USAC CERTIFIED
LIFT TRUCK COMPARISON TEST

HYSTER H50XT
TOYOTA 8FGU25

MARCH 2017
FAIRVIEW, OREGON

PERFORMANCE CERTIFICATION NUMBER: 17-CPC-260

HYSTER COMPANY

LIFT TRUCK COMPARISON TEST

HYSTER® H50XT
TOYOTA® 8FGU25

MARCH 2017
FAIRVIEW, OREGON

Lift Truck Comparison Test Certified by

USAC CERTIFIED LIFT TRUCK COMPARISON TEST

The purpose of this test was to obtain productivity and fuel usage data for certain selected lift trucks.

SANCTIONING ORGANIZATION

The test was conducted by USAC Properties, Inc., a subsidiary of the United States Auto Club, Inc., located in Speedway, Indiana. USAC Properties, Inc. is an independent testing organization specializing in the design and implementation of tests for products relating to the automotive industry.

The results obtained by Officials of USAC Properties, Inc. are certified to be correct.

TEST DRIVERS

The following Test Driver Specialists, employees of the Counter Balance Development Center, were used because of their experience with and knowledge of the course and test procedures:

Cory Jenks Justin Kingsley Kory Weaver

TEST LOCATION

The test was conducted at the Counter Balance Development Center located at 4000 NE Blue Lake Road, Fairview, OR.

TEST VEHICLES

The following Lift Trucks participated in the test:

5000 POUND CAPACITY		
	HYSTER	**TOYOTA**
Model	H50XT	8FGU25
Serial Number	A380V01521P	61883
Model Rated Load	2268 kg / 5000 lb	2268 kg / 5000 lb
Dash Hours	85	146
Fuel	LPG	LPG
Engine	2.4L	4Y ECS 2.2 L
Transmission	1 Speed	1 Speed
Driver Tires	Solid 7.00 X 12	Solid 7.00 X 12
Mast Class	Class II 3FFL	Class II 3FFL
Mast Height	4800 mm / 189 in	4800 mm / 189 in

TEST PROCEDURE

All timing, measuring and other equipment used in the tests has a currently active calibration certificate.

The following procedure was used to drive the course for the fuel consumption / fuel efficiency and turnover/productivity tests. The position numbers refer to numbers on the course drawing appearing below.

Prior to the start of the test, the truck being tested was placed at position 1 with the forks fully tilted back, inserted into the test load and lifted to the travel height of 0.2 m.

The engine was turned off.

The fuel tank was removed, weighed to an accuracy of one one-hundredth (0.01) of a pound, then re-installed. The scale used was a Precision Digital, ID Number 14002.

The engine was started.

Timing started.

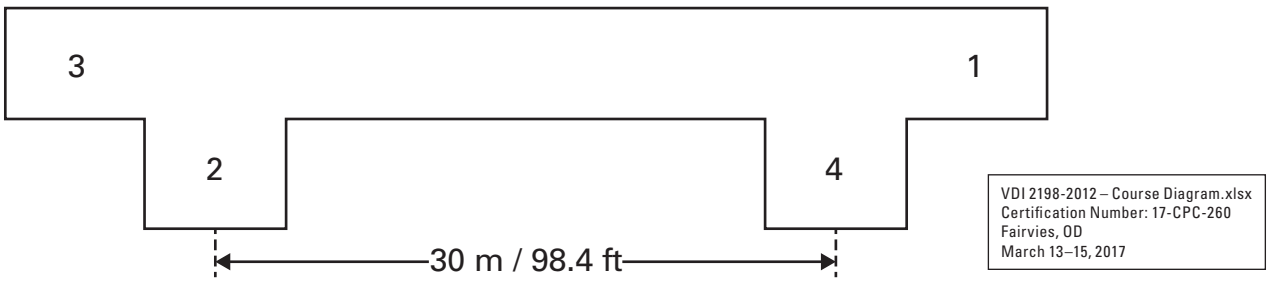
One complete cycle consisted of the following driving pattern.

a. The truck was driven to position 2 where it began a left turn that continued until the load was completely within the position boundary.
b. The mast was returned from backward tilt to vertical.
c. The forks were lifted to two (2) meters then lowered to the travel height.
d. The mast was returned to full back tilt.
e. The truck was backed into position 3.
f. The truck was driven to position 4 where it made a right turn that continued until the load was completely within the position boundary.
g. The mast was returned from backward tilt to vertical.
h. The forks were lifted to two (2) meters then lowered to the travel height.
i. The mast was returned to full back tilt.
j. The truck was backed into position 1 completing one cycle.

Steps (a) through (j) were repeated a number of times, depending on the test being performed, by each driver. Timing commenced when the engine was started and stopped when the engine was turned off after the truck returned to position 1 at the end of the last test cycle.

The fuel tank was removed and weighed after the driver completed his sequence.

VDI 2198-2012 FUEL CONSUMPTION AND TURNOVER OUTPUT COURSE



FUEL CONSUMPTION TEST

HYSTER H50XT						
			Tank Weight			
Driver	Test Date	Run	Start	Finish	Fuel Used	Avg kg/hr
Jenks, Cory	03/15/17	1	24.16	21.65	2.51	
		2	21.65	19.17	2.48	2.50
Kingsley, Justin	03/13/17	1	25.32	22.62	2.70	
		2	22.62	19.90	2.72	2.71
Weaver, Kory	03/13/17	1	27.46	24.88	2.58	
		2	24.88	22.25	2.63	2.61

Fuel Consumption:	kg/hr	2.60
	L/hr	5.11
	Gal/hr	1.35

TOYOTA 8FGU25						
			Tank Weight			
Driver	Test Date	Run	Start	Finish	Fuel Used	Avg kg/hr
Jenks, Cory	03/13/17	1	23.98	20.99	2.99	
		2	20.99	18.04	2.95	2.97
Kingsley, Justin	03/13/17	1	24.99	21.91	3.08	
		2	21.91	18.84	3.07	3.08
Weaver, Kory	03/15/17	1	24.87	21.79	3.08	
		2	21.79	18.71	3.08	3.08

Fuel Consumption:	kg/hr	3.04
	L/hr	5.98
	Gal/hr	1.58

This test was performed using the VDI 2198-2012 Fuel Consumption procedures as follows:

- *Each driver drove each of the test trucks for one hour without interruption.*
- *Each of the trucks carried the same 2240 kg load.*
- *The speed driven was adjusted to one (1) cycle per minute to meet the sixty (60) cycle VDI test procedure specification.*
- *Driver technique was used to minimize fuel use by limiting acceleration rates and high speed when lifting the load.*

RESULT

	Fuel per Hour (Gal)	Hours per 33 lb Tank	Tanks per Month (rounded)	Monthly Fuel Cost
Hyster H50XT	1.35	5.85	28	$560.00
Toyota 8FGU25	1.58	5	33	$660.00

The Hyster H50XT can save customers up to $100 per month per lift truck in fuel costs.
In an operation with a fleet of 15 lift trucks, that's a savings of up to $18,000 per year.

** All calculations based on yearly forklift operation of 2,000 hours using a 33 lb LPG tank with a cost of $20.00 to fill.*

DRAWBAR PULL TEST

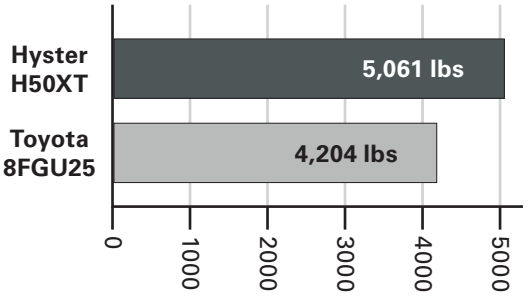
The following table shows the results of the drawbar pull test (in lbs):

RUN NUMBER	HYSTER H50XT	TOYOTA 8FGU25
1	5,042	4,172
2	5,058	4,190
3	5,082	4,250
AVERAGE	**5,061**	**4,204**

This test measures the power of each test truck and its grade climbing ability. The test was performed as follows:

- *Each truck carries enough weight to maintain traction.*
- *Each of the trucks carried the same 4920 lb load.*
- *To measure "pulling power" each truck was attached to a load cell.*
- *The test was repeated a minimum of three times and if necessary additional times until three (3) test values were within 5%.*

RESULT



The Hyster H50XT beats the Toyota 8FGU25 **by 20%.**

TURNOVER OUTPUT TEST

HYSTER H50XT										
Driver	**Test Date**	**Run**	**Lap Count**	**Time (Min)**	**Time (Sec)**	**Time (Hrs)**	**Start**	**Finish**	**Fuel Used**	**Avg (kg/hr)**
Jenks, Cory	03/14/17	1	45	30	8	0.502	21.50	18.82	2.68	
		2	45	30	5	0.501	18.82	16.14	2.68	5.34
Kingsley, Justin	03/14/17	1	45	30	16	0.504	24.62	21.90	2.72	
		2	45	30	21	0.506	21.90	19.22	2.68	5.35
Weaver, Kory	03/14/17	1	44	30	4	0.501	27.14	24.35	2.79	
		2	45	30	36	0.510	24.35	21.50	2.85	5.58

Average Lap Time (S)	40.483
Load Weight Carried (kg)	1130
Turnover (Metric Tons/Hr)	200.972
Loads Moved per Hour	88.926

TOYOTA 8FGU25										
Driver	**Test Date**	**Run**	**Lap Count**	**Time (Min)**	**Time (Sec)**	**Time (Hrs)**	**Start**	**Finish**	**Fuel Used**	**Avg (kg/hr)**
Jenks, Cory	03/14/17	1	44	30	15	0.504	21.55	18.97	2.58	
		2	44	30	12	0.503	18.97	16.42	2.55	5.09
Kingsley, Justin	03/14/17	1	44	30	30	0.508	26.75	24.13	2.62	
		2	44	30	17	0.505	24.13	21.55	2.58	5.13
Weaver, Kory	03/14/17	1	43	30	28	0.508	24.21	21.53	2.68	
		2	43	30	14	0.504	21.53	18.86	2.67	5.29

Average Lap Time (S)	41.664
Load Weight Carried (kg)	1130
Turnover (Metric Tons/Hr)	195.276
Loads Moved per Hour	86.405

This test was performed using the VDI 2198-2012 Turnover Output procedures as follows:

- *Each driver drove each of the test trucks for thirty (30) minutes without interruption.*
- *Each of the trucks carried the same 1130 kg load.*
- *Maximum speed was driven to optimize the number of cycles competed within the time period.*
- *Drivers used care to insure safe operation and that all wheels remain on the ground at all times.*

RESULT

	Loads Moved per Hour
Hyster H50XT	88.926
Toyota 8FGU25	86.405

The Hyster H50XT moves up to 2.5 loads per hour more than the Toyota 8FGU25. In an operation with a fleet of 15 lift trucks running 8 hour shifts, you can move up to 37.5 more loads per hour and up to 300 more loads per shift with the Hyster H50XT.

CONCLUSION

In the final analysis, **the Hyster H50XT performed better than the Toyota 8FGU25 in all three tests**. The following table shows the Hyster performance advantage:

1. **Fuel Consumption Test .....Hyster consumes 14.474% less fuel than Toyota**
2. **Drawbar Pull Test.....Hyster is 20.385% more powerful than Toyota**
3. **Turnover Output Test ..... Hyster moves 2.918% more loads than Toyota**