

CANADAIR CHALLENGER
BREAKOUT TEST SET

OPERATING GUIDE

For Thrust Reverser Breakout Test Set

P/N CCSC7830-02
Mod Status NC

Procedure No. CCSC7830-02-09

Rev. C

* * * W A R N I N G ! * * *

EQUIPMENT DAMAGE and/or PERSONNEL INJURY
MAY OCCUR

UNLESS YOU READ and FOLLOW THESE INSTRUCTIONS.

* * * * *

The STOW/DEPLOY Solenoid
in the Thrust Reverser Power Drive Unit (PDU)
is a latching solenoid.

The PDU "REMEMBERS" the LAST ELECTRICAL COMMAND.

Whenever pressurized air is supplied
to the Thrust Reversers,

UNCOMMANDED MOVEMENT MAY OCCUR
IN THE STOW OR DEPLOY DIRECTION
AS SOON AS "ARMING" OCCURS.

* * * * *

The FLEXSHAFT LOCK MANUAL RELEASE BLOCK
MUST BE INSTALLED DURING ALL TEST SET OPERATION
IN THE OFF OR TEST/RIG MODE.

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The CANADAIR THRUST REVERSER BREAKOUT TEST SET, p/n CCSC7830-02, provides many features to assist you in fully checking or troubleshooting a CL601-1A or CL601-3A Thrust Reverser system.

The main features of this unit are:

- Separate panel lamps and circuitry for indication of which 1 of 4 conditions turns on the cockpit REVERSER UNLOCKED light.
- Circuitry to allow separate and proper checkout of EMERGENCY and AUTO STOW modes without dismantling the system.
- NORMAL mode of operation provides unaltered system operation with continual system monitoring of all available conditions at the T/R.
- TEST/RIG mode provides built-in safety features to ensure that no cockpit commands could inadvertently cause T/R movement while maintenance or rigging is in progress.
- TEST/RIG mode also provides STOW and DEPLOY commands at the T/R area where they are needed during rigging.
- EXTERNAL POWER jacks are provided to allow system checkout or rigging when power cannot be applied to the aircraft (such as during major work packages).

I. Additional Support Tooling Required:

1. "WOW TARGETS", 4 each for the main gear Weight-on-wheels proximity switches if the system will be operated with the aircraft jacked.
2. Flexshaft Lock Manual Release Block - (reference Maintenance Manual rigging procedure).
3. PDU Brake Actuator Manual Release Block - (reference Maintenance Manual rigging procedure).
4. 14th Stage Shop Air Adapter - (reference GSE No. 78-30-12, PSP611)

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II. P R E C A U T I O N S:

- A. DO NOT operate the T/R with the engine core cowl doors open.
- B. DO NOT connect or disconnect Test Set to or from the system with power applied.
- C. Check aircraft and Test Set connectors for pushed and/or bent pins before connecting.
- D. DO NOT apply 28VDC to external power jacks on Test Set without pulling aircraft thrust reverser circuit breakers CBP-D: 379, 380, 381, and 382. This ensures that there will be no power backfeed to the DC Essential Bus.
- E. Ensure that the thrust reverser is clear of equipment and personnel before any power is applied.
- F. ALL COCKPIT CONTROL OF T/R IS DISCONNECTED WHEN THE NORM-OFF-TEST/RIG SWITCH IS IN THE OFF OR TEST/RIG POSITION.
- G. If an external air source is used, ensure air is clean, dry, and regulated at 50 psi +/- 5 psi.
- H. If engine bleed air is used, follow Maintenance Manual procedures carefully.
- I. If using external 28VDC power supply, ensure connections are secure. Intermittent or lost 28VDC power while T/R is in motion will damage P.D.U..
- J. Install Flexshaft Lock Manual Release block for ALL OPERATION of Test Set NORM-OFF-TEST/RIG switch in OFF or TEST/RIG mode. FAILURE TO DO SO WILL DAMAGE THE P.D.U..
- K. Install Flexshaft Lock Manual Release block when T/R is in the fully stowed position only.
- L. OPERATE TEST SET NORM-OFF-TEST/RIG SWITCH IN NORM ONLY UNLESS Flexshaft Lock Manual Release block is installed.
- M. DO NOT change the POWER switch position when supply air is present at the PDU.
- N. REFERENCE SECTION III. TO PREVENT POWER DRIVE UNIT (PDU) JAMMING.

III. POWER DRIVE UNIT (PDU) LOCKUP FROM IMPROPER OPERATION:

The Test Set reconfigures the Thrust Reverser System when the NORM-OFF-TEST/RIG switch is positioned out of NORM. While this feature is a major time-saving aid for troubleshooting, this switch must never be selected out of NORM when air is supplied to the PDU, unless the Flexshaft Lock Manual Release block is installed.

FAILURE TO FOLLOW THESE REVISED PROCEDURES

MAY RESULT IN

REPLACEMENT OF THE POWER DRIVE UNIT.

This block is installed to prevent the Flexshaft Lock from returning to the LOCK position. This is crucial. In the following explanation referencing the attached Figure 3, the Thrust Reverser configuration is:

Test Set installed and selected to NORM mode
 Aircraft electrical systems normal, ground or engine power
 T/R armed
 Engine air or shop air supplied
 T/R is fully deployed, using aircraft deploy

The NORM-OFF-TEST/RIG switch, OFF and TEST/RIG modes on the Test Set, as well as any interruption of aircraft electrical power, causes a loss of power to the ARMING SOLENOID VALVE (1).

This allows the ARMING SOLENOID VALVE (1) to de-energize while supply air from the AIR INLET (2) is still being ported through the INLET VALVE POPPET (5) to the AIR MOTOR (6). The de-energized ARMING SOLENOID VALVE (1) removes the air supply from the FLEXSHAFT LOCK ACTUATOR (3), which re-engages the FLEXSHAFT LOCK - LOCK PIN (4).

Flexshaft Lock Control air (7) is shut off, immediately causing the DIRECTIONAL VALVE ACTUATOR (10) to return to the (default) STOW position.

A very brief period of time passes while the INLET VALVE POPPET (5) is still open, porting the main air supply to the AIR MOTOR (6), which now rotates towards the STOW direction (regardless of the electrical command present at the LATCHING/DEPLOY SOLENOID VALVE (12) to STOW or DEPLOY).

The SPUR GEARBOX (11) couples the AIR MOTOR (6) rotation to the FLEXSHAFT LOCK - LOCK CAM (8), causing the LOCK CAM (8) to be driven against the FLEXSHAFT LOCK - LOCK PIN (4).

At this point, the INLET VALVE POPPET (5) has fully closed, shutting off the air source to the AIR MOTOR (6).

III. POWER DRIVE UNIT (PDU) LOCKUP FROM IMPROPER OPERATION (cont'd):

This is how the PDU gets jammed. Once the AIR MOTOR (6) has driven the LOCK CAM (8) against the LOCK PIN (4), the LOCK PIN (4) cannot be moved (reference figure 4) by pulling on the MANUAL RELEASE knob (9) or by electrically operating the ARMING SOLENOID VALVE (1). If the FLEXSHAFT LOCK (3) cannot be manually or electrically operated, control air (7) cannot pass through to open the INLET VALVE POPPET (5), which prevents air from reaching the PDU's AIR MOTOR (6). Lack of control air (7) to the LATCHING/DEPLOY SOLENOID VALVE (12) also causes the DIRECTIONAL VALVE ACTUATOR (10) to remain in the STOW configuration. Once jammed, the PDU remains jammed.

Installation of the Flexshaft Lock release block under the MANUAL RELEASE knob (9) prevents the LOCK PIN (4) from engaging the LOCK CAM (4), and passes the supply air through the FLEXSHAFT LOCK whenever the ARMING SOLENOID VALVE (1) is energized.

Operation of the ARMING SOLENOID VALVE (1) now delivers Control air (7) to:

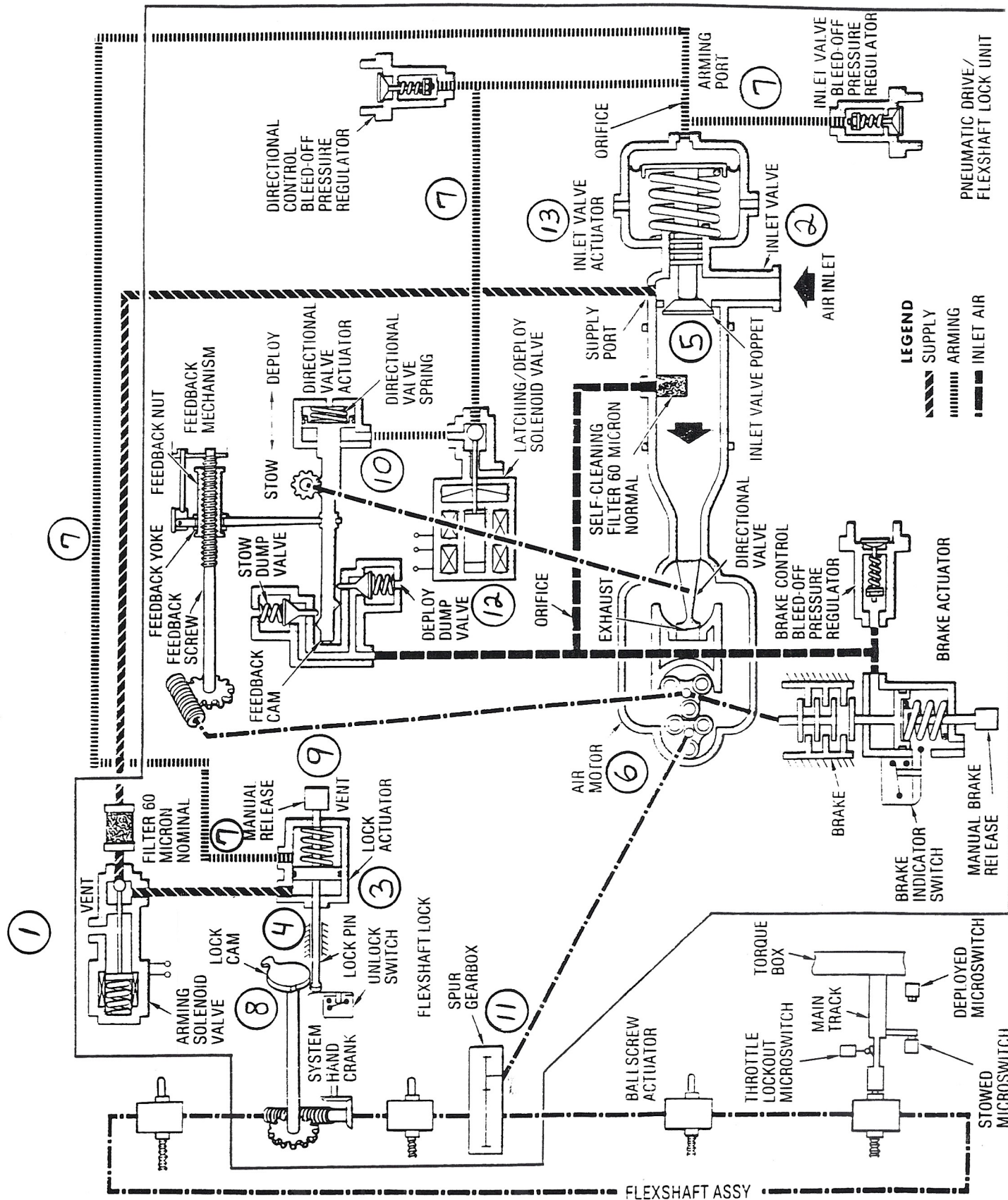
1. the LATCHING/DEPLOY SOLENOID VALVE (12) to allow response to the DEPLOY and STOW commands.
2. the INLET VALVE ACTUATOR (13) to operate the INLET VALVE POPPET (5), which ports air to the AIR MOTOR (6).

With the FLEXSHAFT LOCK - LOCK PIN (4) disengaged, the INLET VALVE POPPET (5) open, and the LATCHING/DEPLOY SOLENOID VALVE (12) operating, STOW and DEPLOY can be electrically commanded and stopped at any time, for rigging and operational checks.

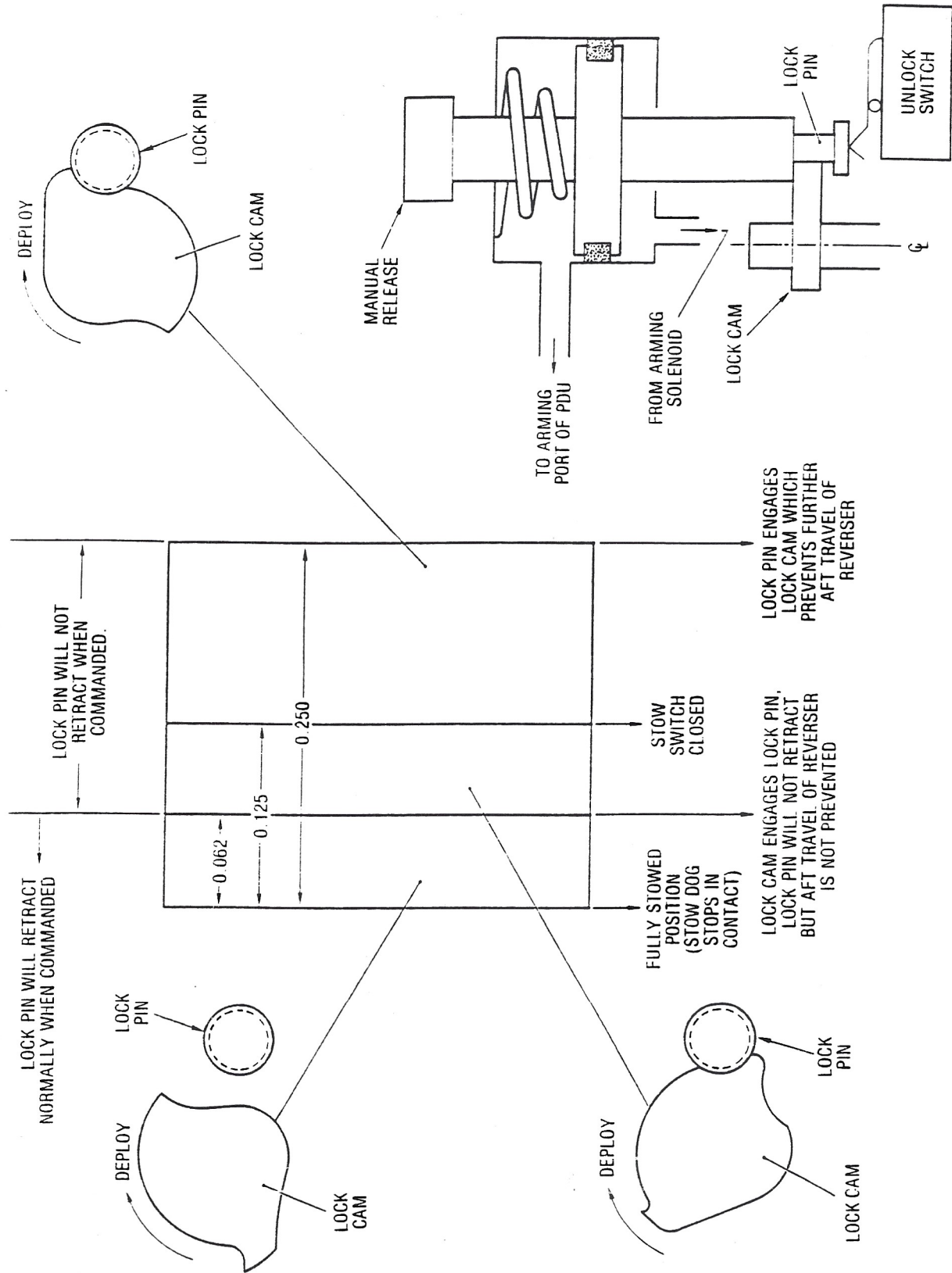
Whenever the Flexshaft Lock Manual release block is installed, the Flexshaft Lock Amber Light on the Test Set will be illuminated.

For manual operation, the PDU Brake release block must still be used.

When returning to the NORM operating mode of the Test Set, the Thrust Reverser must first be positioned to the FULLY STOWED position while the Test Set is still in the TEST/RIG mode. The Test Set must then be placed in the NORM position. The Flexshaft Lock release block can then be removed.



Thrust Reverser Operation - Schematic
Figure 3



Thrust Reverser Operation - Flexshaft
Lock Schematic
Figure 4

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IV. Technical References:

- Maint. Manual Chap. 6 - location of access panels.
- Maint. Manual Chap. 12 - application of aircraft power and external air supply.
- Maint. Manual Chap. 20 - standard aircraft practices.
- Maint. Manual Chap. 78 - for details of thrust reverser operation/rigging/location of parts.

V. Technical Support:

If you have problems or questions regarding the use of this unit, contact:

Canadair Challenger Service Center
Bradley International Airport
Windsor Locks, CT, U.S.A. 06096

AVIONICS FABRICATION Department
Phone 203/627-9491

or

your Challenger Field Service Representative

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VI. Test Set Legend:

A. TEST JACK COLOR CODE:

black - air frame grounds
red - DC power, steady state
orange - DC signals, high when active
blue - DC signals, low when active

B. LAMPS - Indicate condition of component.

C. SWITCHES:

1. NORM-OFF-TEST RIG - Directs T/R Arm & Deploy/Stow signals. Must always be in NORM, unless Flexshaft Lock Manual Release block is installed.

NORM - Cockpit Arm & Deploy/Stow command signals channeled through normal aircraft circuitry to PDU. Test set *invisible* to system. Test set lamps monitor system.

OFF - Cockpit command signals terminated open. Arming power disconnected.

TEST/RIG - Overrides cockpit command signals. Arm & Deploy/Stow commands directed by test set STOW-OFF-DEPLOY switching.

2. LAMP TEST - Tests test set lamps.

3. STOW-OFF-DEPLOY - Activated by test set NORM-OFF-TEST RIG switch in TEST/RIG position. Directs T/R action commands.

STOW - Arms and directs T/R to the stowed position.

OFF - DisArms T/R.

DEPLOY - Arms and directs T/R to the deployed position.

4. POWER - Directs T/R action 28VDC power.

AIRCRAFT - PDU power provided by aircraft.

EXTERNAL - PDU power must be supplied by external 28VDC power supply.

5. PUSH BUTTON- Tests throttle switches for proper operation of Emergency Stow condition.

D. FUSES - 3AG, 10amp, fast-blo, cartridge.

Notes: For proper operation, T/R system must have either:

- 4 MLG weight-on-wheel signals
- or
- 4 MLG wheel spin-up signals.

VII. Test Set / System Operation Procedures:

Except for INITIAL SYSTEM SETUP, the following sections are designed as separate checkout modules which can be performed independently of each other.

A. INITIAL TEST SET/SYSTEM SETUP

The following setup produces normal system operation. With the Test Set installed in line, monitoring of all available test points is obtained, with no alteration of system operation.

WARNING!

MAINTAIN NORM-OFF-TEST/RIG SWITCH

IN NORM AT ALL TIMES.

1. Connection of Test Set.
 - a. Ensure that Aircraft power is OFF.
 - b. Connect Test Set between connectors P501 and J563 at the Service Access Panel (430AB - left pylon, 440AB - right pylon).
2. Position Test Set switches:

NORM-OFF-TEST/RIG	NORM
STOW-OFF-DEPLOY	OFF
POWER	AIRCRAFT
3. Verify cockpit throttle REVERSE THRUST lever is in the STOWED position, and throttle is in LOW IDLE.
4. Check that all T/R circuit breakers are engaged.
5. Landing Gear system must supply W.O.W. SIGNALS to the T/R system. If aircraft is jacked, "TARGETS" are required.
6. Apply aircraft AC power.
7. Perform Test Set LAMP TEST. Verify that all lamps operate. (Note: If LAMP TEST is inoperative, check aircraft plug Pin 3 for 28VDC from DC ESSENTIAL BUS.)
8. Apply aircraft pneumatics by pressing in the 14th Stage Bleed Closed switch/light on the Bleed Air Panel or external air by referring to the Maint. Manual Chap. 78-30.

The system may now be operated from the cockpit normally, and monitored on the Test Set.

VII. Test Set / System Operating Procedures (cont'd):

B. MAINTENANCE MANUAL FUNCTIONAL/OPERATIONAL TESTS

The maintenance manual calls out for Thrust Reverser Test Box, GSE Ref. No. 78-30-05. CCSC7830-02 Test Set can also be used. The functional/operational test references lights with specific names. The equivalent callouts for this Test Set are as follows:

Maint. Man. callout

Test Set legend

STOW LIGHT
 DEPLOY LIGHT
 ARM LIGHT
 BRAKE LIGHT
 UNLOCK LIGHT
 THROTTLE LOCK LIGHT

STOW TRANSIT LIGHT
 DEPLOY COMMAND LIGHT
 PDU ARM LIGHT
 PDU BRAKE LIGHT
 T/R UNLOCKED LIGHT
 THROTTLE LOCK LIGHT

POWER SWITCH

NORM-OFF-TEST/RIG SWITCH

Five additional lights are provided to assist you in troubleshooting:

1. Positive Pneumatic Flexshaft COWL UNLOCKED LIGHT.
2. AUTO STOW LIGHT.
3. REVERSE LEVER LOCK SOLENOID LIGHT.
4. REVERSE THRUST LIGHT.
5. COWL ANTI-ICE VALVE OPEN LIGHT.

WARNING!

FLEXSHAFT LOCK MANUAL RELEASE BLOCK

MUST BE INSTALLED FOR THIS CHECK

1. Set Test Set and aircraft system configuration as in INITIAL TEST SET/SYSTEM SETUP.
2. Ensure T/R is in the FULLY STOWED position.
3. With Test Set NORM-OFF-TEST/RIG switch in the NORM position, install the Flexshaft Lock Manual Release block. PDU ARMED light illuminates and stays illuminated because of the block.

The Test Set may now be operated with the NORM-OFF-TEST/RIG switch in any position desired.

VII. Test Set / System Operating Procedures (cont'd):

C. NORMAL DEPLOY CYCLE

(Flexshaft Lock Manual Release block NOT INSTALLED)

1. Set Test Set and aircraft system configuration as in INITIAL TEST SET/SYSTEM SETUP.
2. Set cockpit THRUST REVERSER ARM switch to ARM position for the desired engine.
3. Set throttle T/R LEVER in cockpit to DEPLOY. (T/R deploys)

DEPLOY CYCLE OCCURS AS FOLLOWS (Test Set indications):

- a. After ARM switch is ARMED, and aircraft W.O.W. has occurred (or wheel spinup), PDU ARMED light illuminates.
- b. PDU arming causes the COWL UNLOCKED (FLEXSHAFT LOCK SWITCH.) light to illuminate.
- c. The throttle switch has been set to DEPLOY position, which now supplies the DEPLOY solenoid.
- d. The DEPLOY COMMAND light illuminates.
- e. PDU arming has opened the INLET VALVE POPPET, porting INLET AIR to the AIR MOTOR and to the PDU BRAKE, which now releases the PDU BRAKE SWITCH and turns on the BRAKE OFF light.
- f. The T/R starts motion outward. The STOWED SWITCH now closes. The T/R UNLOCKED light and the AUTO STOW light illuminate.
- g. After approximately 1.5 inches of movement, if the APU FAULT ANNUN. circuit breaker is pulled, the THROTTLE LOCK SWITCH will cause the THROTTLE LOCK SOLENOID to activate.
- h. When the T/R reaches full extension, the DEPLOYED SWITCH will cause the REV LEVER LOCK SOL light and the REVERSE THRUST light to illuminate.

At this point, the T/R IS fully deployed.

VII. Test Set / System Operating Procedures (cont'd):

D. NORMAL STOW CYCLE

(Flexshaft Lock Manual Release block NOT INSTALLED)

1. Normal stow cycle must be performed from a fully deployed position achieved by a NORMAL DEPLOY (reference NORMAL DEPLOY CYCLE above).
2. Command a NORMAL STOW by SLOWLY moving throttle T/R lever to STOW.

STOW CYCLE OCCURS AS FOLLOWS (reference Test Set indications):

- a. DEPLOY COMMAND and BRAKE OFF lights extinguish.
- b. STOW TRANSIT and BRAKE OFF lights illuminate.
- c. T/R starts motion toward the STOW position.
- d. The DEPLOYED switch opens, extinguishing the REV LEVER LOCK and the REVERSE THRUST lights.
- e. The T/R continues to stow. As the T/R reaches 1.5 inches from the fully stowed position, the THROTTLE LOCK SWITCH opens and releases the cockpit THROTTLE LOCK SOLENOID.
- f. The T/R completes the stow process, opening the STOWED SWITCH, extinguishing the AUTO STOW light and removing the 28VDC source for the stow power to the stow solenoid and arm solenoid.
- g. The STOW TRANSIT, BRAKE OFF, PDU ARMED, and COWL UNLOCKED lights all extinguish.
- h. ALL LIGHTS ARE EXTINGUISHED.

STOW cycle completed.

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VII. Test Set / System Operating Procedures (cont'd):

E. AUTO STOW Check #1

WARNING!

FLEXSHAFT LOCK MANUAL RELEASE BLOCK

MUST BE INSTALLED FOR THIS CHECK

1. Set Test Set and aircraft system configuration as in INITIAL TEST SET/SYSTEM SETUP.
2. Ensure T/R is in the FULLY STOWED position.
3. With Test Set NORM-OFF-TEST/RIG switch in the NORM position, install the Flexshaft Lock Manual Release block. PDU ARMED light illuminates and stays illuminated because of the block.
4. Perform a NORMAL DEPLOY CYCLE as per section C. Note that the PDU ARMED light remains illuminated because of the block.
5. When deploy cycle completes, position test set NORM-OFF-TEST/RIG switch to OFF.
6. Return throttle T/R LEVER to STOW (T/R remains deployed).
7. Advance engine THROTTLE LEVER to mid power setting. (OMIT THIS STEP IF ENGINE IS RUNNING.)
8. CLEAR PERSONNEL AND OBJECTS FROM THROTTLE AREA.
9. PUSH AND HOLD test set push button switch.
10. With test set push button switch HELD IN, position test set NORM-OFF-TEST/RIG switch to NORM. (T/R remains deployed.)
11. Release test set push button switch (T/R stows, and all lights extinguish except the PDU ARMED amber light).
12. With the T/R in the fully stowed position and the Test Set in NORM mode, the Flexshaft Lock Manual Release block can be removed.

VII. Test Set / System Operating Procedures (cont'd):

F. AUTO STOW Check #2

1. Set Test Set and aircraft system configuration as in INITIAL TEST SET/SYSTEM SETUP.
2. Perform a NORMAL DEPLOY CYCLE as per section C.
3. Maintain throttle T/R LEVER in DEPLOY position.
4. CLEAR PERSONNEL AND OBJECTS FROM THROTTLE AREA.
5. Pull W.O.W. Channel #1 and/or Channel #2 circuit breakers (A74, A133, B230, B289).
6. T/R STOWS. Throttle T/R levers stow automatically. All lights extinguish on Test Set. Cockpit ARMED and UNSAFE TO ARM lights stay lit.
7. Reset circuit breakers.
8. Disengage cockpit THRUST REVERSER ARM switch. All T/R lights extinguish in cockpit.

VII. Test Set / System Operating Procedures (cont'd):

G. EMERGENCY STOW Check #1

1. Set Test Set and aircraft system configuration as in INITIAL TEST SET/SYSTEM SETUP.
2. Ensure T/R is in the FULLY STOWED position.
3. With Test Set NORM-OFF-TEST/RIG switch in the NORM position, install the Flexshaft Lock Manual Release block. PDU ARMED light illuminates and stays illuminated because of the block.

WARNING!

FLEXSHAFT LOCK MANUAL RELEASE BLOCK

MUST BE INSTALLED FOR THIS CHECK

4. Perform a NORMAL DEPLOY CYCLE as per section C. Note that the PDU ARMED light remains illuminated because of the block.
5. CLEAR PERSONNEL AND OBJECTS FROM THROTTLE AREA.
6. When deploy cycle completes, PUSH AND HOLD test set push button switch.
7. While continuing to hold push button switch, engage EMERGENCY STOW switch in cockpit. T/R stows. COWL UNLOCKED, BRAKE OFF, PDU ARMED, AND STOW TRANSIT lights on Test Set remain lit.
8. Release test set push button switch.
9. Place throttle T/R Levers into STOW Position.
10. Disengage cockpit EMERGENCY STOW switch. All lamps extinguish on Test Set. All cockpit T/R indications extinguish except for cockpit ARM and T/R UNLOCKED lights.
11. Disengage cockpit THRUST REVERSER ARM switch. ARM light extinguishes.
12. With the T/R in the fully stowed position and the Test Set in NORM mode, the Flexshaft Lock Manual Release block can be removed.

VII. Test Set / System Operating Procedures (cont'd):

H. EMERGENCY STOW Check #2

1. Set Test Set and aircraft system configuration as in INITIAL TEST SET/SYSTEM SETUP.
2. Ensure T/R is in the FULLY STOWED position.
3. With Test Set NORM-OFF-TEST/RIG switch in the NORM position, install the Flexshaft Lock Manual Release block. PDU ARMED light illuminates and stays illuminated because of the block.

WARNING!

FLEXSHAFT LOCK MANUAL RELEASE BLOCK

MUST BE INSTALLED FOR THIS CHECK

4. Perform a NORMAL DEPLOY CYCLE as per section C. Note that the PDU ARMED light remains illuminated because of the block.
5. When deploy cycle completes, position test set NORM-OFF-TEST/RIG switch to OFF.
6. Set cockpit THRUST REVERSER ARM switch to DISARM position.
7. CLEAR PERSONNEL AND OBJECTS FROM THROTTLE AREA.
8. PUSH AND HOLD test set push button switch.
9. Position test set NORM-OFF-TEST/RIG switch to NORM.
10. Engage EMERGENCY STOW switch in cockpit. (T/R stows; COWL UNLOCKED, BRAKE OFF, PDU ARMED, and STOW TRANSIT lights on Test Set remain lit.)
11. Release test set push button switch.
12. Place throttle T/R Levers into STOW position.
13. Disengage EMERGENCY STOW switch in cockpit. All lamps extinguish on Test Set except COWL UNLOCKED lamp. All cockpit T/R indications extinguish except T/R UNLOCKED light.
14. With the T/R in the fully stowed position and the Test Set in NORM mode, the Flexshaft Lock Manual Release block can be removed.

VIII. TEST/RIG Procedures:

The NORM-OFF-TEST/RIG switch, TEST/RIG and OFF positions ALTER SYSTEM OPERATION to prevent cockpit commanded motion and ensure the safety of Personnel working in the T/R area.

OFF position - DISABLES ALL COMMANDS, allows Test Set lamps to monitor the states of all switches in the T/R assembly.

TEST/RIG position - disables all cockpit T/R commands, allows STOW-OFF-DEPLOY switch direct control of T/R operation.

A. T/R ASSEMBLY ON AIRCRAFT - WITH AIRCRAFT POWER

1. Set Test Set and aircraft system configuration as in INITIAL TEST SET/SYSTEM SETUP. Landing Gear system W.O.W. SIGNALS are not required.
2. Ensure T/R is in the FULLY STOWED position.
3. With Test Set NORM-OFF-TEST/RIG switch in the NORM position, install the Flexshaft Lock Manual Release block. PDU ARMED light illuminates and stays illuminated because of the block.

WARNING!

FLEXSHAFT LOCK MANUAL RELEASE BLOCK

MUST BE INSTALLED FOR THIS CHECK

4. Position Test Set NORM-OFF-TEST/RIG switch to OFF.
5. Verify cockpit THROTTLE REVERSE THRUST lever is in the STOWED position, and throttle is in LOW IDLE.
6. Perform Test Set LAMP TEST. Verify that all lamps operate.
(Note: If LAMP TEST is inoperative, check aircraft plug Pin 3 for 28VDC from DC ESSENTIAL BUS.)
7. PDU ARMED light illuminates and stays illuminated because of the Flexshaft Lock Manual Release block.
8. Apply aircraft pneumatics by pressing in the 14th Stage Bleed Closed Switch/Light on the Bleed Air Control Panel (or external air by referring to Maint. Manual Chap. 78-30).
9. Select cockpit COWL ANTI-ICE SWITCH to OFF.
10. Position test set NORM-OFF-TEST/RIG switch to TEST/RIG.

The T/R may now be operated from the Test Set, by using the test set STOW-OFF-DEPLOY switch.

To return to NORMAL CONFIGURATION, position the T/R in the fully stowed position and the Test Set in NORM mode. The Flexshaft Lock Manual Release block can then be removed.

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VIII. TEST/RIG Procedures (cont'd):

B. T/R ASSEMBLY ON AIRCRAFT - EXTERNAL 28VDC POWER:

1. Set Test Set and aircraft system configuration as in INITIAL TEST SET/SYSTEM SETUP.
2. Ensure T/R is in the FULLY STOWED position.
3. With Test Set NORM-OFF-TEST/RIG switch in the NORM position, install the Flexshaft Lock Manual Release block. PDU ARMED light illuminates and stays illuminated because of the block.

WARNING!

FLEXSHAFT LOCK MANUAL RELEASE BLOCK

MUST BE INSTALLED FOR THIS CHECK

4. Position test set switches:

NORM-OFF-TEST/RIG	OFF
AIRCRAFT - EXTERNAL	EXTERNAL
5. Verify cockpit THROTTLE REVERSE THRUST lever is in the STOWED position, and throttle is in LOW IDLE.
6. PULL AND TAG 4 T/R CIRCUIT BREAKERS (CBP-D: 379, 380, 381, 382).
7. Connect EXTERNAL 28VDC power to the EXTERNAL POWER jacks on the Test Set.
8. Perform Test Set LAMP TEST. Verify that all lamps operate. (Note: If LAMP TEST is inoperative, check external power supply and its hookup. Check Test Set EXTERNAL 28VDC Fuses "+" and "-". If fuses are blown, recheck for 4 pulled circuit breakers.)
9. PDU ARMED light illuminates and stays illuminated because of the Flexshaft Lock Manual Release block.
10. Apply External Air (refer to Maint. Manual Chap. 78-30).
11. Select cockpit COWL ANTI-ICE SWITCH to OFF.
12. Position test set NORM-OFF-TEST/RIG switch to TEST/RIG.

The T/R may now be operated from the Test Set, by using the test set STOW-OFF-DEPLOY switch.

To return to NORMAL CONFIGURATION, position the T/R in the fully stowed position and the Test Set in NORM mode, AIRCRAFT power. The Flexshaft Lock Manual Release block can then be removed.

END