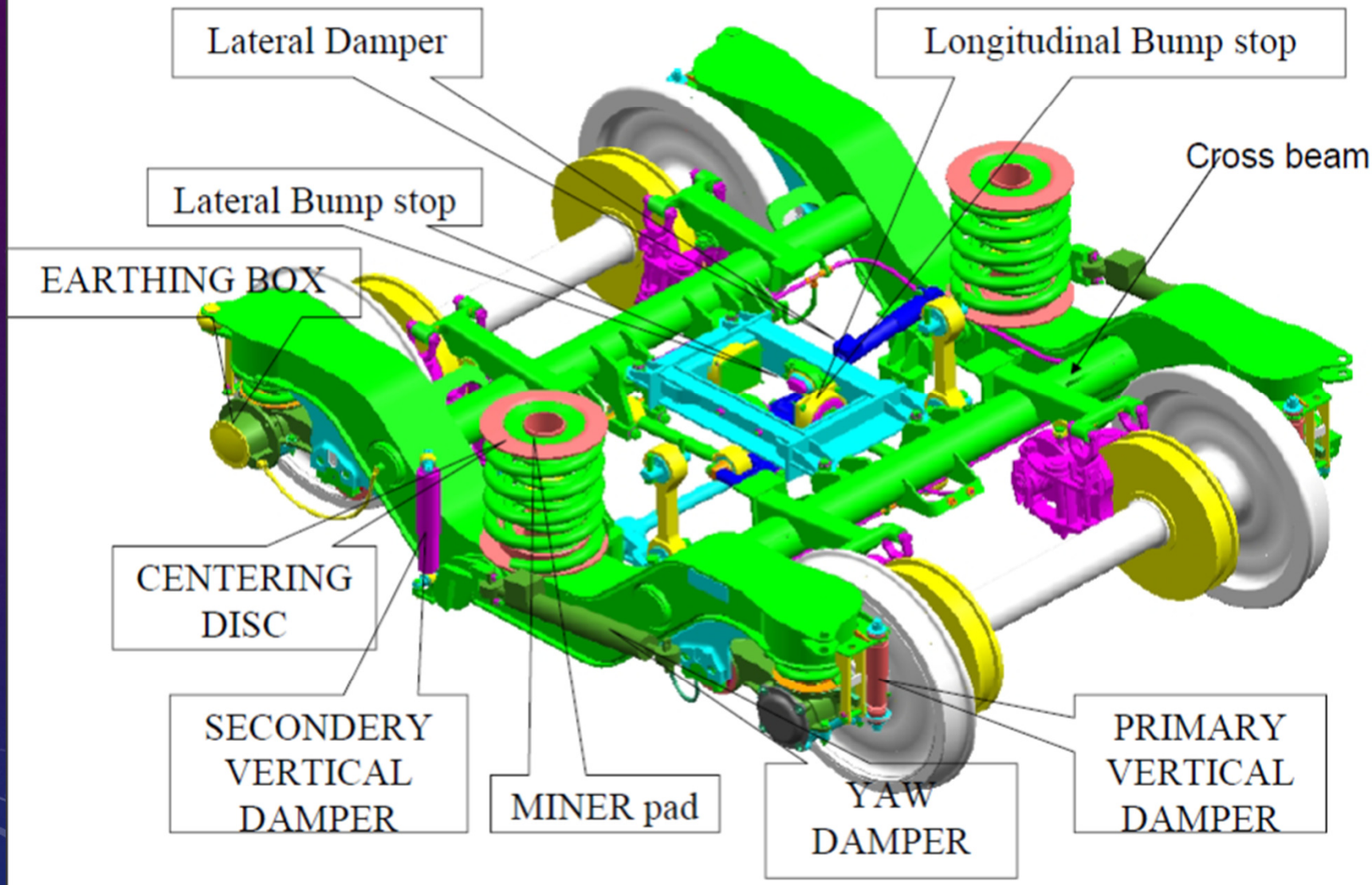
FIAT BOGIE SHOP SCHEDULES

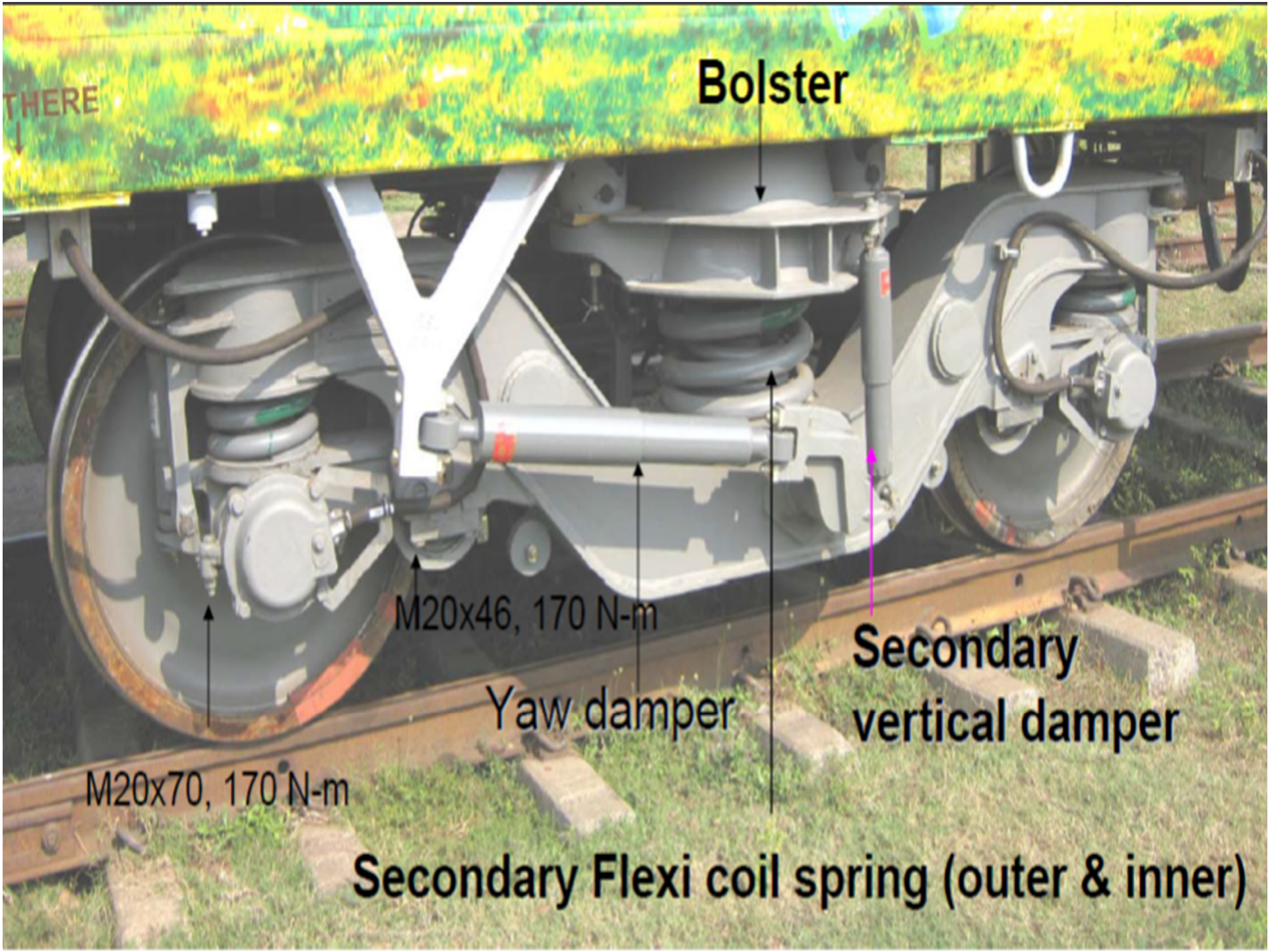
(Bolster removed)



Lifting the Coach Body

In order to disconnect the bogie from the car body, follow this sequence:

- Disconnect the pneumatic connections of the brakes
(WARNING: BE SURE THAT NO PRESSURE IS INSIDE THE PNEUMATIC SYSTEM , DISCHARGE COMPRESSSED AIR BEFORE PROCEEDING)
- Disconnect the cables of the hand brake (just for bogie 1267334)
- Disconnect the electric cables from the sensors mounted on the axle bearings
- Disconnect the ground cable between coach body and bogie frame
- Disconnect the yaw dampers from the car body supports
- Disconnect the bolster beam from the car bottom
- Lift the car body
- Roll the bogie away


THERE
Bolster
M20x46, 170 N-m
Yaw damper
Secondary
vertical damper
M20x70, 170 N-m
Secondary Flexi coil spring (outer & inner)

ELEVATED PITLINE


5S
Uncertain Items Area
FI AT BOGIE SECONDARY SUSPENSION CLAMPING & DE CLAMPING GADGET

MAINTENANCE SCHEDULES OF LHB COACHES

Coaching Depot Schedule (at nominated primary maintenance depot)

Schedule D1	:	Trip/Weekly
Schedule D2	:	Monthly ± 3 days
Schedule D3	:	Half Yearly ± 15 days

Shop Schedule Attention at workshops

Shop Schedule I (SS-1) : 18 months / 6 lakh Kms whichever is earlier

Shop Schedule II (SS-2) : 36 months /12 lakh Kms whichever is earlier

Shop Schedule I(SS-1.2) : 54 months /18 lakh Kms whichever is earlier

Shop Schedule III (SS-3) : 72 months /24 lakh Kms whichever is earlier

Shop Schedules in comparison with one another :

Bogie Frame and Bogie Bolster

 Examine the bogie frame and bolster for cracks, damages and corrosion. Check all the welded joints with dye penetration.
If crakes are found, hold the bogie frame in a suitable manipulator, and rectify.

SS1 – WATER JET CLEANING
SS2 & SS3 – SAND/SHORT BLASTING & DPT

 Corroded bogie frames should be attended as follows:- no. MDTS 166 (Rev.2) and MDTS 094. **NOTE:** ***Small pitting holes upto a maximum depth of 3 mm may be permitted on the*** *frame, provided these are a) Staggered and non continuous b) Are not concentrated on the bottom bend portion of the side frame.*


FIXUTRE FOR ANTI ROLL BAR
CN - 10851
BN - 107861 (MY)
Built (2010)


FIAT BOGIE

Traction Centre

- Perform a general overhaul of the traction centre components (Traction lever, Traction Rods). Remove signs of corrosion, renew corrosion protection and repaint the components.
- Replace the rubber bush and the rubber joints, if necessary.

Tractioin center ball joint & traction rod silent block

SS1 – CONDITIONAL BASIS
SS2 – MUST CHANGE (NON AC) / CONDITIONAL BASIS (AC)
SS3 – MUST CHANGE for BOTH AC & NON AC

Rotation Limiter/curve roll

- Check condition of the steel roll and pin for wear/damages. Replace, if Necessary

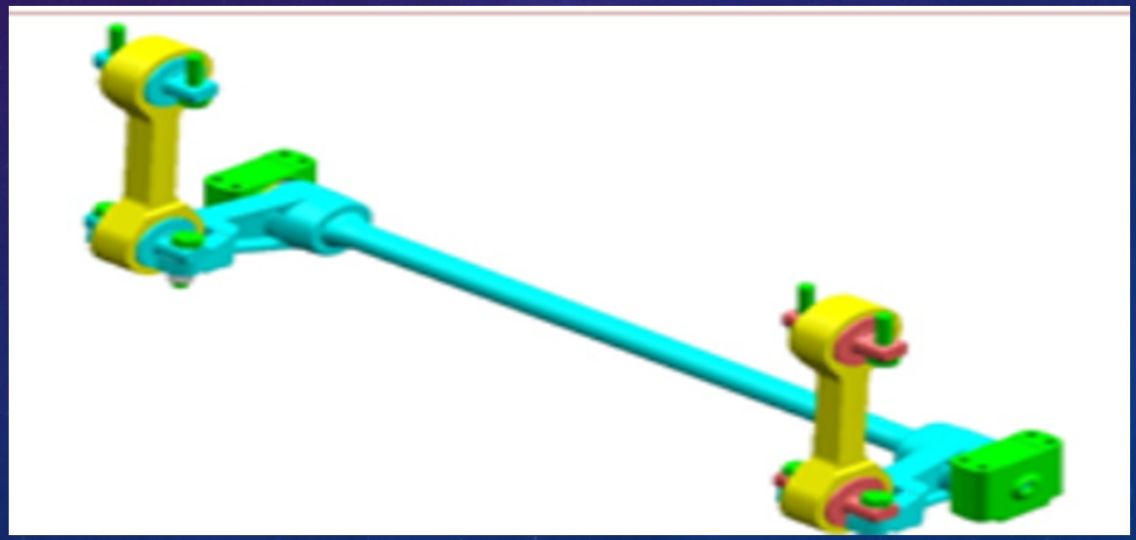
Anti-Roll Bar Assembly

 Perform a general overhaul of the anti-roll bar. Remove signs of corrosion, renew corrosion protection and repaint the anti-roll bar and the links

Anti roll bar bearing

SS1 – CONDITIONAL BASED

SS2 & SS3 – MUST CHANGE (both AC & NON AC)




15.8
INDUCTION HEATER
UNITECH

Control Arm

- Perform a general overhaul of the control arm: remove signs of corrosion, renew corrosion protection and repaint the components.
- If the control arm bearing surface reaches a diameter of 230.5 mm (i.e. wears out by more then 0.5 mm), the control arm should be considered worn out and rejected.
- In case, the dia. is between 230.5 mm and 230.312 mm, the control arm may be re-machined by providing a cut of 0.3 to 0.5mm on the face of control arm. (This machining operation should not be carried out more than once).
- In case, the diameter is less than 230.312 mm, the control arm may be reused without re machining.
- The control arm mating surface with bearing should be coated with **" Blasol– 135"/ANTI CORROSION** solution, to prevent corrosion.

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Ball joint for control arm :

SS1 – CONDITIONAL BASIS CHANGING
SS2 – MUST CHANGE (NON AC) / CONDITIONAL BASIS (AC)
SS3 – MUST CHANGE for BOTH AC & NON AC

MINOR PAD

SS1 – CONDITIONAL BASIS CHANGING

SS2 – MUST CHANGE (NON AC) / CONDITIONAL BASIS (AC)

SS3 – MUST CHANGE for BOTH AC & NON AC

RUBBER ITEMS IN FIAT BOGIE

- Rubber bush for traction centre
- Rubber joint for control arm
- Elastic joint for traction rods
- Joints for anti roll bar
- Longitudinal bump stops
- Lateral bump stops
- Rubber disc and bump stop for primary suspension
- Minor pad and rubber spring for secondary suspension

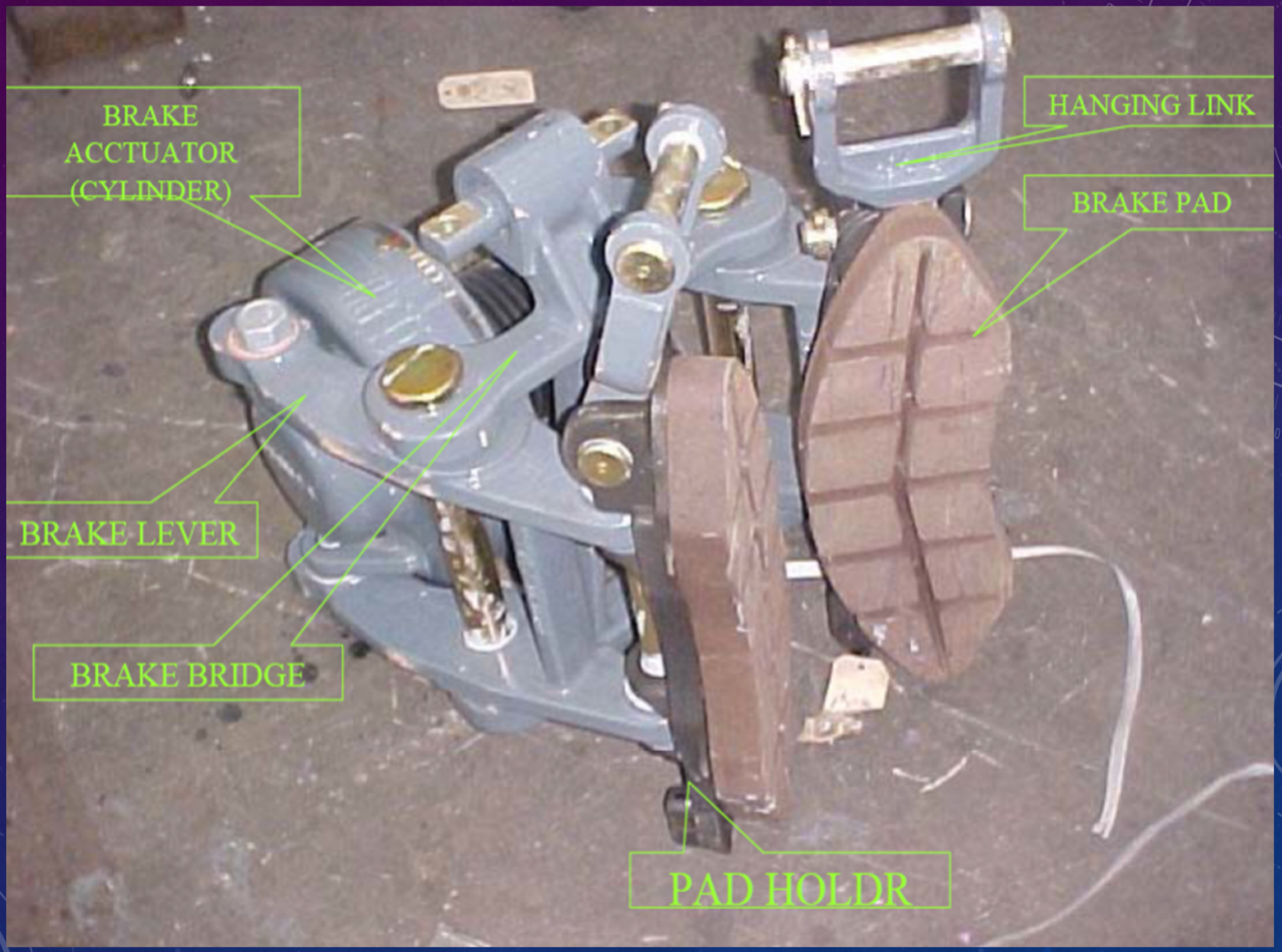
Brake Equipment

Perform function test of the Air Brake system components: (Distributor valve, Check valve, Isolating cocks/angle cocks, Filters, indicators, test fittings , Emergency brake valve & pull box, Brake cylinders, 8WSP Equipment)

SS1 – FUNCTIONAL TEST

SS2 – FUNCTIONAL TEST OF CYLINDER&CALIPER UNIT, OVER HAULING OF DV&OTHER COMPONENTS

SS3 – OVER HAULING OF CALIPER UNIT , OVERHAULING OF DV & OTHER EQUIPMENT


BRAKE
ACCTUATOR
(CYLINDER)
HANGING LINK
BRAKE PAD
BRAKE LEVER
BRAKE BRIDGE
PAD HOLDR

Dampers

- Damper should be tested during Shop Sch.-I and Shop Sch.-II (or early in case of oil leakages) as per parameters given in RCF drawings, read alongwith FIAT specification no. 17.560.100.
- Dampers should be replaced during Shop Sch-III (6 years).

Sweating (in service)

Oil drops (Must replace)

Examples of worn bushings

Axle Box Instruments :

Overhaul the grounding equipment. Check spring mechanism for self-regulation.

Replace carbon bar and slip assembly. Replace all worn parts.

Carry out overhauling and testing of WSP equipment as per OEM's instructions.

Two brake disks (4), diameter 640 mm and width 110 mm

wheel discs of dia915 (New), 845 (worn).

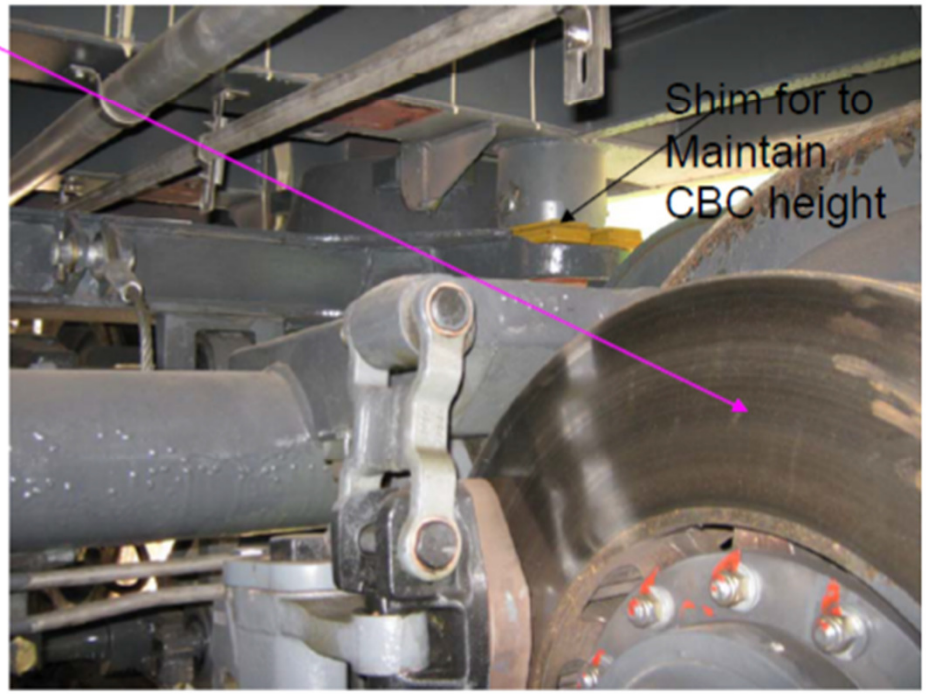
SS1 – ONLY TYRE TURNING

SS2 & SS3 – BEARING MUST BE DISMOUNTED; OVERHAULED & WHEEL BALANCING must be done.

Brake Disc (dia-640mm, width-110 mm), Gray cast Iron

Check Points:

- Crackness
- Wearness (7mm in one side, 14 mm in both side)
- Pitting
- Ovality
- Heat Crack
- Thermal Crack



- Breakage of Cooling fins (consecutive 5 nos. & 9 nos. of fins breakage are not permissible in FTIL make, KB make respectively)
- Tightness of Brake disc nuts.

Primary/Secondary Suspension :

- Check lower and upper centering discs for corrosion, wear, damage and cracks, Replace, if necessary.
- Examine the condition of rubber and rubber/metal bonded parts for damage, cracks and ageing. (Miner pads, rubber springs etc.). Replace, if necessary.

SS1 – SPRINGS THROUGHLY CLEANED & PAINTED

SS2 & SS3 – SPRINGS MUST BE LOAD TESTED 3 DIMENSINALLY FOR ALIGNMENT DEVIATION

COLOUR OF FIAT BOGIE SPRINGS

The springs are marked with different color paints pertaining to different builds of bogies. The following color are to followed:

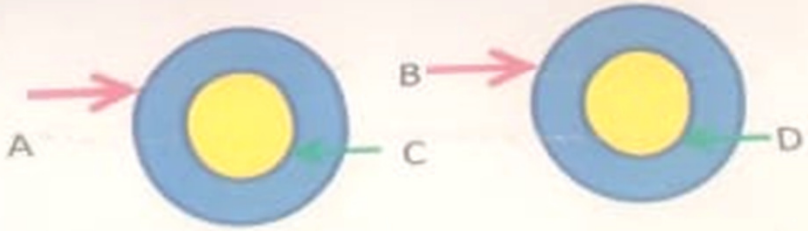
TYPE OF BOGIE	COLOUR OF THE SPRINGS			
	PRIMARY SPRING		SECONDARY SPRING	
	INNER	OUTER	INNER	OUTER
LACCW LFAC LFCZAC LSCZAC LWCBAC	GREEEN	GREEEN	GREEN	GREEEN
LACCN	YELLOW	GREEEN	GREEEN	YELLOW
LS,LSCN, LSCZ	BLACK	BLACK	BLACK	BLACK
LLRRM	YELLOW	YELLOW	BLUE	Yellow

Ensure the same colour Springs are assembled in the individual type of FIAT Bogies as indicated above

SPRING MARKING WITH NON-FERROURS METAL BAND

Conditions:

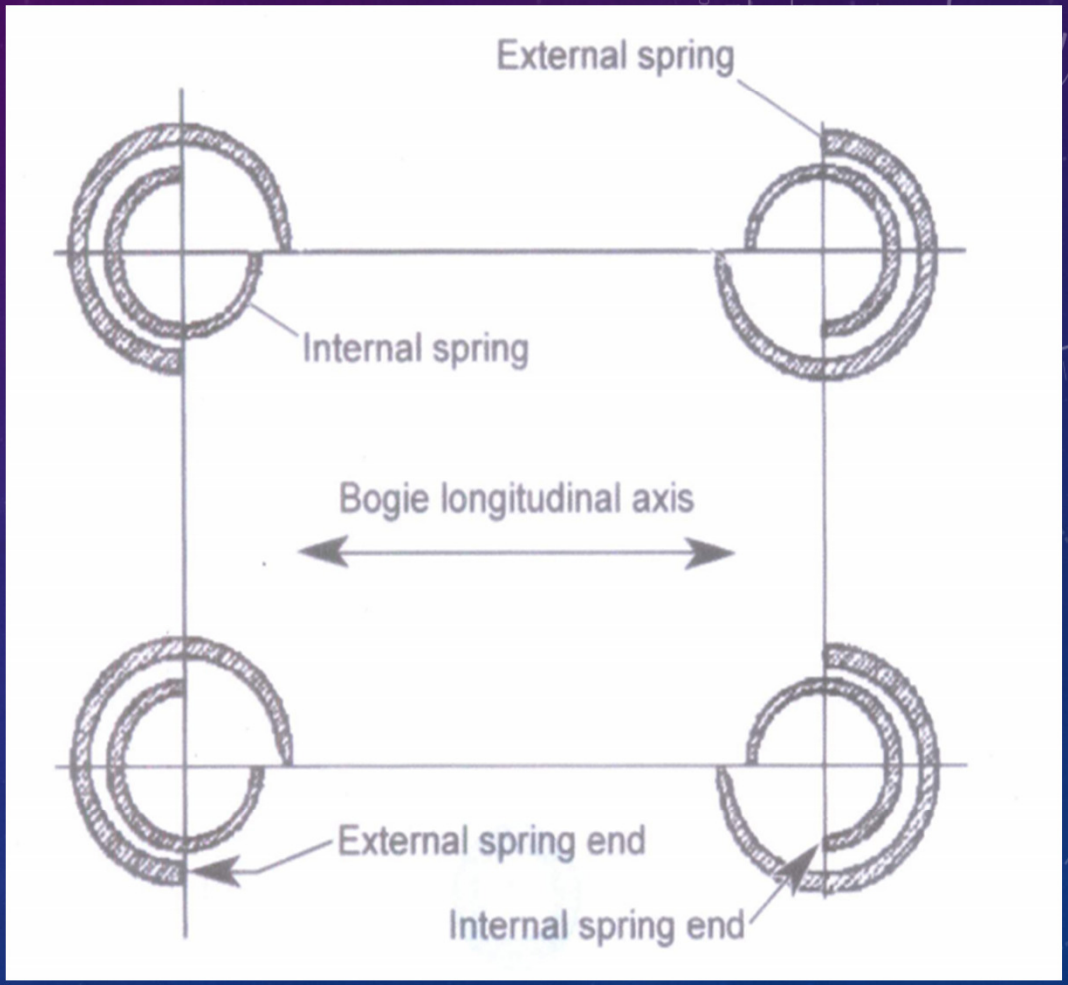
1. The difference between lengths of two outer springs should not exceed 2mm.
2. The difference between alignment deviation ($$) of two Outer springs: For New – 4mm, Serviceable – 8mm and that of inner springs – 8mm
3. Ensure



Diff(A-B)<4mm
Diff(C-D)<8mm
Also ensure: A>B and C>D

SECONDARY SPRINGS SEATING

PRIMARY SPRINGS SEATING ARRANGEMENT



MUST CHANGE ITEMS (CONCLUSION)

SS1 – ALL ITEMS CHANGED ON CONDITIONAL BASIS ONLY

SS2 – for AC : MINOR PAD, ANTIROLL BAR BEARINGS
ALL RUBBER ITEMS ON CONDITIONAL BASIS
for NAC : ALL RUBBER ITEMS & ANTIROLLBAR BEARINGS

SS3 – ALL RUBBER ITEMS & ANTIROLLBAR BEARINGS
ALL DAMPERS

THANK YOU

@PRASHANTH