

**T.O. 00-25-172CL-2**

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**TECHNICAL MANUAL**

**CHECKLIST**

**CONCURRENT SERVICING OF  
COMMERCIAL CONTRACT  
CARGO AIRCRAFT**

BASIC AND ALL CHANGES HAVE BEEN MERGED  
TO MAKE THIS A COMPLETE PUBLICATION.

**LOGAIR AND QUICKTRANS**

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## INTRODUCTION

**GENERAL.** LOGAIR/QUICKTRANS operate within a prescribed time schedule to ensure timely delivery of critical shipments in support of DoD weapons systems. Concurrent servicing contributes greatly to the accomplishment of this mission. However, concurrent servicing should be limited to "as required occasions" (i.e., authorized ground time precludes separate servicing). Efforts should be made to perform separate servicing at flight originating stations and at intransit stations when flights are operating ahead of schedule.

This checklist provides, in abbreviated form, procedures for concurrent servicing of commercial "cargo only" aircraft, contracted to the Air Force Logistics Airlift (LOGAIR) and the Navy's QUICKTRANS systems. It is for use when performing concurrent servicing on Military installations only. Applicable aircraft are the Lockheed Hercules C-130 (L-100), Lockheed Electra (L-188), Douglas DC-9, and the Boeing 727. The checklist is a "step-by-step" guide to ensure accomplishment of selected tasks. The intent of the checklist is to eliminate the probability of a step omission in the accomplishment of an intended task. The procedures contained herein are presented in the shortest, practical form for use by qualified personnel and are not intended to provide full technical instructions. The requirements of this checklist must be adhered to when the concurrent servicing of applicable commercial aircraft is accomplished on the Air Force installation.

**NOTE**

Concurrent servicing of these aircraft at non-military installations, when in the performance of LOGAIR contracts, is not authorized.

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Concurrent servicing of these aircraft at non-military installations, when in the performance of QUICKTRANS contracts, is governed and conducted under separate authority. Concurrent servicing is the servicing of fuel simultaneous with the performance of cargo off/onloading operations, power off non-fuel systems maintenance, inspections, or fleet service. This checklist contains the steps necessary for preparation and performance of concurrent servicing. All steps are applicable to all aforementioned LOGAIR/QUICKTRANS aircraft unless so noted. It is the responsibility of all involved functional managers to ensure that personnel participating in the concurrent servicing operation are thoroughly trained on these procedures.

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**SUPPORT EQUIPMENT FOR CONCURRENT  
REFUELING OPERATIONS**

**The following support equipment is required to follow the procedures set forth in this checklist:**

Electrical Generator Unit, if required.

Material Handling Equipment.

Grounding and Bonding Wires (as required).

Fire Extinguisher, 150-lb Halon, or equivalent.

Vest with CSS Lettering.

CFR Vehicle (when an emergency-is declared).

Stairs or Ladder (provided by LOGAIR/QUICKTRANS Contractor).

Maintenance Stands (as required).

Straight Nozzle(s) for Underwing Servicing.

**ABBREVIATIONS USED**

**CFR**      **Crash/Fire/Rescue Vehicle.**

**CSS**      **Chief Servicing Supervisor.**

**FSSZ**      **Fuel Servicing Safety Zone.**  
**(Defined as an area extending 50 feet from pressurized fuel servicing components and 25 feet from aircraft fuel vent outlets.)**

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MHE	Material Handling Equipment. (25K- and/or 40K- loaders, forklifts, tugs, etc.)
LVM	*Left-Wing Vent Monitor.
REO	Refueling Equipment Operator.
RVM	*Right-Wing Vent Monitor.
SCR	Supervisory Contractor Representative.
SPR	Single Point Receptacle.
ATM	Air Terminal Manager.

\*Left and right are relevant to facing same direction as the aircraft.

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## PERSONNEL AND PERSONNEL LOCATIONS

CSS	Stationed at the nose of the aircraft.
RVM	CSS stationed at nose of aircraft. Monitors right-wing vent. Moves as required.
LVM	Stationed at left-wing vent.
REO	Stationed at refueling equipment unit.
Air Freight Personnel	Stationed at cargo areas as required.
MHE Operators	Stationed on/in MHE. Operates MHE to/from aircraft as required.
SCR	Stationed at the refueling control panel and SPR nozzle connection. This duty can be performed by a designated representative allowing the SCR to position himself as required.

**NOTE**

The CSS will wear a reflective vest with letters CSS on front and back. Letters will be at least six inches in height and four inches wide, and of reflective material. Reflective material used must be at least one-inch wide. NSN 8415-00-177-4974 satisfies this reflective vest, requirement.

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1. The Air Force Refueling Team will consist of one CSS, one REO, and one LVM. Additionally, the SCR or a designated qualified representative will be present during fueling operations. These are minimum requirements. Additional personnel are optional.

2. THE CSS SHALL HAVE FULL AND FINAL AUTHORITY OVER ALL PARTICIPATING PERSONNEL AND PHASES OF THE CONCURRENT SERVICING OPERATION WITH THE EXCEPTION OF DEPLOYMENT AND CONTROL OF CFR VEHICLE AND PERSONNEL.

3. ON ARRIVAL OF THE AIRCRAFT:

a. The CSS or designated representative will:

(1) Park aircraft.

(2) Chock aircraft.

b. The ATM or designated representative will alert Fire Department of planned refueling simultaneously with requesting fuel delivery.

c. The CSS will:

(1) Meet with the SCR to determine, define, or ensure:

(a) Requirement for a Ground Power Unit (GPU).

(b) Specific servicing requirements.



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- (c) Status/condition of aircraft and its systems.
- (d) If any unfamiliar system characteristics or deficiencies exist.
- (e) Fuel jettison system was not used. If it was used, no concurrent refueling until position of jettison valves is verified.
- (f) Timing of any maintenance required, cargo off/onloading, and any other function that requires personnel or equipment movement into or within the concurrent servicing area.

- (2) Ensure aircraft is grounded.



Ground Power Unit (GPU) must be positioned 50 feet minimum, and to the maximum extent of the power cable, preferably upwind of fuel servicing area, and within 45 degrees either side of aircraft nose. If a GPU is not available and if carrier's manual so authorizes, aircraft Auxiliary Power Unit (APU) may be used during refueling. If APU is used during refueling, fuel truck must be positioned 50 feet from the APU exhaust outlet.

- (3) Ensure GPU is positioned and connected when required.
- (4) Ensure required maintenance stands are correctly positioned and bonded to aircraft.

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(5) Ensure aircraft stairs/ladders are correctly positioned and unobstructed to enable emergency egress.

(6) Ensure one authorized serviceable fire extinguisher is appropriately positioned.

4. ON ARRIVAL OF AIR FREIGHT PERSONNEL, MHE OPERATORS, AND REFUELING PERSONNEL (REO AND LVM) AT THE AIRCRAFT:

a. The CSS will:

(1) Meet with aircraft loading supervisor to determine, define, or ensure:

(a) Air freight personnel and MHE operators are aware of the total requirements of concurrent servicing. Individual requirements are:

1. Report to the CSS any condition that might jeopardize safety.

2. Coordinate any unusual off/on-loading requirement: i.e., C5A engine, other outsize cargo, etc.

3. Only personnel authorized by the CSS are permitted in the concurrent servicing area.



The 25K- or 40K-loader open-flame heater will not be used in the FSSZ.

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All aircraft refueling vehicles and other vehicles and equipment, Air Force or contractor, used in concurrent servicing operations shall be in compliance with TO 00-20B-5 and equipped with either a spark arrester or spark arresting muffler as required by TO 38-1-23.

**NOTE**

Tandem use of K-loaders or K-loader/forklift combination is not authorized in the off/on loading of side door aircraft (L-188, DC9, B-727).

4. Only MHE meeting safety requirements of section V, TO 00-25-172 are permitted within the FSSZ during concurrent on-offloading/refueling operations.

5. For L-188 aircraft, MHE operators will not stop vehicles, with engines running, within 25 feet of the left-wing vent. Approach to aircraft cargo door should only be made when a non-stop approach is assured.

(2) Meet with the REO, SCR, and LVM to determine, define, or ensure:

(a) Brief each refueling team member of their duties and responsibilities during refueling operations. Duties are:

1. CSS:

a. Responsible for overall concurrent operations to include safety.

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- b. Act as RVM.
  2. REO:
    - a. Operate refueling equipment controls as required.
    - b. Operate the deadman control.
  3. SCR: Monitor/operate the aircraft refueling panel

## NOTE

Underwing fuel servicing requires straight nozzle(s).



Maintenance stands and equipment used in concurrent servicing must be positioned to ensure aircraft is not damaged when it settles during refueling operations.

(3) Ensure that refueling team members and air freight personnel are aware of emergency evacuation procedures. In the event of an emergency:

- (a) Stop fuel flow.
- (b) Determine if evacuation of air freight personnel from aircraft is required.
- (c) Initiate emergency evacuation of aircraft as necessary.
- (d) If situation/hazard warrants, notify fire department and turn operation over to crash/fire/rescue personnel.
- (e) Assist CFR personnel as required.

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**(4) Ensure Fire Department is notified at least 15 minutes before starting concurrent servicing operations.**

## 5. FUEL TRANSFER PHASE OF CONCURRENT SERVICING OPERATIONS:

### **WARNING**

- Oxygen servicing shall not be done concurrently with fuel servicing operations.
- Maintenance and repair of aircraft electrical, radio, radar, fuel or other systems requiring use of electrical power, shall not be accomplished during fueling operations. In addition, lines containing flammable liquids shall not be opened.
- All normal aircraft electrical systems may remain powered; however, only those aircraft switches required for concurrent servicing operations will be operated. Inertial Navigational Systems (INS) may remain energized.
- A malfunction of any component of the fueling system will require an immediate shut down of the fueling operation until the defect is repaired.

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AR ground power units will be connected prior to starting fuel servicing. Equipment shall remain connected until the fuel servicing is terminated.

**NOTE**

Portable or truck-mounted non-tactical radio equipment will be turned off and will not be operated within the FSSZ unless it is intrinsically safe or meets the requirement of Military Standard - 810.

a. The CSS will:

(1) Assure all personnel, not connected with either refueling, cargo operations, or authorized maintenance are clear of the concurrent servicing area prior to beginning and during fuel servicing.

(2) Verify all wheel chocks and fire extinguisher are properly positioned and required grounding accomplished.

b. The SCR will:

(1) Remove cover from fuel nozzle, and visually inspect locking pins/lugs and seal for serviceability before connecting to aircraft. The LVM will perform this task on DC-9 aircraft.

**CAUTION**

Prior to pressurizing the system, the SCR or his designated representative shall test the Aeroquip strainer coupling quick disconnect locking device for positive engagement by physically pushing down on the lock ring to ensure it is properly seated and shall ensure the refueling nozzle is securely locked to the aircraft by attempting to remove the nozzle with the poppet valve in the open position. If refueling nozzle can be removed from aircraft with valve open, the refueling equipment operator will be immediately notified to remove nozzle from service. The LVM will perform this task on DC-9 aircraft.

(2) Connect fuel nozzle to applicable SPR adapter, open nozzle valve, and verify nozzle is locked by trying to remove nozzle. The LVM will perform this task on DC-9 aircraft.

(3) Close fuel nozzle valve. The LVM will perform this task on DC-9 aircraft.

(4) Set applicable tank refuel switches to open.

(5) Either verbally or by prearranged signal, inform CSS ready for refueling.

c. The CSS will:

(1) Either verbally or by prearranged signal, inform all refueling team members the aircraft is ready for refueling.



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(2) Request the SCR to open fuel nozzle valve. The LVM will be requested to perform this task on CD-9 aircraft.

**CAUTION**

Do not exceed 55 PSI refueling pressure, as indicated at refueling source. For L-188 aircraft, do not exceed 300 GPM at a pressure not exceeding 35 PSI.

(3) Request the REO to start fuel flow.

**WARNING**

Stop refueling operation if fuel flow does not stop during precheck. Refueling will not be resumed until the problem has been corrected.

**NOTE**

Refueling will be accomplished in accordance with applicable refueling directives.

d. The SCR will:

(1) Perform fuel flow precheck. The LVM will perform this task on DC-9 aircraft during which time the CSS will monitor the left wing vent.

(2) Direct REO to stop fuel flow when desired quantity is loaded.

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- (3) Set all fuel switches to close.



The SCR must ensure that fuel flow has stopped and hose is depressurize/evacuated prior to disconnecting nozzle from SPR adapter. Make sure nozzle handle is closed prior to depressurizing hose. The LVM will perform this task on DC-9 aircraft.

- (4) Close refueling nozzle and disconnect nozzle from SPR adapter. The LVM will perform this task on DC-9 aircraft.

- (6) Reinstall SPR adapter cap. The LVM will perform this task on DC-9 aircraft.

**NOTE**

Be sure SPR adapter cap is properly secured.

e. The CSS will:

- (1) Ensure assistance is provided the REO in wrapping and storing of all refueling hoses, removing of grounding/bonding wires connected to refueling equipment, and clearing refueling equipment from area.

- (2) Have LVM reposition wheel chocks as required.

- (3) Remove all equipment no longer required from concurrent servicing area.

- (4) Release Refueling Team members.