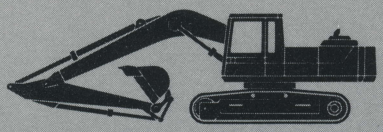


Competitive Information

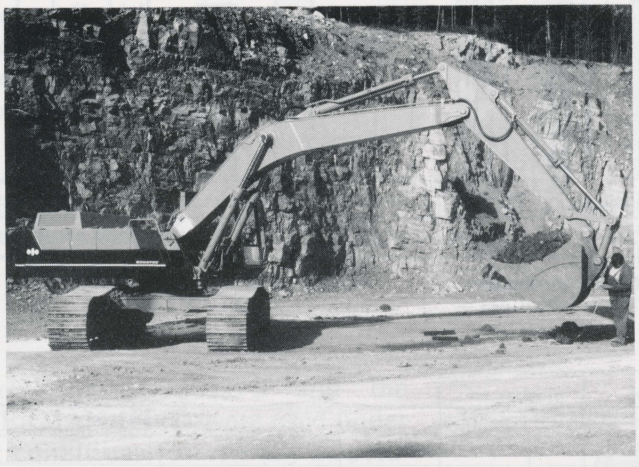
Hydraulic Excavator

INTERNAL USE ONLY

FIELD TEST REPORT

CI-J-106-E0
Mar., 1988

KOMATSU PC360LC-3 vs. AKERMAN H16D



Subject: Performance comparison between KOMATSU PC360LC-3 and AKERMAN H16D
Objective: To evaluate the working performance of both machines
Study date: Oct., 1987
Location: Moha, Belgium
Equipment studied:

Item \ Model		KOMATSU PC360LC-3	AKERMAN H16D
Operating weight	kg (lb)	35700 (78,700)	37500 (82,670)
Flywheel horsepower	HP (kW)/rpm	212 (158)/1550	262 (195)/1700
Bucket capacity (CECE)	m^3 (cu.yd)	1.5 (1.96)	1.6 (2.09)
Arm length	mm (ft.in)	3130 (10'3")	2450 (8')
Track length on ground	mm (ft.in)	4450 (14'7")	3620 (11'11")
Track gauge	mm (ft.in)	2870 (9'5")	2400 (7'10")
Shoe width	mm (in)	710 (28")	700 (27.6")
Service meter	Hour	8	3396

Test results at a glance:

Ditching:	Hourly production:	KOMATSU PC360LC-3 (S-mode) is 19% higher than AKERMAN H16D.
	Fuel consumption:	KOMATSU PC360LC-3 (L-mode) is 34% less than AKERMAN H16D.
	Fuel efficiency (m^3/ltr.):	KOMATSU PC360LC-3 (S-mode) is 47% more efficient than AKERMAN H16D.
Loading:	Hourly production:	KOMATSU PC360LC-3 (S-mode) is 3% higher than AKERMAN H16D.
	Fuel consumption:	KOMATSU PC360LC-3 (L-mode) is 39% less than AKERMAN H16D.
	Fuel efficiency (m^3/ltr.):	KOMATSU PC360LC-3 (L-mode) is 39% more efficient than AKERMAN H16D.

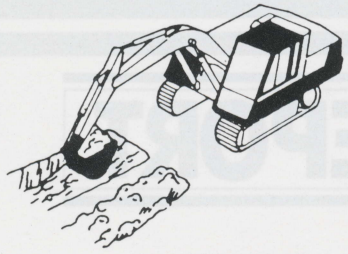
Lifting capacity: The lifting capacity of the PC360LC-3 is 11% larger than of the AKERMAN H16D.

KOMATSU

High productivity and economy

Featuring two-mode selection : STANDARD mode and LIGHT-DUTY mode.
The more suitable mode can be selected in response to the user's demand.

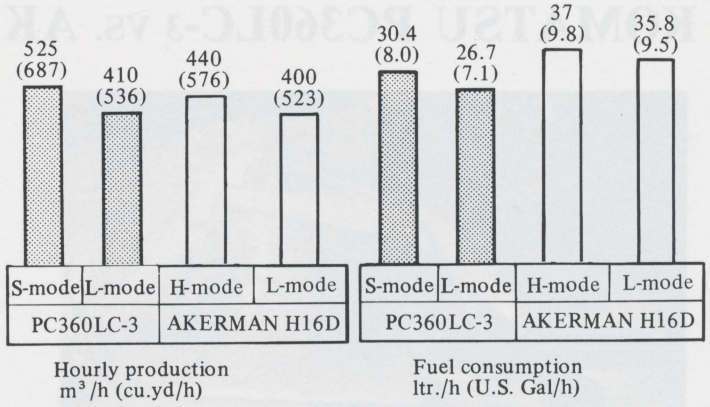
Ditching



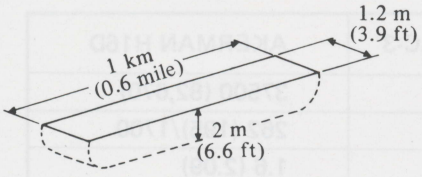
The productivity of the PC360LC-3 in the S-mode is one class higher than the AKERMAN H16D.
For projects which demand economy, the fuel consumption of the PC360LC-3 in the S-mode is 22% less than the AKERMAN H16D.

Conditions

- **Banked sticky soil with rock.**
- **Ditch depth : 2 m (6.6 ft.)**
- **Ditch width : The same as bucket width**
- **Excavated soil deposited at side of ditch**
- **Dumping at 30° swing**

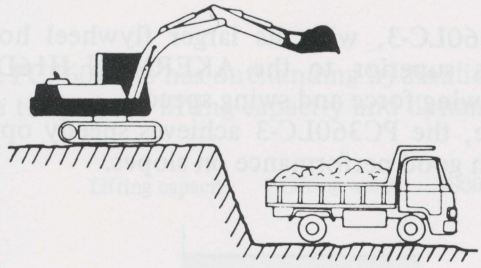


When the PC360LC-3 and the AKERMAN H16D were used under test conditions to dig a ditch 1 km (0.6 mile) in length, the fuel and time required were as shown in the chart on the right.



Item \ Model	KOMATSU PC360LC-3		AKERMAN H16D	
	S-mode	L-mode	H-mode	L-mode
Fuel required	139 ltr [100%] (36.7 U.S. Gal)	156 ltr [112%] (41.2 U.S. Gal)	201 ltr [145%] (53.1 U.S.Gal)	215 ltr [155%] (56.8 U.S.Gal)
Time required	4 h. 35 min.[100%]	5 h. 52 min.[128%]	5 h. 27 min.[121%]	6 h. [130%]

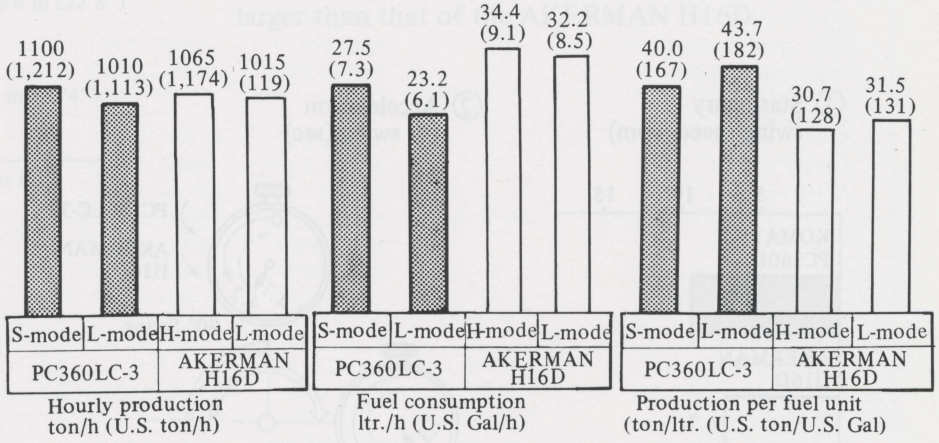
Loading



The productivity of the PC360LC-3 is one class higher than the AKERMAN H16D.
The efficiency of the PC360LC is also far superior to that of the AKERMAN H16D.

Conditions

- Loose soil with gravel
- Excavator and dump truck on different ground
- Loading at 90° swing
- 18 ton (20 U.S. ton) dump trucks (MAN trucks made in West Germany)
- 6 buckets loading

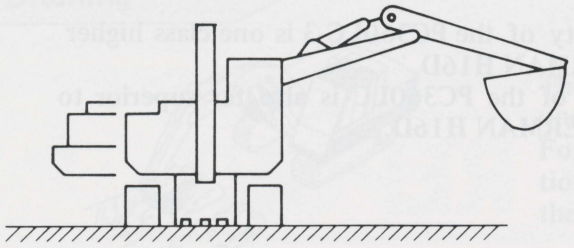


When the PC360LC-3 and the AKERMAN H16D were used under test conditions for one day's operations, the number of dump trucks which could be loaded and the fuel required for one dump truck were as shown in the chart on the right. The PC360LC-3 is for superior.

Model \ Item	No. of 18-ton dump trucks which can be loaded = 20	Fuel consumption per dump truck
PC360LC-3 S-mode	367 [100%]	0.45 liter (0.12 U.S. Gal) [100%]
CAT 235B	355 [97%]	0.59 liter (0.16 U.S. Gal) [131%]

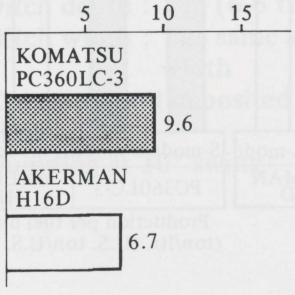
Calculation conditions :
Daily hours of operation : 8 hours
Job efficiency : 0.75
Bucket capacity :
PC360LC-3 1.5 m^3 (1.96 cu.yd)
AKERMAN H16D
1.6 m^3 (2.09 cu.yd)
Bucket factor : 1.0

Excellent swing performance

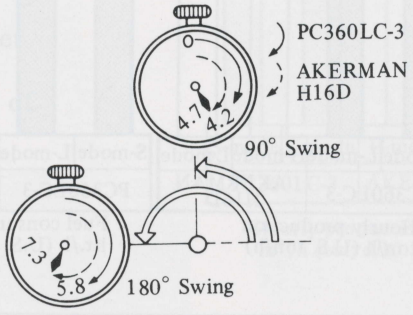


The PC360LC-3, with its larger flywheel horsepower, is superior to the AKERMAN H16D in both its swing force and swing speed.
Therefore, the PC360LC-3 achieves speedy operations with good performance on slopes.

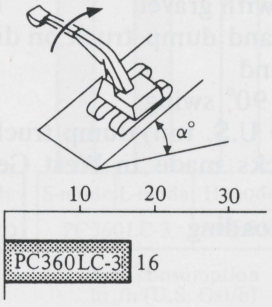
① Stationary swing speed (rpm)



② Acceleration for swing (sec)



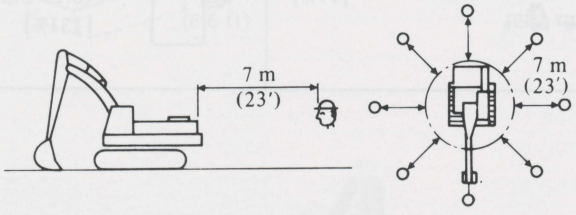
③ Swing gradeability (°)



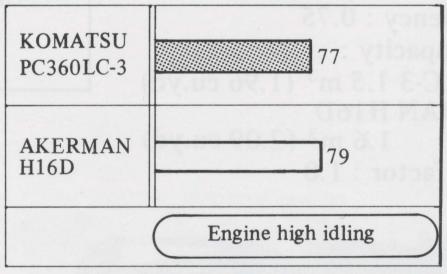
No data
AKERMAN H16D
(without parking brake)

Noise

Noise around the machine [7 m (23 ft.)]

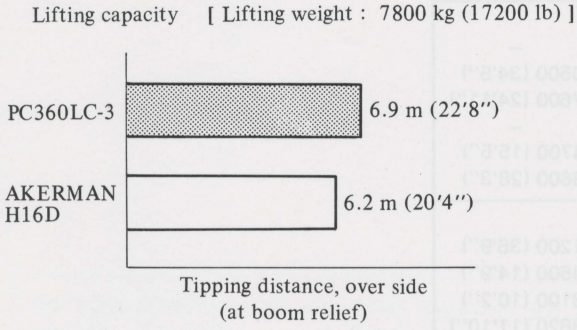


Noise level at 7 m (23') from machine surface



High stability

The PC360LC-3 has outstanding hydraulic power and is well-balanced.
Due to this, the lifting capacity and dynamic stability of the PC360LC-3 are the best in its class.



Lifting capacity of the PC360LC-3 is 10% larger than that of the AKERMAN H16D.

Comparative specifications (Catalog value)

Item \ Maker / Model		KOMATSU PC360LC-3	AKERMAN H16D *2
1. OPERATING WEIGHT*	kg (lb)	**35700 (78,700)**	39575 (87,200)
2. FLYWHEEL HORSEPOWER	HP(kW)/RPM	**212 (158)/1500**	258 (192)/1700
3. BUCKET CAPACITY RANGE (SAE)	m^3 (cu.yd)	**0.5 ~ 1.8 (0.65 ~ 2.35)**	1.15 ~ 2.4 (1.50 ~ 3.14)
4. WORKING RANGE			
(Arm length)	mm (ft.in)	**3130 (10'3")**	–
Max. digging height		**10310 (33'10")**	10500 (34'5")
Max. dumping height		**7260 (23'10")**	7600 (24'11")
Max. digging reach on ground		**11100 (36'5")**	–
Max. vertical wall depth		**6060 (19'11")**	4700 (15'5")
Max. digging depth		**7160 (23'6")**	8600 (28'3")
5. DIMENSIONS			
Overall length	mm (ft.in)	**10810 (35'6")**	11200 (36'9")
Overall height		**3235 (10'7")**	4500 (14'9")
Overall width		**3580 (11'9")**	3100 (10'2")
Length of track on ground		**4450 (14'7")**	3620 (11'10")
Track gauge		**2870 (9'5")**	2400 (7'10")
Tail swing radius		**3225 (10'7")**	3620 (11'10")
Ground clearance		**640 (2'1")**	460 (1'6")
6. PERFORMANCE			
Swing speed	RPM	**9.4**	6.2
Max. travel speed	km/h (MPH)	**2.3 (1.4)**	3.2 (2.0)
Gradeability	% (degree)	**70 (35)**	–
Max. crowd force (arm)	kg (lb)	**13000 (28,660)**	12200 (27,000)
Max. digging force (bucket)	kg (lb)	**17200 (37,920)**	20590 (45,400)
7. ENGINE			
Model		**KOMATSU S6D125**	Volvo Penta TD100G
Piston displacement	ltr. (cu.in)	**11.05 (674)**	9.6 (586)
No. of cylinder-bore x stroke	mm (in)	**6–125 x 150 (4.9" x 5.9")**	6–121 x 140 (4.75" x 5.51")
8. HYDRAULIC SYSTEM			
Hydraulic pump		**2 x Variable piston pump**	2 x Variable piston pump
Max. oil flow	ltr. (U.S.Gal)/min	**556 (147)**	686 (181)
Max. oil pressure (work equipment)	kg/cm^2 (PSI)	**320 (4,550)**	265 (3,770)
9. TRACK SHOE WIDTH	mm (in)	**610 (24") 710 (28') 760 (30") 810 (32") 910 (36")**	700 (27.6")
10. CAPACITY (Refilled)			
Fuel tank	ltr. (U.S.Gal)	**510 (135)**	770 (203)
Hydraulic tank		**225 (59.4)**	530 (140)

AAM-203

*1 : With 710 mm (28") width shoes, the 3.13 m (10'3") arm, and 1.5 m^3 (1.96 cu.yd) capacity bucket.
*2 : With 700 mm (27.6") width shoes, the 3.75 m (12'4") arm, and 1.45 m^3 (1.90 cu.yd) capacity bucket.

This information has been gathered to provide data on the performance of KOMATSU and competitive machines under actual job conditions. Every effort was made to ensure reliable results. However, because of the many variables peculiar to each job (including material characteristics, operator efficiency, labor and other costs, haul road conditions and altitude), neither KOMATSU LTD. nor any of its distributors can or does warrant expressly or implicitly that the Komatsu or competitive equipment referred to will achieve the performance or incur the costs indicated under other, though similar, circumstances.

The information contained herein is intended for circulation only to Komatsu employees and to those distributor employees, whose duties require knowledge of such reports and is intended solely for the information and training of these readers. UNAUTHORIZED USE OF THIS DOCUMENT IS HEREBY PROHIBITED AND THOSE RESPONSIBLE FOR SUCH USE SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGES WHICH THIRD PARTIES MAY INCUR AS A RESULT OF SUCH USE.

Any reproduction of this release without the foregoing explanation is prohibited.

Standard and optional equipment may vary depending on regional requirement.

Printed in Japan