SEBM01970207

SHOP MANUAL

KOMATSU®

D375A-2

MACHINE MODEL	SERIAL NUMBER
D375A-2	**16001 and up**

- This shop manual may contain attachments and optional equipment that are not available in your area. Please consult your local Komatsu distributor for those items you may require. Materials and specifications are subject to change without notice.

- D375A-2 mounts the SA6D170-1 engine.
  For details of the engine, see the 6D170-1 Series Engine Shop Manual.

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WEIGHT TABLE

⚠ This weight table is a guide for use when transporting or handling components.

Unit: kg

Machine model	D375A-2	
Serial No.	16001 – 16304	16305 and up
Engine and damper assembly	2920	2935
• Engine assembly	2660	2660
• Damper assembly	150	165
• Engine mounting parts	110	110
Radiator assembly	365	365
Oil cooler assembly	100	100
Fuel tank assembly (Full)	480 (1370)	480 (1370)
Power train unit		
• Torque converter and PTO assembly	795	795
• Transmission assembly	990	990
• Transmission control valve assembly	80	80
• Steering clutch and brake assembly	1685	1685
• Steering control valve assembly	60	60
Final drive assembly (each side)	2515	2515
Main frame assembly	5170	5170
Track group	6150	6150
• Track frame		
• Idler assembly	460	460
• Track roller assembly (single) (each)	130	130
• Track roller assembly (double) (each)	150	150
• Carrier roller assembly (each)	70	70
Track shoe assembly (width 610 mm)	8400	8400
Pivot shaft (each side)	210	210
Equalizer bar	550	550
Hydraulic tank assembly	360	360
• Blade lift control valve assembly	56	56
• Blade tilt and ripper low valve assembly	47	47

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Unit: kg

Machine model	D375A-2
Serial No.	16001 and up
Blade lift cylinder assembly	260
Blade tilt cylinder assembly	290
Semi-U dozer assembly	9470
• Blade	4555
• L.H. straight frame	1105
• R.H. straight frame	1115
• Tilt cylinder assembly	290
Variable multiple shank ripper assembly	6280
• Shank assembly (each)	470
• Lift cylinder assembly	345
• Tilt cylinder assembly	265
Variable giant ripper assembly	5010
• Shank assembly	650
• Lift cylinder assembly	345
• Tilt cylinder assembly	265
Radiator guard assembly (with cylinder yoke)	1700
• Radiator guard	950
• Blade lift cylinder assembly (each side)	260
Front guard (with grille)	400
Engine under guard	285
Power train under guard (front)	275
Power train under guard (rear)	250
Engine hood	75
L.H. fender	330
R.H. fender	360
ROPS mount assembly	1535
ROPS assembly	650
Floor frame assembly	450
Cab assembly	450
Operator's seat assembly	70

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TABLE OF FUEL, COOLANT AND LUBRICANTS

D375A-2 16001 — 16304

RESERVOIR	KIND OF FLUID	AMBIENT TEMPERATURE (-22 -4 14 32 50 68 86 104°F / -30 -20 -10 0 10 20 30 40°C)	CAPACITY (ℓ) Specified	CAPACITY (ℓ) Relief
Engine oil pan	Engine oil	SAE 30; SAE 10W; SAE 10W-30; SAE 15W-40	58	51
Power train oil pan (Incl. torque converter, transmission and bevel gear case)	Engine oil	SAE 30; SAE 10W	250	150
Final drive case (each)	Engine oil	SAE 30	65	65
Pivot shaft case (each)	Engine oil	SAE 30	16	16
Hydraulic tank	Engine oil	SAE 10W; SAE 10W-30; SAE 15W-40	270	120
Idler (each)	Gear oil	GO 140	1.45 — 1.70	1.45 — 1.70
Track roller (each)	Gear oil	GO 140	1.40 — 1.50	1.40 — 1.50
Carrier roller (each)	Gear oil	GO 140	0.70 — 0.80	0.70 — 0.80
Fuel tank	Diesel fuel	ASTM D975 No. 2; *	1050	—
Cooling system	Coolant	Add antifreeze	165	—

* ASTM D975 No. 1

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NOTE:

(1) When fuel sulphur content is less than 0.5 %, change oil in the oil pan every periodic maintenance hours described in this manual.
Change oil according to the following table if fuel sulphur content is above 0.5 %.

Fuel sulphur content	Change interval of oil in engine oil pan
0.5 to 1.0 %	1/2 of regular interval
Above 1.0 %	1/4 of regular interval

(2) When starting the engine in an atmospheric temperature of lower than 0°C, be sure to use engine oil of SAE10W, SAE10W-30 and SAE15W-40 even though an atmospheric temperature goes up to 10°C more or less in the day time.

(3) Use API classification CD as engine oil and if API classification CC, reduce the engine oil change interval to half.

ASTM: American Society of Testing and Material
SAE: Society of Automotive Engineers
API: American Petroleum Institute

Specified capacity: Total amount of oil including oil for components and oil in piping.
Refill capacity: Amount of oil needed to refill system during normal inspection and maintenance.

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TABLE OF FAILURE MODES AND CAUSES (ELECTRICAL, HYDRAULIC, MECHANICAL SYSTEM)

Parts causing problem / Failure mode

No.	Failure mode	Electrical system																			
												Torque converter						Pin puller		Light	
		Wiring harness	Coolant temperature sensor	Oil temperature sensor	Heater relay	Preheating relay	Monitor, supplementary controller	Panel switch	Alternator electrical system	Timer (preheat)	APS glow plug	Rotation sensor	Transmission oil pressure sensor	Lock-up controller	Lock-up solenoid	Lock-up selector switch	Torque converter oil temperature sensor	Pin puller solenoid	Selector switch	Head Rear Lump	Work Lump
1	Brakes do not work																				
2	Machine does not turn (can travel in straight line)																				
3	Overruns when turning																				
4	Shift is slow																				
5	Machine moves in only one direction (forward or reverse)																				
6	Machine does not move (2nd, 3rd, engine is rotating)																				
7	Machine does not start moving at any speed range																				
8	Torque converter becomes hot (overheating of power train)																○				
9	Can turn in only one direction (when lever is operated)																				
10	Abnormal noise heard from around hydraulic pump																				
11	Blade RAISE speed is slow, or lacks power																				
12	Ripper RAISE speed is slow																				
13	Excessive hydraulic drift of blade																				
14	Excessive hydraulic drift of ripper																				
15	Torque converter lock-up does not work											○	○	○	○	○					
16	Abnormality in torque converter lock-up display													○	○						
17	Torque converter lock-up fuse 8 is blown													○							
18	Pin puller cylinder does not work																	○	○		
19	Preheating fuse 11 is blown	○				○					○										
20	Defective operation of APS	○	○		○	○				○											
21	Even when light switch is turned ON, lamps do not light up	○						○												○	○
22	Even when light switch is turned OFF, lamps do not go out	○						○												○	○
23	Panel switch does not work (Abnormality in panel switch power source)	○					○	○	○												

No.	Failure mode	Hydraulic system																		
				Power train									Work equipment							
		Power train pump	Power train oil level	Clutch valve	Brake valve	Main relief valve	Transmission valve	Torque converter valve	Hydraulic pump	Hydraulic tank oil level	Strainer	Hydraulic cylinder	Hydraulic control valve	Main relief valve	Ripper Hi valve	Ripper Lo valve	Control valve			
1	Brakes do not work		○	○	○															
2	Machine does not turn (can travel in straight line)		○	○	○															
3	Overruns when turning			○	○															
4	Shift is slow	○				○	○													
5	Machine moves in only one direction (forward or reverse)						○													
6	Machine does not move (2nd, 3rd, engine is rotating)	○		○		○	○													
7	Machine does not start moving at any speed range	○	○	○		○	○													
8	Torque converter becomes hot (overheating of power train)	○	○			○														
9	Can turn in only one direction (when lever is operated)			○	○															
10	Abnormal noise heard from around hydraulic pump								○	○	○									
11	Blade RAISE speed is slow, or lacks power								○	○		○	○	○						
12	Ripper RAISE speed is slow									○		○			○	○	○			
13	Excessive hydraulic drift of blade											○	○							
14	Excessive hydraulic drift of ripper											○			○	○				
15	Torque converter lock-up does not work	○				○		○												
16	Abnormality in torque converter lock-up display	○				○		○												
17	Torque converter lock-up fuse 8 is blown																			
18	Pin puller cylinder does not work																			
19	Preheating fuse 11 is blown																			
20	Defective operation of APS																			
21	Even when light switch is turned ON, lamps do not light up																			
22	Even when light switch is turned OFF, lamps do not go out																			
23	Panel switch does not work (Abnormality in panel switch power source)																			

No.	Failure mode	Mechanical system															Troubleshooting	
		Linkage	Steering clutch (disc, plate, etc.)	Brake clutch (disc, plate, etc.)	Internal parts of transmission	Internal parts of torque converter	Bevel gear shaft (bevel, transfer)	Final drive	Engine	Radiator core	Fan belt, pulley	Coolant level	Fuel system	Cooling system	Looseness of pipe clamps, air in oil, oil leakage	Torque converter lock-up clutch		
1	Brakes do not work	○	○	○														H-1
2	Machine does not turn (can travel in straight line)	○	○	○														H-2
3	Overruns when turning	○	○															H-3
4	Shift is slow	○																H-4
5	Machine moves in only one direction (forward or reverse)				○													H-5
6	Machine does not move (2nd, 3rd, engine is rotating)	○	○	○	○	○	○	○										H-6
7	Machine does not start moving at any speed range	○			○	○												H-7
8	Torque converter becomes hot (overheating of power train)		○	○	○	○			○	○	○	○		○				H-8
9	Can turn in only one direction (when lever is operated)	○		○														H-9
10	Abnormal noise heard from around hydraulic pump														○			H-10
11	Blade RAISE speed is slow, or lacks power	○													○			H-11
12	Ripper RAISE speed is slow	○													○			H-12
13	Excessive hydraulic drift of blade														○			H-13
14	Excessive hydraulic drift of ripper														○			H-14
15	Torque converter lock-up does not work					○										○	E-1	H-15
16	Abnormality in torque converter lock-up display					○										○	E-2	
17	Torque converter lock-up fuse 8 is blown																E-3	
18	Pin puller cylinder does not work																E-4	H-16
19	Preheating fuse 11 is blown																E-5	
20	Defective operation of APS																E-6	
21	Even when light switch is turned ON, lamps do not light up																E-7	
22	Even when light switch is turned OFF, lamps do not go out																E-8	
23	Panel switch does not work (Abnormality in panel switch power source)																E-9	

Troubleshooting:

For abnormalities in electrical system, go to Troubleshooting (YES/NO) Table E-△○

For abnormalities in hydraulic system or mechanical system, go to Troubleshooting (YES/NO) Table H-△○

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