NEW YORK AIR BRAKE

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TEST SPECIFICATION NYT-1200-C

CODE OF TESTS FOR TESTING DB-20 I85177/001D (769141) & 775871 AND DB-20L I85177/001L (769143) & 775872 EMERGENCY PORTIONS

ISSUE NO. 3 SPEC. NYT-1200-C
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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.**

Diagrammatic view and arrangement of DB-20(L) and test rack is shown on Drawing NYT-1200.

Fasten the AB-2 test plate with gasket to the test rack pipe bracket.

Fasten the DB-20 or DB20L emergency portion with gasket to the test plate.

NOTE 1: For the DB-20L Test Plate, a stud arrangement of two (2) upper studs equal in length (as standard) and a one inch longer stud below must be used.

Adjust the AB test rack feed valve pressure to 100 +/- 1 psi.

The supply pressure must remain constant at no less than 120 psi during the entire testing process.

If it is necessary to partially or completely disassemble the valve during the course of the test, proper leakage conditions of the valve portion after re-assembly must be assured by partially or completely performing Test No. 1 “LEAKAGE”.

NOTE 2: The leakage test is conducted by soaping the items listed and by checking the appropriate pressure gage after thermal equalization (temperature effect).

NOTE 3: In order to allow repetition of any specific test during this test procedure, and/or to perform a specific test independently, the exact condition of the ‘AB’ Test Rack is described at the end of this procedure.

NOTE 4: The regulator used in Test #4 should be checked at least once daily to ensure it is in the 'H' (high) pressure position and pressure is set to 90 +/- 1 psi. This can be performed with a DB-20 valve portion attached to the test plate. To check the setting of the regulator, perform the following: All AB Test Rack cocks must be closed. Place Valve 'A' handle to Position No. 1 and charge Brake Pipe Volume Gage to 85 +/- 1 psi, then place Valve 'A' Handle to Position No. 3 (LAP). With 85 +/- 1 psi at Brake Pipe Volume Gage, open Cock 'B' and note Brake Pipe Volume Gage charges to 90 +/- 1 psi. Adjust the regulator for this pressure, if necessary. When adjusted, close Cock 'B', place Valve 'A' Handle to Position No. 8 and reduce pressure to 0 psi.

NOTE 5: To ensure that valves tested across the test rack are performing as required, the test rack must be tested to ensure that it meets all of the requirements of test code NYT-1664-C.

1.0 TEST NO. 1 - LEAKAGE

1.1 RELEASE POSITION

Commence test with all Cocks closed and Valve "A" handle in Position No. 8.

Place Valve "A" Handle to Position No. 1. Open Cocks 1, 5, 9, 16, 19 and 20 and charge BP, QACH, AR and ER to 100 psi.

Close Cock 19. Move Valve "A" handle to Position No. 5 and reduce BP to 80 psi. Move Valve "A" handle to Position No. 8.

NOTE: If Brake Cylinder pressure continues to blow out Cock 4 (longer than it would normally take to drain BC Volume), check for leakage between Quick Action Chamber and Brake Cylinder.

NOTE: Repeat the following procedure 3 times.

Open Cocks 15 and 4. Place Valve "A" handle to Position No. 1, then close Cock 15. Open Cock 19, then close Cocks 19 and 4. Move "A" handle to Position No. 8.

NOTE: Having completed the above procedure (3 times), continue as follows:

Open Cock 15. Place Valve "A" Handle to Position No. 1. Close Cock 15. Open Cocks 4 and 19. Allow BP, QA, AR, and ER to stabilize at 100 psi (wait 10 seconds for temperature effect).

Close Cocks 5, 19 and 1 and note:

1.1.1 BP LINE GAGE: No decrease of pressure allowed for 10 seconds.

VENT PORT AND LOWER STUD: Soap Test - No leakage allowed for 5 seconds.

This checks:

Main Piston System: Valve seat V7.3 from QA to vent port.
Valve seat V7.1 from QA to Accelerated Application Valve.

Accelerated Application Valve:	Valve seat V9.1 from BP to vent port.
High Pressure/ Vent Valve:	K-ring from QA to vent port. Valve seat V11.1 from BP to vent port.

Open Cocks 1 and 19 and note:

1.1.2 NO CYCLING OF THE ACCELERATED APPLICATION VALVE IS ALLOWED.

VENT PORT AND LOWER STUD: - Soap Test - No leakage allowed for 5 seconds.

COCK 4: - Soap Test - No leakage allowed for 5 seconds.

This checks:

Main Piston System:	Valve seat V7.3 from QA to vent port.
High Pressure/ Vent Valve:	Valve seat V11.3 from ER to BC. O-ring from QA to BC.

1.2 EMERGENCY POSITION (FINAL STAGE)

Close Cock 4. Move Valve "A" handle to Position No. 8. Open Cock 3. Open Cock 13 and charge BC to 95 psi, then close Cock 13. Wait ten seconds for temperature effect (partially open and close Cock 13 to attain exactly 95 psi).

Close Cock 3 and note:

1.2.1 B.C. GAGE: No pressure decrease allowed for 10 seconds.

This checks:

Emergency Accelerated Release Valve:	Valve seat V8.1 from BC to BP.

Open Cocks 3, 4 and 6.

2.0 TEST NO. 2 - QUICK ACTION CHAMBER CHARGING CAPACITY AND BRAKE CYLINDER APPLICATION TIME

Commence test with Cocks 1, 3, 4, 6, 9, 16, 19 and 20 open and Valve "A" handle in Position No. 8.

Close Cocks 6 and 19. Move Valve "A" handle to Position No. 1 and note:

2.1 Q.A. CH. GAGE: Charges from 0 to 20 psi in 14 to 18 seconds.

Close Cock 9. Open Cocks 2, 5 and 19 and charge AR to 100 psi.

Close Cock 4. Open Cock 17 and note:

2.2 BC GAGE: Charges from 0 to 70 psi in 4 seconds maximum.

Close Cock 17. Open Cocks 9 and 12.

3.0 TEST NO. 3 - ACCELERATED APPLICATION VALVE STABILITY

Commence test with Cocks 1, 2, 3, 5, 9, 12, 16, 19 and 20 open, and Valve "A" handle in Position No. 1.

Close Cock 19. Move Valve "A" handle to Position No. 3 (LAP). Open Cock 18 for 30 seconds and note:

3.1 No cycling of the Accelerated Application Valve is allowed.

Close Cocks 18 and 2. Move Valve "A" handle to Position No. 1. Open Cock 19.

4.0 TEST NO. 4 - AAV TEST

Commence test with Cocks 1, 3, 5, 9, 12, 16, 19 and 20 open, and Valve "A" handle in Position No. 1.

NOTE: For DB-20L (Long Valves), open Cock “A” and charge the 530 Cu. In. volume for 10 seconds.

Place Valve "A" handle to Position No. 3 (LAP). Slowly open Cock 15 and reduce BP and QA pressures to 90 psi, then close Cocks 15 and 19. Move Valve "A" handle to Position No. 4 and reduce BP to 87 psi, then place Valve “A” Handle to Position No. 3 (LAP) and note:

4.1 Brake Pipe pressure must immediately continue to drop to at least 86 psi.

If the Brake Pipe reduction continues to drop below 84 psi after placing Valve “A” Handle in Position No. 3 (LAP), open Cock “B” and note:

4.2 Brake Pipe stops reducing.

Close Cock “B”.

4.3 The Brake Pipe reduction must also stop by 80 psi.

4.4 Brake Pipe pressure must stabilize between 80 and 86 psi.

Place Valve “A” Handle to Position No. 1 and open Cock 19. Close Cock “A” if it was opened.

5.0 TEST NO. 5 - ACCELERATED APPLICATION VALVE - OPERATING

Commence test with Cocks 1, 3, 5, 9, 12, 16, 19 and 20 open, and Valve "A" handle in Position No. 1.

Place Valve "A" handle to Position No. 3 (LAP). Slowly open Cock 15 and reduce BP and QA pressures to 90 psi, then close Cocks 15 and 19. Move Valve "A" handle to Position No. 4 and note:

5.1 AN INTERMITTENT BLOW OF AIR MUST BE DETECTED AT THE VENT PORT

5.2 FOR DB-20 - BP VOLUME GAGE: Reduces from 90 to 70 psi in 11 to 15 seconds.

5.3 FOR DB-20L - BP VOLUME GAGE: Reduces from 90 to 70 psi in 8 to 12 seconds.

5.4 Valve stops cycling when Brake Pipe pressure is between 25 and 40 psi.

Place Valve "A" handle to Position No. 1. Open Cock 19.

6.0 TEST NO. 6 - SERVICE STABILITY

Commence test with Cocks 1, 3, 5, 9, 12, 16, 19 and 20 open, and Valve "A" handle in Position No. 1.

Place Valve "A" handle to Position No. 3 (LAP). Partly open Cock 15 and reduce the pressures in BP, AR and QA to 90 psi, then close Cocks 15, 12 and 19. Move Valve “A” Handle to Position No. 4 and commence reducing Brake Pipe pressure. When Brake Pipe pressure is between 87 and 85 psi, quickly open Cock 22 and note:

6.1 BP reduces at least 20 psi.

6.2 NO EMERGENCY APPLICATION IS ALLOWED.

Close Cock 22. Open Cock 15 and move Valve "A" handle to Position No. 1. Then, close Cock 15 and open Cocks 19 and 12.

7.0 TEST NO. 7 - EMERGENCY SENSITIVITY

Commence test with Cocks 1, 3, 5, 9, 12, 16, 19 and 20 open, and Valve "A" handle in Position No. 1.

Place Valve "A" handle to Position No. 3 (LAP). Partly open Cock 15 to reduce the pressures in AR, BP and QA to 90 psi. Then, close Cock 15, wait one (1) minute for temperature effect, then close Cocks 12 and 19.

Move Valve “A” Handle to Position No. 7 and note:

76.1 Vent valve should open producing a strong blow out the valve vent before Brake Pipe Volume Gage reads 86 psi.

7.2 BRAKE PIPE PRESSURE: Must be completely vented within 3 seconds.

7.3 BC GAGE: Immediate pressure build-up.

Open Cocks 15 and 12. Close cock 15. Move Valve “A” Handle to Position No. 1.

Open Cock 19 and charge Q.A., B.P. and A.R. reservoirs to 100 psi.

8.0 TEST NO. 8 - INSHOT DELAY AND CAPACITY

Commence test with Cocks 1, 3, 5, 9, 12, 16, 19 and 20 open, and Valve "A" handle in Position No. 1.

Close Cocks 9, 12 and 19. Move Valve "A" handle to Position No. 8 and note:

8.1 B.C. GAGE: Charges from 0 - 40 psi in 4 to 6 seconds.

INSHOT DELAY: Occurs between 12 and 17 psi.

When BC is charged to 70 psi, open Cock 15. If necessary, adjust B.C. to exactly 70 psi by opening and closing Cock 13 to increase pressure or by opening and closing Cock 4 to decrease pressure.

9.0 TEST NO. 9 - EMERGENCY ACCELERATED RELEASE VALVE CUT-IN POINT, CAPACITY AND PRESSURE DIFFERENCE.

Commence test with Cocks 1, 3, 5, 15, 16 and 20 open, and Valve "A" handle in Position No. 8.

Close Cock 15. Move Valve "A" handle to Position No. 2 and note:

9.1 BP VOLUME GAGE: Accelerated increase between 6 and 10 psi.

Immediately move Valve "A" handle to Position No. 3 (LAP).

9.2 BP VOLUME GAGE: Charges from Cut-In point to 30 psi within 4 seconds.

9.3 BC AND BP VOLUME GAGE DIFFERENTIAL: Final pressure difference between 8 and 12 psi.

Move Valve "A" handle to Position No. 1. Open cocks 9 and 19 and charge BP, AR, ER and QA CH. to 100 psi.

10.0 TEST NO. 10 - QUICK ACTION CHAMBER BLOWDOWN AND SERVICE INSHOT DELAY

Commence test with Cocks 1, 3, 5, 9, 16, 19 and 20 open, and Valve "A" handle in Position No. 1.

Close Cocks 9 and 19. Partly open Cock 4 and reduce BC to 30 psi, then close Cock 4. Wait ten seconds for temperature effect (open and close Cock 4 to attain exactly 30 psi). Move Valve "A" handle to Position No. 8 and note:

10.1 BC GAGE: 30 psi to inshot delay in 3 seconds max.

INSHOT DELAY: Occurs between 43 and 50 psi.

10.2 Q.A. CH. GAGE: Reduces from 100 to 70 psi in 8 to 12 seconds.

After completion of all tests, close Cocks 3, 5 and 20. Open cocks 4 and 6. Wait until system is completely drained. Close all Cocks.

ENGINEERING DEPARTMENT

INITIAL CONDITION FOR TEST NO. 1.

All Cocks closed. Valve "A" handle in Position No. 8.

INITIAL CONDITION FOR TEST NO. 2.

Cocks 1, 3, 4, 6, 9, 16, 19, and 20 are open. Valve "A" handle in Position No. 8.

INITIAL CONDITION FOR TEST NO. 3.

Cocks 1, 2, 3, 5, 9, 12, 16, 19, and 20 are open. Valve "A" handle in Position No. 1.

INITIAL CONDITION FOR TEST NO. 4.

Cocks 1, 3, 5, 9, 12, 16, 19, and 20 are open. Valve "A" handle in Position No. 1.

INITIAL CONDITION FOR TEST NO. 5.

Cocks 1, 3, 5, 9, 12, 16, 19, and 20 are open. Valve "A" handle in Position No. 1.

INITIAL CONDITION FOR TEST NO. 6.

Cocks 1, 3, 5, 9, 12, 16, 19, and 20 are open. Valve "A" handle in Position No. 1.

INITIAL CONDITION FOR TEST NO. 7.

Cocks 1, 3, 5, 9, 12, 16, 19, and 20 are open. Valve "A" handle in Position No. 1.

INITIAL CONDITION FOR TEST NO. 8.

Cocks 1, 3, 5, 9, 12, 16, 19, and 20 are open. Valve "A" handle in Position No. 1.

INITIAL CONDITION FOR TEST NO. 9.

Cocks 1, 3, 5, 15, 16, and 20 are open. Valve "A" handle in Position No. 8.
Partly open Cock 13 and charge BC to 70 psi. Close Cock 13.

INITIAL CONDITION FOR TEST NO. 10.

Cocks 1, 3, 5, 9, 16, 19, and 20 are open. Valve "A" handle in Position No. 1.
Partly open Cock 13 and charge BC to 30 psi. Close Cock 13.

REVISION PAGE

NYT-1200-C

ISSUE NO. 1 OCTOBER 18, 2000	ORIGINAL ISSUE
ISSUE NO. 2 SEPTEMBER 3, 2008	Added new Test No. 4 and re-numbered. Test No. 6 – Added Brake Pipe reduction to 87 to 85 psi. Updated Dwg. NYT-1200 to latest Rev. 'B'. Added new Test #4 to "Initial Conditions". Added Part Numbers to Title – Page 1. Pg. 2 - Added 90 psi regulater NOTE.
ISSUE NO. 3 FEBRUARY 15, 2010	Numbered NOTES on Pg 1 & 2 and added NOTE 5