



National Aeronautics and
Space Administration

George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

**POWER INDUSTRIAL FORK TRUCK
OPERATION SAFETY REQUIREMENTS**

**ENVIRONMENTAL TEST FACILITY
DEVELOPMENT & ENVIRONMENTAL TEST BRANCH
SYSTEMS TEST DIVISION
SYSTEM ANALYSIS AND INTEGRATION LAB**

**This Procedure Describes
Safety Critical Operations**

**CHECK THE MASTER LIST.
VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE.**

**POWER INDUSTRIAL FORK TRUCK
OPERATION SAFETY REQUIREMENTS**

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Fork Truck Operators: Signature by an operator indicates the operator has read the procedure, understands the operator responsibilities, and understands the hazards associated with operation of the fork truck.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

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Baseline 5-6-2005	-----	Initial issue for the ET24 Organization. Supersedes MSOP-FA-ETF-414.	

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1.0 GENERAL INFORMATION

1.1 PURPOSE

This document describes safety requirements for the operation of ET24's power industrial fork trucks used at MSFC Buildings 4612, 4619 and 4620.

1.2 SCOPE

The procedures and practices outlined in this document are to be followed in the operation of a power industrial fork truck. This procedure is for operations performed during non-critical industrial type lifts. Critical lift will be performed under specific operating procedures. Test operations at the Environmental Test Facility (ETF) are conducted in accordance with ET24-ETF-OWI-001.

1.3 APPLICABLE DOCUMENTS

NPR 8715.3	NASA Safety Manual
NASA-STD 8719.9	Standard for Lifting Devices and Equipment
MPR 8715.1	Marshall Safety, Health, and Environmental (SHE) Program
MSOP-FA-ETF-413	Control of Hazardous Energy (Lockout/Tagout) Procedure for the Environmental Test Facility (soon to be superseded by ET24-LOTO-SOP-001)
ET24-ETF-OWI-001	Environmental Test Facility (ETF) Test Operations
ED26 (02-01)	Memorandum for Record, Safety Assessment for the ETF (soon to issued as an ET24 memo, number unknown)

1.4 SAFETY

All test personnel working in this facility shall be familiar with the safety documents listed above, and shall report any safety hazards or unsafe practices to the ETF Branch Chief or the 4619/4612 Building Manager Assistant.

Personnel should be aware of the possibility of freeze burns by contact with cold surfaces or liquids. In the event of a cryogenics spill, line ruptures, or similar emergency, personnel must ensure that there is no possibility of asphyxiation due to oxygen displacement. Use a portable oxygen monitor to verify the area is safe before entering.

ET24 Safety Assessment, Memorandum of Record ED26 (02-01) (soon to be issued as an ET24 memo, number unknown) lists procedures and job hazard analysis (JHAs) for hazards associated with operation of fork trucks.

Operators must review the safety assessment to determine the JHAs that

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applies to fork truck operation. Implement the risk mitigation methods listed in the JHAs to minimize risk from potential hazards during fork truck operations.

1.5 EMERGENCY TELEPHONE NUMBERS

In case of an emergency, call **911**, including the following types of emergencies;

Medical	911
Ambulance	911
Fire	911
Security	911
Chemical Spills	911

Other numbers that can be used to obtain information about emergency, security, safety, and utilities, and general help are:

Medical Center	544-2390
Security	544-4357
Safety	544-0046
Utilities	544-3919
Help Desk	544-HELP (4357)

1.6 RESPONSIBILITIES

1.6.1 SUPERVISORS

Ensures only certified forklift operators operate forklifts and that all safety requirements for performing forklift operations are followed.

1.6.2 FORKLIFT OPERATORS

Operators are responsible for safe movement of the load. Forklift operators may refuse to operate a lift they believe is unsafe until the concerns are addressed.

2.0 FORK TRUCK OPERATION

NOTE

Maintenance or operating procedures, techniques, restrictions, etc., requires emphasis for safe operation.

- 2.1** Before operating the fork truck, each operator shall ensure the equipment is within annual inspection and load testing dates as well as test all the controls to verify proper operation of the fork truck. The first operator of the day shall complete applicable checks of the Operator Daily Report, MSFC Form 4258. Completed Forms 4258 shall be maintained 30 days. The completed Forms 4258 are kept in Building 4619 Room 168. Blank Forms *MSFC* 4258 should

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be available in the control room, in the ETF Library, at MSFC online forms at <http://starbase.msfc.nasa.gov:8000/forms/forms.taf> or a copy of Attachment A may be used. Any discrepancies are to be recorded on Form 4258 and reported to the Building Manager Assistant or ETF Branch Chief to obtain maintenance as required. Forms 4258 that records discrepancies shall be maintained until after repairs are successfully completed. The fork truck shall not be used until necessary repairs are made.

- 2.2** All accidents involving personnel, building structures and equipment shall be reported to the ETF Branch Chief or Assistant Building Manager.
- 2.3** Only trained personnel that sign the operator signature sheet shall operate the fork truck.
- 2.4** Fork trucks used at the ETF shall bear a label that indicates the truck meets requirements of ANSI B56.1-1969. The fork truck used at the ETF may be labeled with any of the eleven designations D, DS, DY, E, ES, EE, EX, G, GS, LP, and LPS, provided there are no hazardous contamination in the air. The fork truck shall not be operated in an area with potentially hazardous airborne contamination, including flammable vapors, chemical vapors, and/or metal dust contaminates.
- 2.5** The truck shall not be driven up to anyone standing in front of a bench or other fixed object.
- 2.6** No person shall be allowed to stand on or pass under the forks.
- 2.7** No one shall ride the fork truck except the operator.
- 2.8** The operator shall keep arms and legs in the operator area of the truck. Arms and legs shall not be placed near or on the lift mast or outside running lines of the fork truck.
- 2.9** The operators shall wear seat restraining devices where provided.
- 2.10** When the fork truck is left unattended, the load shall be fully lowered, controls shall be neutralized, and power shall be shut off.
- 2.11** When the fork truck is operated on another vehicle such as a truck, trailer, or rail car, the brakes shall be set and wheel blocks placed on the other vehicle to prevent its movement. A semi trailer uncoupled from a truck shall have fixed jacks lowered. The operator shall inspect the floor of the other vehicle for

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breaks and weakness. If the floor of the other vehicle appears weak or has breaks in the floor, the operator shall not drive onto that vehicle.

- 2.12 The operator shall not operate the fork truck where there is insufficient headroom.
- 2.13 The fork trucks that are driven from a sitting position shall have an overhead guard that provides protection from falling objects.
- 2.14 The load shall not be lifted to a height above the fork backrest.
- 2.15 **THE FORK TRUCK SHALL NOT BE USED TO LIFT PERSONNEL.**
- 2.16 When following another vehicle, a safe distance of three truck lengths or more shall be maintained.
- 2.17 The fork truck shall yield right of way to emergency vehicles.
- 2.18 The fork truck shall be parked in a location that does not block fire aisles, stairways, access to fire fighting equipment, or access to electrical disconnect devices.
- 2.19 The combustion engine fork truck shall only be operated in the clean room when the clean room's large sliding door is fully opened. Limit use of combustion engine fork truck in the clean room to jobs that cannot be performed using an electric fork truck. Only electric fork trucks may be used inside the clean room with the doors shut.
- 2.20 The fork truck shall not pass another vehicle traveling in the same direction.
- 2.21 The operator shall slow down and sound the horn at cross aisles or other locations where vision is obstructed. If the load obstructs the operator's view forward, then the operator shall travel with the load trailing.
- 2.22 Railroad tracks shall be crossed diagonally. Parking the fork truck closer than 8 feet from railroad tracks is prohibited.
- 2.23 Grades shall be ascended and descended slowly. The load shall be tilted back and lifted only as far as necessary to clear the road surface.

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- 2.24** When traveling on grades of 10% or greater, the truck shall be driven with the load upgrade.
- 2.25** The truck shall be operated at a safe speed so that it can be easily stopped. The operator shall reduce speed on wet or slippery surfaces.
- 2.26** Stunt driving, horseplay, eating, drinking or rowdiness is not permitted.
- 2.27** All bridge plates shall be secured in place before the operator drives over them.
- 2.28** Running over loose objects in the roadway should be avoided.
- 2.29** Motorized hand trucks shall enter confined spaces with the load end first.
- 2.30** The fork truck shall only handle stable loads that are within its weight and size limits.
- 2.31** The fork shall be placed under the load as far as possible. The mast shall be tilted back to stabilize the load. The mast shall be tilted forward only while picking up the load or setting down the load.
- 2.32** The truck engine shall be switched off during refueling and before adding oil. Fuel cap and oil fill cap shall be replaced before restarting the engine. Oil spilled on the truck shall be wiped dry before restarting the engine. Fuel spilled on the truck shall be wiped dry or allowed to completely evaporate before restarting the engine.
- 2.33** The battery shall be disconnected before making repairs to the electrical system.
- 2.34** All repair parts shall be exact replacement parts or parts equivalent to the original design specifications.
- 2.35** The fork truck shall be removed from service whenever it is operating improperly including overheating, emitting smoke or sparks, or failing to control-as-expected. Any discrepancies are to be reported to the 4619/4612 Building Manager Assistant or an ET24 Branch Chief. The fork truck shall not be used until necessary repairs are made.

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- 2.36** The fork truck shall be kept in reasonably clean condition, free of excess grease, lint, or dirt. Use a non-combustible agent for cleaning the truck.

- 2.37** The operator shall travel with empty forks in a low position, no higher than two feet above road surface.

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Attachment A

OPERATOR'S DAILY REPORT				
<input type="checkbox"/> Engine-Powered Lift Trucks <input type="checkbox"/> Battery-Powered Lift Trucks				
Truck No.: _____ Make: _____ Date: _____ Shift: _____				
Hour Meter Reading Start: _____ End: _____ Hours for Shift: _____				
CHECK EACH ITEM If "OK" write "OK"	SHIFT			Explain below if not "OK" or any other action taken
	Start	During	End	
1. Fuel level				
2. Oil level and pressure				
3. Water level and fan belt				
4. Brakes - service and parking				
5. Lights - head, tail and warning				
6. Horn				
7. Hour meter and gauges				
8. Steering				
9. Tires				
10. Hydraulic controls				
11. Other conditions				
12. Battery plug connection				
13. Battery charge				
14. Battery load test				
15. Brakes - service and seat brakes				
16.				
17.				
18.				

Remarks and additional explanation or suggestions:

Operator's Signature: _____