

Twist Lock



Operating Instructions

THIS NOTICE MUST BE AFFIXED
ON DASH IN VIEW OF OPERATOR

⚠ WARNING



**PREVENT
ROLLAWAY**

Read operating instructions before using brake lock.

The Brake Lock is a supplemental safety device. It is not to be used in place of the original equipment parking brake.

Always set parking brake and use wheel chocks and outriggers with Brake Lock.

Release Brake Lock before moving vehicle.

Do not use Brake Lock for overnight or prolonged parking.

ATTENTION

These operating instructions must be placed in cab of vehicle in a place available to operator to ensure proper operation of twist lock.

The self-adhesive warning label, accompanying each twist lock, must be affixed in cab in view of operator.

Principles of Operation

The twist lock is a **SUPPLEMENTAL** safety device and is **NOT** to be used in place of the original equipment parking brake. When used with existing vehicle parking brake, the brake lock uses a portion of the vehicle's hydraulic service brake system to provide additional brake holding action.

When the twist lock is activated and hydraulic service brakes applied, hydraulic pressure is locked in the service brake system. In this way, the hydraulic service brakes continue to be applied after the operator removes their foot from brake pedal.

The twist lock does not increase brake pressure, it only locks in pressure generated by pushing on the brake pedal. The harder the operator pushes on the brake pedal, the higher the pressure in the brake system.

Because the twist lock is locking hydraulic brake pressure, any leak in the hydraulic brake system will allow pressure to decrease and release brakes. The hydraulic service brake system must be kept in good operating condition to ensure that pressure locked by the twist lock will be maintained.

The twist lock has a Low Pressure Warning Switch. This switch is to be used with a visual or audible alarm which will alert operator(s) in or around the vehicle of a possible unsafe reduction in brake system pressure and holding capability.

When the lever of the twist lock is moved to the full lock position, alarm will sound, indicating insufficient brake holding pressure. The operator then pushes on the brake pedal until sufficient brake pressure has been reached, causing alarm to stop. If a loss of pressure occurs in the locked brake system, the alarm will sound again indicating insufficient brake holding pressure.

Changes in the outside temperature may cause locked up pressure to increase or decrease. Higher temperatures may cause increased pressure which may cause brake system damage and failure. Lower temperatures may cause decreased pressure which can reduce holding level of brakes. For these reasons, the twist lock must not be used for overnight or prolonged parking. To minimize these pressure changes, the twist lock must be released and reapplied every hour.

In applications where there is no horn or other audible device on the vehicle, one should be installed. A visual pressure gauge can also be used to indicate to the operator when there is adequate hydraulic pressure locked up or when there has been a pressure loss in the system after lock-up.

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OPERATING INSTRUCTIONS

To activate Twist Lock

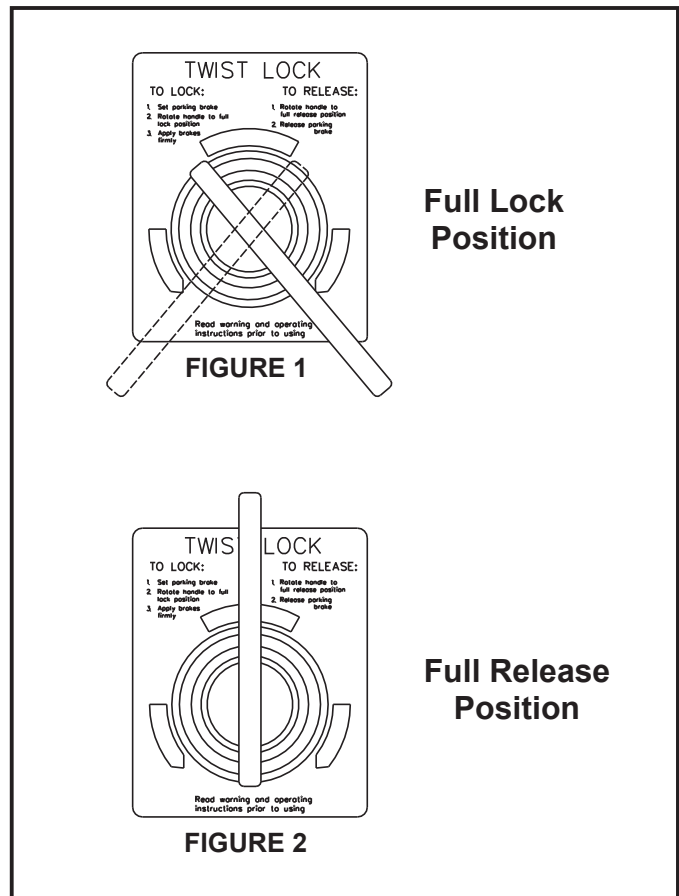
1. Bring vehicle to complete stop.
2. Set mechanical parking brake.
3. Remove foot from brake pedal and observe if vehicle remains stationary.
4. Move handle of twist lock to full lock position as indicated on dash plate (Figure 1). Alarm will start. If alarm does not start, discontinue use of lock, determine cause and correct problem before using lock.
5. Apply service brakes firmly until alarm stops.
6. Use wheel chocks, outriggers and any other means to keep all wheels that are in contact with the ground from moving as required by manufacturer recommendations.

If alarm starts while Twist Lock is in use

This indicates unsafe brake system pressure. Discontinue use of lock, determine cause and correct problem before using lock.

To release Twist Lock

1. Retract outriggers and remove wheel chocks. Remove any other means used to keep all wheels that are in contact with ground from moving.
2. Move handle of twist lock to full release position as indicated on dash plate (Figure 2).
3. Release mechanical parking brake.



INSPECTIONS AND TESTS

Federal regulations require that the parking brakes are capable of holding vehicles on a 20% grade with rated capacity load, until intentionally released.

It is recommended that parking brake and twist lock be tested daily, along with other safety equipment such as lights, horn, etc.

Testing Procedure

1. The vehicle must be fully loaded and driven on a 20% grade.
2. Parking brake and twist lock must be fully applied with engine running and transmission in neutral.
3. To test twist lock, operator must release parking brake, leaving twist lock applied, and remain in driver's seat. Vehicle must remain parked, without movement, for at least one minute.

4. To test parking brake, operator must apply parking brake, release twist lock, and remain in driver's seat. Vehicle must remain parked, without movement.

If vehicle moves while parking brake is applied, parking brake must be inspected and adjusted or replaced and tested again.

If vehicle moves while twist lock is applied, all hydraulic brake fittings, hoses, lines, and wheel cylinders must be inspected for leaks. Fittings which leak must be tightened or replaced. Hoses, lines or wheel cylinders which leak must be replaced or rebuilt. Vehicle must be tested again and if it fails to remain parked with twist lock applied, twist lock must be replaced and original lock should be returned to ZF Off-Highway Solutions Minnesota Inc. for inspection and tests.