



Brake Systems Committee Update

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Committee
MxV Rail

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A subsidiary of the Association of American Railroads

Brake Systems Committee 7.1's

- **Brake Components generally have a higher 7.1 rate than other freight car components**
 - Brake components are subject to more regulation than other components
 - Our S-486 Code of Air Brake System Tests is incorporated by reference in the CFR Title 49 Part 232.305

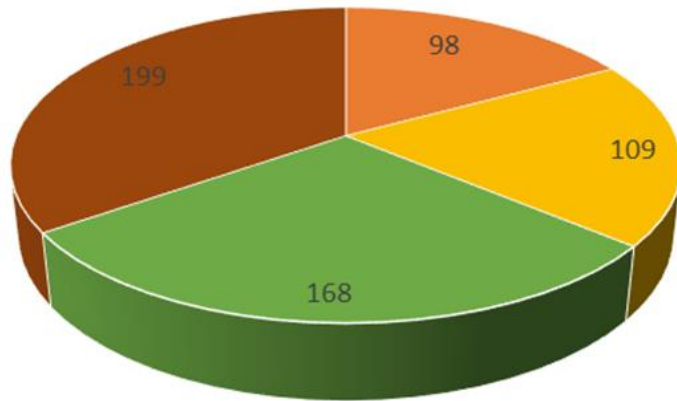
Activity Code	Activity Description	Applicable Specification (note the Activity Code)
A17	Manufacturer of Freight Brake Valves	S-462
B9	Manufacturer of Brake Hoses	M-601/M-618
B10	B10 - Manufacturer of Rubber Goods, Including Gaskets, Packing Cups and Diaphragms	S-4001
B11	Manufacturers of (Rubber) Repair Kits	S-4001
B21	Manufacturer of Freight Car Brake Shoes	M-926/M-997
B22	Recondition Freight Car Hand Brakes	S-475
B29	Manufacturer of Brake Beams	S-344
B30	Reconditioner of Brake Beams	M-300
B31	Freight Air Brake Repair Facility	S-477
B70	Reconditioner of Slack Adjusters	S-423
C1	Brake Hose Assembler	M-927/S-458

Brake Systems Committee 7.1's

- **Breakdown**

- June 20-February 23

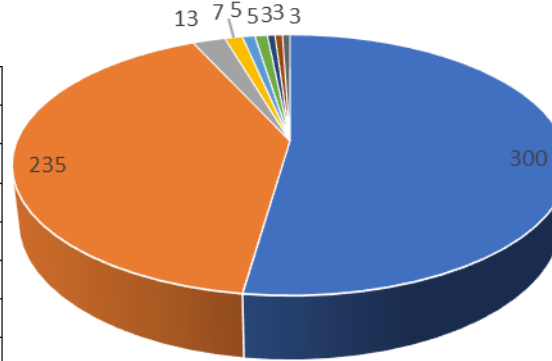
Origin of BSC 7.1's



■ 17% Repair Agents ■ 19% Car Owners ■ 29% Car Builders ■ 35% Railroads

7.1'S by Type

7.1's by Type	
300	B31
235	A17
13	B9
7	B21
5	B70
5	B29
3	B22
3	B11
3	B10



■ B31 ■ A17 ■ B9 ■ B21 ■ B70 ■ B29 ■ B22 ■ B11 ■ B10



Brake Systems Committee, EI4, EI5

- **Equipment Instructions' 4 and 5's** purpose is to comply with agreement with the Federal Railroad Administration regarding replacement of brake valves operating in cold weather territory as indicated in the Field Manual of the AAR interchange Rules, Rule 4, paragraph A.3.a:

“3. As Noted Below:

- a. Service and/or emergency portion control valves with a manufacture or recondition date (whichever is later) of 13 years may be renewed, and if over 14 years must be renewed for over age cause on a car if car meets all the below criteria:

(1) The car travels in unit train service carrying coal, grain, High Hazardous Flammable Class 3 Commodity, or Toxic Inhalation Hazard (TIH/PIH) service

AND

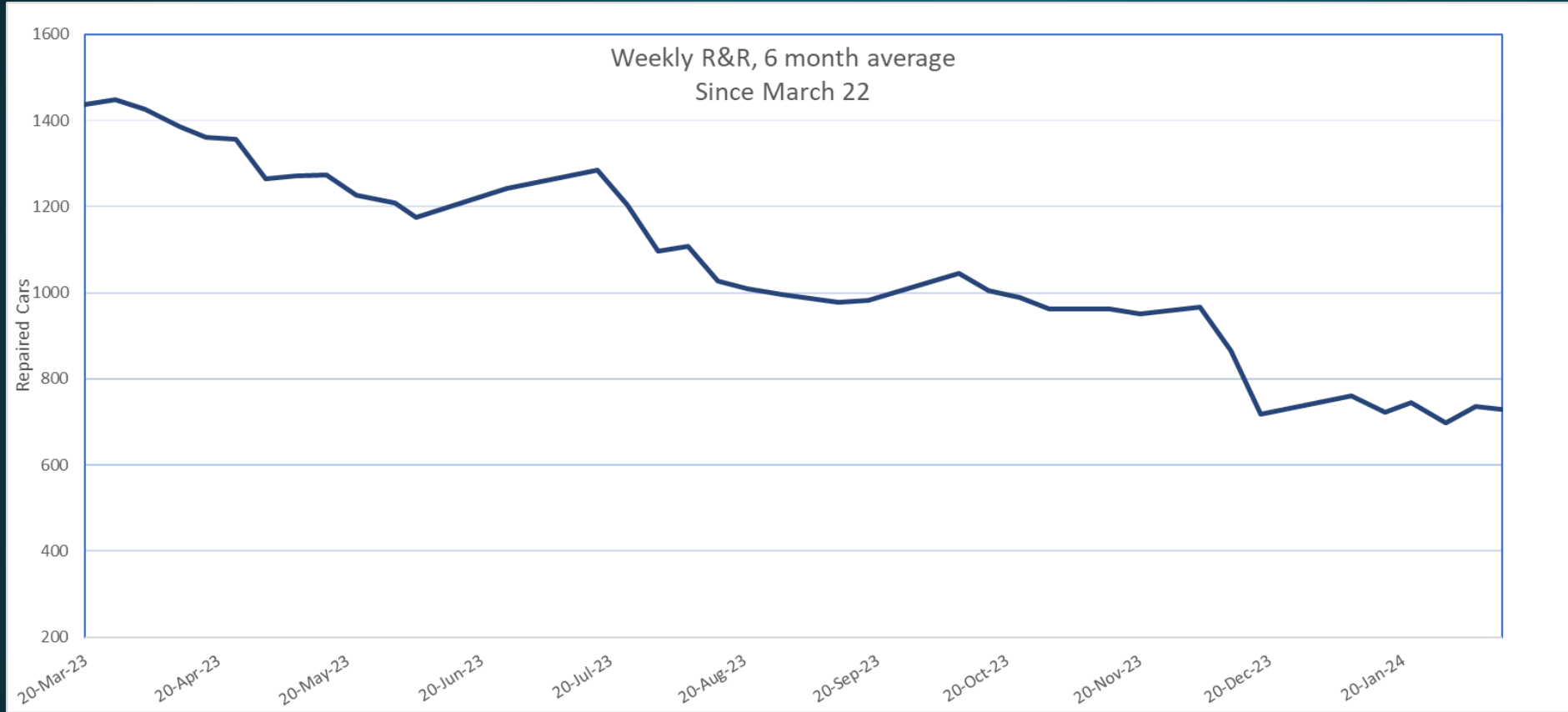
(2) Operates any part of its route in territory above the 37th parallel for any length of time within the date range of November 1st thru April 1st

- (a) Car does not need to be operating north of the 37th parallel at the time of renewal
- (b) Renewal may occur at any point throughout the year

NOTE: It is permissible to renew valves for over age when they meet the criteria above even if they do not appear on EI-0004 or EI-0005. Intermodal, Articulated, Box, Flat and Refrigerator car types; are not applicable to this Rule. The above guidance is to identify and address any cars meeting the criteria that may have not been identified by data systems.”

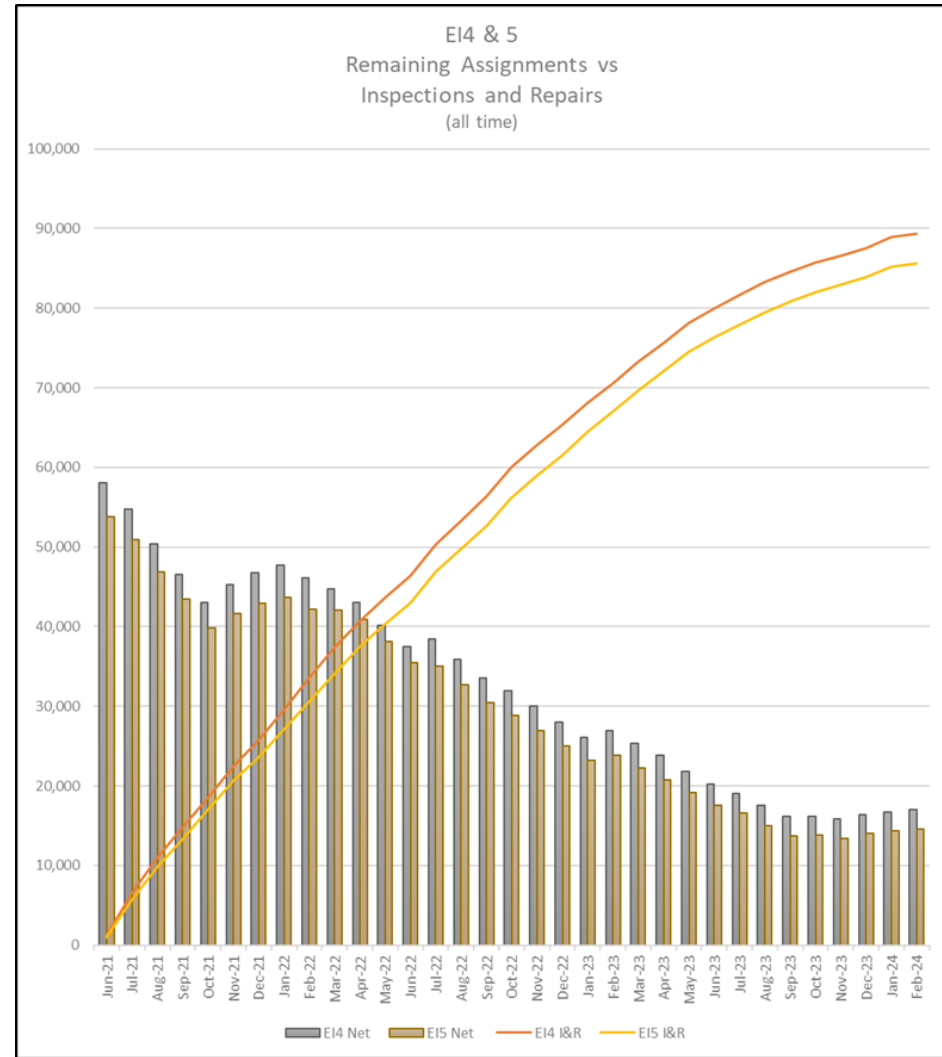
Cold Weather Cars with Brake Valves Changed					Weekly Δ	6 mo AVG
Date	Service Only	Emergency Only	Both	1 or More		
2023-03-20	14,945	12,190	47,039	74,174	770	1437
2023-03-27	15,013	12,241	47,239	74,493	319	1448
2023-04-03	15,062	12,288	47,481	74,831	338	1427
2023-04-11	15,123	12,367	47,813	75,303	472	1386
2023-04-17	15,148	12,412	47,966	75,526	223	1360
2023-04-24	15,206	12,448	48,229	75,883	357	1357
2023-05-01	15,263	12,509	48,480	76,252	369	1265
2023-05-08	15,307	12,550	48,668	76,525	273	1272
2023-05-15	15,352	12,598	48,892	76,842	317	1273
2023-05-22	15,415	12,750	49,085	77,250	408	1227
2023-05-31	15,477	12,705	49,278	77,460	210	1209
2023-06-05	15,506	12,701	49,413	77,620	160	1175
2023-06-26	15,627	12,852	49,867	78,346	726	1243
2023-07-17	15,799	12,975	50,571	79,345	999	1284
2023-07-24	15,820	13,009	50,706	79,535	190	1204
2023-07-31	15,863	13,047	50,887	79,797	262	1096
2023-08-07	15,927	13,080	51,041	80,048	251	1107
2023-08-14	15,973	13,110	51,259	80,342	294	1028
2023-08-21	15,998	13,145	51,409	80,552	210	1010
2023-08-29	16,032	13,190	51,585	80,807	255	996
2023-09-11	16,082	13,259	51,830	81,171	364	978
2023-09-18	16,114	13,295	52,006	81,415	244	982
2023-10-09	16,196	13,408	52,543	82,147	732	1044
2023-10-16	16,215	13,434	52,637	82,286	139	1006
2023-10-23	16,246	13,456	52,761	82,463	177	990
2023-10-30	16,260	13,485	52,871	82,616	153	962
2023-11-13	16,329	13,552	53,141	83,022	406	962
2023-11-20	16,353	13,583	53,231	83,167	145	951
2023-12-04	16,390	13,635	53,391	83,416	249	966
2023-12-11	16,409	13,655	53,481	83,545	129	867
2023-12-18	16,427	13,679	53,547	83,653	108	718
2024-01-08	16,509	13,741	53,848	84,098	445	761
2024-01-16	16,505	13,776	53,852	84,133	35	723
2024-01-22	16,586	13,800	54,127	84,513	380	744
2024-01-30	16,597	13,807	54,130	84,534	21	699
2024-02-06	16,671	13,858	54,432	84,961	427	735
2024-02-12	16,722	13,888	54,575	85,185	224	730

Brake Systems Committee, EI4, EI5



Brake Systems Committee, EI4, EI5

	Inspections				Assignments				Remaining		Assignment to I&R Ratio	
	EI4 I&R		EI5 I&R		EI4		EI5		EI4 Net	EI5 Net	EI4	EI5
	monthly	running subtotal	monthly	running subtotal	monthly	running subtotal	monthly	running subtotal	Assignments running subtotal minus Inspection running subtotal	Assignments running subtotal minus Inspection running subtotal	Assignments running subtotal divided by Inspection running subtotal	Assignments running subtotal divided by Inspection running subtotal
Jun-21	1,215	1,215	987	987	59,324	59,324	54,752	54,752	58,109	53,765	48.83	55.47
Jul-21	5,263	6,478	4,730	5,717	1,946	61,270	1,887	56,639	54,792	50,922	9.46	9.91
Aug-21	4,562	11,040	4,128	9,845	110	61,380	110	56,749	50,340	46,904	5.56	5.76
Sep-21	3,812	14,852	3,453	13,298	57	61,437	52	56,801	46,585	43,503	4.14	4.27
Oct-21	3,683	18,535	3,755	17,053	84	61,521	70	56,871	42,986	39,818	3.32	3.33
Nov-21	3,933	22,468	3,637	20,690	6,168	67,689	5,479	62,350	45,221	41,660	3.01	3.01
Dec-21	3,229	25,697	2,919	23,609	4,778	72,467	4,201	66,551	46,770	42,942	2.82	2.82
Jan-22	3,816	29,513	3,465	27,074	4,721	77,188	4,182	70,733	47,675	43,659	2.62	2.61
Feb-22	4,041	33,554	3,591	30,665	2,496	79,684	2,117	72,850	46,130	42,185	2.37	2.38
Mar-22	3,922	37,476	3,506	34,171	2,530	82,214	3,413	76,263	44,738	42,092	2.19	2.23
Apr-22	3,297	40,773	3,386	37,557	1,599	83,813	2,196	78,459	43,040	40,902	2.06	2.09
May-22	2,878	43,651	2,764	40,321	18	83,831	12	78,471	40,180	38,150	1.92	1.95
Jun-22	2,723	46,374	2,705	43,026	70	83,901	61	78,532	37,527	35,506	1.81	1.83
Jul-22	3,968	50,342	3,892	46,918	4,895	88,796	3,446	81,978	38,454	35,060	1.76	1.75
Aug-22	2,995	53,337	2,842	49,760	433	89,229	446	82,424	35,892	32,664	1.67	1.66
Sep-22	3,051	56,388	2,926	52,686	728	89,957	705	83,129	33,569	30,443	1.60	1.58
Oct-22	3,616	60,004	3,506	56,192	1,966	91,923	1,923	85,052	31,919	28,860	1.53	1.51
Nov-22	2,820	62,824	2,800	58,992	929	92,852	879	85,931	30,028	26,939	1.48	1.46
Dec-22	2,554	65,378	2,499	61,491	573	93,425	620	86,551	28,047	25,060	1.43	1.41
Jan-23	2,753	68,131	3,021	64,512	767	94,192	1,137	87,688	26,061	23,176	1.38	1.36
Feb-23	2,505	70,636	2,503	67,015	3,390	97,582	3,138	90,826	26,946	23,811	1.38	1.36
Mar-23	2,611	73,247	2,570	69,585	1,047	98,629	1,004	91,830	25,382	22,245	1.35	1.32
Apr-23	2,334	75,581	2,498	72,083	811	99,440	1,059	92,889	23,859	20,806	1.32	1.29
May-23	2,607	78,188	2,452	74,535	591	100,031	770	93,659	21,843	19,124	1.28	1.26
Jun-23	1,827	80,015	1,765	76,300	185	100,216	192	93,851	20,201	17,551	1.25	1.23
Jul-23	1,628	81,643	1,595	77,895	509	100,725	611	94,462	19,082	16,567	1.23	1.21
Aug-23	1,580	83,223	1,546	79,441	6	100,731	6	94,468	17,508	15,027	1.21	1.19
Sep-23	1,291	84,514	1,339	80,780	3	100,734	4	94,472	16,220	13,692	1.19	1.17
Oct-23	1,159	85,673	1,208	81,988	1,151	101,885	1,299	95,771	16,212	13,783	1.19	1.17
Nov-23	936	86,609	951	82,939	547	102,432	542	96,313	15,823	13,374	1.18	1.16
Dec-23	966	87,575	958	83,897	1,527	103,959	1,614	97,927	16,384	14,030	1.19	1.17
Jan-24	1,334	88,909	1,340	85,237	1,667	105,626	1,628	99,555	16,717	14,318	1.19	1.17
Feb-24	430	89,339	413	85,650	737	106,363	701	100,256	17,024	14,606	1.19	1.17
Totals	89,339		85,650		106,363		100,256					



Brake Systems Committee, MSRP's

Updated 12 MSRP's

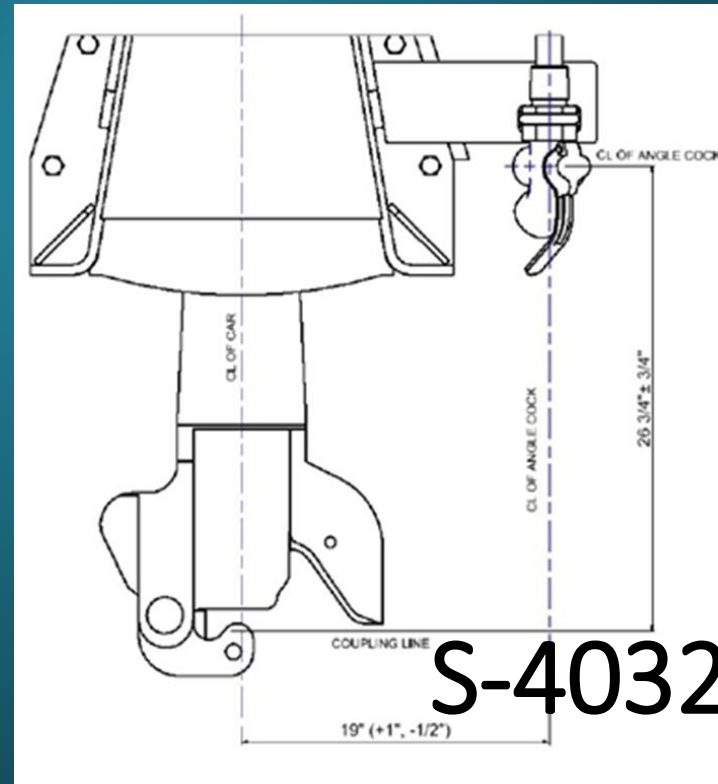
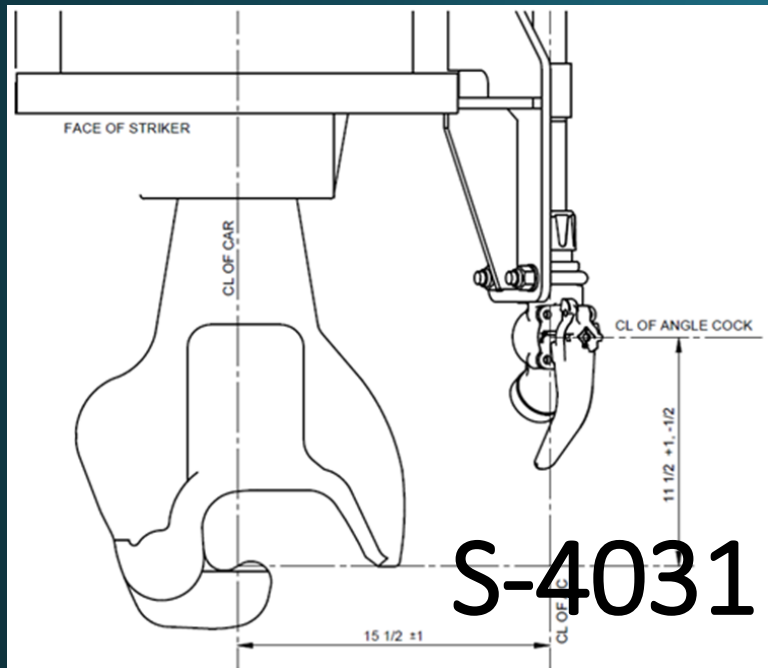
- M-927, HOSE FITTINGS AND HOSE ASSEMBLIES, AIR, WIRE-REINFORCED
- M-602, GASKETS, AIR HOSE
- S-374, BADGE PLATE FOR SHOWING CORRECT DIMENSIONS FOR BODY AND TRUCK BRAKE LEVERS
- S-400, BRAKE EQUIPMENT—INSTALLATION SPECIFICATIONS
- S-401, BRAKE DESIGN REQUIREMENTS
- S-439, HOSE CLAMPS
- S-475, HAND BRAKES
- S-486, CODE OF AIR BRAKE SYSTEM TESTS FOR FREIGHT EQUIPMENT—SINGLE CAR TEST
- S-491, HOSE COUPLING
- S-4027, AUTOMATED SINGLE-CAR TEST EQUIPMENT, CONVENTIONAL BRAKE EQUIPMENT—DESIGN AND PERFORMANCE REQUIREMENTS

Brake Systems Committee, E14, E15

Created 2 new MSRP's

S-4031, TRAINLINE ARRANGEMENT FOR CARS WITH E-TYPE COUPLERS AND WITH DRAFT SYSTEM BUFF TRAVEL OF 6 TO 10 INCHES

S-4032, TRAINLINE ARRANGEMENT FOR CARS WITH E/F-TYPE COUPLERS AND DRAFT SYSTEM BUFF TRAVEL OF 6 TO 10 INCHES



Brake Systems Committee, MSRP's

S-4031

This standard specifies the angle cock location and end hose requirement for an arrangement which may be applied to cars equipped with E-60, or E-67 type couplers with end of car draft system travel of no less than 6 inches to no greater than 10 inches from nominal to full buff position.

S-4032

This standard sets forth the angle cock location and end hose requirement for an arrangement which may be applied to cars equipped with E68 or EF511 type couplers (or similar shank length E/F couplers) and end of car draft system travel of no less than 6 inches to no greater than 10 inches from nominal to full buff position.

S-4031 and 4032 are significant because they for allow the elimination of (given certain criteria) of end hose arrangement which have been a known bad actors in undesired hose separations and subsequent service interruptions when worn out or improperly applied.

Brake Systems Committee

• S-4027

- The changes are to enhance the accuracy and consistency of Automated Single Car Test Device test data to facilitate compliance with Federal Railroad Administration requirements.

The proposed changes do not modify the test process or any technical requirements of the codified portion of the standard, which is incorporated by reference in 49 CFR 232.305(f)(1)(ii). However, the 2018 version of this standard is referenced by the CFR, and the CFR will need to be updated (as outlined in 1 CFR 51.11). This process is procedural and is not expected to impact the implementation of S-4027.

1.5 An operator ID unique to the person conducting the test must be entered prior to single car test being performed on each car number and initial being tested.

1.6 Entry screen for operator ID must include the following statement:

“The single car test you are about to perform is governed by Federal Railroad Administration regulations, and the record created by data input during the test, including the identity of the employee performing the test, is an official record. Entry of the operator ID must be formatted as instructed by your employer so that it correctly identifies the person who actually performs the single car test.”

1.7 Minimum data output requirements to a printed car test report or car test data download must include but is not limited to the following:

- Test date: Must carry over from the internally stored time/date on the ASCTD. Initial – Must allow a max of 4 alpha characters. Must be entered twice; first entry must match second entry in order to proceed.
- Car Initial: Must allow a max of 4 alpha characters. Must be entered twice; first entry must match second entry in order to proceed.
- Car Number: Must only allow a max of 6 numerical characters. Must be entered twice; first entry must match second entry in order to proceed.
- Valve Set Location: Must include a Yes/No prompt if car is equipped with more than 1 valve set. If yes, a separate field must be available for reporting location and include a numerical selection drop-down listing 1-5.
- Test device serial number: Must carry over from the ASCTD electronically stored serial number.
- Operator ID: Must conform to paragraphs 1.5 and 1.6 of this standard and must be entered twice; first entry must match second entry in order to proceed.
- Presence of a separate brake pipe venting device
- Presence of an empty/load system
- Pass/Fail (P/F) or Value as listed in Table 3.2, Record Recommended column

1.8 The device must output a passed test file of results according to Appendix A.

APPENDIX A ASCTD OFFLOADED DATA FILE DEFINITIONS

Field	Description	Format	Source	Comment
1. Test Date	Local date test was completed	YYYY-MM-DD (ISO 8601, primary)	System-generated	
2. Test Time	Time test was completed	hh:mm (ISO 8601)	System-generated	
3. Car Initial	Initial of car mark being tested	Alpha (Length: 2-4)	User-generated	Car Initial/Number must reflect the stenciling on the tested car unless it is known this information is incorrect at the time of the test.
4. Car Number	Number of car mark being tested	Numeric (Length: 1-6)	User-generated	
5. Brake System Position	AAR brake system position according to Field Manual Rule 83 "Articulated Cars"	<Blank> or Numeric (Values: 1-99)	User-generated	
6. Serial Number	Manufacturer-assigned serial number of the test device	AlphaNumeric (Length: 1-20)	System-generated	Part of device configuration
7. Operator ID	Unique identification string identifying user	AlphaNumeric (Length: 1-100)	User-generated	Formats will vary by device owner. Must be traceable to employee record.
8. Presence of a separate brake pipe venting device	Indicates if the car being tested is equipped with a separate brake pipe venting device	Y or N	User-generated	Y = Yes, the car is equipped, N = No the car is not equipped
9. Presence of an empty/load system	Indicates if the car being tested is equipped with an empty load system	Y or N	User-generated	Y = Yes, the car is equipped, N = No the car is not equipped
10. Test Result	Indicates the final test result has completed a full SCABT with a final result of pass	P	System-generated	
11. Type of Test	Indicates if the test performed was a 4-pressure or End-of-Car type test	S or E	System-generated (user option)	S = 4-pressure test performed, E = End of Car Test performed.
12. Pointer to onboard database record	Field or combination of fields in the offload file that allows traceability to a test record on board an ASCTD	N/A	System-generated	This requirement is fulfilled in current ASCTDs by combining fields 1, 2, 3, 4, and 6.
13. Software version	Software version of the ASCTD software on the primary test device	AlphaNumeric (Length: 1-255 characters)	System-generated	Part of device configuration



Brake Systems Committee, FM Rules

Rule Updates to:

- Rule 3. E.22, Added language and qualifiers to capture defect data associated with braking. (Jan 23)
- Rule 4.B 10. clarifying that when a group 3 Empty load device indicator is faulty it must be renewed with the proportioning valve (Jan 24)
- Rule 4.B.12-15 addressed the upcoming 4-pressure deadline and minority cars with clearances issues that are unable to be equipped though routine efforts (included admin reference edits to Rules 3 and 1 (July 23)

Brake Systems Committee

If you have any questions with regards to
Section E or Rules 2-13 in the FM

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THANK YOU