SEBM0114C04

SHOP MANUAL

KOMATSU®

D31A,E-17
D31P,PL,PLL-17
D31P-17A,B

MACHINE MODEL	SERIAL No.
D31A-17	32001 and up
D31E-17	32001 and up
D31P-17	32001 and up
D31PL-17	32001 and up
D31PLL-17	32001 and up
D31P-17A	32001 and up
D31P-17B	32001 and up

08-86(01)08241

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CONTENTS

No. of page

10 ENGINE

11 STRUCTURE AND FUNCTION 11-1
12 TESTING AND ADJUSTING 12-1
13 DISASSEMBLY AND ASSEMBLY 13-1

20 POWER TRAIN

21 STRUCTURE AND FUNCTION 21-1
22 TESTING AND ADJUSTING 22-1
23 DISASSEMBLY AND ASSEMBLY 23-1
24 MAINTENANCE STANDARD 24-1

30 UNDERCARRIAGE

31 STRUCTURE AND FUNCTION 31-1
33 DISASSEMBLY AND ASSEMBLY 33-1
34 MAINTENANCE STANDARD 34-1

60 HYDRAULIC SYSTEM

61 STRUCTURE AND FUNCTION 61-1
62 TESTING AND ADJUSTING 62-1
63 DISASSEMBLY AND ASSEMBLY 63-1
64 MAINTENANCE STANDARD 64-1

70 WORK EQUIPMENT

71 STRUCTURE AND FUNCTION 71-1
73 DISASSEMBLY AND ASSEMBLY 73-1
74 MAINTENANCE STANDARD 74-1

90 ELECTRICAL SYSTEM

91 STRUCTURE AND FUNCTION 91-1

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The affected pages are indicated by the use of the following marks. It is requested that necessary actions be taken to these pages according to the table below.

Mark	Indication	Action required
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LIST OF REVISED PAGES

Mark	Page	Time of revision	Mark	Page	Time of revision	Mark	Page	Time of revision	Mark	Page	Time of revision	Mark	Page	Time of revision
●	00- 1	④		12- 4	③		13-25	①		13-53	①		21-23	
	00- 2	③		12- 5	③		13-26	①		13-54	①		21-24	②
●	00- 2-1	④		12- 6	③		13-27	①		13-55	①		21-25	
●	00- 2-2	④		12- 7	③		13-28	①		13-56	①		21-26	
●	00- 2-3	④					13-29	①		13-57	①		21-27	
	00- 3						13-30	①		13-58	①		21-28	
	00- 4			13- 1	③		13-31	①					21-29	
	00- 5			13- 4	①		13-32	①					21-30	
	00- 6			13- 5	①		13-33	①		21- 1	③		21-31	
	00- 7			13- 6	①		13-34	①		21- 4			21-32	
	00- 8			13- 7	①		13-35	①		21- 5			21-33	
	00- 9			13- 8	①		13-36	①		21- 6			21-34	
	00-10			13- 9	①		13-37	①		21- 7			21-35	
	00-11	③		13-10	①		13-38	①		21- 8			21-36	
	00-12	③		13-11	①		13-39	①		21- 9			21-37	
				13-12	①		13-40	①		21-10			21-38	
				13-13	①		13-41	①		21-11			21-39	
	11- 1	③		13-14	①		13-42	①		21-12			21-40	
	11- 4			13-15	①		13-43	①		21-13			21-41	
	11- 5			13-16	①		13-44	①		21-14			21-42	
	11- 6			13-17	①		13-45	①		21-15			21-43	
	11- 7			13-18	①		13-46	①		21-16			21-44	
	11- 8			13-19	①		13-47	①		21-17			21-45	②
				13-20	①		13-48	①		21-18			21-46	
				13-21	①		13-49	①		21-19			21-47	
	12- 1	③		13-22	①		13-50	①		21-20			21-48	③
	12- 2	③		13-23	①		13-51	①		21-21			21-49	③
	12- 3	③		13-24	①		13-52	①		21-22				

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Mark	Page	Time of revision	Mark	Page	Time of revision	Mark	Page	Time of revision	Mark	Page	Time of revision	Mark	Page	Time of revision
	22- 1	③		23-25	①		23-65	①		24-14			34-14	③
	22- 2	③		23-26	①		23-66	①		24-15			34-15	③
	22- 3	③		23-27	①		23-67	①		24-16			34-16	
	22- 4	③		23-28	①		23-68	①					34-17	
	22- 5	③		23-29	①		23-69	①						
	22- 6	③		23-30	①		23-70	①		31- 1	③			
	22- 7	③		23-31	①		23-71	①		31- 4	③		61- 1	③
	22- 8	③		23-32	①		23-72	①		31- 5	③		61- 4	③
	22- 9	③		23-33	①		23-73	①		31- 6			61- 5	
	22-10	③		23-34	①		23-74	①		31- 7			61- 6	①
	22-11	③		23-35	①		23-75	①		31- 8			61- 7	
	22-12	③		23-36	①		23-76	①		31- 9			61- 8	
	22-13	③		23-37	①		23-77	①		31-10	③		61- 9	
	22-14	③		23-38	①		23-78	①		31-11			61-10	
	22-15	③		23-39	①		23-79	①		31-12	③		61-12	③
	22-16	③		23-40	①		23-80	①		31-13	③		61-13	
				23-41	①		23-81	①		31-14			61-14	③
				23-42	①		23-82	①					61-15	
•	23- 1	④		23-43	①		23-83	②					61-16	
	23- 4	①		23-44	①	•	23-84	④		33- 1	③		61-17	
	23- 5	①		23-45	①		23-85	①		33- 4	①		61-18	
	23- 6	①		23-46	①		23-86	①		33- 5	①		61-19	
	23- 7	①		23-47	①		23-87	①	•	33- 6	④		61-20	
	23- 8	①		23-48	①		23-88	①		33- 7	①		61-21	③
	23- 9	①		23-49	①		23-89	①		33- 8	①		61-22	
	23-10	①		23-50	①	•	23-90	④		33- 9	①		61-23	③
	23-11	①		23-51	①	•	23-91	④	•	33-10	④		61-24	③
	23-12	①		23-52	①								61-25	
	23-13	①		23-53	①								61-26	
	23-14	①		23-54	①		24- 1	③		34- 1	③		61-27	
	23-15	①		23-55	①		24- 4			34- 4				
	23-16	①		23-56	①		24- 5			34- 5				
	23-17	①		23-57	①		24- 6			34- 6			62- 1	③
	23-18	①		23-58	①		24- 7			34- 7			62- 2	③
	23-19	①		23-59	①		24- 8			34- 8			62- 3	①
	23-20	①		23-60	①		24- 9			34- 9			62- 4	③
	23-21	①		23-61	①		24-10			34-10			62- 5	③
	23-22	①		23-62	①		24-11			34-11			62- 7	③
	23-23	①		23-63	①		24-12			34-12			62- 8	③
	23-24	①		23-64	①		24-13			34-13	③		62- 9	③

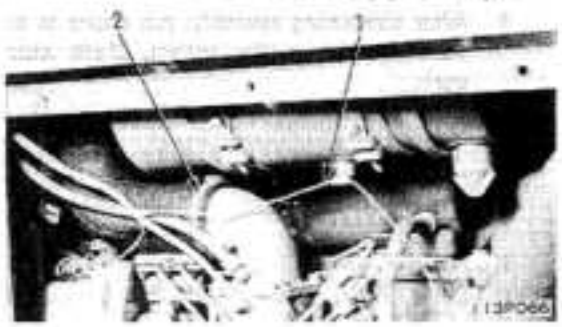
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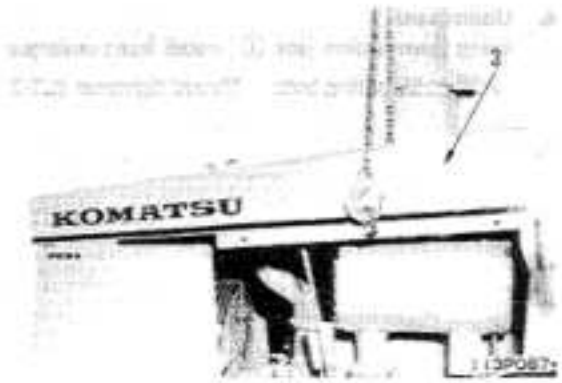
DISMOUNTING NOZZLE HOLDER ASSEMBLY

1. **Engine side cover, hood**
   1) Remove engine side cover.
   2) Remove water temperature gauge wiring (1) from clamp.
   3) Loosen clamp (2) of air cleaner hose.
   4) Using eye bolts (10 mm, P = 1.5), lift off hood assembly (3).

      Hood assembly: 72 kg

2. Remove fuel injection pipe (4).
3. Remove spill tube (5).
4. Remove nozzle holder assembly (6).





MOUNTING NOZZLE HOLDER ASSEMBLY

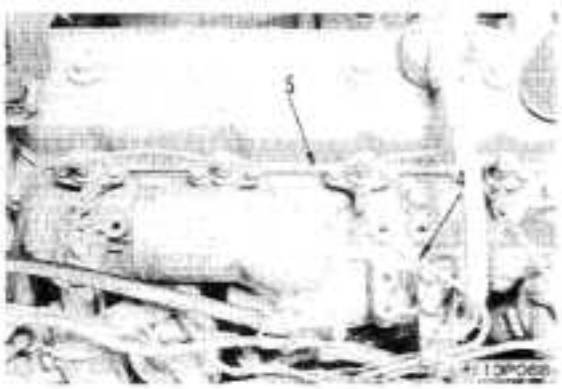
1. Install nozzle holder assembly (6).

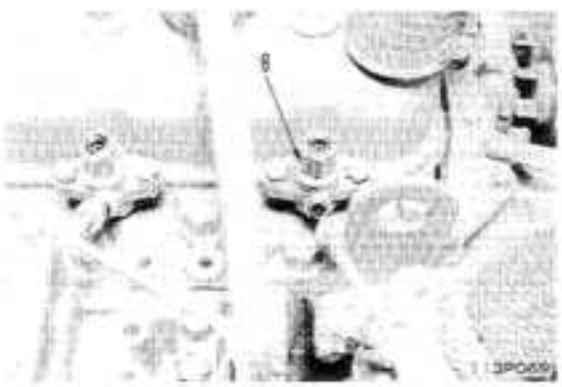
   Mounting bolt: 1.75 ± 0.25 kg.m

2. Fit packings on both mounting surfaces and install spill tube (5).
3. Install fuel injection pipe (4).

   Sleeve nut: 2.25 ± 0.25 kg.m

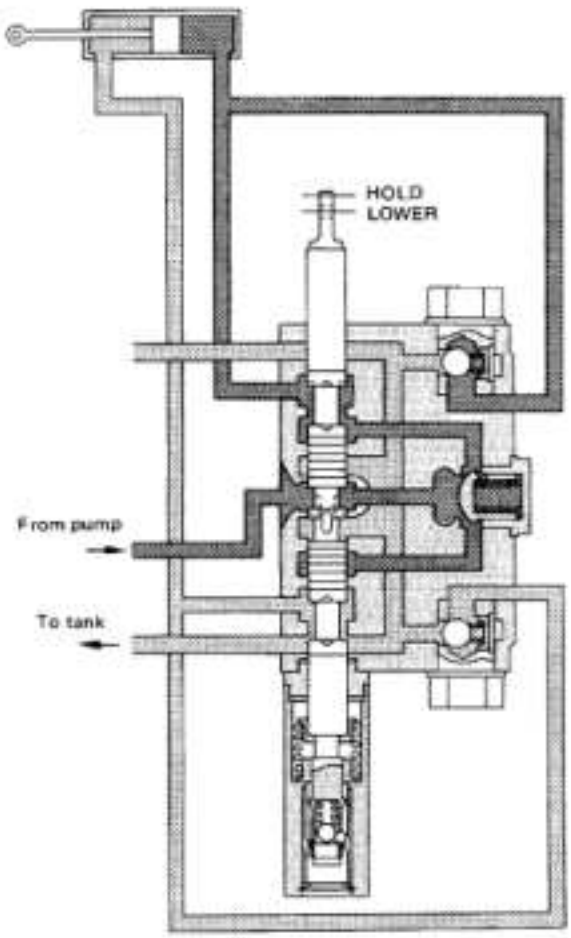
4. **Engine side cover, hood**
   1) Using eye bolts (10 mm, P = 1.5), install hood assembly (3).
   2) Tighten clamp (2) of air cleaner hose.
   3) Secure water temperature gauge wiring (1) with clamp.
   4) Install engine side cover.





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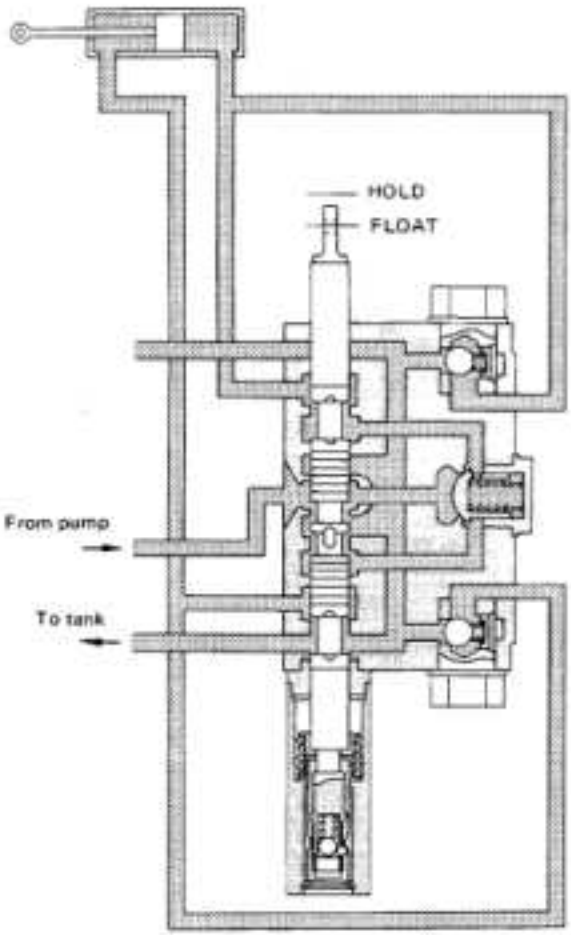
In LOWER position



F120C118

When the valve spool moves to this position, oil from the pump enters the bottom of each cylinder, while oil in the head of the cylinder is directed into the return circuit to the tank.
Since the blade lowers quickly by its own weight, the oil discharge rate of the pump will not be enough to compensate for the vacuum generated in the cylinder bottom. To make up for the lack of oil, oil returning from the cylinder head is squeezed in the suction valve and forced to flow into the cylinder bottom. This is especially effective for minimizing time-lag when lowering the blade stepwise.

In FLOAT position



F120C119

The valve spool moves to the downward stroke end, oil from the pump returns to the tank through the oil filter. The cylinder head is directly connected to the tank, and the cylinder bottom is also connected to the tank through the oil filter. The cylinder piston is to be moved by an external force as oil flows in and out of the cylinder bottom and head freely. At this position of the control lever, the valve spool is locked in place by engagement between the detent in the speed end and the spring-loaded lock ball on the valve body.

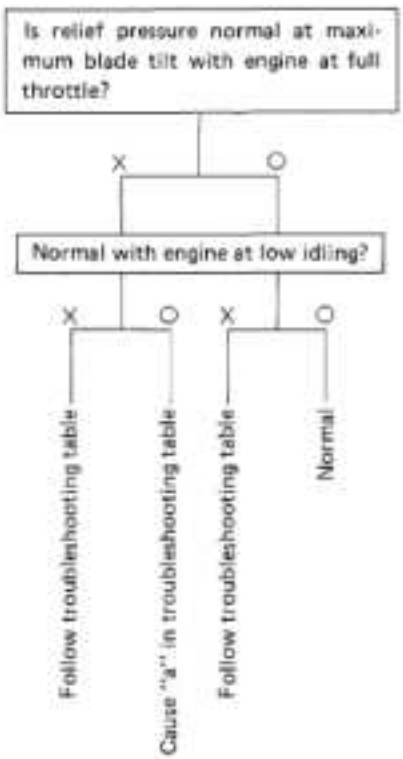
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6. Lack of tilt power or speed, impossible to raise machine with tilt

Checks before troubleshooting

- Is oil level in hydraulic tank correct?
- Is travel of control lever or stroke of spool of control valve correct?

Checking for abnormalities



No.	Problems \ Remedy	Cause: Strainer clogged (a)	Air leaking in at suction side of pump (b)	Pump defective (c)	Oil leaking from piping between pump and control valve (d)	Opening of check valve defective (e)	Drop in set pressure of main relief valve defective (f)	Tilt cylinder piston packing defective (g)
		Tank–Pump				Control valve		Cylinder
		a	b	c	d	e	f	g
		C	Δ X	X	Δ X	Δ X	A C X	X
1	Relief pressure too low at maximum blade tilt with engine at full throttle.	○	○	○		○		
2	Item 1 is normal.							○
3	BLADE RAISE speed irregular with engine at full throttle.	○						
4	Oil comes out when piping to tilt cylinder head is removed.							○
5	Delivery of hydraulic pump too small.	○	○					
6	When control lever is operated, speed is low but pressure in circuit is too high.				○			

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