROCK AFB INSTRUCTION 21-123

2 JULY 2013

Maintenance

**C-130 AIRCRAFT ENGINE MAINTENANCE
PROCEDURES**



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RELEASABILITY: There are no releasability restrictions on this publication.

OPR: 19 MXG/QA

Certified by: 19 MXG/CC
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Supersedes: LITTLEROCKAFBI21-123,
6 July 2010

Pages: 16

This instruction implements AFPD 21-1. This instruction applies to all 19th Airlift Wing (AW), 314 Airlift Wing (AW), organizations responsible for conducting or participating in C-130 engine maintenance runs, C130 Engine compressor washes, and any C-130 propeller or engine changes on Little Rock AFB AR. This instruction does not apply to Air National Guard or Reserve units. This instruction establishes procedures and outlines responsibilities to ensure safe ground operation of C-130 engines on Little Rock AFB. Commanders will ensure strict compliance with this instruction. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gcss-af61a/afirms/afirms>. Refer recommended changes and question about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional chain of command.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed. Minor changes include: pre ISO engine runs are aircraft specific, cannibalization actions will be

authorized/coordinated by ISO maintenance supervision and C-130J model tech data differs from C-130H tech data.

1. AIRCRAFT ENGINE RUN REQUIREMENTS.

1.1. Aircraft engine run personnel qualification requirements.

1.1.1. Requirements and specific procedures for training and certifying personnel to operate engines installed on aircraft are contained in AFI 21-101, AFI 21-101 AETC Sup 1, AFI 21-101 AMC Sup 1, AFI 91-203, AMCI 21-104, *Aircraft Maintenance Training*, and 19 MXGOI 36-2232, *Training*.

1.2. Prerequisites for attending the C-130H/J Engine Maintenance Run (EMR) Training Course.

1.2.1. Highly competent personnel possessing the rank of SrA or higher.

1.2.2. Minimum of 6 months C-130 experience prior to class enrollment.

1.2.3. Possess a 5-skill level.

1.2.4. Complete EMR student training handout provided by the work center training monitor (WTM) prior to initial course attendance. **Note:** Personnel holding a current certification in C-130H/J EMR from another station are required to complete Phase II and III of the Command's Engine Maintenance Run Training Program.

1.3. Annual engine maintenance run certification requirements are.

1.3.1. Individuals required to operate C-130H, and C-130J installed engines are required to be certified on each aircraft. Certification consists of accomplishing the annual examination (C-130H, and C-130J) and a practical evaluation. Additionally, they will be required to maintain proficiency for each type aircraft. Work centers determine how individuals will be trained, and may request assistance from the aircraft owning organization for run assistance.

1.4. G081 documentation for EMR training.

1.4.1. The UTM will update G081 upon completion of initial EMR. The UTM will update G081 upon satisfactory completion of the examination, both operating and emergency shutdown procedures, and practical evaluation.

1.5. Engine Run Supervisor Responsibilities.

1.5.1. Ensure that prior to engine start, and after engine shut down, intake and exhaust inspections are accomplished and documented. These inspections are a red "X" condition.

1.5.2. Ensure engine-run certified personnel occupy the pilots and flight engineer's seats during engine runs above ground idle. **EXCEPTION:** A C-130J requires engine run certified personnel in the pilot's and copilot's seats.

1.5.3. In addition to the requirements outlined in AFI 11-218/AETC Sup 1, AMC Sup 1, and Little Rock Sup 1, a student may occupy the pilot's seat during training provided a certifying official occupies the co-pilot's seat. **EXCEPTION:** A C-130J requires an engine run certifier in the instructor pilot's seat.

1.5.4. The individual in the co-pilot's seat will be fully qualified in aircraft brake operation, radio operation, and aircraft marshaling. The individual will observe the right side of the aircraft for unusual occurrences or movement and will monitor warning lights and instruments on the right side of the aircraft cockpit. Additionally, the individual occupying the co-pilot's seat will maintain radio contact with the tower on UHF 275.8 MHZ or ground control on UHF 349.4 MHZ.

1.5.4.1. The individual on the ground interphone cord (ground observer) will be qualified in the following: operation of the A/M32A-86A generator, a qualified fireguard, trained to operate a 150-pound halon fire extinguisher or equivalent in the aircraft run area, thoroughly familiar with checking the condition of the brake wear pin, and must be aircraft marshaling qualified. The ground observer's training must be documented in TBA. They will advise the engine run supervisor if other aircraft, vehicles, or personnel enter the propeller blast area, or adverse condition develops (e.g., fire, oil leak, etc.). The ground observer will stand at a 45-degree angle forward from the crew entrance door and direct personnel away from the propellers.

1.5.4.2. On C-130H aircraft, the individual occupying the flight engineer's seat will be engine-run qualified for maintenance runs above ground idle. **EXCEPTION:** A student may occupy the flight engineer's seat for training, provided there is either an engine run instructor on the interphone or an engine-run certifying official in the pilot or co-pilot seats. The engineer position will be responsible for all switches and instruments aft of the fire emergency control handles. The engineer position will observe all warning lights and assist the engine-run supervisor as briefed.

1.6. Engine Run Prerequisites.

1.6.1. The Maintenance Operations Center (MOC) must be contacted for engine run approval with the following information:

1.6.1.1. Aircraft tail number and parking spot.

1.6.1.2. Name and G081 employee number of the engine run supervisor.

1.6.1.3. Approximate run time, number of engines to be run, and whether the run will be an on-speed or maximum power run.

1.6.2. Tower/ground control will be contacted on UHF frequency 275.8 MHZ, after obtaining engine run clearance from MOC.

1.6.2.1. Aircraft tail number and parking spot

1.6.2.2. Approximate run time, number of engines to be run, and whether the run will be an on-speed or maximum power run. **Note:** Tower/ground control will not normally call the MOC to confirm engine run approval. If there is a problem in obtaining start clearance, immediately contact the MOC.

1.6.3. If an aircraft requires additional engine runs for maintenance adjustments, engine run clearance will not need to be obtained again unless clearance has been canceled. To keep clearance open, contact and advise tower or ground control of intended shutdowns and restarts. Cancel run clearance when all runs are complete.

1.6.4. During times when the tower or ground control is off the air, the MOC will perform the coordination requirements of engine maintenance runs. Use UHF 349.4 MHZ to contact MOC, (call sign Ground Control), and provide engine run information. MOC will coordinate all requirements with the security forces and fire department.

1.7. Additional engine run requirements. WARNING: During engine operation, the aircraft bleed air system and potential for aircraft movement poses a significant safety hazard. Therefore, during operation of one or more engines, no maintenance will be performed on other engines, propellers, or other external portions of the aircraft.

1.7.1. All personnel involved with engine operation will be on the interphone at all times during engine runs. Exception: ground observer must maintain visual contact with run supervisor while disconnecting power unit.

1.7.2. To operate engines during the hours of darkness, the landing lights will be turned "ON" and extended to approximately a 45-degree angle. This is done to observe the operating engines and vehicle/personnel traffic in the immediate vicinity. Aircraft taxi lights will be turned "ON" to help detect aircraft movement.

1.7.3. After engine shutdown, the engine run supervisor will ensure the required AFTO Form 781A entries are made for all discrepancies encountered during the run. If Foreign Object Damage (FOD) is encountered, contact the 19 AW FOD Office and ensure quality assurance and wing safety are notified by the MOC. Ensure the wing FOD check sheet is annotated and forwarded to the Engine Management Branch (EMB) for proper engine AFTO Form 95, *Significant Historical Data*, and CEMS historical entries. An investigation in accordance with (IAW) AFI 21-101 and AFI 91-204, *Safety Investigation and Reports*, will be initiated.

1.7.4. No maximum power runs will be authorized when aircraft are parked tail to tail.

1.7.5. All engine runs will be called into the MOC. The MOC will verify with the flight line expediter, "**Engine Run Approved**" and broadcast on all radio nets to proceed with caution in the run up area. **Note:** Ensure one spot directly behind running aircraft is open during any maintenance engine run at or above flight idle.

1.7.6. On aircraft parked within or up to two spots directly behind an above ground idle engine run, the following actions apply: All exterior maintenance will stop. All panels will be secured or removed. All maintenance stands, fire bottles, and AGE support equipment will be secured or removed. All engine intake plugs and pitot covers will be installed.

1.7.7. The production supervisor of the unit running engines will notify/coordinate with the production supervisor of the other squadron(s) whose aircraft might be affected by the prop blast.

1.8. Special run requirements for leak checks.

1.8.1. Personnel performing man-on-the-stand duties will meet the following minimum requirements:

1.8.2. Must possess at least a 5-skill level.

1.8.3. Must have at least 6 months C-130 experience.

1.8.4. Must wear earplugs and earmuff hearing protection.

1.8.5. Must remove all loose items from clothing to include pens, pencils, coins, flight line badges, jewelry, or any other item that could possibly fall out and be ingested in the engine.

1.8.6. Normally, only one person will be permitted access to the stand, with all others remaining clear. The individual will approach the stand from the wing tip.

1.8.7. Ensure that all personnel are clear of the area prior to engine shutdown. Ensure no one approaches the stand until the propeller has no rotation and bleed air has been removed.

1.9. Special requirements for self-contained engine starts.

1.9.1. Self-contained engine starts will be accomplished only after every effort has been made to obtain an external power unit. In the event an external power unit is not available, only mission-essential engine runs or a critical time factor is the justification for a self-contained engine start. EXCEPTION: H3 and C130J aircraft.

1.10. Requirements for the A/M37T-21 Series Turboprop Test Stand Operation.

1.10.1. Prerequisite qualifications for test stand operator/ground observer:

1.10.2. Qualified to operate A/M32A-95 air cart and A/M32A-86A generator.

1.10.3. Qualified to operate 150-pound halon fire extinguisher or equivalent.

1.10.4. Procedures for certification (initial and annual).

1.10.5. Satisfactory completion of a written examination covering test stand requirements and engine/propeller limitations. This examination will also contain emergency procedures and will be administered by MTF.

1.10.6. Satisfactory completion of a practical evaluation from a test stand operator/certifier.

1.10.7. Personnel who fail to achieve a passing score on their annual recertification examination will immediately be decertified to operate engines on the test stand. A second examination will not be administered without written authorization from the Centralized Repair Facility (CRF) superintendent.

1.10.8. The UTM will update G081 upon completion of initial EMR. The UTM will update G081 upon satisfactory completion of the Phase III examination, both normal and emergency procedures, and practical evaluation.

1.10.9. Individuals who do not perform satisfactorily on their practical evaluation will immediately be "disqualified" to operate engines on the test stand and decertified in their TBA, Individual Training Record, and G081. Decertified individuals will require additional training prior to being administered a second practice evaluation.

1.10.10. The CRF superintendent will select qualified technicians for engine start and run-up duties. The maintenance operations officer or squadron maintenance superintendent will approve personnel selections.

1.10.11. Test stand operations will be conducted using TO 1C-130B-2-4CL-2, *Organizational Maintenance Checklist Engine Mobile Test Stand*. The test stand run crew will be comprised of four people. The supervisor will be test stand qualified and in charge of all activities during engine operation. The recorder will remain in the test stand control cab and document all readings on the test cell run sheet. Two ground observers will be outside the cab. Each will be positioned on opposite sides of the test stand to monitor the engine during operation. All personnel will be on headset and will remain in communication during the entire engine run. **Note:** As a minimum one ground observer will be fully qualified. The other observer may be fully qualified or in training as a ground observer.

1.10.12. During the leak check portion of the engine run, normally only one person at a time will be allowed on the stand and must be in full view of the other ground observer at all times. However, there may be instances when two personnel are required on both sides of an engine performing leak checks. All Cautions, Warnings, and applicable steps in TO 1C-130H-2-71JG-00-1 will be followed.

1.10.13. Engines may be operated throughout all power ranges with cowlings and access panels either completely installed or completely removed.

2. C-130 ENGINE COMPRESSOR WASHES

2.1. Guidelines.

2.1.1. T56 engine compressor washes enhance the service life of engine compressors.

2.1.2. As a result of exhaustive studies, as well as a change in compressor plating, it is no longer required to contact the applicable environmental manager prior to performing any compressor wash; provided aircraft and engine compressor wash limitations for Little Rock AFB are not exceeded as outlined in Table 2.7 (compressor wash limitations), and section 2.7 (Policy) within this instruction.

2.1.3. The 19 MOS Plans, Scheduling, and Documentation (PS&D) will coordinate with the 314 MOF PS&D and 189AW PS&D to establish aircraft and/or engine compressor wash priority based on mission requirements.

2.1.4. 19 MOS MOC will track all aircraft and engine compressor washes performed within the 19th EMS wash rack, (bldg 228/233), 189 AW wash rack (bldg 206), or test cell (bldg 391) and ensure base environmental requirements are not exceeded.

2.1.5. Production supervisors will inform MOC and coordinate with the applicable PS&D section for all aircraft and engine compressor washes prior to starting maintenance. They will ensure a distinction between aircraft and/or engine compressor washes is clearly stated. **EXAMPLE:** 1 aircraft wash with 2 engine compressor washes, or 1 aircraft wash with no engine compressor washes, 1 engine compressor wash only, etc.

2.1.6. If compressor wash is required at a deployed location, contact the deployed or host base quality assurance for guidance on compressor wash procedures.

2.2. Criteria for compressor washes.

2.2.1. TO 1C-130A-6 Change 8 requires compressors to be washed every 180 days unless granted a waiver by MAJCOM. The need for out of cycle compressor washes shall be determined by maintenance supervision after evaluating the mission, operating environment, engine performance, and compressor hours.

2.2.1.1. If a low power condition is not corrected after completing the compressor low power checklist (attachment 2), then perform a compressor wash.

2.2.2. All engines at Little Rock AFB found to have other than normal oil film build-up within the power section (determined by a propulsion 7-level or higher), require a compressor wash. Pay close attention after excessive propeller or thrust nut leaks. A wash will be performed when an engine experiences a static oil leak with evidence within the compressor section. This is deemed to be detrimental to engine reliability. A compressor wash will be coordinated through the production supervisor.

2.2.3. Aircraft operating near a salt water environment or returning from missions that flew below 500 feet over salt water will have a compressor water wash performed as required in accordance with TO 1C-130H-2-00GE-00-1 and 2J-T56-101CL-1. Water washes are considered compressor cleaning and will be accomplished at approved locations (see para. 2.1.1).

2.2.4. When aircraft return from desert operations, technicians will perform an inspection of the compressor's 5th and 10th stage bleed valves in accordance with applicable technical data to determine if the compressor, or 5th and 10th stage bleed valves have enough dirt build-up to be detrimental to engine reliability. This inspection must be done no later than 14 days after return to home station, or prior to next aircraft deployment, whichever comes first.

2.3. Compressor wash procedures for test cell.

2.3.1. All compressor washes performed on the test cell will be performed in a manner to deflect the residue onto the test cell pad throughout the wash procedure.

2.3.2. Test cell will ensure compressor wash residue is directed down the sanitary sewer drain, not the storm drain, after completion of the compressor wash.

2.4. Compressor wash procedures for wash rack Bldg 228/233:

2.4.1. Refer to LCL-19AW-8 for wash rack set-up.

2.4.2. If performed in conjunction with an aircraft wash, engine compressor washes will not begin until the wash rack supervisor and unit production supervisor verify the aircraft wash is complete.

2.4.3. As a minimum, five personnel are required to perform compressor washes in the wash rack. Mechanic A will be an engine run qualified mechanic to motor engines, Mechanic B will be a brake operator qualified mechanic, Mechanic C will operate the wash cart, Mechanic D will be the air cart operator/ground observer, and Mechanic E will be the primary ground observer using the interphone system. Mechanics C, D and E will monitor area for obstruction and personnel entering/exiting hangar to ensure personnel safety and safe operation of aircraft.

2.5. Compressor wash limitations.

2.5.1. Locations:

2.5.1.1. The only authorized locations are: 19 EMS wash rack (bldg 228 and 233), 189 ANG outdoor wash rack (bldg 206), and test cell (bldg 391).

2.5.2. Quantity:

2.5.2.1. Due to all four approved sites being connected to a single water treatment facility collection point, no more than 3 cumulative aircraft washes, and 10 cumulative engine washes between the 4 approved sites will be performed within a 24 hour period.

2.6. Matrix.

2.6.1. The matrix in Table 1 is an example of the sewage load limitation for a 24-hour period:

Table 1. Example of Sewage Load Limitation for a 24-Hour Period.

| H-228/233 | 189 ANG B-206 | Test Cell B-391 |
|-----------------------|----------------------|------------------------|
| 24 Hour Period | | |
| 2 Aircraft Washes | 1 Aircraft Wash | 2 Engine Comp Washes |
| 4 Engine Comp Washes | 4 Engine Comp Washes | |
| 24 Hour Period | | |
| 2 Aircraft Washes | Nothing Scheduled | 6 Engine Comp Washes |
| 4 Engine Comp Washes | | |
| 24 Hour Period | | |
| 2 Aircraft Washes | 1 Aircraft Wash | 4 Engine Comp Washes |
| 2 Engine Comp Washes | 4 Engine Comp Washes | |
| 24 Hour Period | | |
| 2 Aircraft Washes | Nothing Scheduled | 2 Engine Comp Washes |
| 8 Engine Comp Washes | | |

2.7. Policy

2.7.1. Environmental impact:

2.7.1.1. Aircraft and compressor washes, through repeated tests, are shown to produce cadmium and chromium metals in the wash water effluent. Little Rock Air Force Base is limited on the amount of cadmium and chromium disposed through the sanitary sewage system. As long as the numbers of aircraft and compressor washes are controlled, the levels will stay within environmental standards.

3. PROPELLER AND ENGINE CHANGE PROCEDURES

3.1. General Information:

3.1.1. In an effort to ensure the most efficient use of propellers and engines at Little Rock AFB, the following policy regarding propeller and engine changes has been established. The Points of Contact (POCs) for all propeller and engine quick-turns or changes will be the 19th Aircraft Maintenance Squadron (AMXS) production superintendents, 314th Aircraft Maintenance Squadron (AMXS) production superintendents, the 19th CMS production superintendent, and the CRF superintendent.

3.1.2. Storage and issue. All propellers will be stored and issued from the 19th Logistics Readiness Squadron, located in building 450. Engines will be stored and issued by the CRF.

3.2. Propeller procedures.

3.2.1. Troubleshooting. When troubleshooting of a propeller discrepancy indicates a propeller change, a 7-level propulsion craftsman will verify the condition. If an AMXS 7-level is not available, coordinate with CMS supervision for 7-level verification. Coordinate with CMS production superintendent for possible quick-turn repair of the propeller before ordering a new assembly. If the propeller pump housing rear shaft lip seals are leaking and no other reason warrants a quick-turn, the AMXS will replace the seal. Each AMXS will add pre-built rear lip seals to their bench stock, local NSN 5330L0014534460. The CRF will be responsible for pressing all rear lip seals into their moon plate assembly for the base bench stock fill levels. If needed, contact the CRF for consultation. All propellers will be candidates for quick-turn maintenance unless removed for blade or hub split line leaks. For discrepancies other than a blade or hub split line leak, quick-turn procedures listed below will be followed.

3.2.2. Propeller quick-turns: Quick-turns will be coordinated through CMS production superintendent and the CRF. Quick-turns should take no longer than 6 hours during normal duty hours, and 8 hours if received after normal duty hours Monday through Friday. During weekends, completion times will be coordinated through CMS production superintendent and the CRF.

3.2.3. Propellers will be quick-turned under the following conditions:

3.2.3.1. Propeller can be repaired (quick-turn) and returned to the AMXS in time to prevent the cancellation of the aircraft's next scheduled mission. Real-world deployments and Higher Headquarter Joint Chief of Staff missions (CREDIBLE CAT aircraft) are an exception to this policy.

3.2.3.2. When the total spares available on home station are less than 8. Exception: AMXS/CMS Supervision may coordinate propeller issue when below WRE. This decision will be based upon the CRF superintendent input and after close consideration of forecast requirements, availability, and flying schedule.

3.2.3.3. Aircraft could not fly next scheduled mission even if a replacement propeller was issued.

3.3. Engine procedures.

3.3.1. For low power engine conditions, the AMXS will comply with requirements contained in Chapter 2, *C-130 Engine Compressor Washes*. The compressor wash is the only requirement that depends on facility availability. A full run sheet (to include compressor discharge pressure) will be given to the CRF prior to issue of a replacement engine.

3.3.2. Engines will be issued to replace those with worn or damaged compressor modules. For turbine, accessory drive housing (ADH) or reduction gearbox (RGB) failures, the CRF will be given the opportunity to quick-turn the engine before issuing a replacement based on Reliability Centered Maintenance (RCM) calculations. The turbine, ADH and RGB will be ordered by the owning AMXS. The turbine seal break-in run will be accomplished by the AMXS. The AMXS may request the engine be run across the test cell (dependent upon test cell availability); however this will delay the engine's return to the flight line.

3.3.3. Engine component quick-turns will be coordinated through CMS production superintendent and the CRF superintendent. For -15 turbine changes, close coordination between AMXS and CMS will be required due to module availability. Quick-turn repairs for engine RGB changes should be completed within 12 hours, if received during normal duty hours; within 16 hours, if received after normal duty hours. ADH quick-turns should be completed within 12 hours, if received during normal duty hours; within 16 hours, if received after normal duty hours. All quick-turns during weekends will require coordination with CMS production superintendent.

3.3.4. Engines will be quick-turned under the following circumstances:

3.3.4.1. Engine can be repaired (quick-turn) and aircraft returned to service in time to prevent cancellation of the aircraft's next scheduled mission.

3.3.4.2. T56-15 engines will be evaluated as quick-turn candidates based on the Reliability Centered Maintenance (RCM) predictor tool providing a minimum of 1,000 hours Estimated Time on Wing (ETOW).

3.4. Responsibilities.

3.4.1. The CRF is responsible for the removal and replacement of the RGB, turbine module, ADH and all associated tasks.

3.4.2. The owning unit is responsible for all other maintenance. The owning unit will forward the equipment change sheet LRAFB IMT 6A for C130 E/H and LRAFB IMT 6B for C130J to engine management branch (EMB) when an engine/propeller is removed for any reason.

3.4.3. Unsettled differences among the POCs for this procedure shall be immediately elevated to the AMXS maintenance operations officer or superintendent and the CMS maintenance operations officer or superintendent for resolution. A 7-level propulsion craftsman will be available in shop during normal duty hours (0700-2300, Monday-Friday). During off-duty hours, the CMS production superintendent will contact the CRF superintendent. Off-station aircraft and Maintenance Repair Team (MRT) requirements will be coordinated through the CMS production superintendent who will ensure an

engine is immediately approved for issue, as required. Adherence to this policy will help ensure sufficient availability of propellers and engines to meet Little Rock AFB mission requirements.

BRIAN S. ROBINSON, Colonel, USAF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

32 CFR 989, *Code of Federal Regulations*, 15 July 1999

AFI 11-218, *Aircraft Operations and Movements on the Ground*, 28 October 2011

AFI 11-218/AETC Sup 1, *Aircraft Operations and Movements on the Ground*, 01 May 2012

AFI 11-218/AMC Sup 1, *Aircraft Operations and Movements on the Ground*, 26 May 2011

AFI 11-218/LRAFB Sup 1, *Aircraft Operations and Movements on the Ground*,

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 26 July 2010

AFI 21-101 AMC Sup 1, *Aircraft and Equipment Maintenance Management*, 14 February 2011

AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*, 15 June 2012

AFI 91-204, *Safety Investigations and Reports*, 24 September 2008

1C-130B-2-4CL-2, *Organizational Maintenance Checklist Engine Mobile Test Stand*, 1 October 2010

1C-130H-2-00GE-00-1, *General Equipment Manual*, 1 September 2012

1C-130H-2-71JG-00-1, *Power Plant Operating Limits and Run Checklists*, 1 September 2012

1C-130J-2-71JG-00-1, *Power Plant Operating Limits and Run Checklists*, 1 July 2012

1C-130J-1, *Flight Manual*, 4 December 2012

1C-130H-1, *Flight Manual*, 27 October 2012

2J-1-18, *Preparation for Shipment and Storage of Gas Turbine Engines*, 1 September 2010

2J-T56-101, *Turboprop Engine*, 1 October 2012

2J-T56-101CL-1, *Corrosion Control of T56 Turboprop Engines*, 1 October 2012

Prescribed Form

LRAFB Form 6A, *C130E/H Equipment Change Sheet*

LRAFB Form 6B, *C130J Equipment Change Sheet*

LRAFB Form 152, *Propulsion System Operation Worksheet*

Adopted Forms

AFTO 95, *Significant Historical Data*

AFTO 781 A, *Maintenance Discrepancy and Work Document*

AF IMT Form 2519, *All Purpose Checklists*

Abbreviations and Acronyms

AETC—Air Education and Training Command

AFMAN—Air Force Manual

AG—Airlift Group

AGE—Aerospace Ground Equipment

AMXS—Aircraft Maintenance Squadron

ANG—Air National Guard

AMC—Air Mobility Command

AS—Airlift Squadron

AW—Airlift Wing

B-206—Building 206

B-391—Building 391

CFR—Code of Federal Regulations

CMS—Component Maintenance Squadron

COMP—Compressor

CRF—Centralized Repair Facility

EMR—Engine Maintenance Run

EMS—Equipment Maintenance Squadron

EMB—Engine Management Branch

FOD—Foreign Object Damage

H-228/233—Hangar 228/233

LRAFBI—Little Rock Air Force Base Instruction

LSN—Local Stock Number

MOC—Maintenance Operations Center

MOS—Maintenance Operation Squadron

MTF—Maintenance Training Flight

MXG—Maintenance Group

MXG/CC—Maintenance Group/Commander/Combat Coded

MXG/MXGQI—Maintenance Group/Maintenance Group Quality Inspector

OPR—Office of Primary Responsibility

P,S&D—Plans and Scheduling

POC—Point of Contact

RCM—Reliability Centered Maintenance

RDS—Records Disposition Schedule

UHF—Ultra High Frequency

UTM—Unit Training Manager

WTM—Work Center Training Manager

Attachment 2

COMPRESSOR LOW POWER CHECKLIST

| | | | |
|--|---|-------------------------|------|
| ALL PURPOSE CHECKLIST | | PAGE 1 OF 2 PAGES | |
| TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA LOW POWER, BELOW 95% EFFICIENCY PRIOR TO COMPRESSOR WASH CHECK SHEET. USED IAW LRAFBI 21-123, FORM DATED 8 OCT 2004 | | OPR 19 MXG/ QA | DATE |
| NO | ITEM (Assign a paragraph number to each item. Draw a horizontal line between each major paragraph) | EMP | |
| Unit _____ Aircraft Tail Number _____ Engine _____ NOTE : Checks may be accomplished in any order deemed necessary. If a problem is found, then the check sheet may be terminated after verifying the low power problem has been eliminated. NOTE: All checks must be verified by a skilled 5-level or higher. NOTE: All steps, 1.1 thru 1.12 of this check sheet, must be accomplished prior to an engine wash being performed to correct a low power discrepancy. NOTE: When starting the engine after maintenance tasks have been complied with, perform a man-on-stand run to verify bleed air leaks do not exist. 1. Checks to be accomplished on a static engine. Inspect items IAW: 2. TO 2J-T56-56 and applicable job guides. 1.1 Perform a thorough inspection of intake and turbine If discrepancy is only noted when aircraft is at altitude, blow out fuel control compensator Inspect 5th and 10th stage compressor blades for curled blades and excessive buildup on blades 1.4 Check propeller and engine rigging 1.5 Check bleed air lines for tightness and condition 1.6 Check 5th and 10th stage bleed valves for freedom of movement and cleanliness 1.7 Visually inspect thermocouples and test with high current or resistance tester 1.8 Perform a temperature datum control system check ("Y" box) 1.9 Perform visual and continuity check on the thermocouple harness, "T" block and "Y" lead | | | |

| PAGE 2 OF 2 PAGES | | | |
|-------------------|---|-----|--|
| NO | ITEM (Assign a paragraph number to each item. Draw a horizontal line between each major paragraph) | EMP | |
| | <p>1.10 Check the speed valve filter and verify speed valve shaft is not sheared or rounded off</p> <p>1.11 Inspect torque meter pickup and verify correct number of shims</p> <p>1.12 Apply bleed air, inspect for leaks around anti-ice valves and ducts</p> <p>2. Perform man-on-stand run</p> <p>2.1 Perform flag check on bleed air valve gaskets, bleed pad gaskets, bleed lines/ducts, anti-ice line ducts, and compressor split lines for leaks</p> <p>3. Engine power run to be accomplished</p> <p>NOTE: An engine run sheet will be accomplished when performing the following steps.</p> <p>3.1 Perform torque calibration on the affected engine</p> <p>3.1.1 Perform low speed ground idle anti-ice check</p> <p>3.1.2 Perform 850 TIT anti-ice check</p> <p>3.1.3 Check engine performance with unloaded engine, i.e. generator, ATM, bleeds off and closed</p> <p>3.1.4 check compressor discharge pressure (CDP)</p> <p>NOTE: When all steps have been complied with, and low power still exists, setup compressor wash per this instruction, steps 2.1.1 thru 2.2.1.1</p> | | |