

PARTS & SERVICE NEWS

REF NO. AA03086A

DATE July 7, 2003

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SUBJECT: LOCKUP CLUTCH FAILURE FAULT CODE (b021)

PURPOSE: To announce countermeasures for lockup clutch failure fault code.

APPLICATION: Komatsu HD1500 Dump Truck: A30039 and Up

FAILURE CODE: 13805D

DESCRIPTION: Lockup Clutch Failure or Slipping

Lockup clutch faults may occur on some HD1500 dump trucks. The detection logic for this fault requires that the lockup clutch command is on, the lockup fill signal is on, and the lockup clutch is slipping. When all three of these conditions occur for 0.5 seconds, a (b021) lockup clutch failure fault becomes active, and the transmission fails to neutral.

This fault can also be caused by an open circuit in the transmission harness or connectors. Countermeasures for such continuity problems are explained in Parts & Service News AA02109.

Faults that cannot be attributed to a loss of electrical continuity can be resolved by the installation of a new transmission controller with improved software. The part number of the new controller is (7818-58-1001). Production implementation of the controller has yet to be established.

Prior to this improvement, the lockup clutch input pressure was regulated to a maximum value of 19 Kg/cm² (270 psi). The improved software initially regulates the lockup clutch input pressure to a maximum value of 24 Kg/cm² (340 psi) for one second to ensure complete engagement of the lockup clutch, and then reduces the pressure back to 19 Kg/cm² (270 psi). Refer to Figure 1. In addition, if a (b021) lockup clutch failure fault occurs, the new software causes the transmission to fail to range rather than fail to neutral, and the lockup clutch is released. Failures of clutches other than the lockup clutch will continue to result in the transmission failing to neutral.

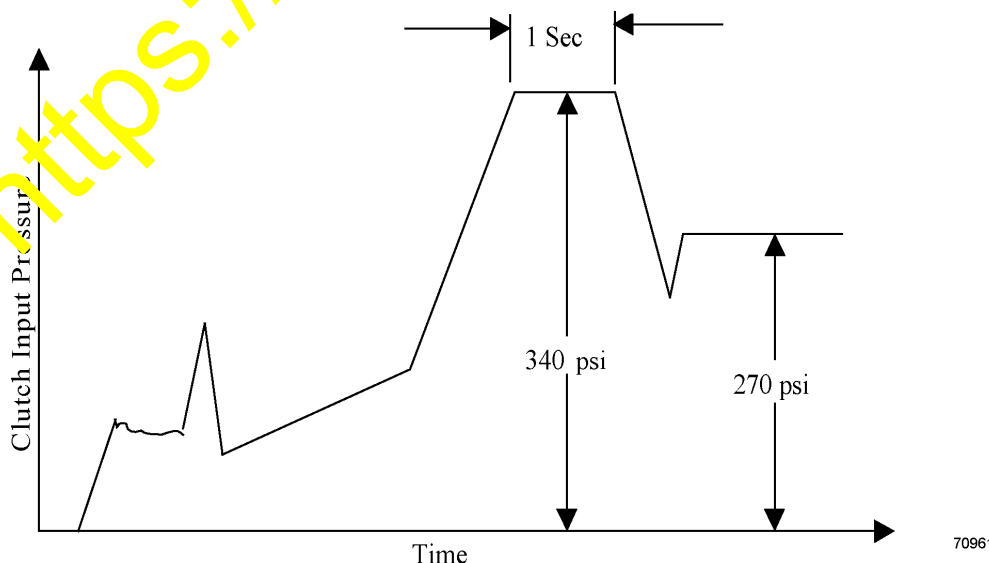


FIGURE 1. REGULATION OF LOCKUP CLUTCH

ROTARY SWITCH SETTINGS

The transmission controller has two 16-position rotary switches in its surface. They inform the controller of the truck model the system is installed on and which controller has to be joined in S-NET.

The Transmission Controller is also informed what model the controller is installed on by a four harness input and can compare these two types of input. If the two inputs do not agree, the transmission controller detects a fault and will not operate properly.

TABLE 1. ROTARY SWITCH SETTINGS			
SWITCH NUMBER	POSITION	FUNCTION SELECTED	
1	D	Truck Model - HD1500-5	
		PMC	Suspension Controller
2	4	Yes	Yes
	5	No	Yes
	6	Yes	No
	7	No	No

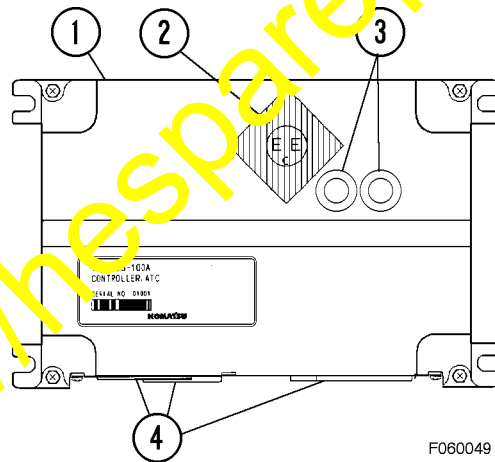


FIGURE 2. TRANSMISSION CONTROLLER

- 1. Transmission Controller
- 2. LED Display
- 3. Rotary Switch Plugs
- 4. Harness Connectors

Note: When changing the the rotary switch settings, turn the key switch off and remove the rubber plugs (3, Figure 2) on the face of the T/M controller. Rotary switch status is monitored by "MOM" or "DAD". If a rotary switch is changed, their status must be confirmed with "MOM" or "DAD".