691 BRAKE LOCK SYSTEM

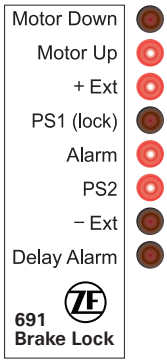
Supplemental Troubleshooting Instructions

NOTE

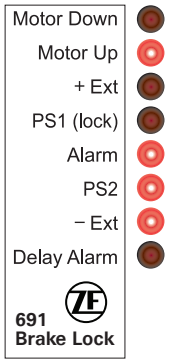
These instructions are intended to aid in the diagnosis of inoperable 691 Power Unit pressure switches.

NORMAL OPERATION

1. While the 691 Brake Lock system is pressurizing the brakes, the audible alarm will sound and the following 691 Control Module LED's illuminate:
   a. Motor Up
   b. + Ext (- Ext if using gray wire remote input)
   c. Alarm
   d. PS2

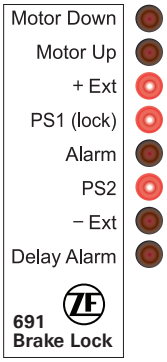


(no gray wire input)

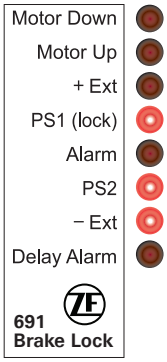


(using gray wire input)

2. When lock pressure is reached, the audible alarm stops and the following 691 Control Module LED's will illuminate:
   a. + Ext (- Ext if using gray wire remote input)
   b. PS1
   c. PS2

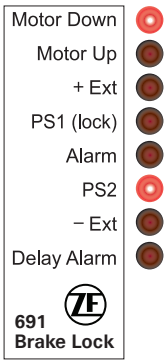


(no gray wire input)



(using gray wire input)

3. When the 691 Brake Lock System is deactivated, the following 691 Control Module LED's will illuminate:
   a. Motor Down
   b. PS2



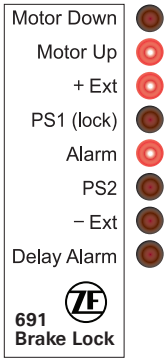
4. When zero pressure is reached the PS2 LED goes off. Three seconds later the Motor Down LED goes off.

INOPERABLE PRESSURE SWITCHES

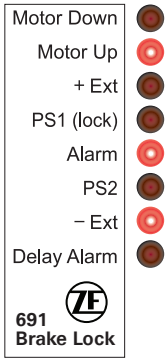
Nonfunctional or intermittent PS2 (low) switch

1. While the 691 Brake Lock system is pressurizing the brakes, the audible alarm will sound and the following 691 Control Module LED's illuminate:
   a. Motor Up
   b. + Ext (- Ext if using gray wire remote input)
   c. Alarm

NOTE: PS2 does not illuminate.



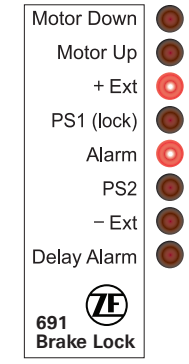
(no gray wire input)



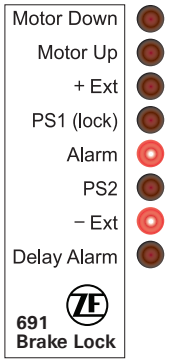
(using gray wire input)

continued on back . . .

2. When lock pressure is reached, the audible alarm continuously sounds and the following 691 Control Module LED's illuminate:
   a. Alarm
   b. + Ext (- Ext if using gray wire remote input)



(no gray wire input)



(using gray wire input)

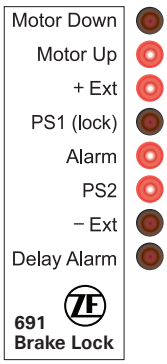
This is a 691 diagnostic mode in which the system will not respond to any input signals. The 691 System resets itself only after 12 VDC power has been disconnected and reconnected. **NOTE: The 691 System will also go into this diagnostic mode if the PS2 switch momentarily looses connection when the system is locked.**

3. **To confirm this condition**, deactivate the 691 System and disconnect 12 VDC power. When power is reconnected no LED's are illuminated and the 691 Power Unit does not run. When the 691 System is activated it returns to the diagnostic mode. **NOTE: To release lock pressure, unplug the PS2 switch and short across the two pins in the unplugged harness connector for at least 5 seconds. To relieve all lock pressure open a bleeder screw on the pressure side of the 691 Power Unit.**
4. Replace the PS2 (low pressure) switch as necessary.
5. Activate the 691 System several times to ensure normal operation.

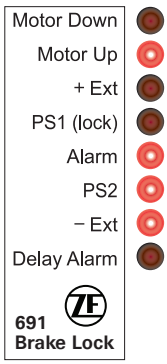
Nonfunctional or intermittent PS1 (high) switch

1. While the 691 Brake Lock System is pressurizing the brakes, the audible alarm will sound and the following 691 Control Module LED's illuminate:
   a. Motor Up
   b. + Ext (- Ext if using gray wire remote input)
   c. Alarm
   d. PS2

NOTE: PS1 does not illuminate



(no gray wire input)



(using gray wire input)

After 9 seconds the Delay Alarm LED also illuminates and the audible alarm and other warning devices activate. The brakes will be locked but the 691 Power Unit will continue to run.

2. **To confirm this condition**, unplug the PS1 switch and insert a wire loop into the unplugged harness connector. The 691 Power Unit, Alarm LED, and audible alarm and other warning devices stop.
3. Deactivate the 691 Brake System and replace the PS1 (high pressure) switch as necessary.
4. Activate the 691 System several times to ensure normal operation.

ZF Off-Highway Solutions Minnesota Inc.
1911 Lee Boulevard / North Mankato, MN U.S.A. 56003
Tel: +1 507 625 6426 **Fax:** +1 507 625 3212