SOUTH CENTRAL RAILWAY

Safety.387/Fly Leaf/13/2025

Fly Leaf No. 13 / 2025

Attention..... All Concerned .....

(As per reference (i) LHB Maintenance Manual Volume II – System Documentation IRCAMTECH /GWL /MECH/ 2022-23/LHB/Manual/1.1 JULY, 2022 (Annexure -10.5, Sl.No. 27 to 27.29, Air Spring /FIBA & Chapter-4. Bogie, Annexure-C & D. (Ii) RDSOLr.No.SV.AS.FIBA, dated: 22.06.2020**)**.

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I. General Instructions to be followed for testing of FIBA.

a) Air Compressor and Connections.

a. Ensure that the Proper working of Air Compressor.
b. Ensure UT and HT Testing details of Air Reservoir.
c. Ensure Air Drier and Drain Valve connections are in working and operational condition.
d. Ensure that the all connecting line/pipe line joints are free from leakages from Air Compressor Out let to RTR & SCTR inlet.

b) Rake Test Rig (RTR) & Single Car Test Rig (SCTR)

a. Ensure RTR or SCTR Connections, Valves, Driver's Brake Valve (DBV) and connections are free from leakages.
b. Ensure Pressure Gauges provided are Calibrated and error free.
c. Working Procedure/Working Instructions to be displayed/painted at convenient/ readable location.

c) Necessary Tools & Plants.

a. Necessary Hand tools as per IRCAMTECH manual / firm's manual (OEM) to be procured and used.

d) Awareness Programmes.

a. Necessary awareness programmes /classes/meetings to be conducted to update on latest modifications/guide lines/ working procedures.

II. Maintenance instructions for FIBA

As per updated maintenance instructions for Failure Indication cum Brake Application (FIBA) device to RDSO STR no. RDSO/2015/CG-05 fitted in Air Spring fitted coaches, maintenance instruction for FIBA device were issued by RDSO vide letter No. SV. AS.FIBA dated June, 2020 and are as follows.

1. During new fitment of FIBA device in PUs and Railways-

i. All the pipe arrangement and fitment shall be done as per respective RCF Drawing.
ii. Functionality test of FIBA device during new fitment in coaches shall be done as per LHB Maintenance Manual, 4. Bogie **Annexure-D** enclosed with this.

2. During train examination and maintenance on Railways-

Following tests and checks of FIBA devices shall be done during prescribed maintenance schedule carried out on Railways in workshops and Maintenance depots.

Sl. No	**Maintenance/Checks/ Tests to be carried out**	**During Primary/ Secondary Maintenance (D1 Schedule)**	**During "A" Schedule (D2 Schedule)**	**During "B" Schedule**	**During "D3" Schedule**	**During "C" Schedule/ IOH/POH (SS1/SS2/SS3 Schedule**
1	Visually inspect condition of mounting bracket,	Yes	Yes	Yes	Yes	Yes

	mounting bolts, fasteners & FIBA device cover and tight it properly if found loose or missing nut/bolt.					
2	Visually inspect condition of isolating cocks (Open/Close), release valves, release valves handles & indicators Red/Green). It is to be ensured that FIBA device & air springs are set for its desired function & are not in isolated condition.	Yes	Yes	Yes	Yes	Yes
3	Visually inspect FIBA device, pipes and all joints for any damages/leakage and rectify.	Yes	Yes	Yes	Yes Inspect FIBA device, pipes and all joints for any leakage with soap solution.	Yes Inspect FIBA device, pipes and all joints for any leakage with soap solution.
4	*Check functioning of FIBA device as per LHB Maintenance Manual Volume II-**Annexure-C.**	*Yes(At least 01 Coach in a rake during Primary Maintenance and the same coach should not be repeated in next trips until all the coaches in a rake have been attended for functional test)	-----	-----	Yes	-----
5	Necessary schedule maintenance of FIBA device as prescribed in OEMs maintenance manual & Testing of functional behaviour as per LHB Maintenance Manual Volume II-**Annexure-D.**	-----	-----	-----	-----	Yes

*****Air will be drained from different air spring of a coach during each functionality test so that in 4 functionality tests of FIBA devices of a coach, all the 4 air springs of the coach are covered.

3. During Rolling-in/ Rolling Out Examination-

During Rolling-in/ Rolling out Examination of trains, following items of FIBA devices should be checked-

i. Indicators colour i.e. Red or Green to be checked. In case any indicator of FIBA device found red, FIBA device of same should be examined thoroughly and suitable action to be taken.

ii. Hissing sound or any major leakage form FIBA device to be observed.
iii. Any hanging or loose part, unusual sound from FIBA device or pipelines to be observed.

4. Action to be taken during actuation of FIBA device-

Following shall occur in actuated FIBA device-

i. Both Indicators of FIBA device of same bogie will turn to red.
ii. Hissing sound will start from exhaust port of FIBA device.
iii. Brake will apply in entire train.

Following action to be taken in case of actuated FIBA device.

a) Enroute-

i. Identify the coach in which FIBA device is actuated.
ii. Note down the coach particulars and location of actuated FIBA device and report to C&W control for next course of action.
iii. Close the isolating cock provided in BP line of actuated FIBA device. Brakes will release in brake release position of the train. Hissing sound will stop.
iv. Close the both isolating cock with vent feature provided between FIBA device and air springs. FIBA device will be isolated from air spring. However, indicator of FIBA device may or may not turn to green.
v. Pull the resetting keys provided on FIBA device. Indicators of FIBA device will turn to green.
vi. Isolate the air springs of affected coach.
vii. Start the train and proceed up to next C&W point or destination with maximum speed of 60kmph.

- At the next C&W point, C&W staff will examine the affected coach and check for the failure of air spring. In case failure of air spring is confirmed & cannot be attended, detach the coach or coach may be allowed up to next suitable point available (with FIBA device & air springs in isolated condition) for repair or up to destination at restricted speed. Terminating stations & enroute divisions will be communicated in this regard.

  In case failure of air spring is confirmed & attended to make it good, Air springs & FIBA device shall be set for their desired function & shall not be in isolated condition before permitting the coach in normal service with normal speed.

  In case air spring is found intact, FIBA device malfunctioning & FIBA device cannot be attended, the FIBA device may be isolated & air springs in working condition. Train may be allowed to run with normal speed with escorting staff, who shall keep monitoring condition of air spring condition at available opportunities up to destination. Terminating stations & enroute divisions will be communicated in this regard.

b) At train terminating stations -

i. Identify the coach in which FIBA device is actuated.
ii. Note down the coach particulars and location of actuated FIBA device.
iii. Examine the affected coach and check for the failure of air spring. In case failure of air spring is confirmed, FIBA device and air springs of affected coach are to be isolated.
iv. If FIBA is found to be malfunctioning, necessary attention to FIBA shall be given.
v. Detach the coach for necessary repairs of air spring or rectify the air spring.
vi. Rest the FIBA device.
vii. Test the functionality of FIBA device as per LHB Maintenance Manual Volume II- **Annexure-C.**

Note: The maintenance of FIBA devices of different makes shall be done as per manufacturer's manual.

On Vehicle Test Format for Failure Indication cum Brake Application (FIBA) Device

(For Primary Maintenance)

(LHB Maintenance Manual, 4. Bogie, **Annexure-C**)

Depot/Division/Rly/PU.....Date of Testing.....Coach No.....

POH/Mfg. Details.....Return Date.....Year Built.....

Sl. No	Test and Testing Procedure	Standard	Results Obtained			
			Bogie No.....		Bogie No.....	
			S.No of FIBA.....		S.No of FIBA.....	
			Device Make.....		Device Make.....	
			Mfg. Date.....		Mfg. Date.....	
			Air Spring. 1	**Air Spring. 3**	**Air Spring. 2**	**Air Spring. 4**
1	**Initial Charging:** I) Ensure that all isolating cocks and cut of angle cocks for charging of air springs. BP and FP should be in open condition. Other end cut of angle cocks and drain cocks provided in MR, AR and coach should be in closed position. ii) Charge the FP 6.0 Kg/ Cm^2 and BP at 5.0 Kg/Cm^2. iii) Ensure the Charging of Air Springs with the help of levelling valve lever position	---------- i) FP=6.0±0.1 Kg/ Cm^2, BP= 5.0 ± 0.1 Kg/Cm^2 ii) Levelling valve Horizontal lever should be in horizontal position.	....	....	....	....
2	**Leak Detection:** Check for any leakages in entire system. Any leakage found in FIBA device or pipelines should be attended.	No Leakages	.....	.....	.....	.....
3	**Functional Test:** Charge the Air Springs **on tare condition** of the Coach and BP at 5.0 Kg/ Cm^2. Open the ½" drain cock of 40L/60L auxiliary reservoir of one side of/respective Air Spring or air may be vented by detaching and rotating the horizontal lever of levelling valve by opening the nut.	i. FIBA device of relevant bogie should actuate. ii. Brakes should apply in entire coach. iii. Both indicators of same bogie should be red. Indicators of other bogie should show green. iv. Whistling/Hissing sound should blow.	....	....	....	....
4	**Brake Pipe Isolation :** Close the isolating cock of BP line of actuated FIBA device.	Brake should release in entire coach. Note: Indicators of some make FIBA	.....	.....	.....	.....

		device may turn to green.				
5	**Suppression of Indicator:** Close the both isolating cocks with vent feature provided between air spring & FIBA device and operate resetting mechanism (Pull/ Push/ Rotate the resetting keys/ knob) provided on FIBA device.	Both indicators of same bogie should turn to green from red. Indicators of other bogie should remain show green.	....	....	....	....
6	After functional testing, all air springs & FIBA device of coach shall be set for their desired function & not in isolated condition.	To be ensured	.....	.....	.....	.....

*****Air will be drained from different air spring of a coach during each functionality test so that in 4 functionality tests of FIBA devices of a coach, all the 4 air springs of the coach are covered.

Remarks:

Signature of Testing Official

On Vehicle Test Format for Failure Indication cum Brake Application (FIBA) Device

(For New fitment at PUs)
(**LHB Maintenance Manual, 4. Bogie**, **Annexure-D**)

Depot/Division/Rly/PU.....Date of Testing..... Coach No.....

POH/Mfg. Details.....Return Date.....Year Built…..

Sl.No	**Test and Testing Procedure**	**Standard**	**Results Obtained**			
			Bogie No.....		Bogie No.....	
			S.No of FIBA.....		S.No of FIBA.....	
			Device Make.....		Device Make.....	
			Mfg. Date.....		Mfg. Date.....	
			Air Spring. 1	**Air Spring. 3**	**Air Spring. 2**	**Air Spring. 4**
1	**Initial Charging:** i. Charge the FP 6.0 Kg/ Cm^2 and BP at 5.0 Kg/Cm^2. ii. Ensure the Charging of Air Springs with the help of levelling valve lever position.	FP= 6.0 ± 0.1 Kg/ Cm^2 BP= 5.0 ± 0.1 Kg/ Cm^2 Levelling valve lever should be in horizontal position.	....	....	....	....
2	**Leak Detection:** Close air supply & Check for any leakages in entire system for 15min. Any	Leakage should not be more than 1%	.....	.....	.....	.....

	leakage found in FIBA device or pipelines should be attended.					
3	**Functional Test:** Charge the Air Springs **on tare condition** of the Coach and BP at 5.0 Kg/ Cm^2. Open the ½" drain cock of 40L/60L auxiliary reservoir of one side/ respective Air Spring or air may be vented by detaching and rotating the horizontal lever of levelling valve after opening the nut.	i. FIBA device of relevant bogie should actuate. ii. Brakes should apply in entire coach. iii. Both indicators of same bogie should be red. Indicators of other bogie should show green. iv. Whistling/Hissing sound should blow.	....	....	....	....
4	**Brake Pipe Isolation :** Close the isolating cock of BP line of actuated FIBA device.	Brake should release in entire coach. Note: Indicators of some make FIBA device may turn to green.	.....	.....	.....	.....
5	**Suppression of Indicator:** Close the both isolating cocks with vent feature provided between air spring & FIBA device and operate resetting mechanism (Pull/ Push/ Rotate the resetting keys/knob) provided on FIBA device.	Both indicators of same bogie should turn to green from red. Indicators of other bogie should remain show green.	....	....	....	....
6	Repetition of test for testing of FIBA devices for remaining 03 Air Springs of the Coach.	Repeat the above procedure for testing of remaining 03 Air Springs accordingly and note down the reading in relevant column.	.....	.....	.....	.....
7	After functional testing, all air springs & FIBA device of coach shall be set for their desired function & not in isolated condition.	To be ensured	.....	.....	.....	.....

Remarks:

Signature of Testing Official

Disclaimer :

The above content mentioned on the subject in this FLY Leaf is an extract from different manuals, RB's letters and other letters. The same to be read in conjunction with the original letter & other manuals / letters issued from time to time and in no way can supersede them.

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SAFETY ORGANISATION **SOUTH CENTRAL RAILWAY**