WABCO
FREIGHT CAR PRODUCTS
A Wabtec company

service bulletin

AB TEST RACK COMPONENT UPDATE

JANUARY, 2003

This service bulletin details and clarifies changes to test components that have been modified or obsolete by the manufacturer.

The Veeder Root timer in particular used in the timer/switch box unit has been discontinued by the manufacture and no drop in replacement is available. This may cause particular difficulty since the internal battery may last up to several years but is not replaceable by the user. Because of this, a new switch box timer has been designed that operates from 110vac line power as Wabtec Part No. 310022 or a unit that operates on 24 volts as Wabtec Part No. 310023. This new timer/switch box does not require the pull-up circuit that the veeder root required.

The ITT electronic pressure switch has also been upgraded by the manufacturer. The old Wabtec Part No. 660601 has been retained. ITT model 801P5S19 is now supplied in place of model 800P4S9.

Other changes to the parts supplied in the AB rack upgrade kit Part No. 593379 detailed in this bulletin include an adjustable needle valve in place of cock 23 choke fitting and ball style valves in place of the old style diaphragm cocks for cocks E, F and G. This facilitates an easier rack setup and operation.

These manufacturers changes do not constitute a necessity to change to the updated style equipment. They represent “in kind” replacements that are supplied in place of the later style components

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1. Digital Electronic Calibration Pressure Switch, Part No. 660601

The ITT 800P4S9 electronic pressure switch as detailed in service bulletin 30-8A is no longer made by the manufacturer. The 800P4S9 may or may not still be supported by the manufacturer. If repairs are necessary, the unit may have to be replaced with the newer replacement model 801P5S19. The 801P5S19 retains the Wabtec Part No. 660601. It is very similar in fit and form, and is an acceptable "equivalent" per section **3.2.2**. The device manual should be referred to for setup to window mode and when adjusting the window set points as required in section **5.4.4** of the code.

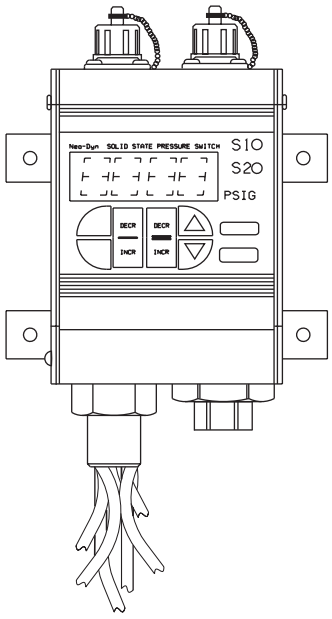

Figure 1

When properly handled and maintained, this device is a highly accurate adjustable pressure switch used to precisely qualify the rate of various choke capacities during testing of the rack. The test rack must be tested as often as required but not less frequently than every 30 days to keep the rack accurate. This pressure switch is not used during the testing of emergency valve portions and may be transferred from one test rack to another as needed.

NOTE: The Pressure Switch must be mounted vertically. The connection should be as close to and as practical as possible to the B.P. VOL GAUGE .

ITT Electronic Pressure Switch Installation

By means of a quick disconnect, the pressure switch is connected into B.P. VOL GAUGE line allowing visual accessibility for the operator (See Figure 1). The installation may be achieved by one of the following means. If the test rack is equipped with a test connection on the gauge support, remove the $^{1}/_{4}$-18 NPT pipe plug and install the pipe fittings shown in Figure 2. If the test rack is a not equipped with a test connection, then the B.P. VOL GAUGE will have to be removed and piped according to Figure 3.

Install the quick disconnect nipple into the pressure port of the Electronic Pressure Switch. The auxiliary pipe fittings (nipples, elbows, street elbows and quick disconnect) are not included in the AB test rack conversion kit.

NOTE: The Pressure Switch must be mounted vertically. The connection should be as close to and as practical as possible to the B.P. VOL GAUGE .

Digital Electronic Pressure Switch Setup

The digital ITT pressure switch is designed to function in various configurations. For this application, the switch must be setup to operate in the "window" mode. The ITT users manual supplied with the unit should be consulted when setting up the unit.

NOTE: Due to the 1 psi deadband, the upper setpoint must be set higher than the actual switching pressure specified by the amount of deadband. All other previous publications listed the deadband incorrectly, as being 2.0 psi.

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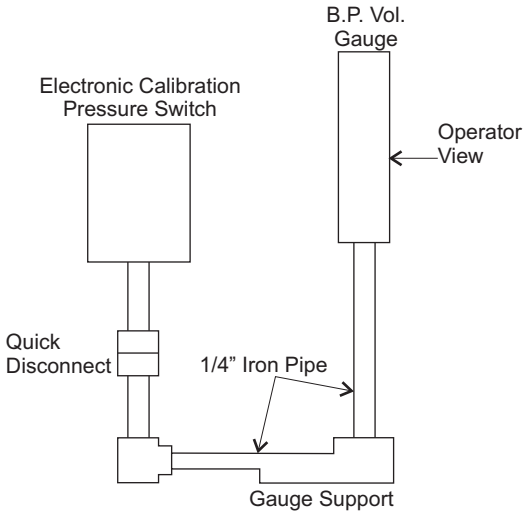

Figure 2

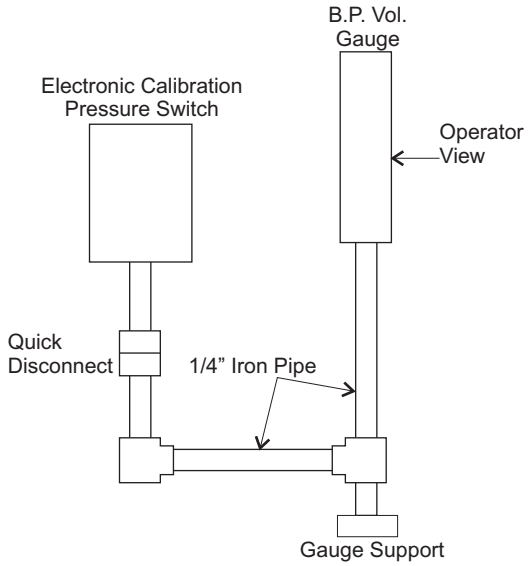

Figure 3

2. Switch box/timer, Part No. 310022 (120 VAC) and 310023 (24 VDC)

The switch box/timer is used during both test rack and emergency valve portion testing. It allows the test rack operator to conveniently change the position mode as follows:

1. A CALIBRATION mode checks various choke capacities during the test rack qualifications.

2. A TEST mode measures the emergency valve portion response time.

3. A FOOT mode is connected to a foot-switch allowing the digital timer to function as a foot controlled stop watch.

The Veeder Root timer as detailed in service bulletin 30-8A is no longer supported by the manufacturer. No drop in replacement unit is available. When this unit fails, the whole switch box/timer unit including the pull up circuit is replaced with the new switch box/timer Part No. 310022 (120 volt version) or Part No. 310023 (24 volt version). The Figure 7 in 5039 Sup. 2 and in Service Bulletin 30-8A shows the pull up circuit which is not to be used with the new timer box.

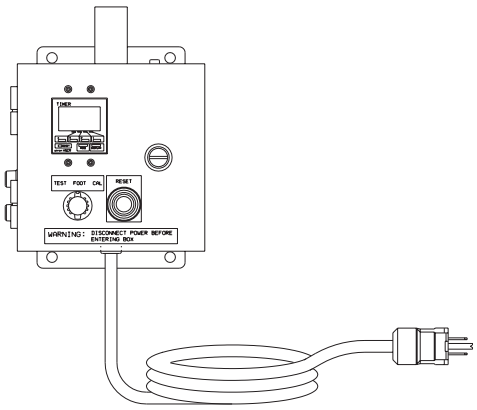

Figure 4

3. Cock 23 Choke Assembly, Part No. 660586

Cock 23 choke assembly is now supplied with an adjustable flow valve replacing the special 3/8" union and choke. This facilitates easier tuning of cock 23 per 5039-19 since it does not require a choke to be reamed or peened to correct tuning. The tuning of cock 23 can now be accomplished by first pulling the lock collar and turning the adjustment knob clockwise to reduce flow or counterclockwise to increase flow to achieve the correct timing. The lock collar is then pushed back down to lock the adjustment in place.

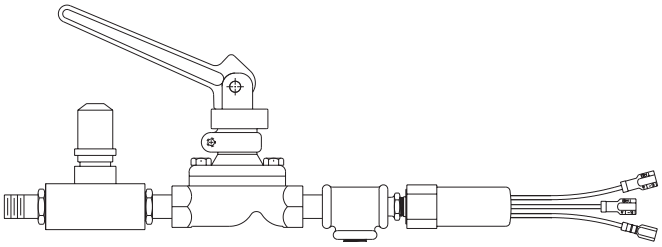

Figure 5

This assembly is made up of a 3/8" quick opening diaphragm cock, 3 psi mechanical pressure switch and adjustable flow valve. This arrangement when connected to the digital timer activates the timer during the emergency valve portion stability test.

Cock 23 Assembly Installation

This assembly is installed using a 3/8-18 NPT pipe tee fitting in place of the street elbow located between cock 22 and brake pipe reservoir.

NOTE: When using Cock 23, it is necessary to quickly snap and hold open the diaphragm cock handle.

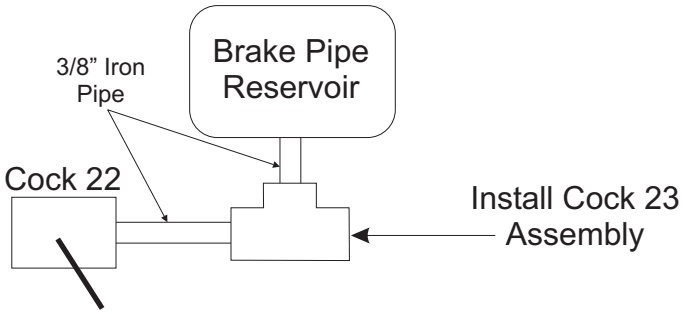

Figure 6

4. Vent Valve Leakage Test Fitting with 3 psi Mechanical Pressure Switch, Part No. 660617

This fitting is made up of a special vent vale fitting and a 3 psi mechanical pressure switch. This arrangement when connected to the digital timer deactivates the timer during the emergency valve portion stability test.

The Test Fitting is secured into the emergency vent valve when required by using the special plunger in the AB-2 Test Plate.

NOTE: Refer to the Code of Tests for detailed installation procedures.

⚠ **WARNING:** Keep fingers clear of pinch point when locking test fitting into place.

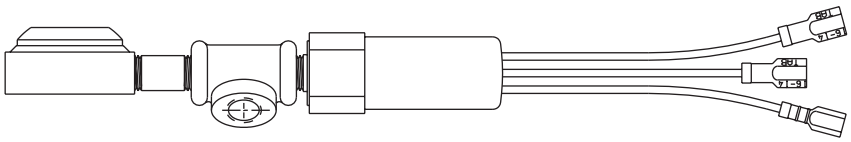

Figure 7

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5. Foot Switch- Line Master Switch Corporation Model 632D, Part No. 660623

While in the foot mode, the foot switch can free the operators hands for other duties by allowing the timer to act as a stop watch.

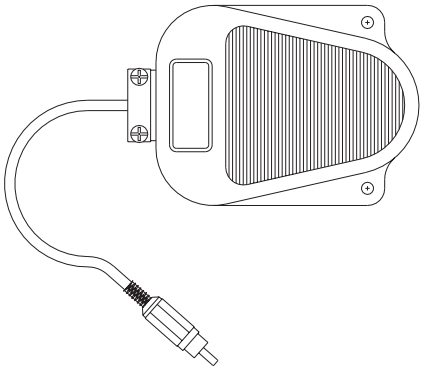

Figure 8

6. Cock E, F and G Plate Assembly, Part No. 305342

Part No. 304909 in section **3.1.3** and **5.1.3** is an older style using diaphragm cocks for E, F, and G. Now supplied is Part No. 305342 incorporating ball type valves. The figure in 2a of 5039 shows the newer assembly with the ball type valve.

The Ball Style Cut-Out Cock Assembly is used when testing the AAV function of the ABDX Type Emergency Portions ONLY (ABDX, ABDXL, ABDX-R, ABDXL-R). Cock "F" is used to test the preliminary breather function while Cock "E" or "G" check the AAV function for the ABDX or ABDXL valves, respectively.

The Plate Assembly is installed in place of the yoke cover on the test rack bracket portion. This plate also has a welded support bracket that attaches to the test plate stud.

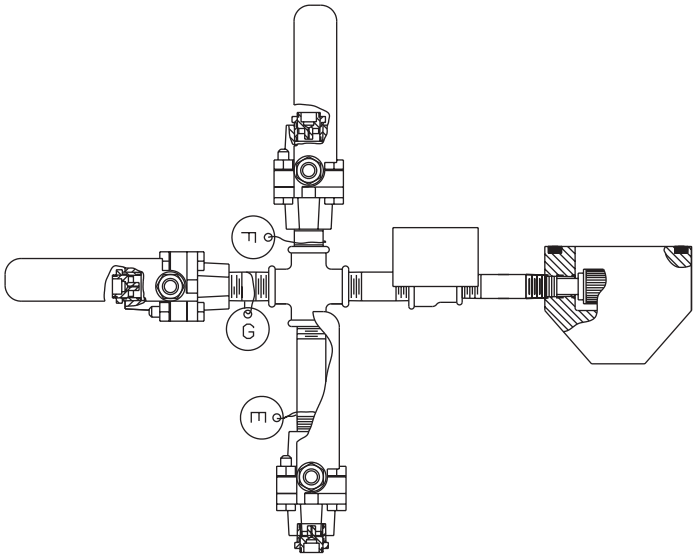

Figure 9

7. Cock "C" Choke for Service Portion Testing

The upgrade kit Part No. 593379 also includes a No. 44 drill choke. It must be installed in the ABD-1 test plate cock C used for testing service portions.

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Wiring

The Electronic Pressure Switch, Switch Box/Timer, Cock 23 Assembly, Vent Valve Leakage Fitting and Foot Switch are wired as shown below by the use of jumper wire provided. If necessary, use cable tie wraps to safely secure wires to the test rack allowing enough freedom to accommodate fitting movement by the operator.