

# PARK / SECONDARY BRAKES TEST: SKID STEER, RUBBER TIRE MACHINES

## Description

This machine is a skid steer machine, and each side of the machine is equipped with a primary brake and a park / secondary brake.

The primary brakes on the machine are the motion control valves (see Figure 1), and they are used for dynamic braking.


The park / secondary brakes are disc brake calipers (see Figure 2) that are spring set, hydraulic release. They are used as for static braking when parking the machine, but if the primary brakes fail, the disc brake calipers can act as a secondary brake and stop a machine in movement.

To release the primary brakes and the park / secondary brakes, the machine is equipped with left-hand and right-hand tram control valve sections. These control valve sections are spring-return, and when the operator releases the tram control valve handles (or tram control buttons if controlled by a transmitter), the spools will shift, hydraulic oil will no longer be routed to the motion control valves and disc brake calipers, and the machine's brakes will automatically set.

This procedure provides a method for testing the park / secondary brakes using the towing / tram free wheeling diversion valves which removes the primary brakes from the system.

If your machine is not equipped with towing / tram free wheeling diversion valves, contact J.H. Fletcher & Co. or your local Fletcher Distributor to receive a quote to install this optional circuit.

## Tools Required

- Chocks, Cribbing, or Blocking
- Select and Use  Before Starting Job

### NOTICE

Perform brake tests as often as the mine requires, anytime there are suspected issues with the brakes, anytime maintenance is performed on the brake circuits / components, and anytime the park / secondary brakes are used to stop the machine (used as a dynamic brake).

### WARNING

#### CRUSH HAZARD

Could result in serious injury or death.

Brakes, and all components in the brake circuit (including the tram control valve sections), must be properly maintained, and only OEM parts may be utilized.

## Procedure

### WARNING

#### CRUSH HAZARD

Could result in serious injury or death.

The park brakes test is performed by removing the primary brakes (the motion control valves) from the system and checking for machine movement. The machine may move, so all personnel (other than the operator) MUST be a safe distance away from the machine before performing the test.

1. Park machine on the maximum grade as listed on the Machine Tag (see Figure 3) or on the maximum grade in which the machine is to be operated (if less than what is listed on tag). Park machine in a safe place away from ribs, other machines, or any other obstacles.
2. Install chocks, cribbing, or blocking approximately six inches (152 millimeters) behind each tire (downhill).

**NOTICE**

Chocks, cribbing, or blocking must be sized properly such that they are capable of stopping the machine should the machine move during testing. The machine’s weight, minus any supplies stacked on the machine, can be found on the Machine Tag (see Figure 3).

3. Inform personnel in the area of your intentions to test the park brakes, and ensure all personnel are a safe distance away from the machine.
4. Locate the towing diversion valves (see Figure 4) on the machine. These diversion valves will either be located in the walkway on the machine or on one of the sides of the machine. For purposes of performing brake tests, these diversion valves must never be located at the rear of the machine. No one should ever stand behind or in front of the machine when performing any brake tests.
5. Actuate both towing diversion valves in the TRAM FREE WHEEL position and watch for machine movement.

**WARNING**

**CRUSH HAZARD**  
 Could result in serious injury or death.  
 Machine movement may occur. If towing diversion valves are located on the side of the machine, ensure feet, hands, body parts, clothing, etc. are clear of the tires before placing the towing diversion valves in the TRAM FREE WHEEL position.

- a) If machine movement is observed, immediately actuate the towing diversion valves in the TRAM position which should

stop the machine. Do NOT operate the machine if movement is observed. If safe to do so (machine has stopped and is not moving), pressurize ATRS, and lower any components that can be used to stabilize the machine (stab jacks, rear lift, front lift, stab feet, etc.) to prevent machine movement. Then, shut down the machine, install chocks/cribbing/blocking next to tires, and contact your supervisor or maintenance personnel to check / repair the machine.

**NOTICE**

For information on Checking and Adjusting the Tram Brake Calipers, see your machine’s Service Manual.

- b) If machine movement is not observed, and the machine has also passed the Primary Brakes Test, the machine may be put back into operation.

**Figure 1 - Primary Brake (Motion Control Valve)**

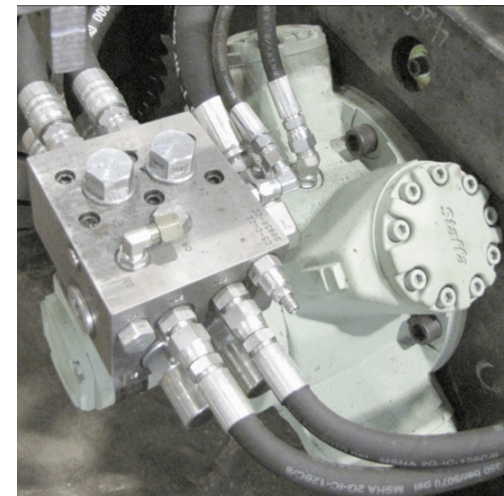


Figure 2 - Park / Secondary Brake (Disc Brake Caliper)

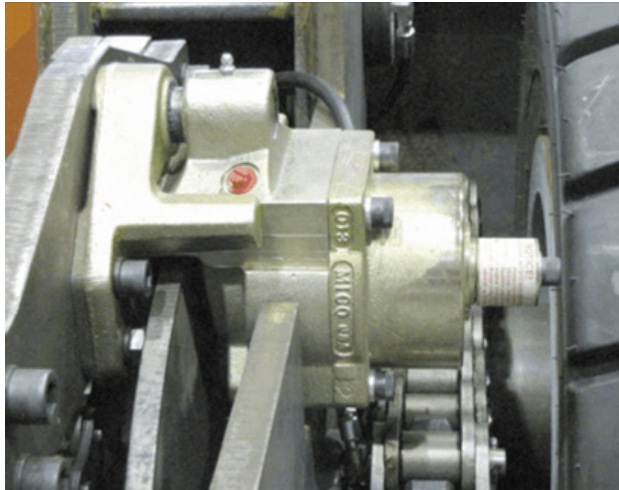


Figure 4 - Towing Diversion Valves

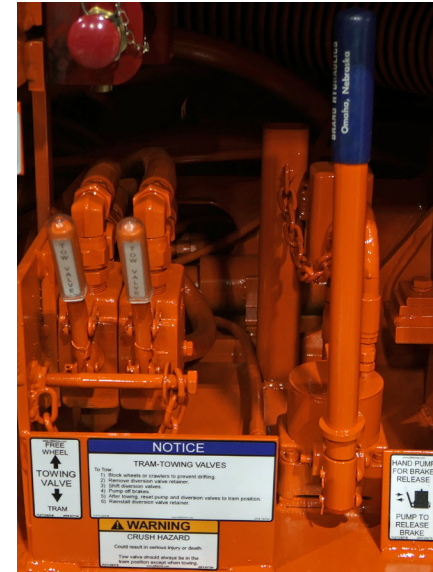



Figure 3 - Machine Tag

<b>J.H. FLETCHER &amp; CO. HUNTINGTON, W.V.</b>		
MACHINE TYPE	DATE	
MODEL	SERIAL NO.	WEIGHT
 <b>WARNING</b>		
<b>MAXIMUM MACHINE OPERATING HEIGHT</b> _____		
<b>MAXIMUM MACHINE OPERATING GRADE</b> _____		
<b>USING THIS MACHINE FOR CONDITIONS EXCEEDING THOSE LISTED ON THIS TAG COULD RESULT IN SERIOUS INJURY OR DEATH. REVIEW YOUR OM, ROOF CONTROL PLANS, AND DISCUSS WITH MINE MANAGEMENT BEFORE PROCEEDING.</b>		
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