



Competitive Information

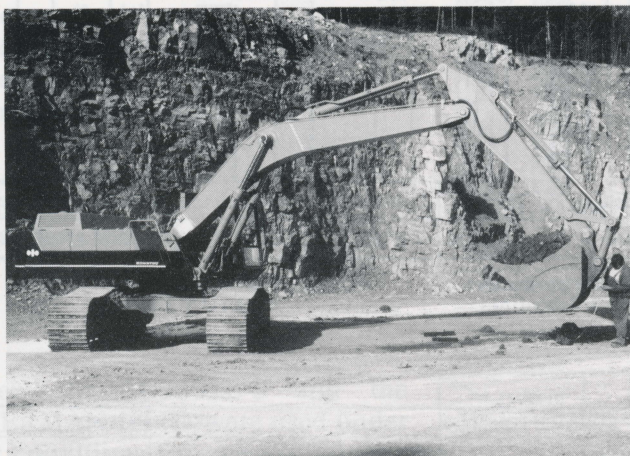
Hydraulic Excavator

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 (m³/litr.): KOMATSU PC360LC-3 (S-mode) is 47% more efficient than AKERMAN H16D.

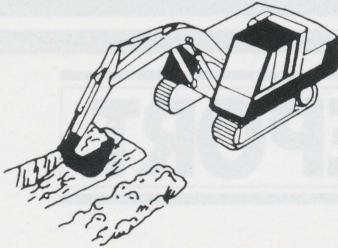
Loading: Hourly production: KOMATSU PC360LC-3 (S-mode) is 3% higher than AKERMAN H16D.
 Fuel consumption: KOMATSU PC360LC-3 (L-mode) is 39% less than AKERMAN H16D.
 Fuel efficiency (m³/litr.): KOMATSU PC360LC-3 (L-mode) is 39% more efficient than AKERMAN H16D.

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

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.

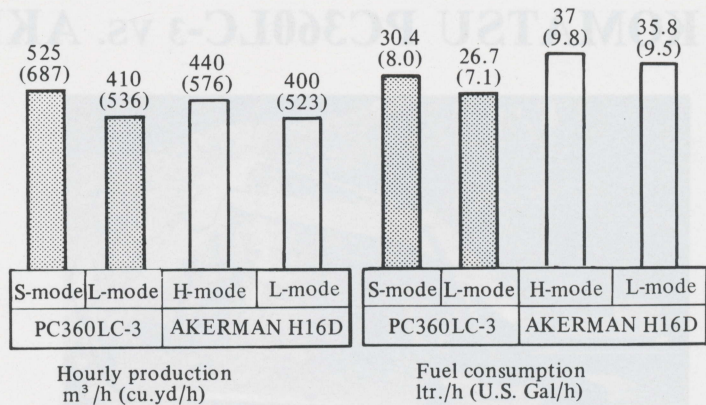
Ditching



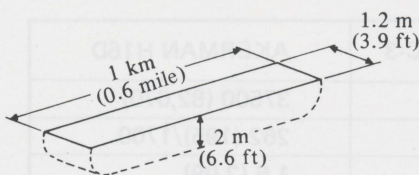
Conditions

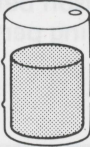
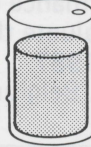

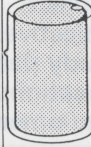
- Banked sticky soil with rock.
- Ditch depth : 2 m (6.6 ft.)
- Ditch width : The same as bucket width
- Excavated soil deposited at side of ditch
- Dumping at 30° swing

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.



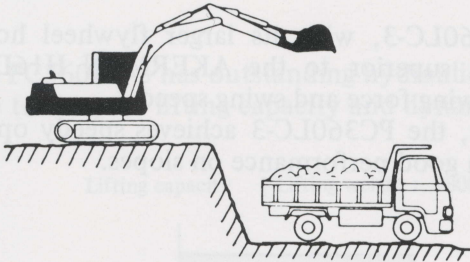
When the PC360LC-3 and the AKERMAN H16D were used under test conditions to dig a ditch 1 km (0.6 mile) in length, the fuel and time required were as shown in the chart on the right.



Model Item	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%]



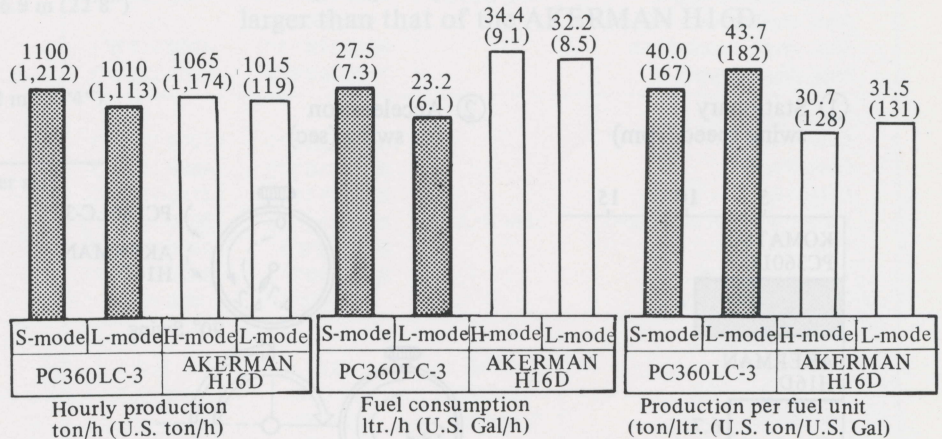
Loading



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.

Calculation conditions :

Daily hours of operation : 8 hours

Job efficiency : 0.75

Bucket capacity :

PC360LC-3 1.5 m³ (1.96 cu.yd)

AKERMAN H16D

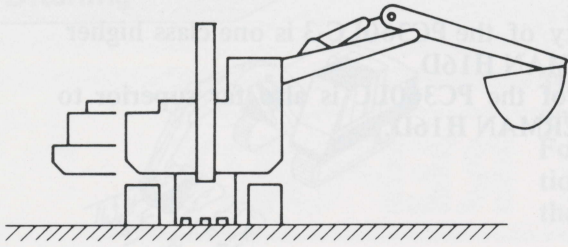
1.6 m³ (2.09 cu.yd)

Bucket factor : 1.0

Item Model	No. of 18-ton dump trucks which can be loaded [Truck icon] = 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%]

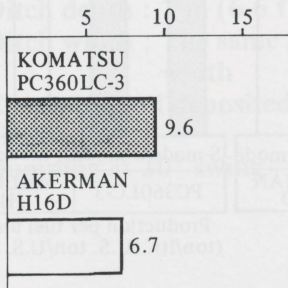


Excellent swing performance

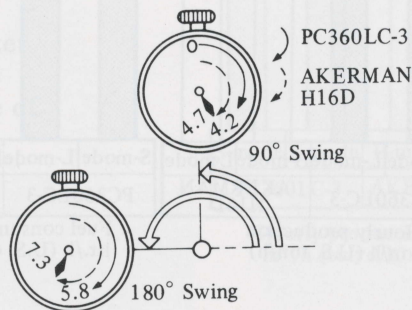


The PC360LC-3, with its larger flywheel horsepower, is superior to the AKERMAN H16D in both its swing force and swing speed. Therefore, the PC360LC-3 achieves speedy operations with good performance on slopes.

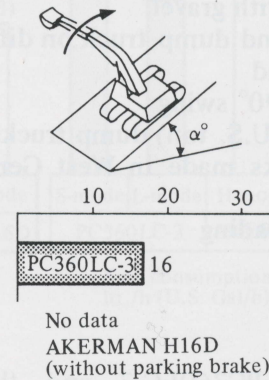
① Stationary swing speed (rpm)



② Acceleration for swing (sec)

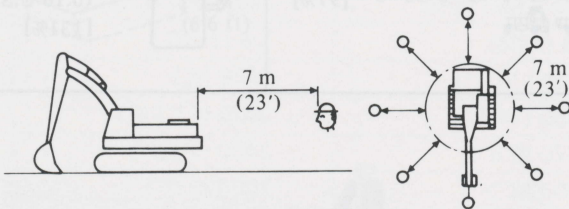


③ Swing gradeability (°)



Noise

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



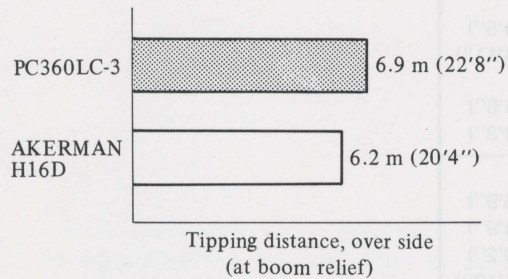
Noise level at 7 m (23') from machine surface

KOMATSU PC360LC-3	77
AKERMAN H16D	79
Engine high idling	

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 [Lifting weight : 7800 kg (17200 lb)]



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

Item	Model	PC360LC-3	AKERMAN H16D
1. OPERATING WEIGHT*	kg (lb)	15700 (34500)	15000 (33000)
2. FLYWHEEL HORSEPOWER	hp (kW)	115 (84)	110 (80)
3. BUCKET CAPACITY	m³ (cu yd)	0.9 (1.2)	0.8 (1.1)
4. WORKING RANGE	(mm)	10500 (345')	10000 (328')
5. DIMENSIONS			
Overall length	mm (ft/in)	10810 (35'5")	11300 (37'1")
Overall height	mm (ft/in)	3235 (10'7")	3250 (10'8")
Overall width	mm (ft/in)	3550 (11'8")	3100 (10'2")
Length of track on ground	mm (ft/in)	4450 (14'7")	3650 (11'10")
Track gauge	mm (ft/in)	3870 (12'8")	3400 (11'2")
Turn swing radius	mm (ft/in)	3250 (10'8")	3650 (11'10")
Ground clearance	mm (ft/in)	440 (14")	450 (15")
6. PERFORMANCE			
Swing speed	°/min	8.4	8.3
Max. travel speed	km/h (mph)	2.3 (1.4)	2.2 (1.3)
Gradability	% (degrees)	70 (38)	70 (38)
Max. crowd force (arm)	kg (lb)	13000 (28680)	12500 (27500)
Max. digging force (bucket)	kg (lb)	17200 (37900)	20800 (45800)
7. ENGINE			
Model		KOMATSU	Volvo Penta
Piston displacement	liters (cu in)	11.08 (674)	9.0 (548)
No. of cylinders/cylinders x stroke	mm (in)	6-138 x 150	6-131 x 140
		(4.7" x 5.9")	(4.75" x 5.5")
8. HYDRAULIC SYSTEM			
Hydraulic pump		piston pump	piston pump
Max. oil flow	liters (U.S. Gallons) / min	550 (145)	550 (145)
Max. oil pressure (work equipment)	kg/cm² (PSI)	320 (4550)	280 (370)
9. TRACK SHOE WIDTH	mm (in)	610 (24")	700 (27.5")
10. CAPACITY (Refilled)			
Fuel tank	liters (U.S. Gallons)	570 (150)	770 (203)
Hydraulic tank		220 (58.4)	630 (166)

* 1 : With 710 mm (28") width shoes, the 3.13 m (10'3") arm, and 1.5 m³ (1.98 cu yd) capacity bucket.
 2 : With 700 mm (27.5") width shoes, the 3.75 m (12'4") arm, and 1.45 m³ (1.90 cu yd) capacity bucket.

Comparative specifications (Catalog value)

Item	Maker Model	KOMATSU	AKERMAN
		PC360LC-3	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) Max. digging height Max. dumping height Max. digging reach on ground Max. vertical wall depth Max. digging depth	mm (ft.in)	3130 (10'3") 10310 (33'10") 7260 (23'10") 11100 (36'5") 6060 (19'11") 7160 (23'6")	— 10500 (34'5") 7600 (24'11") — 4700 (15'5") 8600 (28'3")
5. DIMENSIONS Overall length Overall height Overall width Length of track on ground Track gauge Tail swing radius Ground clearance	mm (ft.in)	10810 (35'6") 3235 (10'7") 3580 (11'9") 4450 (14'7") 2870 (9'5") 3225 (10'7") 640 (2'1")	11200 (36'9") 4500 (14'9") 3100 (10'2") 3620 (11'10") 2400 (7'10") 3620 (11'10") 460 (1'6")
6. PERFORMANCE Swing speed Max. travel speed Gradeability Max. crowd force (arm) Max. digging force (bucket)	RPM km/h (MPH) % (degree) kg (lb) kg (lb)	9.4 2.3 (1.4) 70 (35) 13000 (28,660) 17200 (37,920)	6.2 3.2 (2.0) — 12200 (27,000) 20590 (45,400)
7. ENGINE Model Piston displacement No. of cylinder-bore x stroke	litr. (cu.in) mm (in)	KOMATSU S6D125 11.05 (674) 6-125 x 150 (4.9" x 5.9")	Volvo Penta TD100G 9.6 (586) 6-121 x 140 (4.75" x 5.51")
8. HYDRAULIC SYSTEM Hydraulic pump Max. oil flow Max. oil pressure (work equipment)	litr. (U.S.Gal)/min kg/cm ² (PSI)	2 x Variable piston pump 556 (147) 320 (4,550)	2 x Variable piston pump 686 (181) 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 Hydraulic tank	litr. (U.S.Gal)	510 (135) 225 (59.4)	770 (203) 530 (140)

AAM-203

*1 : With 710 mm (28") width shoes, the 3.13 m (10'3") arm, and 1.5 m³ (1.96 cu.yd) capacity bucket.

*2 : With 700 mm (27.6") width shoes, the 3.75 m (12'4") arm, and 1.45 m³ (1.90 cu.yd) capacity bucket.

Comparative specifications (Catalog value)

Item	Model	KOMATSU		AKERMAN	
		PC300LC-3		H160	
1. OPERATING WEIGHT*	kg (kN)	35700 (75.700)		35570 (87.200)	
2. FLYWHEEL HORSEPOWER	HP(kW)/RPM	212 (155)/1300		255 (182)/1700	
3. BUCKET CAPACITY RANGE	(SAB) m ³ (cu yd)	0.5 - 1.3 (0.65 - 1.38)		1.15 - 2.4 (1.50 - 3.14)	
4. WORKING RANGE					
Arm length		3130 (10'3")		-	
Max. digging height		10310 (33'10")		10500 (34'5")	
Max. dumping height	mm (ft.in)	7290 (23'10")		7600 (24'11")	
Max. digging reach on ground		11100 (36'5")		-	
Max. vertical wall depth		6050 (19'11")		6700 (21'9")	
Max. digging depth		7160 (23'6")		5800 (19'0")	
5. DIMENSIONS					
Overall length		10810 (35'6")		11200 (36'9")	
Overall height		4250 (13'9")		4250 (13'9")	
Overall width		2500 (8'1")		2500 (8'1")	
Length of track		7100 (23'3")		7100 (23'3")	
Track gauge		2000 (6'7")		2000 (6'7")	
Tail swing radius		5000 (16'4")		5000 (16'4")	
Ground clearance		400 (1'3")		400 (1'3")	
6. PERFORMANCE					
Swing speed		1.0 (1.0)		1.0 (1.0)	
Max. travel speed		1.0 (1.0)		1.0 (1.0)	
Gradeability		30%		30%	
Max. climb for		30%		30%	
Max. digging force		21200 (47500 lbf)		21200 (47500 lbf)	
7. ENGINE					
Model		D6B500E		D6B500E	
Piston displacement		21200 (1300 cu in)		21200 (1300 cu in)	
No. of cylinders		6		6	
8. HYDRAULIC					
Hydraulic pump		AAH-303		AAH-303	
Max. oil flow		320 (4.500)		320 (4.500)	
Max. oil pressure	kg/cm ² (PSI)	320 (4.500)		320 (4.500)	
Work equipment		320 (4.500)		320 (4.500)	
9. TRACK SHOE WIDTH					
		510 (24")		700 (27.5")	
		710 (28")		710 (28")	
	mm (in)	700 (28")		710 (28")	
		810 (32")		810 (32")	
		910 (36")		910 (36")	
10. CAPACITY (Rated)					
Fuel tank	lit. (U.S. Gall)	510 (135)		770 (203)	
Hydraulic tank		225 (59.4)		530 (140)	

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Standard and optional equipment may vary depending on regional requirement.

*1 : With 710 mm (28") width shoes, the 3.13 m (10'3") arm, and 1.5 m³ (1.98 cu yd) capacity bucket.

*2 : With 700 mm (27.5") width shoes, the 2.75 m (9'1") arm, and 1.45 m³ (1.90 cu yd) capacity bucket.