



CONSUMER TESTING LABORATORIES, INC.

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EVALUATION OF TEST RESULTS

LABORATORY REPORT NO: HWM201496

DATE: February 25, 2005

Dept: Store Planning

ITEM DESCRIPTION: **5500lb. Pallet Truck**

MODEL NO.:	ML55
BILL TO:	Mighty Lift Inc.
SUPPLIER CHARGE NO.:	Pre-Paid
TESTING CHARGE:	\$2,500.00

REASON FOR ANALYSIS: Evaluation of the Pallet Truck from the viewpoint of material and construction qualities, overall strength and durability characteristics. Particular attention was paid to overall performance including lifting performance, mobility characteristics and consumer serviceability as requested by the client.

It should be noted that our analysis is undertaken solely to determine the performance characteristics of the submitted sample. Our report is not an evaluation of the safety characteristics of the sample. This report is not an analysis of the potential safety hazards that can occur in actual use, misuse, and/or abuse of the product.

EXECUTIVE SUMMARY: The Pallet Truck exhibits generally good material and construction quality, with all components being accurately formed, smoothly finished and properly aligned. The ten grease fittings provide for good access for lubrication. Sealed bearing assemblies on the wheels and rollers provide reduced rolling resistance. The sample features adjustable push bars to reduce dragging as the rollers wear. The Pallet Truck exhibits generally good mobility under the 3000 lb. load. The Pallet Truck demonstrates generally good lifting performance when lifting both a 3,000 lb. and a 5,500 lb. load. The Pallet Truck also withstood 50 continuous lift cycles with its maximum rated capacity of 5,500 lbs. and an overload test consisting of lifting 125% of its rated capacity with no functional damage or other adverse affects noted. However, to prevent the user from overloading the Pallet Truck it is recommended that the bypass valve engage before exceeding 125% of the Pallet Trucks rated capacity. In addition, the Pallet Truck demonstrates generally good handle strength withstanding 170 lbs. of applied force before deforming the lever's connecting assembly and rendering the lever inoperable. The Pallet Truck's labeling exhibits a nine point warning label in addition to lever operation and adjustment instructions. However, some inconsistencies were noted on the Pallet Truck's warning label.

Please refer to the following text for additional product testing information.

Specialists in the Evaluation of Consumer Products Since 1952

Terms and Conditions: Use of Consumer Testing Laboratories name and/or seal is not permitted without our written authorization. Our reports apply only to the individual sample tested. Consumer Testing Laboratories liability is strictly limited to service amount.

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EVALUATION OF FINDINGS:

1. **Material and Construction:** The Pallet Truck exhibits good material and construction qualities with all components accurately formed, smoothly finished and properly aligned presenting a good overall appearance. The Pallet Truck has a 3-position plastic operating lever with a metal core and a steel handle with a grip. The Pallet Truck's steering wheels and roller wheels are constructed of solid plastic. The steering wheel and the roller wheels spin smoothly on sealed bearing assemblies. The Pallet Truck exhibits grease fittings at ten separate points for lubrication of most moving parts. The Pallet Truck exhibits rounded fork tips, adjustable push bars and roller approach guides. Please refer to the following table for critical dimensions, weights and measurements of the Pallet Truck.

<u>Description</u>	<u>Measurement</u>
Unit Weight (lb.)	161.8
Lowered Height at Fork Tips (in.)	2.81
Lowered Height at Load Rollers (in.)	2.93
Lowered Height at Fork Back (in.)	2.93
Lowered Height at Top of Gooseneck (in.)	16.71
Raised Height at Fork Tips (in.)	7.57
Raised Height at Load Rollers (in.)	7.60
Raised Height at Fork Back (in.)	7.48
Raised Height at Gooseneck (in.)	21.27
Lift Range at Load Rollers (in.)	4.67
Height from Floor to Top of Handle (in.)	47.63
Overall Length (in.)	64.43
Overall Width (in.)	26.98
Clearance (in.)	0.25
Fork Length (in.)	48.00
Fork Width (in.)	6.37
Load Roller Diameter (in.)	2.94
Load Roller Width (in.)	3.66
Steer Wheel Diameter (in.)	7.07
Steer Wheel Width (in.)	1.98
Fork Thickness (in.)	0.147
Roller Axle Diameter (in.)	0.79
Roller Pivot Axle Diameter (in.)	0.79
Wheel Axle Diameter (in.)	0.79
Control Lever Length (in.)	4.21
Handle Thickness (in.)	1.22
Handle Width (in.)	16.24
Ram Diameter (in.)	1.24

2. **Lifting Performance:** The Pallet Truck demonstrates generally good lifting performance. The Pallet Truck lifts a 3,000 lb. load to its maximum lift height in 12 strokes with 44 lbs. of force applied to the Pallet Truck's handle. The truck lifts 5,500 lbs. to its maximum lift height in 12 strokes with 80 lbs. of force applied to the trucks handle. The Pallet Truck supported both loads for 10 minutes loosing less than 0.01 inches with both the 3,000 lb. load and the 5,500 lb. load. After completing these tests the Pallet Truck lowered smoothly requiring 9 lbs. of force applied to the lever to release the 5,500 lb. load.
3. **Mobility Performance:** The Pallet Truck demonstrates acceptable mobility when operated under a 3000 lb. load. These tests measure the force required to push, pull and turn the loaded Pallet Truck from a stand still on a flat concrete surface. Mobility test results are outlined in the table below.

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EVALUATION OF FINDINGS CONT.:

<u>Test Direction</u>	<u>Force To Start Movement (lbs.)</u>
Push	55
Pull	55
Turn 90°	25

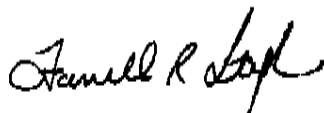
4. **Overload Performance:** The Pallet Truck demonstrated generally good performance in the overload test. For this test, the Pallet Truck is loaded to 125% of its rated capacity or 6,875 lbs. No functional damage or other adverse affects were noted as a result of this test. The Pallet Truck sustained this load with no hydraulic leakage, functional damage or other adverse affects noted. However, in order to prevent the user from overloading the Pallet Truck it is recommended that the bypass valve engage before exceeding 125% of the Pallet Trucks rated capacity.
5. **Durability Performance:** The Pallet Truck demonstrated good performance during the durability test. The Pallet Truck completed 50 continuous cycles lifting then lowering its rated capacity of 5,500 lbs. The Pallet Truck completed all lift cycles with no hydraulic leakage, functional damage or other adverse affects noted.
6. **Handle Strength:** The Pallet Truck demonstrated generally good performance during the handle strength test. To determine the Pallet Truck's handle strength a force is applied vertically to the handle while the pump strike pin is locked. The load is applied until the handle or the connecting linkage assembly fails. During this test, the lever's connecting assembly deformed at 170 lbs. of applied force rendering the lever inoperable.
7. **Features:** The Pallet Truck exhibits the following features as outlined on the table below.

Features

3 Position Control Lever
 Ten Grease Fittings for Lubrication
 Roller Approach Guides
 Sealed Bearing Assemblies
 Adjustable Push Bars
 Foot operated release lever

8. **Labeling:** The Pallet Truck exhibits lever operation instructions and a nine point warning label. The load weight is identified on the jack, but no lift height or load center information is found on the jack. However, the warning label states "Check capacity plate for load weight, lift height and load center information." This area should be considered for improvement.

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