

FAILURE CODES LIST (1.0 - 2.5 TON MODELS)

Failure code	Contents of trouble	Trouble in vehicle	Reset method	Remarks
01	Travel power mod- ule is shorted (Upper and lower FET's are shorted).	Vehicle cannot travel or handle cargo (MD connector is not closed). (This trouble is also detected when failure code 45 is displayed.)	Turn key switch OFF.	—
03	Main contactor (MD) is shorted or open or its sensor circuit harness is defective.	Vehicle cannot travel or handle cargo.	Turn key switch OFF.	—
05 11	Travel power mod- ules are shorted (Upper and lower modules are shorted separately).	Vehicle cannot travel or handle cargo.	Turn key switch OFF.	Failure code 05: Detected when key switch is turned ON. Failure code 11: Detected after key switch and MD are turned ON.
06 08 09	Travel power mod- ule is open. U-, V-, or W-phase is disconnection.	Vehicle cannot travel or handle cargo.	Turn key switch OFF.	Failure code 06: U-phase is open (disconnected) Failure code 08: V-phase is open (disconnected) Failure code 09: W-phase is open (disconnected)

Failure code	Contents of trouble	Trouble in vehicle	Reset method	Remarks
07	Main contactor (MD) drive Tr is defective (In CPU board: Tr4). Main contactor coil is open. Sensor circuit harness of main contactor coil is defective.	Vehicle cannot travel or handle cargo.	Turn key switch OFF.	—
16	F or R switch is defective.	Vehicle cannot travel.	Reset normally.	Turn F switch and R switch ON simultaneously.
17	Travel accelerator output is defective.	Vehicle can travel at 40% of maximum speed.	Reset normally.	Normal source voltage of accelerator: 5 V (Between CN2-9 and 20) Output voltage of accelerator when abnormality is detected: Max. 0.2 V, Min. 4.8 V (Between CN2-8 and 20)
19	Output or wiring harness of travel current sensor (CSDU, CSDW) is defective.	Vehicle cannot travel.	Turn key switch OFF.	Normal sensor output • During travel: 3.0 V – 11.0 V • When FR switch is in neutral and accelerator is OFF: Approx. 7 V CSDU: Between CN5-4 and 14, 15 CSDW: Between CN5-6 and 16, 17 Normal source voltage of sensor power supply: 15 V Sensor output when abnormality is detected: Max. 1.5 V, Min. 12.5 V
20	Travel main fuse (F1) is broken or its sensor circuit harness is defective.	Vehicle cannot travel (MD contactor is closed).	Turn key switch OFF.	Check voltage on secondary side of fuse (F1).
21	Undervoltage is detected (Battery voltage is lower).	Vehicle cannot travel (MD/MPS connector is not closed). When key switch is turned ON again, vehicle can travel.	Turn key switch OFF.	This trouble is detected when battery voltage is below 28.2 V for 0.8 seconds.
22	Output of travel controller temperature sensor (THD) is defective.	Vehicle can travel normally (assuming temperature is normal).	Reset normally.	Voltage of temperature sensor (THD) when abnormality is detected: Max. 0.2 V, Min. 4.95 V
23	Neutral is detected. * Neutral caused by mistake in operation is not trouble.	Vehicle cannot travel.	Turn accelerator and FR switch OFF.	When both of accelerator and FR switch are turned ON, trouble is reset when either of them is turned OFF.

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24	Travel controller temperature is high. Fan drive system is defective.	Vehicle can travel (Current is limited by temperature rise and output is lowered).	Con- troller is reset when temper- ature lowers below 100°C.	Normal resistance/ voltage of tempera- ture sensor 25°C: 20kz/4.0 V 50°C: 7.2kz/3.0 V 80°C: 2.5kz/1.7 V Tolerance of these values is ± 10%. 1 ton models: 1 fan CN7R-2, 8 2 ton models: 2 fans CN7R-1, 7 added Above 100°C: Current is limited. Above 103°C: Warn- ing is displayed.
25	Travel motor tem- perature rises.	Vehicle can travel (Current is limited by temperature rise and output is lowered).	Travel motor is reset when temper- ature lowers below 160°C.	Normal resistance/ voltage of travel motor temperature sensor 25°C: 10.7kz/3.5 V 50°C: 4.4kz/2.4 V 100°C: 1.0kz/0.9 V 150°C: 0.3kz/0.3 V Tolerance of these values is ± 10%. Above 160°C: Current is limited. Above 163°C: Warn- ing is displayed.
26	Travel controller temperature is ab- normal. Fan drive system is defective.	Vehicle cannot travel.	Con- troller is reset when temper- ature lowers below 115°C.	Normal resistance/ voltage of tempera- ture sensor 25°C: 20kz/4.0 V 50°C: 7.2kz/3.0 V 80°C: 2.5kz/1.7 V Tolerance of these values is ± 10%. 1 ton: 2 fans CN7R-2, 8 2 ton: 3 fans CN7R-1, 7 added Above 115°C: Travel is stopped.
27	Output of travel motor temperature sensor is defec- tive.	Vehicle can travel normally (assuming temperature is nor- mal).	Reset normal- ly.	Voltage of tempera- ture sensor when ab- normality is detected: Max. 0.2 V, Min. 4.95 V
28	Travel motor tem- perature is abnor- mal.	Vehicle cannot travel.	Travel motor is reset when temper- ature lowers below 175°C.	Normal resistance/ voltage of travel motor temperature sensor 25°C: 10.7kz/3.5 V 50°C: 4.4kz/2.4 V 100°C: 1.0kz/0.9 V 150°C: 0.3kz/0.3 V Above 175°C: Travel is stopped.

Failure code	Contents of trouble	Trouble in vehicle	Reset method	Remarks
30	Cargo handling power module (TMPU) is shorted.	Vehicle can handle cargo. (MP contactor is closed.) (This trouble is also detected when failure code 56 is displayed.)	Turn key switch OFF.	-
31	Cargo handling power module (TMP) is open. Upper side of cargo handling power module (TMP) (Between P and OUT) is shorted. Cargo handling motor is shorted or open.	Vehicle cannot handle cargo. (MP contactor is closed.)	Turn key switch OFF.	-
32	Chassis EMG switch is defective or its circuit harness is disconnected.	Vehicle cannot operate work equipment. (MP contactor is not closed.)	Turn EMG switch and key switch OFF.	This trouble occurs only when CN1-24 is disconnected (and does not occur while EMG switch is pressed).
33	Cargo handling main fuse (F2) is broken its sensor circuit harness is defective.	Vehicle cannot handle cargo (MP contactor is closed).	Turn key switch OFF.	Check voltage on secondary side of fuse (F2).
35	Cargo handling lift VR is shorted or open.	Vehicle operates with cargo handling "ON" period ratio at 100%.	Reset normally.	This code is applied to only vehicle equipped with manual valve lift VR. Output of lift VR when abnormality is detected: Max. 0.2 V, Min. 4.8 V (Between CN2-10 and 21)
36	Output of cargo handling controller temperature sensor (THP) is defective.	Vehicle can handle cargo normally (assuming temperature is normal).	Reset normally.	Voltage of temperature sensor when abnormality is detected: Max. 0.2 V, Min. 4.95 V (Between CN7-6 and 12)
41	Output of travel speed sensor A is defective.	Vehicle cannot travel.	Reset normally.	-

Failure code	Contents of trouble	Trouble in vehicle	Reset method	Remarks
42	Output of travel speed sensor B is defective.	Vehicle cannot travel.	Reset normal- ly.	—
45	Capacitor of travel capacitor port (CBD) is charged abnormally.	Vehicle can travel normally. When main contactor (MD) is turned ON, arc is generated. (This trouble is also detect- ed when failure code 01 is displayed.)	Turn key switch OFF.	Note) If this trouble is left as it is, travel contactor (MD) is worn quickly by arcs. Repair it immediately.
50	PS main Tr or its drive circuit harness are defective. EPS board is defective. PS motor is open.	Steering wheel is heavy. ⚠ If short circuit is made, this trouble is detected before MPS contactor is turned ON.	Turn key switch OFF.	—
51	PS contactor (MPS) is shorted or its sensor circuit harness is defec- tive.	Vehicle operates nor- mally. (Error is kept dis- played.)	Turn key switch OFF.	Timing of displaying trouble When key is turned ON and when MPS drive is turned OFF
52	PS main fuse (F3) is open. PS contactor (MPS) is open or its sensor circuit harness is defec- tive.	Steering wheel is heavy. (PS contactor (MPS) is not closed.)	Turn key switch OFF.	—
53	PS contactor (MPS) coil drive Tr or its sensor circuit harness is defec- tive. (In CPU board: Tr5)	Steering wheel is heavy.	Turn key switch OFF.	—

Failure code	Contents of trouble	Trouble in vehicle	Reset method	Remarks
54	Output of PS torque sensor is defective.	Steering wheel is heavy.	Turn key switch OFF.	Output voltage of torque sensor when abnormality is detected: Max. 0.2 V, Min. 4.8 V (Between CN2-6 and CN1-14)
55	Cargo handling controller temperature is high. Fan drive system is defective.	Vehicle can handle cargo ("ON" period ratio is limited by temperature rise).	Controller is reset when temperature lowers below 100°C.	Normal resistance/voltage of temperature sensor 25°C: 20k Ω /4.0 V 50°C: 7.2k Ω /3.0 V 80°C: 2.5k Ω /1.7 V Tolerance of these values is \pm 10%.
56	Capacitor of cargo handling capacitor port (CBP) is charged abnormally.	Vehicle can handle cargo. When main contactor (MD) is turned ON, arc is generated. (This trouble is also detected when failure code 30 is displayed.)	Turn key switch OFF.	Note) If this trouble is left as it is, main contactor (MD) is worn quickly by arcs. Repair it immediately.
60 (※2)	<ul style="list-style-type: none"> Key switch is turned ON while work equipment control lever is not in neutral. (Note) This is not trouble. <ul style="list-style-type: none"> Adjustment of work equipment Pot is abnormal. Work equipment Pot is abnormal. Work equipment Pot circuit harness is defective. 	<ul style="list-style-type: none"> Only related operations are impossible. Error is displayed immediately after key switch is turned ON. 	Turn key switch OFF.	If E87 – E89 are also displayed, check them first. For repair method, see each failure code section.
61 (※2)	<ul style="list-style-type: none"> Adjustment of work equipment Pot is abnormal. <ul style="list-style-type: none"> Work equipment Pot is abnormal. Work equipment Pot circuit harness is defective. 	<ul style="list-style-type: none"> Only related operations are impossible. Error is displayed when lever is operated. 	Turn key switch OFF.	If E87 - E89 and E-60 are also displayed, check them first. For repair method, see each failure code section.

※2. Displayed only proportional solenoid valve spec.

Failure code	Contents of trouble	Trouble in vehicle	Reset method	Remarks
61 (Continued) (※2)	<ul style="list-style-type: none"> Output of lift pressure sensor is abnormal. Lift pressure sensor circuit harness is defective. 	<ul style="list-style-type: none"> Vehicle can do all operations. Response is lowered, however, and hunting prevention function does not work when lift lowers. Automatic lifting and automatic fork leveling (if equipped) cannot be applied. Error is displayed immediately after key switch is turned ON. 	Turn key switch OFF.	(Output voltage of pressure sensor: Out of 0.34 – 4.8 V)
	(If automatic fork leveling device is installed) <ul style="list-style-type: none"> Output of tilting angle sensor is abnormal. Tilting angle sensor circuit harness is defective. 	<ul style="list-style-type: none"> Automatic fork leveling cannot be applied. (Fork can be moved by manual operation.) Error is displayed immediately after key switch is turned ON. 	Set tilt lever in neutral.	(Output voltage of tilting angle sensor: Out of 0.34 – 4.7 V) (Output of sensor does not change during fork leveling operation.)
62 (※2)	<ul style="list-style-type: none"> Proportional valve coil is disconnected. Wiring harness between proportional valve and system controller has trouble of disconnection, leakage, or defective contact. 	<ul style="list-style-type: none"> Only related operations are impossible. Error is displayed when lever is operated. (Pump motor rotates for a moment.) 	Turn key switch OFF.	If E87 – E89, E-60, and E-61 are also displayed, check them first. For repair method, see each failure code section. A1 --- Example: Main transistor of main controller is shorted. A2 --- Example: EMG switch is operated momentarily or pushed halfway.
	<ul style="list-style-type: none"> Relay, fuse, EMG switch, or wiring harness is disconnected. EMG relay in system controller is open. Battery voltage lowers while lever is operated. A 1 <p><u>(Note) This is not trouble in system controller.</u></p> <ul style="list-style-type: none"> EMG switch is operated while lever is operated, then only proportional valve power supply circuit is broken. A 2 <p><u>(Note) This is not trouble in system controller.</u></p>	<ul style="list-style-type: none"> Vehicle cannot operate at all. Error is displayed when lever is operated. (Pump motor rotates for a moment.) 	Turn key switch OFF.	
	<ul style="list-style-type: none"> Proportional valve drive circuit in system controller is open. 	<ul style="list-style-type: none"> Only related operations are impossible. Error is displayed when lever is operated. (Pump motor rotates for a moment.) 		

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Failure code	Contents of trouble	Trouble in vehicle	Reset method	Remarks
62 (Continued) (※2)	<ul style="list-style-type: none"> Proportional valve coil is shorted. 	<ul style="list-style-type: none"> Vehicle cannot operate at all. Error is displayed when lever is operated. (Pump motor rotates for a moment.) 	Turn key switch OFF.	If E87 – E89, E-60, and E-61 are also displayed, check them first. For repair method, see each failure code section. A1 --- Example: Main transistor of main controller is shorted. A2 --- Example: EMG switch is operated momentarily or pushed halfway. (Check output corresponding to input.)
	<ul style="list-style-type: none"> Proportional valve drive circuit in system controller is shorted. 	<ul style="list-style-type: none"> Vehicle cannot operate at all. Error is displayed when lever is operated. (Pump motor rotates for a moment.) 		
64 (※2)	[If automatic fork leveling device is installed] <ul style="list-style-type: none"> Automatic fork leveling device does not reach level position or exceeds level position. (Note) This is not trouble.	<ul style="list-style-type: none"> Automatic fork leveling device does not reach level position or exceeds level position. (* Fork can be tilted manually.) 	Leave lever in neutral.	(Fork is not in level position.)
66 (※2)	[If automatic lifting device is installed] <ul style="list-style-type: none"> Automatic lifting control panel switch is shorted before key switch is turned ON. 	<ul style="list-style-type: none"> Automatic lifting cannot be applied. (* Lift can be raised manually.) Error is displayed immediately after key switch is turned ON. 	Turn key switch OFF.	(when key switch is turned ON, unloading, loading, or number-of-layer setting (1 - 5 layers) switch is turned ON.)
67 (※2)	[If automatic lifting device is installed] <ul style="list-style-type: none"> Automatic lifting encoder power supply in system controller is defective. Battery voltage is low. (Note) This is not trouble in system controller. (Example: Main transistor of main controller is shorted.)	<ul style="list-style-type: none"> Automatic lifting cannot be applied. If this trouble occurs in automatic lifting mode, vehicle stops. (* Lift can be raised manually.) Error is displayed immediately after key switch is turned ON. 	Turn key switch OFF.	(Source voltage: Below 4.77 V)

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Failure code	Contents of trouble	Trouble in vehicle	Reset method	Remarks
67 (Continued) (※2)	[If automatic lifting device is installed] • Lifting encoder is defective. • Lifting encoder circuit is defective.	• Vehicle stops lifting operation, then it cannot start automatic lifting operation any more. (• Lift can be raised manually.)	Turn key switch OFF.	(Note 1) Encoder output pulses of 0 V and 5 V. If it is abnormal, its output only 0 V or 5 V. (Note 2) Check encoder (2) only when it is installed. (Note 3) In specification shown in standard connection diagram, lifting encoder wire is pulled out when lift is raised. In specification where wire is pulled in when lift is raised, A-phases and B-phase are on opposite sides. Accordingly, phases must be confirmed.
	[If automatic lifting device is installed] [When 2 encoders are installed] • 1st and 2nd encoders are connected wrongly (when 2 encoders are installed).	• Vehicle stops lifting operation, then it cannot start automatic lifting operation any more. (• Lift can be raised manually.)		
	[If automatic lifting device is installed] [When 2 encoders are installed] • Lifting (2) reference switch is defective. • Circuit harness of lifting (2) reference switch is defective.	• Vehicle stops lifting operation, then it cannot start automatic lifting operation any more. (• Lift can be raised manually.)	Turn key switch OFF.	If E87 – E89, E60 and E61 are also displayed, check them first. For repair method, see each failure code section. (Pulses are not output from encoder during lifting operation.)
	[If automatic lifting device is installed] • A-phase and B-phase of lifting encoder are connected oppositely.	• Vehicle stops lifting operation, then it cannot start automatic lifting operation any more. (• Lift can be raised manually.)	Turn key switch OFF.	(Operating direction does not conform to output direction of encoder.)
	[If automatic lifting device is installed] • Lifting encoder input circuit in system controller is abnormal.	• Vehicle cannot operate automatic lifting work. • Vehicle stops lifting operation.	Turn key switch OFF.	(Pulses are not output from encoder during lifting operation.)

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Failure code	Contents of trouble	Trouble in vehicle	Reset method	Remarks
68 (※2)	[If automatic lifting device is installed] or [If automatic fork leveling device is installed] • Automatic lifting operation and fork leveling operation are defective.	• Vehicle cannot operate automatic lifting work. • Vehicle cannot operate fork leveling work. (* Fork can be leveled manually.)	Set lever in neutral.	[Fork leveling operation is abnormal] • Operation is in reverse direction. [Automatic lifting operation is abnormal] • Reference switch is not detected or number of layers is not set. • Number of layers is changed during operation or automatic operation is started in manual operation mode. • Operation is in reverse direction or it is performed at short distance.
	[If automatic lifting device is installed] or [If automatic fork leveling device is installed] • Automatic lifting reference switch is defective. • Wiring harness of automatic lifting reference switch is defective.	• Vehicle cannot operate automatic lifting work. (* Fork can be leveled manually.)	Set lever in neutral.	
	[If automatic fork leveling device is installed] • Tilt display switch is shorted. • Tilt display switch harness is shorted.	• Fork cannot be tilted manually.	Set lever in neutral.	
69 (※2)	[If automatic lifting device is installed] • Automatic lifting device does not reach set stop position. <u>(Note) This is not trouble.</u>	• Fork stops before set stop position in automatic lifting mode.	Set lever in neutral.	After fork stops before set stop position, if it is moved to set stop position manually, buzzer sounds.
70 (※2)	[If automatic lifting device is installed] • Automatic lifting device exceeds set stop position. <u>(Note) This is not trouble.</u>	• Fork stops after set stop position in automatic lifting mode.	Set lever in neutral.	After fork stops exceeding set stop position, if it is moved to set stop position manually, buzzer sounds.
87 (※2)	• Sensor power supply in system controller is abnormal. • Battery voltage is low. <u>(Note) This is not trouble in system controller.</u> (Example: Main transistor of main controller is shorted.)	• Vehicle cannot operate at all. Error is displayed immediately after key switch is turned ON.	Turn key switch OFF.	(Source voltage: Below 4.5 V)

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89 (※2)	<ul style="list-style-type: none"> Work equipment switch signal is shorted to GND or it is leaking. Work equipment switch circuit of main controller is abnormal. 	<ul style="list-style-type: none"> Pump motor rotates at low speed. Vehicle cannot operate at all. Error is displayed immediately after key switch is turned ON.	Turn key switch OFF.	(When key switch is turned ON, hydraulic chopper starts without receiving operation input.)
	<ul style="list-style-type: none"> Proportional valve EMG relay in system controller is shorted. 	<ul style="list-style-type: none"> Error is displayed immediately after key switch is turned ON. 	Turn key switch OFF.	(When key switch is turned ON, EMG relay in board is closed.)
95	Multi-controller is defective.	<ul style="list-style-type: none"> Error is displayed immediately after key switch is turned ON. (Vehicle operates normally.) 	Turn battery connector OFF.	—
97	Communication between main controller and multi-controller is abnormal.	Error is displayed when abnormality is detected. <ul style="list-style-type: none"> Main controller cannot be adjusted. It cannot display failure codes. (Vehicle operates normally.) 	Perform automatic resetting normally.	Occasional occurrence of this trouble is caused by defective contact. In this case, connect and disconnect connector.
98 (※2)	Communication between system controller and multi-controller is abnormal.	Error is displayed when abnormality is detected. System controller cannot display failure codes. (Vehicle operates normally.)	Perform automatic resetting normally.	Occasional occurrence of this trouble is caused by defective contact. In this case, connect and disconnect connector.
99	Communication between meter panel and multi-controller is abnormal.	Error is displayed when abnormality is detected. <ul style="list-style-type: none"> Main controller cannot be adjusted. Main controller, system controller, and multi-controller cannot display failure codes. (Vehicle operates normally.) 	Perform automatic resetting normally.	Occasional occurrence of this trouble is caused by defective contact. In this case, connect and disconnect connector.

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