
CHAPTER - 80 HIGHLIGHTS
(Summary of Changes)*Revision No. TR80-1 Sep 05/19*

TO: HOLDERS OF THE AIRCRAFT MAINTENANCE MANUAL (06-117751)

Pages that have been added or revised are summarized below. Remove and insert the affected pages as listed, and enter the above revision number with issue date into the Record of Revisions sheet.

This Temporary Revision incorporates and supersedes previously released temporary revisions for the chapters listed below.

Do not remove this page. Keep it in place as a record of previous changes.

CH/SE/SU Page Block No.	Description of Change
80-00-00 PgBlk 501	Deleted SUBTASK AMM-80-00-00-071-701-004 – Smoke Clearing Procedure —Smoke Clearing Load Shed, topic covered in AMM– 24–60–00–071.

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STARTER GENERATOR - ADJUSTMENT/TEST

AMM-80-00-00-071-801

1. General

- A. This task gives procedures to do the adjustment/check of the Starter Generator (S/G).
- B. There are two S/Gs located on the forward end of the accessory gearbox on each engine under the lower engine cowls.
- C. Procedures are the same for left and right S/Gs but given for the left unless otherwise stated.

2. Job Set-Up

SUBTASK AMM-80-00-00-071-701-001

- A. Make aircraft safe for maintenance. Refer to [AMM-20-00-01-051-801 – Make Safe For Maintenance](#).
 - (1) To gain access to left S/G, remove 411 CB - Left Lower Nacelle Cowl. Refer to [AMM-06-50-00-051-A-801 – Aircraft Access Panels](#).
 - (2) To gain access to right S/G, remove 412 CB - Right Lower Nacelle Cowl. Refer to [AMM-06-50-00-051-B-801 – Aircraft Access Panels](#).

3. Starter Generator Test With Engines Running

SUBTASK AMM-80-00-00-071-701-002

- A. External Power Test / Left Generator:
 - (1) Connect the external power cart to electrical utility connector.
 - (2) Connect the external power cart to the aircraft EXTERNAL POWER RECEPTACLE on the aircraft and power up the cart.
 - (3) Turn both generators to AUTO.
 - Ensure the green EXT POWER light on the IPL is illuminated.
 - (4) On the MFD select the ELECT synoptic page verify aircraft engines idling.
 - (5) Verify electrical system configuration. (No anomalies, all show green).
 - (6) Set the L GEN switch on the IPL to the OFF position.
 - Verify L GEN OFF CAS Message present
 - (7) On the ELECT synoptic page of MFD verify the following:
 - (a) Verify electrical system configuration. (No anomalies, all show green).
 - (b) L GEN current reads +2 to -5 amps.

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- (8) On the MFD Select the ECB synoptic page check for the following:
 - (a) L GEN CTRL UNIT is AUTO-OFF.
 - (9) Set the LEFT GEN switch on the IPL back to the AUTO position.
 - (10) On the MFD Select the ECB synoptic page check for the following:
 - (a) ECB - SYSTEMS-BATTERY HEAT (L FWD Bus) BATTERY HEAT L FWD
 - (b) START ECB - START-BATTERY HEAT (BATT Bus) BATT
 - (11) On the MFD ECB Synoptic page scroll to ICE PROT and verify:
 - (a) L WSHLD and R WSHLD are AUTO-OFF (AUTO-ON if cold).
 - (12) On the MFD ECB Synoptic page scroll to ICE PROT and PULL the following ECBs:
 - ECB - DEICE MANIFOLD HTR (R AFT Bus)
 - ECB - L PITOT HEAT (BATT Bus) or ECB - L PITOT HEAT (L FWD Bus)
 - ECB - R PITOT HEAT (R FWD Bus)
 - ECB - L STATIC HEAT (BATT Bus)
 - ECB - L STATIC HEAT (R FWD Bus)
 - ECB - R STATIC HEAT (L FWD Bus)
 - ECB - R STATIC HEAT (R FWD Bus)
 - ECB - STBY PITOT HEAT (L FWD) or ECB - STBY PITOT HEAT (BATT Bus)
 - ECB - L WINDSHIELD HEAT (L AFT Bus)
 - ECB - R WINDSHIELD HEAT (R AFT Bus)
 - (13) On the ELECT synoptic page of the MFD make sure the left generator indicates current between 5 and 70 Amps.

NOTE: The wide range of current is due to the state of charge of the battery after engine start.

 - Verify L GEN OFF CAS message is extinguished.
 - (14) On the ELECT synoptic page of MFD verify the following:
 - SYS BATT is outlined green.
 - START BATT is outlined green.
 - 28.2 ± 0.5 V is shown for left GEN.
 - SYS BATT and L AFT BUS SYS BATT and 28.2 ± 0.5 VDC.
 - On the ELECT synoptic page of MFD verify electric contact states, verify electrical system configuration. (No anomalies, all show green).
 - (15) Power down the GPU and disconnect from aircraft's external receptacle.
 - Verify the green EXT POWER light on the IPL is extinguished.
 - (16) Adjust L and R throttle levers from idle to full throttle over approximately 15 to 30 seconds.

- Return to idle in approximately 15 to 30 seconds.
 - Monitor generator voltage and current output throughout the entire engine operating range.
 - Verify L AFT BUS voltage reads 28.2 +/- 0.5 VDC throughout the throttle cycle.
 - Observe L GEN and R GEN current.
 - Verify L GEN is within 5 amps of initial reading
- (17) Verify no electrical CAS messages.
- (18) Reconnect GPU and verify contactor on ELEC MFD is shown open and green light is illuminated on IPL.
- B. External Power Test/Right Generator:
- (1) On the MFD select the ELEC synoptic page.
- Verify correct electrical system configuration. (No anomalies, all show green, both generators on).
- (2) Set the RIGHT GEN switch on the IPL to the "OFF" position.
- (3) Verify on the ELEC page of MFD Verify Correct electrical system configuration. (No anomalies, no amber, right generator off).
- Verify CAS: R GEN OFFLINE
- (4) On the MFD select the ECB synoptic page. On the ECB page, verify R GEN CTRL UNIT is AUTO-OFF.
- (5) Set the RIGHT GEN switch on the IPL to the AUTO position.
- (6) On the MFD select the ELEC synoptic page verify: right generator indicates current between 5 and 70 Amps (wide range is due to battery state of charge after engine start).
- Verify R GEN OFF CAS Message extinguished
- (7) Verify on the ELECT synoptic page of MFD:
- SYS BATT is outlined green.
 - START BATT is outlined green.
 - 28.2 ± 0.5 V is shown for right GEN.
 - SYS BATT and L AFT BUS SYS BATT and 28.2+/-0.5 VDC
- (8) On the MFD select the ELEC synoptic page verify: Correct electrical system configuration. (No anomalies, all show green, both generators on).
- (9) If not already done, power down the GPU and disconnect from aircraft's external receptacle and verify the green EXT POWER light on the IPL Extinguishes.
- (10) Adjust L and R Throttle Levers idle to full throttle over approximately 15 to 30 seconds, and then return to idle in approximately 15 to 30 seconds.
- (11) Monitor generator voltage and current output throughout the entire engine operating range.

- (12) Verify R AFT BUS voltage reads 28.2 +/- 0.5 VDC throughout throttle cycle.
- (13) Record L GEN and R GEN current (AMPS).
- (14) Verify no electrical CAS messages.
- (15) Verify R AFT BUS is within 5 amps of initial reading.

4. Generator Load Testing

SUBTASK AMM-80-00-00-071-701-003

A. Do generator load testing as follows:

CAUTION: AIR CONDITIONING MUST BE OFF DURING GENERATOR LOAD TESTING AND LOAD SHED OPERATIONS.

- (1) Verify R GEN switch in and L GEN switch are in AUTO position.
- (2) Verify external power, GPU is disconnected.
- (3) Verify the systems are in the off position as follows:

NOTE: Select appropriate MFD page to verify.

 - FWD and AFT EVAP fans OFF
 - AIR COND OFF
 - Windshield Heat OFF
 - AIRCRAFT Lights OFF
- (4) On the MFD select the ELECT synoptic page and verify the following:
 - (a) Verify correct electrical system configuration. (No anomalies, all show green).
 - (b) Note L and R GEN Amps as displayed on MFD.
 - (c) Add both for total Amps.
- (5) Select ECB page on the MFD.
- (6) Verify the following ECBs are not pulled tripped or collared:
 - ECB - AFT EVAP FAN - MED (L AFT Bus)
 - ECB - AFT EVAP FAN - LOW (L AFT Bus)
 - ECB - CONDENSER FAN (L AFT Bus)
 - ECB - AFT EVAP FAN - HIGH (L AFT Bus)
 - ECB - FWD EVAP FAN - LOW (R AFT Bus)
 - ECB - FWD EVAP FAN - MED (R AFT Bus)
 - ECB - FWD EVAP FAN - HIGH (R AFT Bus)
- (7) Turn on the following systems in order until the combined current on the left and right generators increases to between 60 and 100 Amps:
 - FWD and AFT EVAP fans to HIGH and MAX COOL

- AIR COND
 - Pitot Heat
 - AIRCRAFT Lights
 - Note L an R GEN currents as displayed on MFD.
- (a) Verify Total AMP reading is 60-100 Amps greater than initial reading.
- 1 Calculate amperage as follows:

	Total Amps from step 7 (a)
	(-) Total Amps from step 4 (b)
	Result (should be 60-100 Amps)

- (8) Turn off the following systems
- FWD and AFT EVAP fans
 - MAX COOL AIR COND Pitot Heat
 - AIRCRAFT Lights
- (9) Reset ECBs previously pulled as follows:
- L PITOT HEAT BATT
 - R PITOT HEAT R FWD
 - L STATIC HEAT BATT
 - L STATIC HEAT R FWD
 - R STATIC HEAT L FWD
 - R STATIC HEAT R FWD
 - STBY PITOT HEAT L FWD
 - L WINDSHIELD HEAT L AFT
 - R WINDSHIELD HEAT R AFT

5. **- Deleted -**

6. **Job Close-Up**

SUBTASK AMM-80-00-00-071-701-005

- A. Remove all tools, equipment, and unwanted material from work area.
- B. For left S/G, install 411 CB - Left Lower Nacelle Cowl. Refer to [AMM-06-50-00-051-801 – Aircraft Access Panels](#) for panel location.

- C. For right S/G, install 411 CB - Left Lower Nacelle Cowl. Refer to [AMM-06-50-00-051-801 – Aircraft Access Panels](#) for panel location.
- D. If all other maintenance is complete, return aircraft to service. Refer to [AMM-20-00-02-051-801 – Return To Service \(After Maintenance\)](#).