



Automated Single Car Test Devices

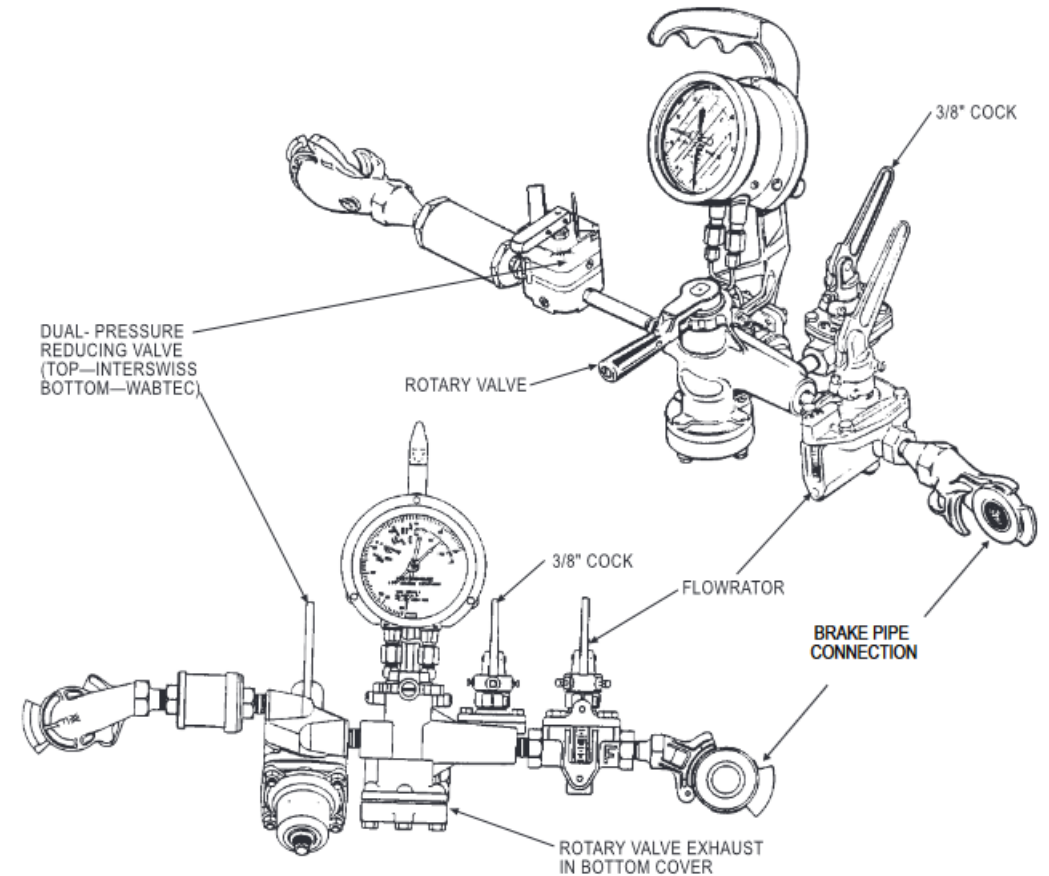
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A subsidiary of the Association of American Railroads

WHAT IS IT?

- *Automated Single Car Test Device (ASCTD)*
 - A machine that automates most of the air brake testing for a freight car
 - Consistent test due to the computer – reduces the human interaction and subjectivity of test
 - More thorough test
 - Documented test results
- Automated Device is defined by S-4027 while the manual device is defined by S-486



Manual Single Car Testing Device

4-Pressure Automated Single Car Test

4-Pressure testing has many advantages:

- Faster, easier, & better
- Identifies very small leaks
- Lower cost to the car owner over time
- Is good for 4 years when on shop or repair track



WHY does it exist?

1) Single car air brake tests are mandated by Federal Regulations!

232.305 Single car air brake tests.

(a) Single car air brake tests must be performed by a qualified person in accordance with either [Section 3.0](#), “Tests-Standard Freight Brake Equipment,” and [Section 4.0](#), “Special Tests,” AAR Standard S–486–18; [Section 3.0](#), “Single-Car Test Requirements,” [Section 4.0](#), “Special Tests,” and [Section 13.0](#) “4-Pressure Single-Car Test Requirements,” AAR Standard S–4027–18; an alternative procedure approved by FRA pursuant to [§ 232.17](#); or a modified procedure approved in accordance with the provisions contained in [§ 232.307](#).

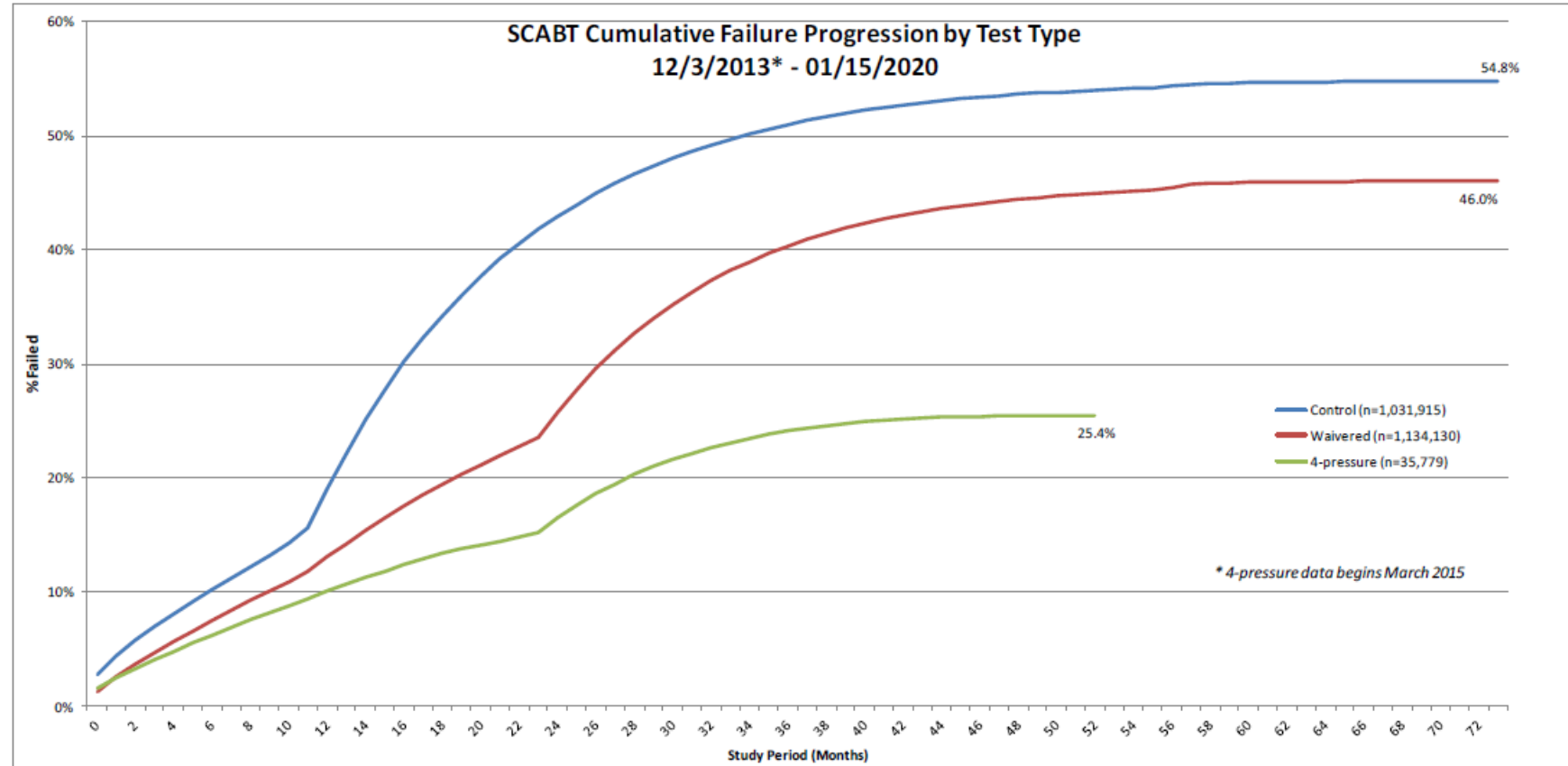
(b) Except as provided in [§ 232.303\(e\)](#), a railroad shall perform a single car air brake test on a car when:

- (1) A car has its brakes cut-out or inoperative when removed from a train or when placed on a shop or repair track, as defined in [§ 232.303\(a\)](#);
- (2) A car is on a shop or repair track, as defined in [§ 232.303\(a\)](#), for any reason and has not received either:
 - (i) A manual single car air brake test (AAR Standard S–486) within the previous 12-month period;
 - (ii) An automated single car air brake test (AAR Standard S–4027 [§§ 3.0](#) and [4.0](#)) within the previous 24-month period;
 - (iii) Or a 4-pressure single car air brake test (AAR Standard S–4027 [§ 13.0](#)) within the previous 48-month period;
- (3) A car is found with missing or incomplete single car air brake test information;

WHY does it exist?

2) Proven to outperform the manual devices and the Feds revised the Regulation to encourage its usage!

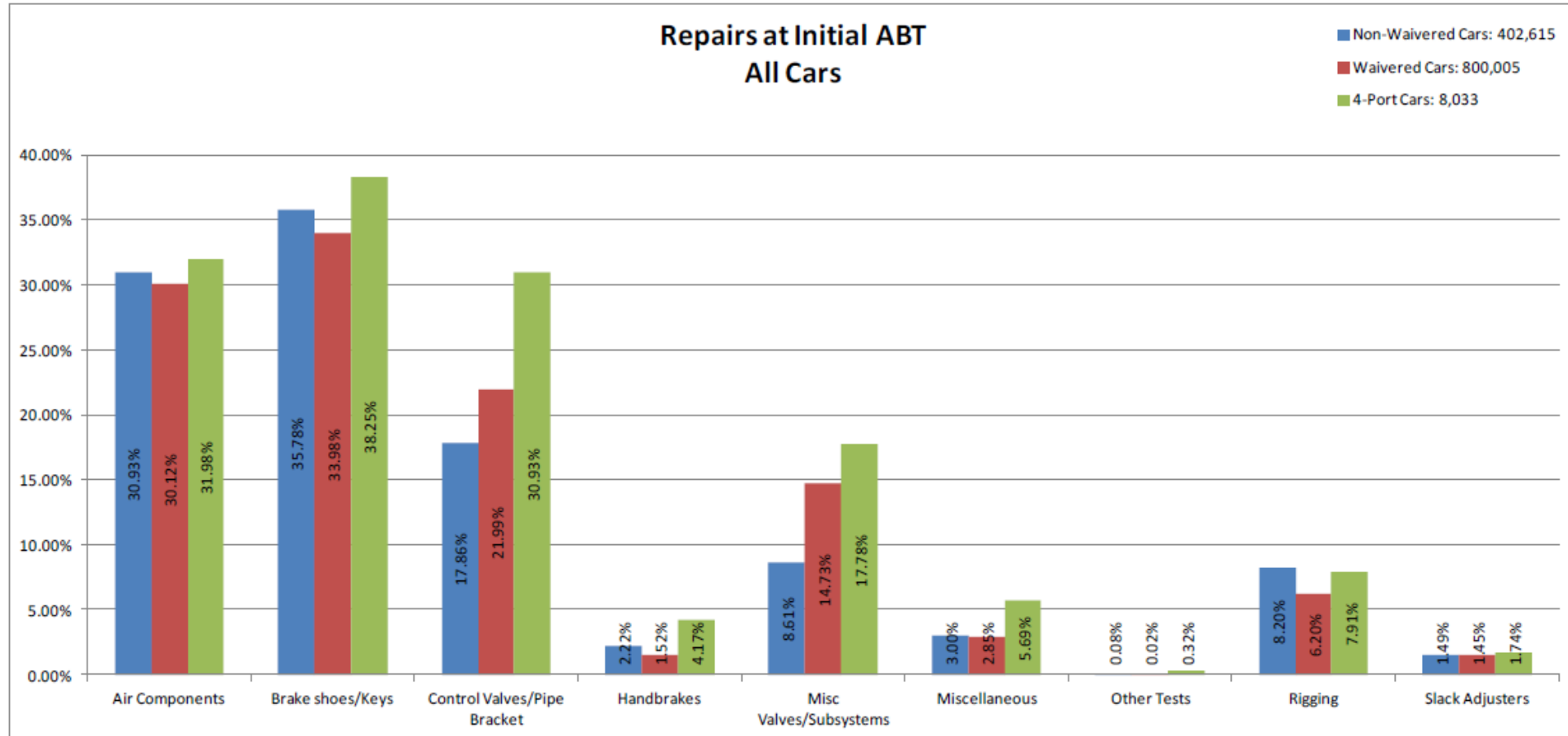
During an FRA test waiver for the ASCTD and 4-pressure testing several Railroads tested more than 800,000 cars over 4.5 years.



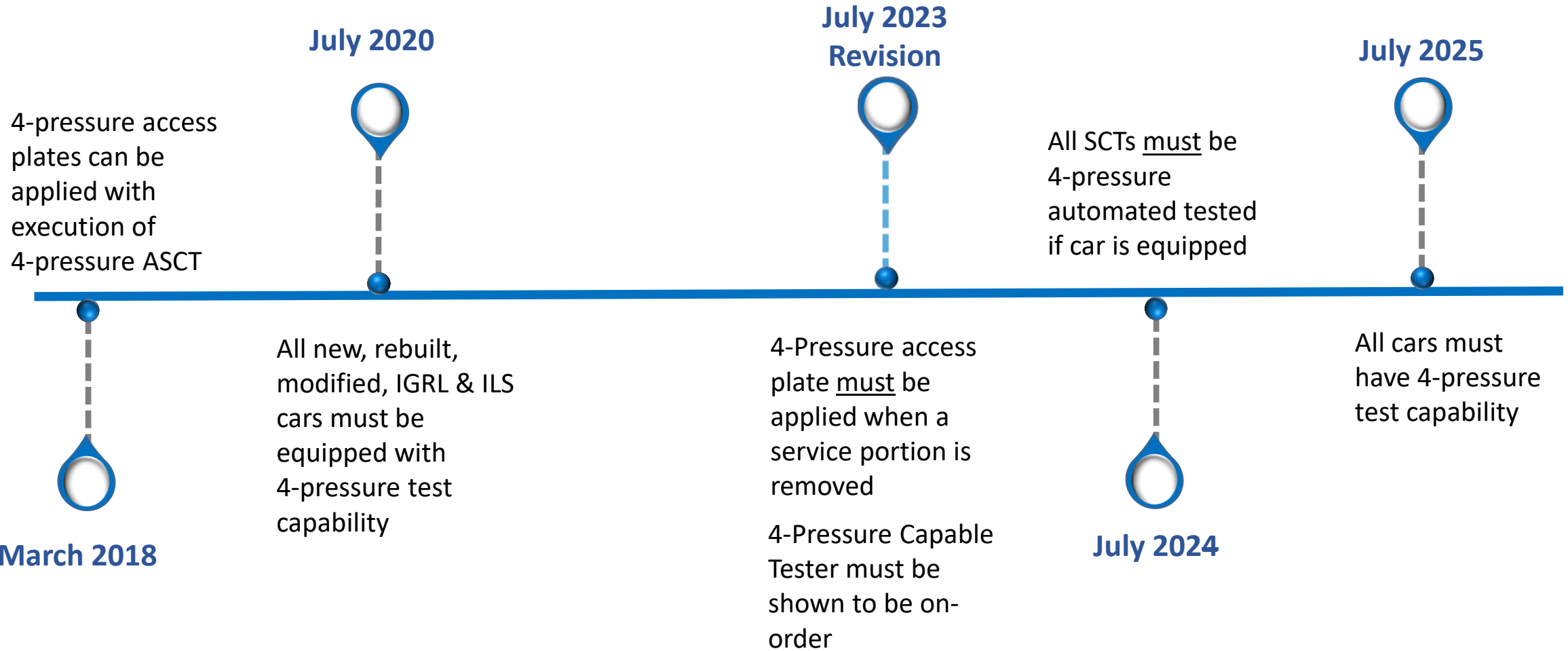
- (i) A manual single car air brake test (AAR Standard S-486) within the previous 12-month period;
- (ii) An automated single car air brake test (AAR Standard S-4027 §§ 3.0 and 4.0) within the previous 24-month period;
- (iii) Or a 4-pressure single car air brake test (AAR Standard S-4027 § 13.0) within the previous 48-month period;

WHY does it exist?

2) Proven to outperform the manual devices and the Feds revised the Regulation to encourage its usage!



Timeline for 4-Pressure Access Plates



TIMING?

5. Gages and Publications Required for All Repair Tracks

Rule 1:

a. Gages (use of gages must be demonstrated upon request by the MID)

(1) Single Car Air Brake Test device.

(a) Automated Single Car Air Brake Test Device(s) capable of performing a 4-pressure Automated Single Car Air Brake Test must be shown to be on order by July 1, 2023 and will be required by July 1, 2024.



ASCTD REQUIRED

Rule 3:

4. All single car tests must be performed via 4-pressure (if car is equipped) using a 4-pressure automated single car test device except when:

a. Prior to July 1, 2024, 4-pressure automated single car test device is not available

b. Car is exempt per Rule 4.B.15.



4-PRESSURE TEST REQUIRED

Rule 4:

13. It is allowed to retrofit any car at the time of a single car test with all necessary equipment to allow 4-pressure testing and test from the newly installed equipment except as noted in Rule 4.B.15.

14. When a service portion is applied and the car is not 4-Pressure capable, the car must be brought into compliance, except as noted in Rule 4.B.15.

15. A car is not required to be upgraded to 4-pressure capability if:

a. The car has a built or rebuilt date prior to July 1, 1975.

b. Clearance issues exist that do not allow the application of 4-pressure equipment.

(1) Utilize Job Code 1135 to notify car owner.

16. If car design requires alteration for upgrading to 4-pressure capability, repair party may contact car owner for instructions.



CARS REQUIRED TO BE UPGRADED FOR 4-PRESSURE EQUIPMENT

Timing to have all cars 4-pressure capable

	Car Tested 6/30/2025		
	Manual SCT	End of Car ASCT	4-Pressure ASCT
Test Due On Repair Track	6/30/2026	6/30/2027	6/30/2029
Test Due In Interchange	6/30/2030		

WHO ARE THE PLAYERS?



ARE THEY MAINTAINED?



Areas and Auditor could explore:

- Yearly Calibration
- Daily test
- Current Software
- Input air:
 - Clean
 - Dry
 - Correct Pressure
- Do they have a PM program (2.8.1)



SOFTWARE UPDATES?

From S-4027:

9.5.1 The software identification format shown in Fig. 9.1 must be used by all ASCTD manufacturers.

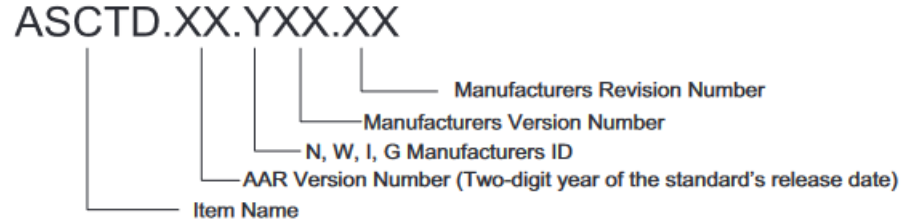
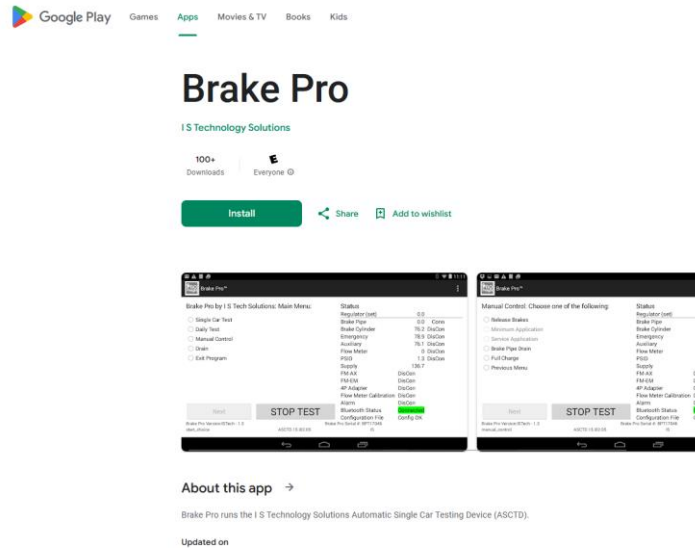


Fig. 9.1 Software identification format



App support

	ENGINEERING DOCUMENT		DOCUMENT NO: ED-220304-00	
	Wabtec Automated Single Car Test Device (ASCTD) Software Configurations		REV #:	ISSUED: March 7, 2022
			1	REVISED: Sept. 14, 2022

This document is intended to assist in verifying and obtaining current Wabtec ASCTD software configurations in compliance with AAR Standard S-4027.

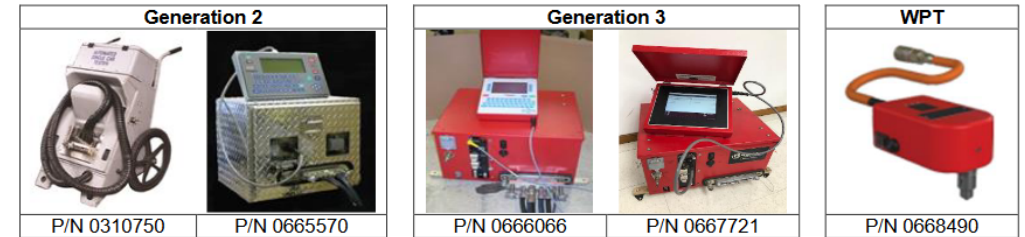
Software Configuration and Revisions:

ASCTD Model	ASCTD P/N	Software required for AAR S-4027 Compliance	Latest Software Revision*	Software Upgrade P/N
Generation 1	N/A	No longer AAR Compliant	No longer AAR Compliant	N/A
Generation 2	0310750 & 0665570	ASCTD.18.W0J.00 or later	ASCTD.18.W0J.04	0668486
Generation 3 – Text UI	0666066	ASCTD.18.W0J.00 or later	ASCTD.18.W0J.07	0668345
Generation 3 – Graphic UI	0667721	ASCTD.18.W0J.00 or later	ASCTD.18.W0J.07**	0668345

*Not required for AAR S-4027 Compliance

**Wireless Pressure Transducer (WPT) requires ASCTD.18.W0J.06 or later

ASCTD Model Configurations – Visual Aid:



Obtaining Software Upgrades/Enhancements:

Users of Wabtec's ASCTD hardware can obtain software upgrades by contacting Wabtec Customer Service at the email address or phone number below. Requests for software upgrades must include reference to the applicable software upgrade part number found in the table above. Software can be installed by the user via a USB flash drive that is provided to the user in accordance with Wabtec's Software Terms and Conditions.

Email: Freight.CustomerService@wabtec.com

Phone: (412) 825-1000

S-4027 UPDATES?

The AAR Brake Systems Committee (and others) have a pending revisions to S-4027 to resolve several data quality issues:

- Improper employee references as the qualified person performing the test
- Missing/duplicate files (pass and fail)
- Missing or Wrong Car ID

Manufacturers must update their software to comply with the new proposed revisions and provide evidence to the BSC for approval. A circular will be issued notifying the industry of the upgrade availability and details about how it can be obtained. The industry then has 18 months to upgrade.

- Current discussion for revisions to add relayed systems





THANK YOU