

# PRIMARY 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 primary brakes using the brakes release hand pump which removes the parks / secondary brakes from the system.

If your machine is not equipped with the brakes release hand pump, 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

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The primary brakes test is performed by removing the park / secondary brakes (the disc brake calipers) 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 primary brakes, and ensure all personnel are a safe distance away from the machine.
4. Locate the brake release hand pump (see Figure 4) on the machine. The brake release hand pump 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, the brake release hand pump 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. Using the brake release hand pump, release the park / secondary brakes and watch for machine movement.

- a) If machine movement is observed, immediately actuate the pressure release handle on the brake release hand pump to relieve the hydraulic pressure in the park brakes lines which should stop the machine, or actuate the tram control valve handles in the Forward or Reverse direction and then back to Neutral to reset the park brakes. 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.
- b) If machine movement is not observed, repeat steps 1 through 5 with the machine parked on the grade in the opposite direction to test the counterbalance cartridges for the opposite direction. Once the machine has passed the Primary Brakes Test in both directions, and the machine has passed the Park / Secondary Brakes Test, the machine may be put back into operation.

**WARNING****CRUSH HAZARD**

Could result in serious injury or death.

Machine movement may occur. If brake release hand pump is located on the side of the machine, ensure feet, hands, body parts, clothing, etc. are clear of the tires before operating the brake release hand pump.

Figure 1 - Primary Brake (Motion Control Valve)

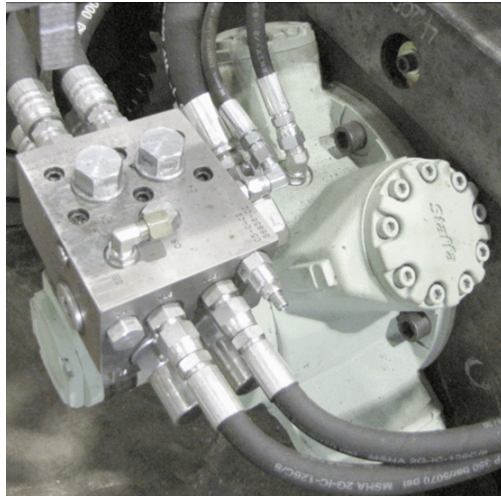


Figure 3 - Machine Tag

J.H. FLETCHER & CO. HUNTINGTON, W.V.		
MACHINE TYPE		DATE
MODEL	SERIAL NO.	WEIGHT
<b>! WARNING</b>		
MAXIMUM MACHINE OPERATING HEIGHT _____		
MAXIMUM MACHINE OPERATING GRADE _____		
<p>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.</p>		
JH FLETCHER & CO. ®		PART NO: 607537

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

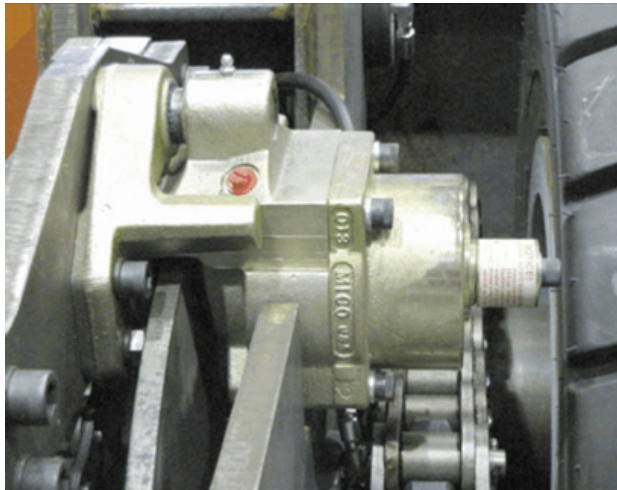


Figure 4 - Towing Diversion Valves

