THE AIR BRAKE

(PART 3)

EXAMINATION QUESTIONS

(1) How should a terminal test of a train be made? Explain fully. ART. 9.

(2) (*a*) If a blow occurs at the exhaust port of a triple or of the pressure retainer, to what may it be due? (*b*) In the event of such a blow, would you plug the exhaust port? Give reasons. (*a*) and (*b*) ART. 13.

(3) If you were to pick up several cars, which probably were uncharged, how would you proceed so as to save time? ART. 21.

(4) If any of the air cars of a train are not in use, explain what should be done with the hose. ART. 20.

(5) Within what limits should the piston travel be maintained on: (*a*) a passenger car?, (*b*) a freight car? (*a*) and (*b*) ART. 33.

(6) Where are leaks liable to occur in: (*a*) the train pipe and branch pipes? (*b*) the hose and couplings? (*c*) the auxiliary reservoir? (*d*) the brake cylinder? (*a*), (*b*), (*c*), and (*d*) ART. 13.

(7) If it were necessary to use the hand-brakes in conjunction with the air brakes, would you use those at the rear end of the train? Give your reasons. ART. 19.

(8) How would you proceed to set out a car at a way station? ART. 20.

(9) How would you locate a triple that set its brake "quick action" when a service reduction was made? ART. 26.

(10) Suppose that in the same train there are two cars having brake-piston travels of 4 and 10 inches, respectively: (*a*) at what pressures would they equalize? (*b*) which would equalize first? (*c*) which would release first? (*a*), (*b*), and (*c*) ART. 31.

(11) How should a part-air train be made up? ART. 8.

(12) How can you determine the condition of the triple-piston packing-ring without taking the triple down? Explain fully. ART. 12.

(13) (*a*) How can the condition of the brakes be ascertained by means of the temperature of the car wheels? (*b*) How can defects be located by means of the temperature test? (*a*) ART. 16; (*b*) ART. 17.

(14) Suppose the brake-piston travel on three cars to be 4, 8, and 10 inches, respectively, what will be the pressure in the three brake cylinders if a train-line reduction of 16 pounds is made? ART. 31.

(15) What is the greatest allowable pressure on the brake shoes of: (*a*) passenger cars? (*b*) freight cars? (*a*) and (*b*) ART. 47.

(16) How would you stop a train in an emergency? Explain fully. ART. 29.

(17) Does the length of the train pipe have any effect on the way the train "handles," and, if so, what? ART. 6.

(18) If, in making a terminal test, a brake was found that would not release: (*a*) where would you look for the cause? (*b*) what would you do? (*a*) and (*b*) ART. 12.

(19) What course would you pursue in the event of: (*a*) an all-air train breaking in two? (*b*) a part-air train breaking in two? (*a*) and (*b*) ART. 24.

(20) (*a*) What should be done in case a hose burst? (*b*) How can the engineer help to locate a burst hose? (*a*) and (*b*) ART. 22.

(21) Explain how you would cut out a car. ART. 15.

(22) How would you measure the piston travel on a freight car? ART. 34.

(23) Explain how you would cut a car brake out of service. ART. 14.

(24) If, in making a terminal test, a brake is found that will not stay on: (*a*) where would you look for the cause? (*b*) what would you do? (*a*) and (*b*) ART. 11.

(25) Explain how "slack" affects the smooth handling of a train. ART. 3.

(26) When and how should the conductor's valve be used? ART. 29.

(27) How would you "bleed off" a brake? ART. 23.

(28) Explain, fully, how to adjust the brakes on a car. ART. 35.

(29) What causes wheels to slide? ART. 28.

(30) What precautions should be observed in stopping and starting a long all-air freight train? ART. 6.

(31) If, in making a terminal test, a brake is found that will not apply, what would you do? ART. 10.

(32) If the brake-piston travel is not uniform throughout the train, being, say, 4 inches on some cars and 10 inches on others, will this interfere with the smooth handling of the train? Explain. ART. 5.

(33) Why is it very important that no leaks exist either in the train line or in the auxiliary reservoir? ARTS. 4 and 5. PART 2.

(34) (*a*) When, and when only, is it necessary to cut out the brake on a car while on the road? (*b*) Would you cut it out at the triple valve or at the angle-cock in the train pipe? Explain. (*a*) and (*b*) ART. 14.

(35) If you found any couplings frozen over with a coating of ice, how would you remove the ice before uncoupling the hose? ART. 13.