



NEW YORK AIR BRAKE

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TEST SPECIFICATION NYT-1243-C

CODE OF TESTS FOR TESTING
EL-60 VALVE PORTIONS

P/N 770820 (60% Portion - 771822)
P/N 771244 (50% Portion - 771877)
P/N 777195 (50% Portion Less BCQD - 777196)
P/N 779952 (50% Portion - 779951)
P/N 784448 (50% Portion - 784447)
P/N 774801 (40% Portion - 774090)
(AB Test Rack)

ISSUE NO. 8
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SPEC. NYT-1243-C
10 PAGES

WARNING: HIGH PRESSURE AIR IS PRESENT IN THE TEST RACK AND ASSEMBLY BEING TESTED. PRESSURE WILL VENT FROM COCKS AND/OR VALVE EXHAUST PORTS WHEN TEST RACK COCKS ARE MANIPULATED OR WHEN CONTROL DEVICES ARE OPERATED. TO MINIMIZE THE RISK OF PERSONAL INJURY FROM PRESSURE EXHAUSTING, ENSURE THAT ALL PERSONS STAND CLEAR OF THE EXHAUST PATH AND THAT HEARING PROTECTION AND EYE PROTECTION ARE WORN AT ALL TIMES.

PRELIMINARY AND CYCLING

Diagrammatic view and arrangement of test rack is shown on Drawing NYT-1243.

Supply pressure must be maintained at 110 psi minimum.

Test Rack Feed Valve must be set to close at 90 ± 1 psi.

Mount the EL-60 valve portion to the test plate as shown in attached test code drawing.

Set the arm travel to $4 \frac{1}{8}$ " (± 2 turns) from the adjusting screw to the test plate stop.

Install the mating female quick connect with COC to the test point and ensure that the COC is closed (if applicable).

Cycling:

Open Cocks 16 and 20. Move Valve "A" Handle to Position No. 1 and charge Brake Pipe Volume and Auxiliary Reservoir Gages to 90 psi. Allow Quick Action Chamber Gage to charge to 60 psi minimum, then move Valve "A" Handle to Position No. 8. Allow

Quick Action Chamber Gage and Brake Pipe Volume Gage to completely reduce to 0 psi.

Repeat the cycling procedure a minimum of three times. Finally, move Valve "A" Handle to Position No. 8, open Cocks 3 and 8, and close Cock 20.

TEST NO. 1
LOAD POSITION LEAKAGE

Commence test with Cocks 3, 8 and 16 open and Valve "A" Handle in Position No. 8.

- a. Place a 1" high block between the adjusting screw and the test plate stop.
- b. Move Valve "A" Handle to Position No. 1 and charge Brake Pipe Volume and Brake Cylinder Reservoir Gages to 90 psi.

Quickly open and close the COC to the test point and note a blow of pressure (if applicable).

Move Valve "A" Handle to Position No. 8 and reduce pressure to 0 psi. Remove the COC from the test point (if applicable).

Move Valve "A" Handle to Position No. 1 and charge Brake Pipe Volume and Brake Cylinder Reservoir Gages to 90 psi.

- c. Tube Port, Wasp Excluder, Diaphragm Clampring, Ratio Piston Vent, Sensor Cover Vent, Test Plate Vent, all Plugs, Test Point (if applicable) and Cock 8.

Soap Test - No leakage allowed in 5 seconds.

- d. Move Valve "A" Handle to Position No. 3 (LAP), close Cocks 16 and 3 and note:

Auxiliary Reservoir and Brake Cylinder Reservoir Gages - No decrease in pressure allowed in 15 seconds.

- e. Open Cocks 16 and 3, move Valve "A" Handle to Position No. 8, and decrease pressure in Brake Pipe Volume and Brake Cylinder Reservoir Gages to 0 psi.

- f. Remove the 1" block from between the sensor arm adjusting screw and the test plate stop.

TEST NO. 2
EMPTY POSITION LEAKAGE

Commence test with Cocks 3, 8 and 16 open and Valve "A" Handle in Position No. 8.

Low Pressure Leakage

Move Valve "A" Handle into Position No. 3 (LAP). Open Cock 24 and charge Brake Pipe Volume and Brake Cylinder Reservoir Gages to between 5 and 8 psi, then close Cock 24.

- a. Ratio Piston Back O-Ring, Back Flow Valve O-Ring and Check Valve

Cock 8 - Soap Test - No leakage allowed in 10 seconds.

Close Cock 8.

- b. Ratio Piston Front O-Ring

Ratio Piston Vent - Soap Test - No leakage allowed in 8 seconds.

- c. Test Point (if applicable)

Test Point - Soap Test - No leakage allowed in 8 seconds.

TEST NO. 3 **VALVE FUNCTION**

Commence test with Cocks 3 and 16 open and Valve "A" Handle in Position No. 3 (LAP).

Open Cocks 19 and 20.

- a. Indicator O-Ring - Low Pressure

Test Plate Vent - Soap Test - No leakage allowed in 8 seconds.

- b. Changeover Spring, Ratio Piston Hysteresis and Indicator O-Ring

Close Cock 19, open Cock 24 to slowly increase pressure on Brake Pipe Volume Gage and note:

Brake Cylinder Reservoir Gage - pressure stops increasing at 13 to 17 psi (Changeover)

For P/N 770820 (60% valve): Brake Pipe Volume Gage - accelerated increase of pressure to 24 to 28 psi.

For P/N 771244, 777195, 779952 & 784448 (50% valves): Brake Pipe Volume Gage - accelerated increase of pressure to 26 to 32 psi.

For P/N 774801 (40% valve): Brake Pipe Volume Gage - accelerated increase of pressure to 30 to 36 psi.

Quick Action Chamber Gage

1. Commences to charge from 0 psi (Hysteresis)
2. Is not greater than 20 psi when the valve portion Indicator Piston commences to extend.

Close Cock 24 and move Valve "A" Handle into Position No. 1.

TEST NO. 4
LEAKAGE - EMPTY POSITION
AND BRAKE CYLINDER PRESSURE

Commence test with cocks 3, 20 and 16 open and Valve "A" handle in Position No. 1.

- a. Test Plate Vent - Soap Test - No Leakage allowed in 8 seconds.
- b. Ratio Piston Vent - Soap Test - No Leakage allowed in 8 seconds.
- c. Brake Cylinder Gage Pressure -

For P/N 770820 (60% Valve): 52 to 56 psi

For P/N 771244, 777195, 779952 & 784448 (50% Valves): 43 to 47 psi

For P/N 774801 (40% Valve): 34 to 38 psi

- d. Ratio Piston Check Valve and Seat

Close cock 3 and note:

Brake Cylinder Reservoir Gage - No increase of pressure allowed in 15 seconds.

Open cock 3.

TEST NO. 5
CAPACITY

Commence test with cocks 3, 20 and 16 open and Valve "A" Handle in Position No. 1.

- a. Back Flow Check Valve Choke Capacity

Move Valve "A" Handle to Position No. 8 and note:

Quick Action Chamber Gage - reduces from 90 to 30 psi in 6 to 9 seconds.

Open Cock 15 releasing any remaining pressure, then close cock 15.

b. Ratio Piston Bushing Choke Capacity

Close Cock 3 and move Valve "A" Handle to Position No. 1 and note (**for all valves**):

Quick Action Chamber Gage - charges from 20 to 80 psi in 4 to 8 seconds.

c. Move Valve "A" Handle to Position No. 8 and note:

Indicator Piston begins to retract before Quick Action Chamber Gage has reduced to 3 psi.

Indicator Piston retracts completely.

Note: Indicator Piston must be completely retracted prior to removing the valve from the test rack.

Close all cocks and remove the valve from the rack.

ENGINEERING DEPARTMENT

REVISION PAGE

TEST SPECIFICATION NYT-1243-C

ISSUE NO. 1
DECEMBER 7, 1992

ORIGINAL ISSUE

ISSUE NO. 2
AUGUST 14, 1994

Test 3, Step "b" - added 26 to 32
for 771244. Moved Bushing Capacity
from Test 2 to Test 5.
Test 3, QAC Gage - Added "is not greater
than 20" to step 2.

ISSUE NO. 3
OCTOBER 6, 1995

Test No. 5 - 4 to 7 seconds was 5 to 8
for P/N 771244 (50%) only. Timing for
P/N 770820 (60%) stays at 5 to 8
seconds.

ISSUE NO. 4
OCTOBER 31, 1995

Test 5 - 4-8 seconds for both valves
was 5-8 or 4-7 seconds.

ISSUE NO. 5
MARCH 9, 2000

Test 5, step c - 3 was 5 psi, and added
"Note".

ISSUE NO. 6
MAY 6, 2002

Added P/N 774801.

ISSUE NO. 7
JUNE 9, 2008

Added Cycling section to front of test.
Added P/N's 777195, 779952 AND 784448.
Test 1 - "Cocks 3, 8 and 16 open" was
"all cocks closed"; "Open cocks 16, 8
and 3." was removed from part b.
Test 1, step c - "Wasp Excluder" was
added to the soap test.
Test 1, prior to step c - "Repeat the
cycling procedure twice. Finally," was
removed.
Updated Dwg. NYT-1243-4 to Rev. B.

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Test 4, step c - 34 to 38 psi was 33 to
37 psi.



