

PARTS & SERVICE NEWS

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This Parts & Service News supercedes the previous issuance, AA01169, dated August 1, 2001. AA01169 should be discarded.

- SUBJECT:** BRAKE CHAMBER OVER-STROKING DURING INITIAL BRAKE APPLICATION AFTER A COLD START
- PURPOSE:** To introduce to the field Rear Brake Pressure Converter Kit (AK4745) for modification of original brake chamber configuration.
- APPLICATION:** Komatsu Dump Trucks: 330M A10190 thru A10223, A10225 thru A10227; HD785-5LC A10224, A10228 thru A10270
- FAILURE CODE:** 2E40Z9
- DESCRIPTION:** This bulletin outlines conditions for the occurrence of over-stroking, and options for resolving this problem.

Some trucks in operation may experience over-stroking of the rear brake chambers resulting in reduced effort of the rear brakes. This situation may occur during the following conditions:

- initial brake application after start-up
- air temperatures of 4° C (40° F) and below
- the truck has not been in operation for 48 hours or more

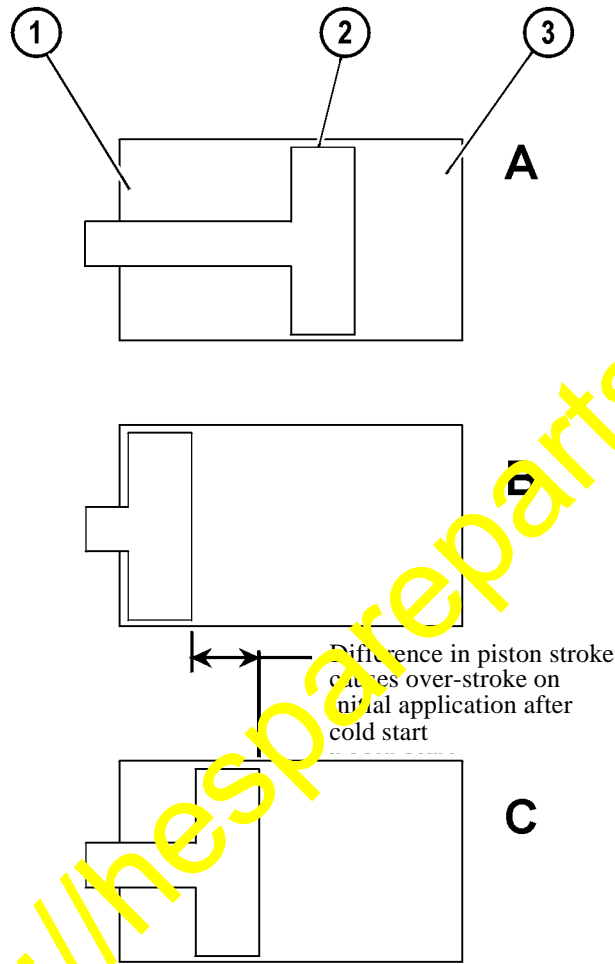
During dormant periods, air pressure in the tanks will gradually be depleted. When the air pressure drops to approximately 3 kg/cm² (45 psi), the rear brakes will apply automatically. This function is a normal safety feature of the truck. After this has occurred, the positioning of the brake piston should be similar to that in view (A, Figure 1).

When the truck is started, the brake cooling oil is pressurized, and the oil pressure in the rear brake housing will return the brake piston to its normal brake "OFF" piston position. Refer to view (C).

At lower temperatures, the cooling oil's increased viscosity will cause higher pressures in the rear axle until the oil has been heated during circulation. During cold start-up, the increased cooling oil pressure will unseat the check valve in the slack adjuster. Refer to Figure 2. This creates a path for oil flow, and enables the brake piston to be pushed away from the friction discs to a position further than its normal position. Refer to view (B, Figure 1). Only at low temperatures does the cooling oil have the viscosity to cause pressures that are able to unseat the check valve.

The first time the rear brakes are activated after start-up, usually by the retarder lever, the rear brakes may experience a temporary loss or reduction in braking effort. This is due to the longer brake piston stroke required to apply the brakes. The oil capacity in the brake chamber is not enough to move the piston through the increased travel that is required to move the brake piston to its normal "APPLY" position, view (A). The rear brake caution lamp in the cab should illuminate after an over-stroke, such as this, occurs. The truck will still have front brakes available as this occurs.

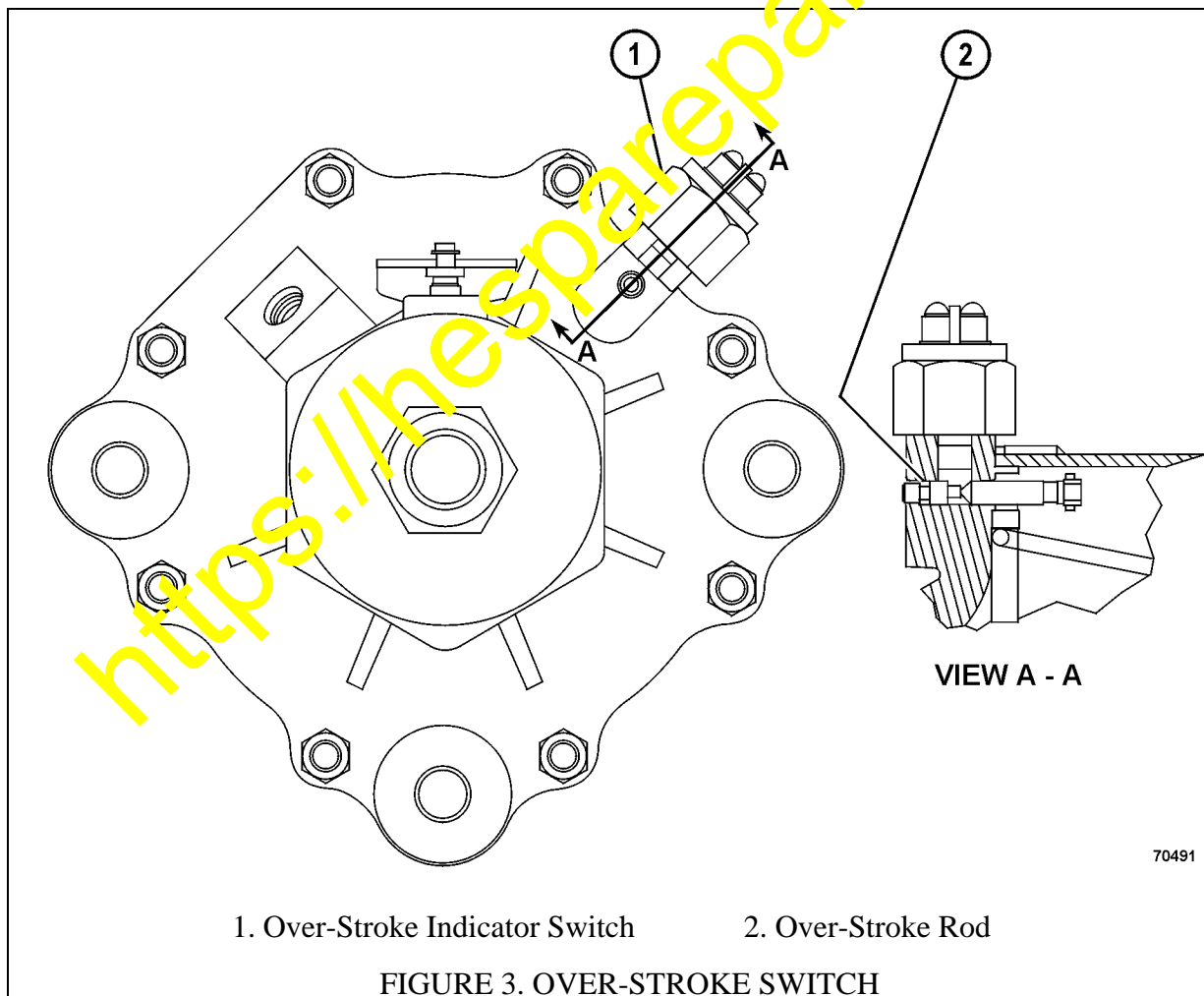
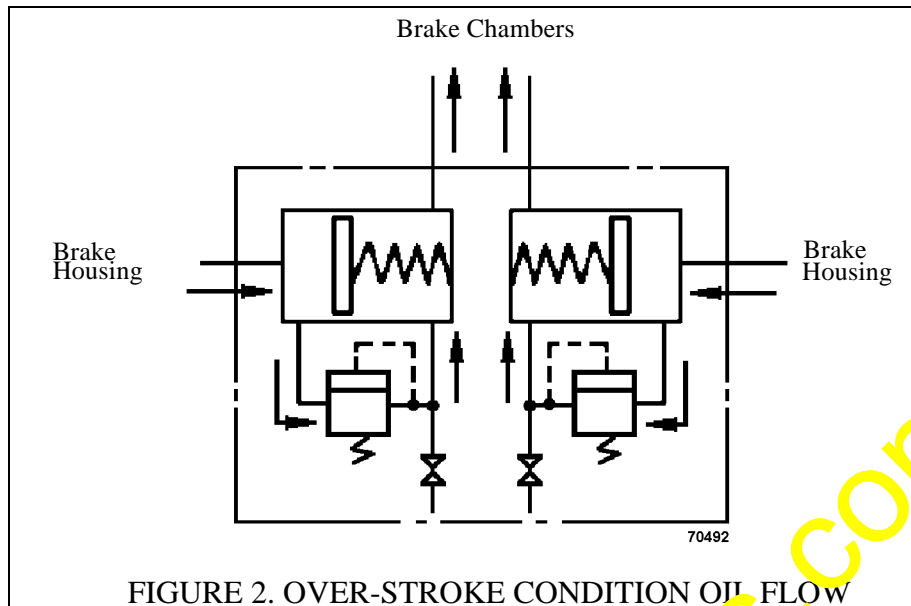
NOTE: *The retarder lever only activates the rear brakes. The foot pedal activates the front brakes as well as the rear brakes.*



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- 1. Slack Adjuster/Brake Chamber Side
- 2. Brake Piston
- 3. Brake Disc Side
- A. After 48 hours truck not in operation / Piston in normal "APPLY" position
- B. Cold start position
- C. Normal brake "RELEASE" position

FIGURE 1. BRAKE PISTON POSITIONING



After this condition occurs, the over-stroke indicator switches need to be reset manually. This is accomplished by going between the rear frame rails and pushing in rods (2, Figure 3) located at the base of over-stroke indicator switches (1). The switches are located near the middle of the brake chamber housings. The rear brakes should function normally and safely after the initial brake system check, and the over-stroke indicator have been reset.

NOTE: As a normal procedure, operators should follow the practice of checking all braking functions before moving the truck as outlined in "AFTER ENGINE HAS STARTED" in the Operation and Maintenance Manual. Performing these checks ensures all brake controls are functioning properly.

If resetting the rods on the brake chambers is not a desirable solution, rear brake pressure converter kit (AK4746) may be installed to eliminate this problem. Prior to the installation of this kit, carefully check the air and brake circuits for any leaks that may contribute to over-stroking. Potential leak paths include, but are not limited to:

- leakage past the piston seal in the brake chamber to the rear brake reservoir
- leakage past the seat of the piston in the brake chamber to the rear brake reservoir
- leakage past the rear brake piston seal

Kit (AK4746) comes with all parts necessary to complete the modification. Instructions for the modification are outlined on drawing (EJ5910), included in the kit. A complete list of the contents of the kit are listed in the table on the following page.



Refer to the shop manual for precautions and guidelines before performing maintenance on air and brake systems.

REAR BRAKE PRESSURE CONVERTER KIT AK4746		
Part Number	Description	Quantity
0101081030	Bolt	8
0164331032	Washer	8
0443453411	Clip	4
0709500524	Cushion	4
5613563240	Tube	3
EJ5909	Plate Str.	2
EJ5910	Drawing, Modification	-
EJ5912	Pressure Converter	2
EJ5913	Wire	1
HA0227	Hose	2
HA0726	Hose	1
HA1238	Hose	1
HA1435	Hose	4
PC1053	Adapter	2
PC1054	Adapter	2
PC1067	Union, Compression	3
PC1070	Capscrew	6
PC1071	Fitting, Straight	4
PC1072	Fitting, 90° Elbow	2
SD1970	Washer, Flat	4
SE0896	Knife Disconnect	4
VC6040	Fitting, Pipe	2
VS1705	Breather	2
WA2226	Fitting, Tube	2
WA3581	Terminal Ring	4
WB0291	Fitting, 90° Elbow	2
WB0505	Fitting, 90° Elbow	2
WB0540	Fitting, 45° Elbow	2