WABCO
FREIGHT CAR PRODUCTS
A Wabtec company

ELX EQUIPMENT

ELX-S, ELX-U, ELX-B

INSTRUCTIONAL LEAFLET 5229

JANUARY, 2001

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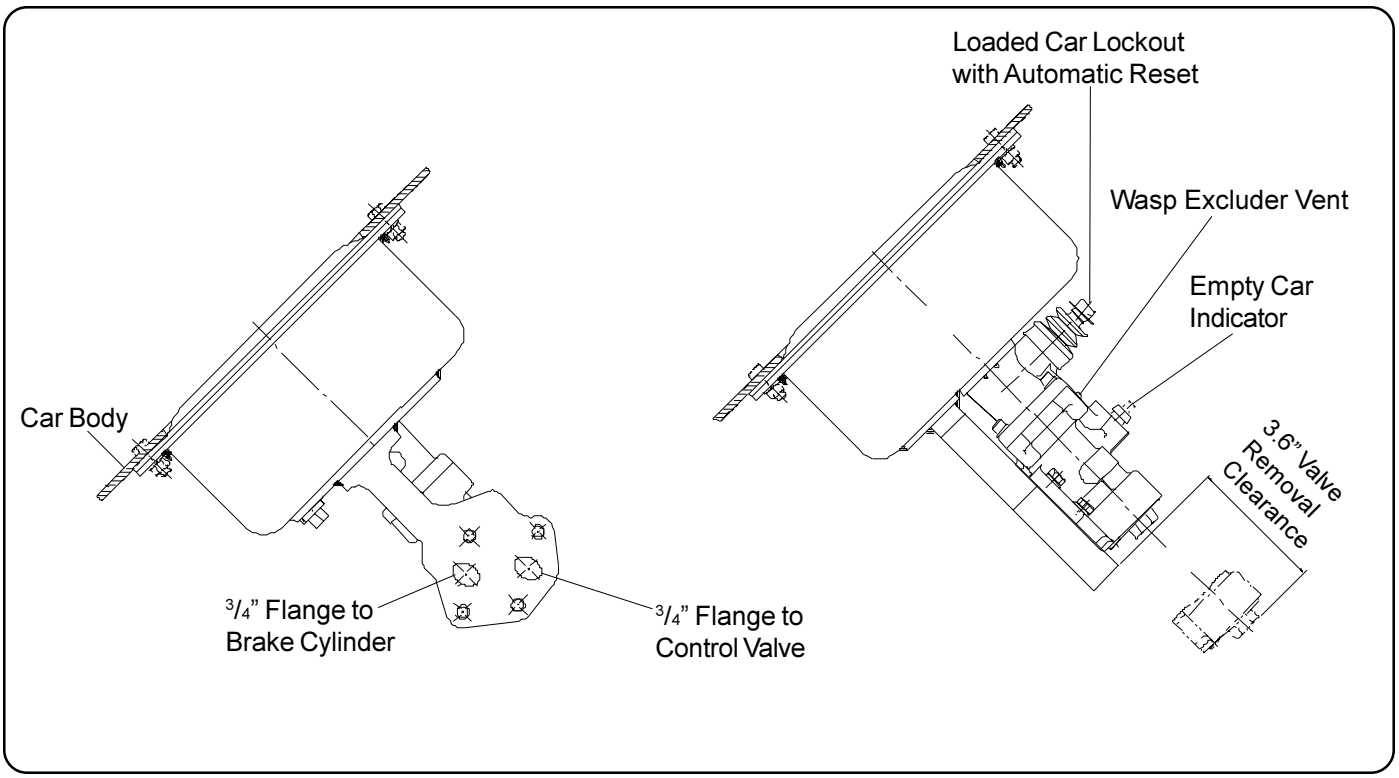


ELX-S EQUIPMENT

TESTING PROCEDURE

Empty Car - Empty Condition
With the car charged to 90 psi, make a 30 psi brake pipe reduction with the test device handle in Position 5 then slowly move the device handle to Position 3-Lap. Note that the empty car indicator is extended, showing an empty car condition. Move the device handle to Position 1 and note that the indicator is retracted when the brake cylinder is released.

Empty Car - Loaded Condition
Push the lockout button in until it locks in place. With the car charged to 90 psi, make a 30 psi brake pipe reduction with the device handle in Position 5 then slowly move the device handle to Position 3-Lap. Note that the empty car indicator is NOT extended, showing a loaded car condition. Move the device handle to Position 1 and note the indicator remains retracted as the brake cylinder is released and the lockout button is reset (extended).

Loaded Car
With the car charged to 90 psi, make a 30 psi brake pipe reduction with the device handle in Position 5, then slowly move the device handle to Position 3- Lap. Note that the empty car indicator is NOT extended, showing a loaded car condition. Move the device handle to Position 1 and note the indicator remains retracted as the cylinder is released.

Loaded Car- Empty Condition
Loaded car cannot be checked for an empty car condition.

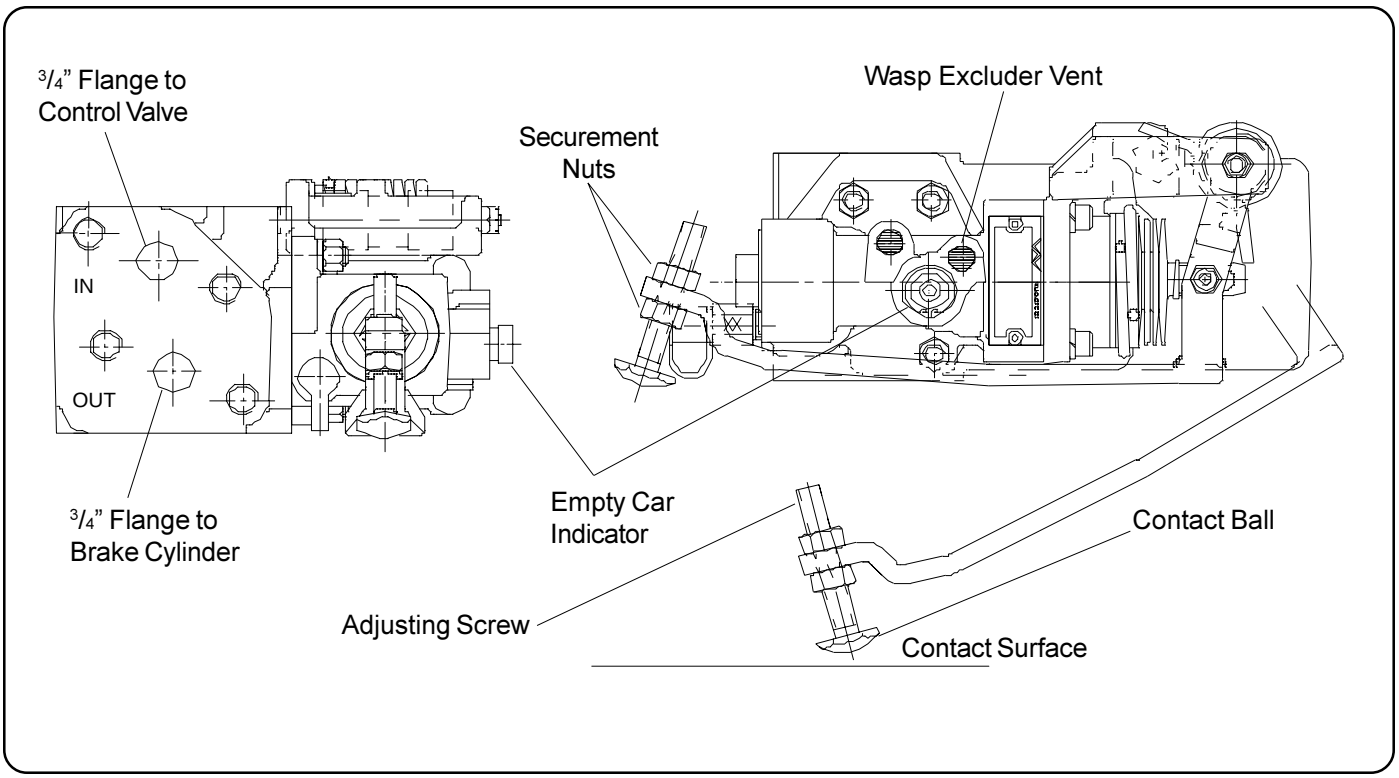
GENERAL COMMENTS

A. Piston travel measurement or adjustment should be made with loaded car brake cylinder pressure using a 20 psi brake pipe reduction in accordance with AAR S-486. The loaded car lockout is provided for this purpose.

B. The loaded car lockout button is self-resetting. Upon a brake release, the lockout button will return to its released position (extended) and must be pushed back in for each successive brake application to facilitate a loaded condition.

C. To ensure proper operation of the sensor valve, the wasp excluder vents must not be painted. Masking tape, used to protect for painting purposes, must be removed before the car is allowed into service.

D. If the car requires a Single Car Test and an Empty/Load Test in accordance with the AAR Field Manual, Rule 3 Chart A, testing of the empty/load equipment should be performed after the System Leakage Test 3.5 and before the Service Stability Test 3.7. To test an empty car equipped with ELX-S equipment in accordance with AAR S-486, the loaded car lockout button must be depressed for each brake application as indicated.



ELX-U EQUIPMENT

ADJUSTMENT PROCEDURE

Empty Car- Adjustment

If this adjustment is done after the System Leakage Test the brake pipe will be fully charged and the test device handle must be in Position 1. Otherwise brake pipe must be charged to a point where the flowrator ball remains below the top of the tube.

If any adjustments are required to the ELX-U, the car must be empty and positioned on level track. Loosen securement nuts on the adjusting screw and place a 1/4" adjusting block on the side frame beneath the screw. We recommend that if new center plate lubricator pads are installed, 1/8" maximum be added to the adjusting block thickness. If new springs, subject to settling, have been installed, an additional 1/4" maximum thickness is recommended.

With the car charged to 90 psi, make a 30 psi brake pipe reduction with the test device handle in Position 5, then slowly move the device handle to Position 3-Lap. The sensor arm should move down until the contact ball bears on the adjusting block. Adjust the screw until the adjustment block lightly drags between the contact ball and the side frame. Tighten the securement nuts to lock adjusting screw in place. Note that the empty car indicator is extended, showing an empty car condition. Move the device handle to Position 1 and note that the indicator is retracted when the brake cylinder and sensor arm move to the released position. Remove adjustment block.

TESTING PROCEDURE

Empty Car- Empty Condition

The sensor must be properly adjusted for this test. The brake pipe must be charged to a point where the flowrator ball remains below the top of the tube and the test device handle must be in Position 1.

With the car charged to 90 psi, make a 30 psi brake pipe reduction with the test device handle in Position 5, then slowly move the device handle to Position 3-Lap. The sensor arm should move down and stop approximately 1/4" above the truck side frame. Note that the empty car indicator is extended, showing an empty car condition. Move the device handle to Position 1 and note that the indicator is retracted when the brake cylinder and sensor arm move to the released position.

Empty Car- Loaded Condition
The sensor must be properly adjusted for this test. The brake pipe must be charged to a point where the flowrator ball remains below the top of the tube and the test device handle must be in Position 1.

Place a 2 1/4" block between the side frame and adjusting screw to limit sensor arm travel. With the car charged to 90 psi, make a 30 psi brake pipe reduction with the test device handle in Position 5 then slowly move the device handle to Position 3-Lap. Note that the empty car indicator is NOT extended, showing a loaded car condition. Move the device handle to Position 1 and note the indicator remains retracted as the brake cylinder and sensor arm move to the released position. Remove 2 1/4" block.

Loaded Car
The brake pipe must be charged to a point where the flowrator ball remains below the top of the tube and the test device handle must be in Position 1.

With the car charged to 90 psi, make a 30 psi brake pipe reduction with the test device handle in Position 5, then slowly move the device handle to Position 3-Lap. Note that the empty car indicator is NOT extended, showing a loaded car condition. Also, note that the contact ball of the adjusting screw touches the side frame limiting the sensor arm travel preventing an empty car condition. Move the device handle to Position 1 and note the indicator remains retracted as the brake cylinder and sensor arm move to the released position.

Loaded Car- Empty Condition
Loaded car cannot be checked for an empty car condition.

GENERAL COMMENTS

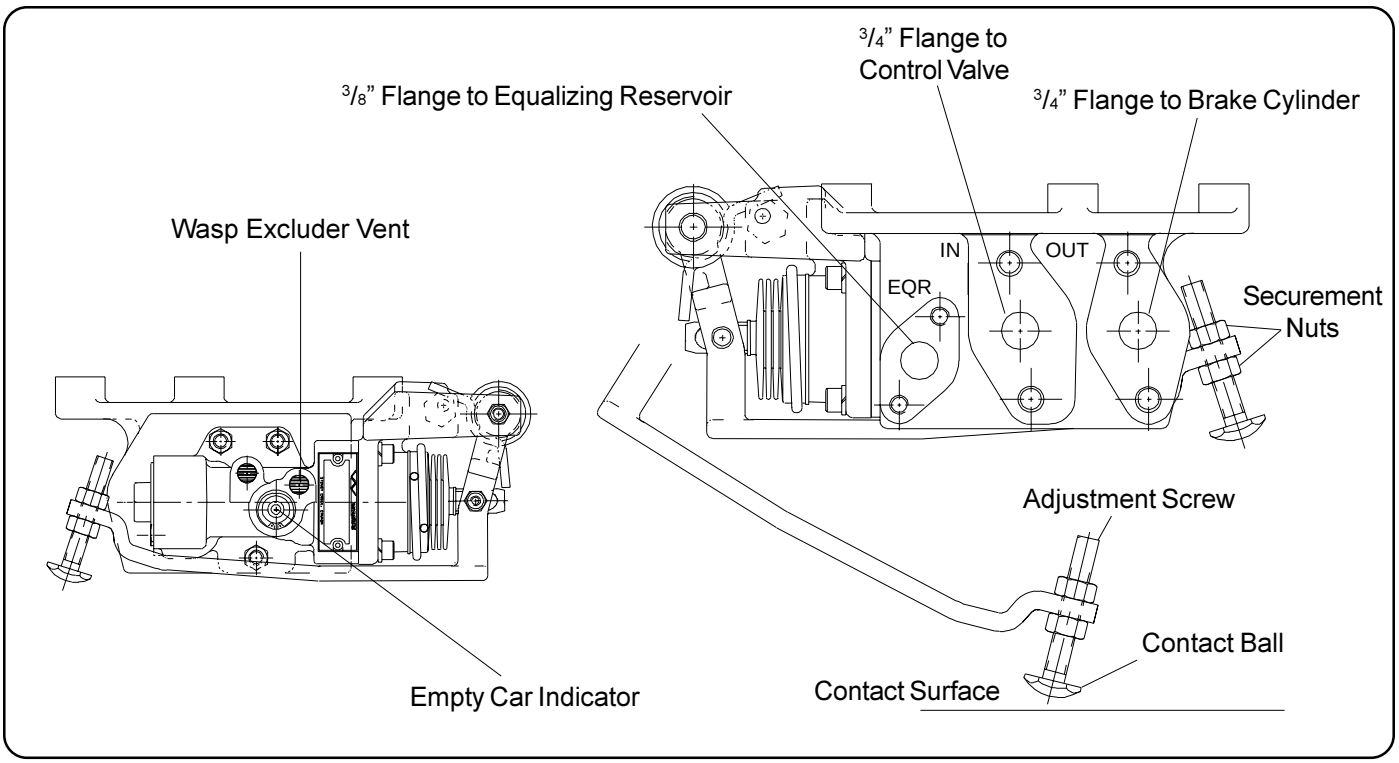
A. Contact ball of adjusting screw must contact a flat and level surface throughout the appropriate amount of truck swing including lateral and vertical displacement.

B. Piston travel measurement or adjustment should be made with loaded car brake cylinder pressure using a 20 psi brake pipe reduction in accordance with AAR S-486. When testing an empty car, to make a loaded car brake application, place a 2 1/4" spacer block between side frame and the contact ball of the adjusting screw thereby limiting sensor arm travel.

C. All sensor arm adjustments must be done when car is empty and positioned on a level track.

D. To ensure proper operation of the sensor valve, the wasp excluder vents must not be painted. Masking tape, used to protect for painting purposes, must be removed before the car is allowed into service.

E. If the car requires a Single Car Test and an Empty/Load Test in accordance with the AAR Field Manual, Rule 3 Chart A, testing of the empty/load equipment should be performed after the System Leakage Test 3.5 and before the Service Stability Test 3.7. To test an empty car equipped with ELX-U equipment in accordance with AAR S-486, a 2 1/4" block must be placed on the car side frame at a point where the contact ball of the adjustment screw will make contact with the block for each brake application as indicated.



ELX-B EQUIPMENT

ADJUSTMENT PROCEDURE

Empty Car- Adjustment

If this adjustment is done after the System Leakage Test the brake pipe will be fully charged and the test device handle must be in Position 1. Otherwise brake pipe must be charged to a point where the flowrator ball remains below the top of the tube.

If any adjustments are required to the ELX-B, the car must be empty and positioned on level track. Loosen securement nuts on the adjusting screw and place a 1/4" adjusting block on the side frame beneath the screw. We recommend that if new center plate lubricator pads are installed 1/8" maximum be added to the adjusting block thickness. If new springs, subject to settling, have been installed, and additional 1/4" maximum thickness is recommended.

With the car charged to 90 psi, make a 30 psi brake pipe reduction with the test device handle in Position 5 then slowly move the device handle to Position 3-Lap. The sensor arm should move down until the contact ball bears on the adjusting block. Adjust the screw until the adjustment block lightly drags between the contact ball and the side frame. Tighten the securement nuts to lock adjusting screw in place.

Note that the empty car indicator is extended, showing an empty car condition. Move the device handle to Position 1 and note that the indicator is retracted when the brake cylinder and sensor arm move to the released position. Remove adjustment block.

TESTING PROCEDURE

Empty Car- Empty Condition

The sensor must be properly adjusted for this test. The brake pipe must be charged to a point where the flowrator ball remains below the top of the tube and the test device handle must be in Position 1.

With the car charged to 90 psi, make a 30 psi brake pipe reduction with the test device handle in Position 5 then slowly move the device handle to Position 3-Lap. The sensor arm should move down and stop approximately 1/4" above the truck side frame. Note that the empty car indicator is extended, showing an empty car condition. Move the device handle to Position 1 and note that the indicator is retracted when the brake cylinder and sensor arm move to the released position.

Empty Car- Loaded Condition
The sensor must be properly adjusted for this test. The brake pipe must be charged to a point where the flowrator ball remains below the top of the tube and the test device handle must be in Position 1.

Place a 2 1/4" block between the side frame and adjusting screw to limit sensor arm travel. With the car charged to 90 psi, make a 30 psi brake pipe reduction with the test device handle in Position 5 then place the device handle in Position 3-Lap. Note that the empty car indicator is NOT extended, showing a loaded car condition. Move the device handle to Position 1 and note the indicator remains retracted as the brake cylinder and sensor arm move to the released position. Remove 2 1/4" block.

Loaded Car
The brake pipe must be charged to a point where the flowrator ball remains below the top of the tube and the test device handle must be in Position 1.

With the car charged to 90 psi, make a 30 psi brake pipe reduction with the test device handle in Position 5, then slowly move the device handle to Position 3-Lap. Note that the empty car indicator is NOT extended, showing a loaded car condition. Also, note that the contact ball of the adjusting screw touches the side frame limiting the sensor arm travel preventing an empty car condition. Move the device handle to Position 1 and note the indicator remains retracted as the brake cylinder and sensor arm move to the released position.

Loaded Car- Empty Condition
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GENERAL COMMENTS

A. Contact ball of adjusting screw must contact a flat and level surface throughout the appropriate amount of truck swing including lateral and vertical displacement.

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C. All sensor arm adjustments must be done when car is empty and positioned on a level track.

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E. If the car requires a Single Car Test and an Empty/Load Test in accordance with AAR Field Manual, Rule 3 Chart A, testing of the Empty/Load equipment should be performed after the System Leakage Test 3.5 and before the Service Stability Test 3.7. To test an empty car equipped with ELX-B equipment in accordance with AAR S-486, a 2 1/4" block must be placed on the car side frame at a point where the contact ball will make contact with the block for each brake application as indicated.

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