CEBM007901

Shop Manual

KOMATSU®

HM400-2

ARTICULATED DUMP TRUCK

SERIAL NUMBERS HM400-2 A11001 and up

ENGINE SAA6D140E-5

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Specifications

	Machine model			HM400-2
	Serial Numbers			A11001 and up
Weight	Unloaded		kg (lb)	32,460 (71,561)
	Max. payload		kg (lb)	37,000 (81,571)
	Overall weight		kg (lb)	68,960 (152,031)
	Weight	Unloaded (front wheel)	kg (lb)	17,885 (39,430)
		(center wheel)	kg (lb)	7,401 (16,316)
		(rear wheel)	kg (lb)	7,134 (15,728)
		Fully loaded (front wheel)	kg (lb)	19,929 (43,936)
		(center wheel)	kg (lb)	24,688 (54,428)
		(rear wheel)	kg (lb)	24,412 (53,819)
Performance	Dump body capacity	Struck	m^3 (yd^3)	16.5 (21.6)
		Heaped (2:1)	m^3 (yd^3)	22.3 (29.2)
	Max. travel speed		km/h (mph)	58.6 (36.4)
	Gradeability (tan θ)			0.51
	Min turning radius (front wheel/rear wheel) (S)		mm (ft)	8,712/4,168 (343/164)
	Dumping angle (angle to ground)		deg	70
Dimensions	Overall length (A)		mm (ft)	11,310 (37.1)
	Overall width (B)		mm (ft)	3,450 (11.3)
	Overall height (C)		mm (ft)	3,720 (12.2)
	Body width (D)		mm (ft)	3,450 (11.3)
	Front over bank (E)		mm (ft)	3,170 (10.4)
	Wheelbase (front wheel - center wheel) (F)		mm (ft)	4,350 (14.3)
	Wheelbase (center wheel - rear wheel) (G)		mm (ft)	1,970 (6.5)
	Flexural center - front wheel (H)		mm (ft)	1,350 (4.4)
	Tread (J)	Front tires	mm (ft)	2,690 (8.8)
		Center tires	mm (ft)	2,690 (8.8)
		Rear tires	mm (ft)	2,690 (8.8)
	Entire width of tire (K)	Front wheel	mm (ft)	3,450 (11.3)
		Rear front wheel	mm (ft)	3,450 (11.3)
		Rear rear wheel	mm (ft)	3,450 (11.3)
	Approach angle (L)		deg.	25
	Minimum ground clearance (M)	Front wheel	mm (ft)	670 (2.2)
		Rear front wheel	mm (ft)	625 (2.1)
		Rear rear wheel	mm (ft)	625 (2.1)
	Ground Clearance (N)		mm (ft)	605 (2.0)
	Minimum ground clearance (dump body lower edge) (P)		mm (ft)	720 (2.4)
	Dump body loading height (Q)		mm (ft)	2,790 (9.2)
	Dump body height (unloaded) (R)		mm (ft)	7,130 (23.4)
	Rear axis - dump body rear edge (unloaded) (R2)		mm (ft)	620 (2.0)
	Rear axis - axis pin (R3)		mm (ft)	1,820 (6)
	Cab width (T)		mm (ft)	1,594 (5.2)
	Body length (U)		mm (ft)	5,392 (17.7)

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Failure code [CA731] Phase error in engine Bkup speed sensor

Action code	Failure code	Trouble	Phase error in engine Bkup speed sensor (Engine controller system)
E03	**CA731**		
Contents of trouble	• Engine Bkup sensor circuit detected abnormality in phase.		
Action of controller	• Controls with signal of engine Ne speed sensor.		
Problem that appears on machine	• Engine stops after it has been running (when Bkup speed sensor also has a malfunction). • Engine cannot be started after it has been stopped (when Ne speed sensor also has a malfunction).		
Related information			

Possible causes and standard value in normal state		Cause	Standard value in normal state/Remarks on troubleshooting
	1	Defective engine Ne speed sensor system	Engine Ne speed sensor may be defective. Perform troubleshooting for failure code [**CA689**].
	2	Defective engine Bkup speed sensor system	Engine Bkup speed sensor may be defective. Perform troubleshooting for failure code [**CA778**].

Failure code [CA757] Loss of all data in engine controller

Action code	Failure code	Trouble	Loss of all data in engine controller (Engine controller system)
E03	**CA757**		
Contents of trouble	• All data in engine controller are lost.		
Action of controller	• None in particular.		
Problem that appears on machine	• Engine operates normally but may stop or may not be able to restart.		
Related information			

Possible causes and standard value in normal state	Cause	Standard value in normal state/Remarks on troubleshooting
	Perform troubleshooting for failure code [**CA111**].	

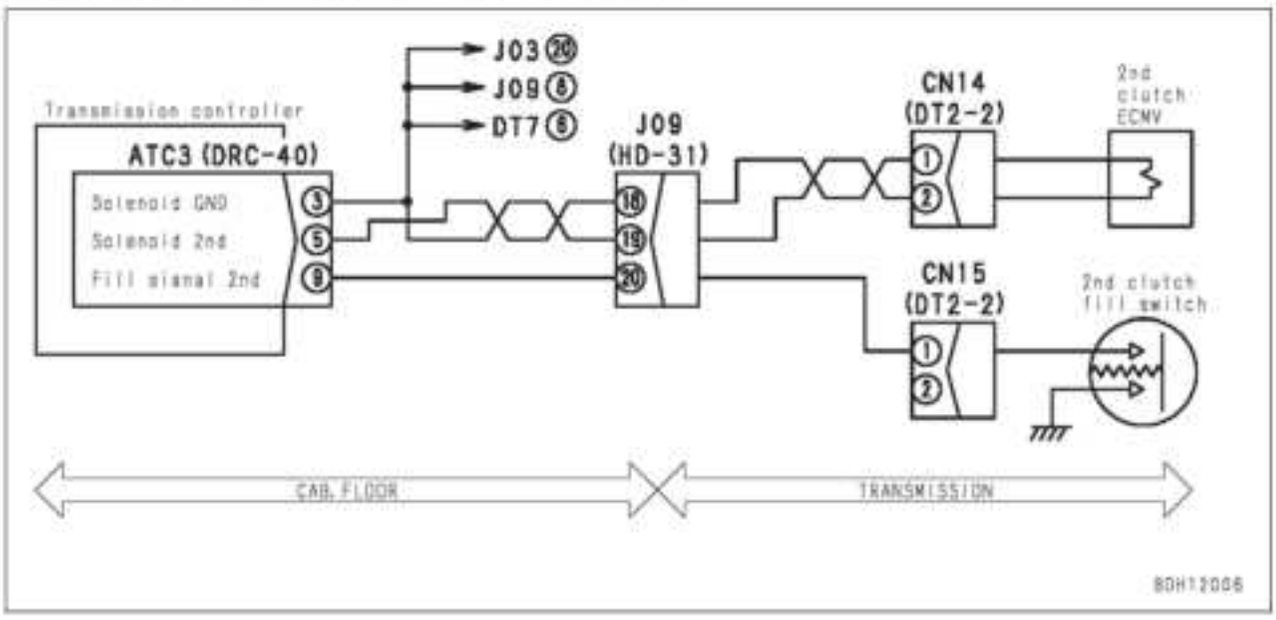
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Failure code [DDTLKA] Trouble in 2nd clutch flow sensor valve

Action code	Failure code	Trouble	Trouble in 2nd clutch flow sensor valve (Transmission controller system)
E03	DDTLKA		
Contents of trouble	• When output to 2nd clutch ECMV solenoid valve is turned ON, clutch is engaged but signal from fill switch is not turned ON.		
Action of controller	• Keeps current gear speed. • If gearshift lever is set in N, gear speed is kept in neutral.		
Problem that appears on machine	• Gear cannot be shifted. • If gearshift lever is set in N, machine cannot restart until it stops. • Machine can travel in gear speeds which use 2nd clutch.		
Related information	• Input of 2nd clutch ECMV fill signal can be checked with monitoring function. (Monitoring code: TRANSMISSION - D-IN--8-----15 - 40906) • When machine is checked for cause 1, its travel speed at F3 gear speed reaches about 16 km/h. Use caution around machine. • Method of reproducing failure code: Start engine + travel at F3.		

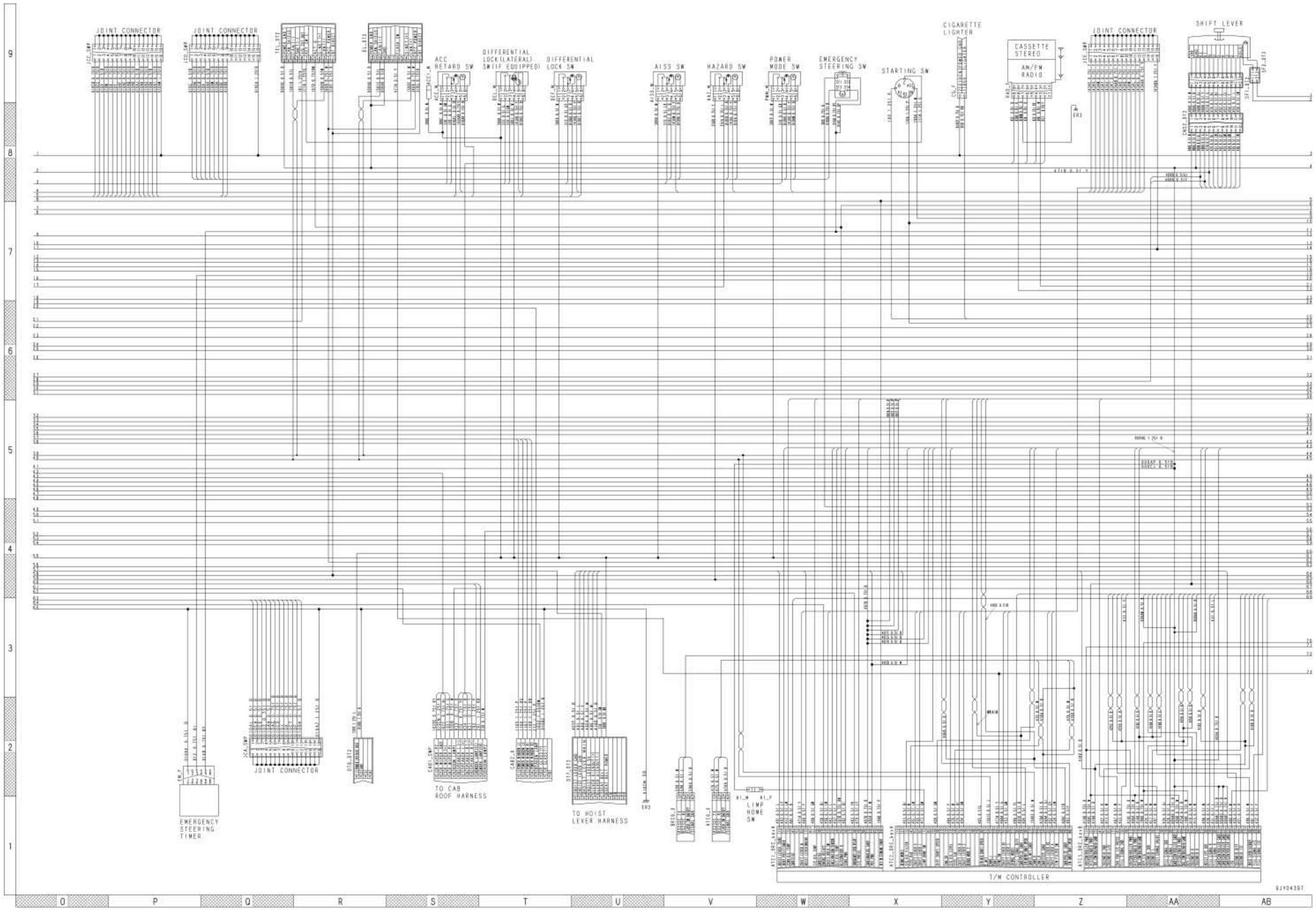
	Cause		Standard value in normal state/Remarks on troubleshooting			
Possible causes and standard value in normal state	1	Defective 2nd clutch ECMV fill switch (Internal defect)	★ Prepare with starting switch OFF, then start engine and perform troubleshooting.			
			CN15 (male)	Gear speed	Resistance	
			Between (1) – chassis ground	N	Min. 1 MΩ	
				F3	Max. 1 Ω	
	2	Disconnection in wiring harness (Disconnection in wiring or defective contact in connector)	★ Prepare with starting switch OFF, then perform troubleshooting without turning starting switch ON.			
			Wiring harness between ATC3 (female) (9) – CN15 (female) (1)		Resistance	Max. 1 Ω
	3	Defective transmission controller	★ Prepare with starting switch OFF, then start engine and perform troubleshooting.			
			ATC3 (female)	Gear speed	Voltage	
			Between (9) – chassis ground	N	20 – 30 V	
				F3	Max. 1 V	

Circuit diagram related to 2nd clutch ECMV fill switch



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Electrical circuit diagram for inside cab (2/4) Serial No.: New Design
HM400-2



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