



RAIL COACH FACTORY, KAPURTHALA
(Coach Alteration Instruction No. CAI/RCF/MECH/LHB/016)

MD21561

Date: 21.06.2019

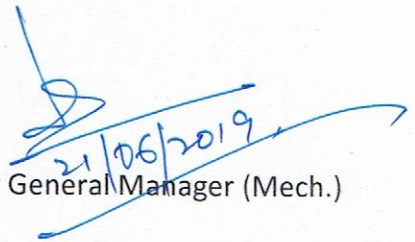
Sub.: Revised drawings of Primary Suspension Arrangement of LHB coaches.

1. **CAI No. :** CAI/RCF/MECH/LHB/016
2. **Group:** FIAT Bogie primary suspension (Thickness of compensating ring specified)
3. **Description:** To use mandatory CR of specified thickness in primary suspension.
4. **Drawing No:**

#	Coach Type	Primary suspension drawing No. & alt
1	<ul style="list-style-type: none"> • AC Chair Car, Exe. Chair Car, 1st class coach, Hot Buffet: with coil/air spring in secondary suspension • AC-2T, and Composite (LWFCWAC) : with coil spring in secondary suspension 	1268732 alt 07R2
2	<ul style="list-style-type: none"> • Power car & Double decker with coil/air spring in secondary suspension 	1272174 alt 06R1
3	<ul style="list-style-type: none"> • AC-3T with coil/air spring in secondary suspension • AC-2T & Composite coach (LWFCWAC) with air spring in secondary suspension 	LW01001 alt 'c'

3. **Modification:** Thickness of compensating ring has been specified and is to be provided below primary bump stop in LHB coaches as per above drawings.
4. **Reason for modification:** Spring breakage cases are being reported by Zonal Railways. A meeting was held at RDSO and it was decided jointly by RDSO and RCF to provide compensating rings of thickness specified in the above drawings below primary bump stop as safety factor and safety against stress amplitude during dynamic condition is improved.
5. **Coach type:** Above LHB coaches.
6. **Implementation stage:** SS-I/SS-II/SS-III/Sick Line.

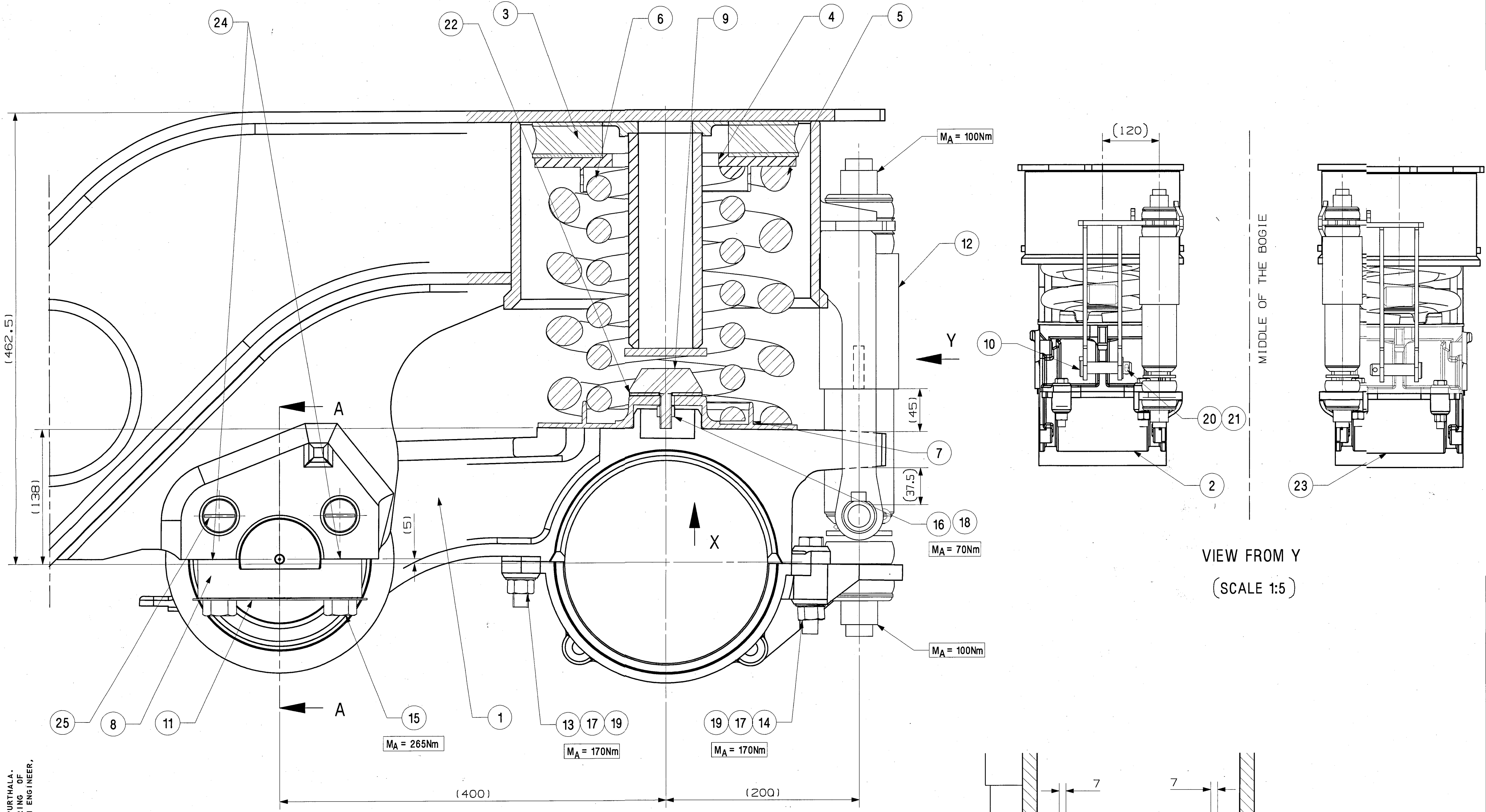
Encls: As above


 For General Manager (Mech.)

Copy to:

All Chief Mechanical Engineers of IR
All Chief workshop Engineers of IR

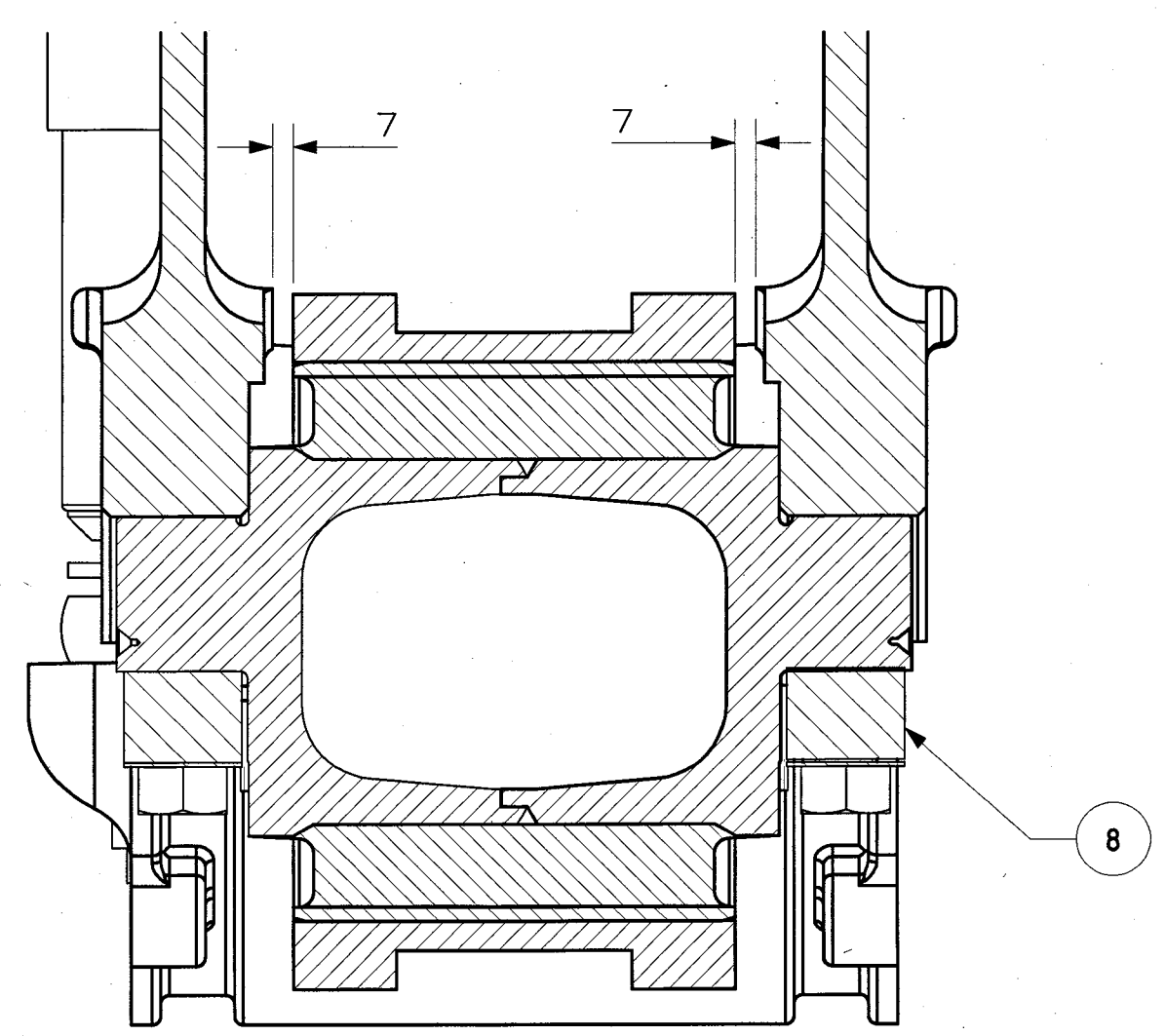
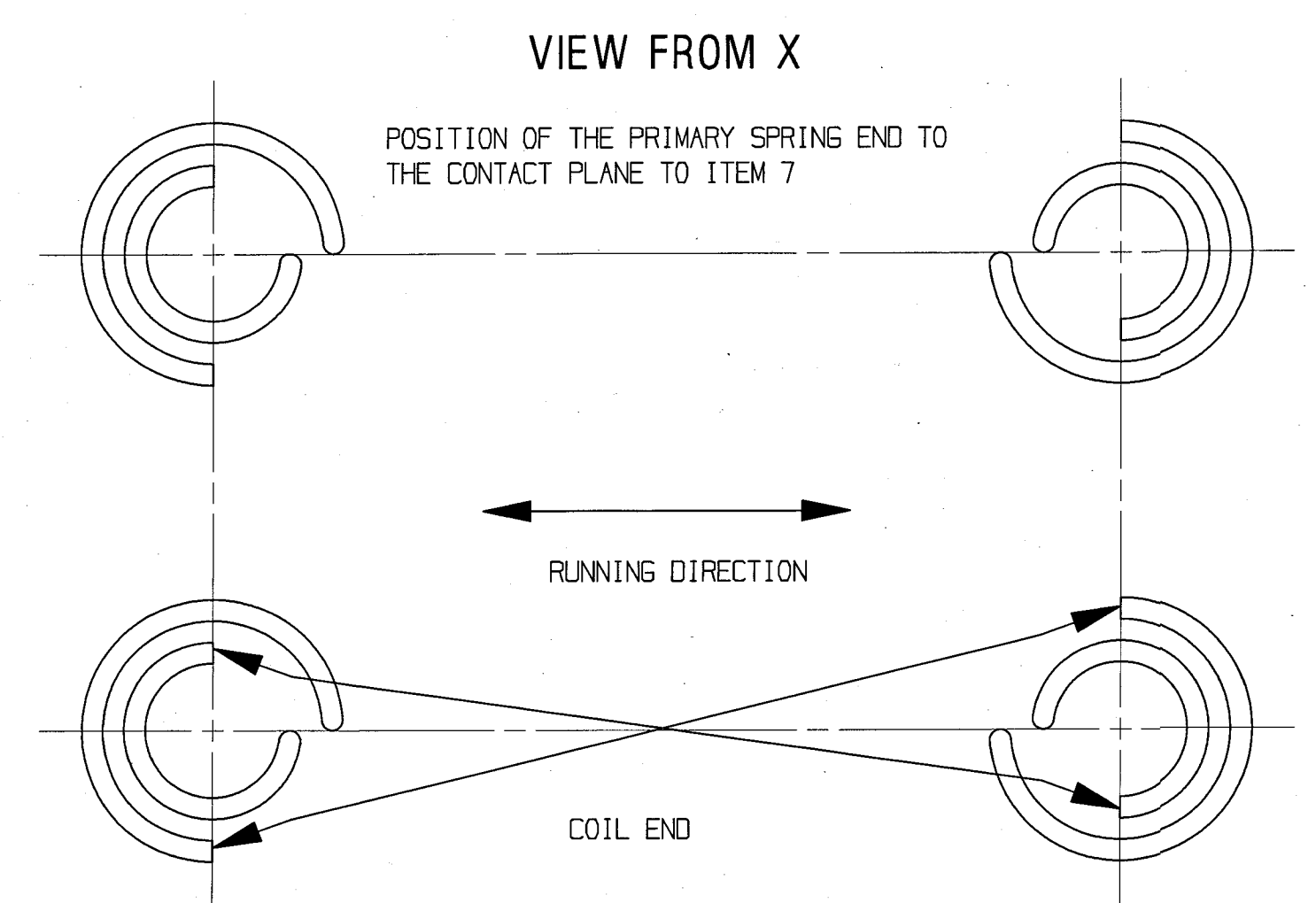
ALT. NO.	ALT. DATE	ZONE	ALTERATIONS	AUTHORITY
07R	27/09/2018	ALL	BILL OF MATERIAL UPDATED	DY. CME D-1 NOTING ON MD44121
07R1	08/06/2019	D-7	THICKNESS DEFINED FOR ITEM NO. 22	DIC NO. - MD190021
07R2	17/06/2019	D-16	NOTE MODIFIED	DIC NO. - MD190021



NOTE:

COACH TYPE	THICKNESS OF COMPENSATING RING (AIR SPRING IN SEC. SUSPENSION)	THICKNESS OF COMPENSATING RING (COIL SPRING IN SEC. SUSPENSION)
LWFCZAC	4 mm	4 mm
LWSCZAC	4 mm	4 mm
LWFAC	4 mm	4 mm
LWACCW	NA	4 mm
LWFCWAC	NA	4 mm
LWCBAC	6 mm	6 mm

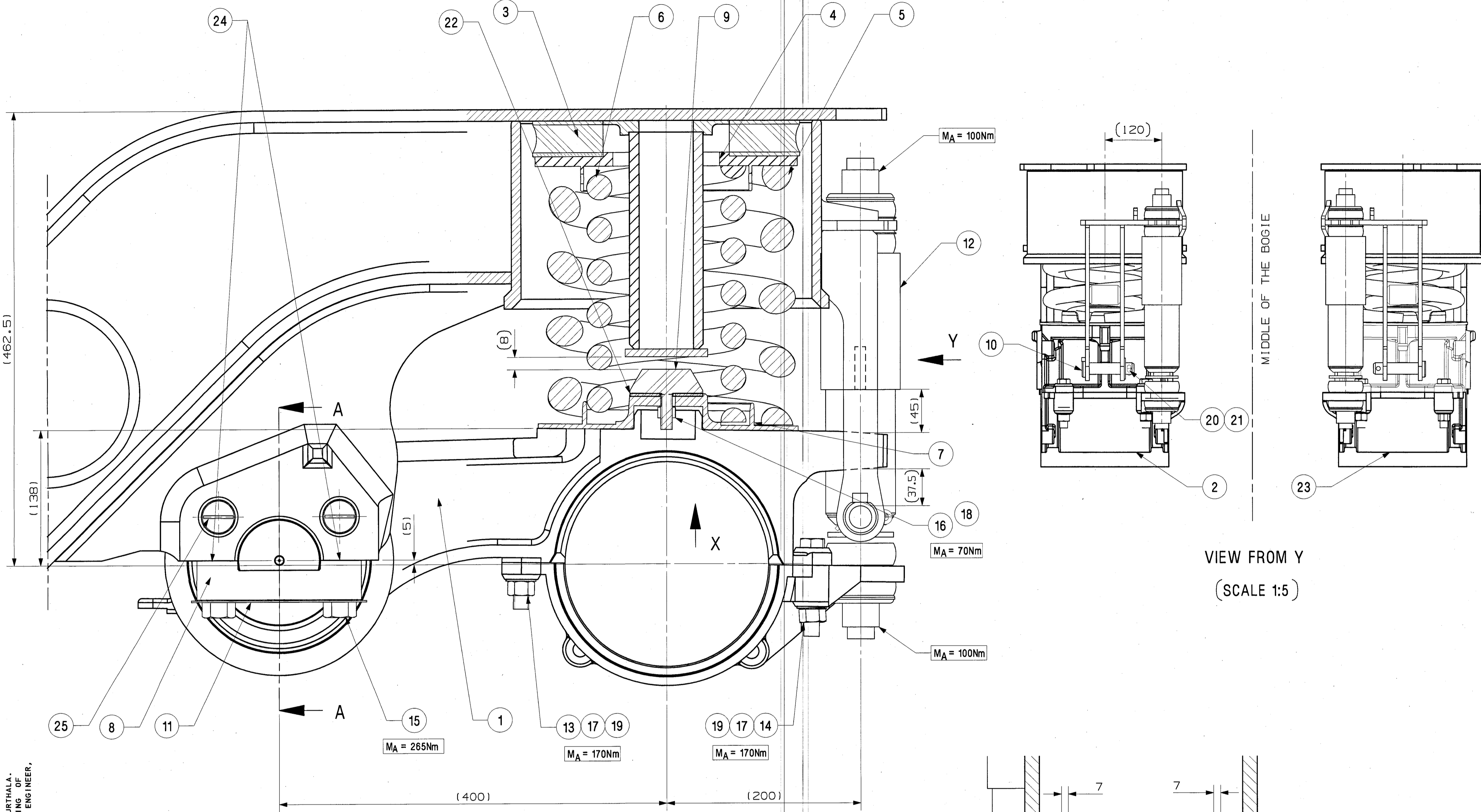
ITEM	DESCRIPTION & DIMENSIONS	QTY	ASSY	DETAIL DRG	MATL. & SPEC.	REMARKS
25	LOCKING PIN	8	1227320		NIL	NIL
24	SEALING O-RING 35502000	8	IS: 9975-81 PT-1 TAB-1	IS: 9975-84 PT-2 CL-A		NIL
23	CONTROL ARM LOWER RIGHT	1	1267717		NIL	NIL
22	COMPENSATING RING	2	1227229		NIL	SEE NOTE
21	SPLIT PIN 8X45	2	NIL	IS: 549-05, ST 34		COATING TO MDT5 057
20	MACHINED WASHER 25	2	NIL	IS: 2016-1967 TAB1, STEEL		COATING TO MDT5 057
19	PUNCH WASHER A18	8	LIHW09	IS: 2016-1967 STEEL		ITEM-11 COATING TO MDT5 057
18	SPRING WASHER B12	2	LIHW09	IS: 3063-1994		ITEM-22 COATING TO MDT5 057
17	ALL METAL PREVAILING TORQUE TYPE HEX NUT M16	8	NIL	DIN934/DIN934 IS: 1367-02, PT-8 10, A35		NIL
16	ALL METAL PREVAILING TORQUE TYPE HEX NUT M12	2	NIL	DIN934/DIN934 IS: 1367-02, PT-8 10, A35		NIL
15	HEX HEAD BOLT - M20X100	8	NIL	IS: 1364-02 PT-1 IS: 1367-02 PT-3 10.9 CE		COATING TO MDT5 057
14	HEX HEAD BOLT M16X90	4	NIL	IS: 1364-02 PT-1 IS: 1367-02 PT-3 10.9 CE		COATING TO MDT5 057
13	HEX HEAD BOLT M16X70	4	NIL	IS: 1364-02 PT-1 IS: 1367-02 PT-3 10.9 CE		COATING TO MDT5 057
12	PRIMARY VERTICAL DAMPER	2	LW05102		NIL	NIL
11	LOCKING PLATE	4	1356259		NIL	NIL
10	PIN	2	LW01116		NIL	NIL
9	VERTICAL BUMP STOP	2	1227081		NIL	NIL
8	FIXATION BALL JOINT	4	1227331		NIL	NIL
7	CENTRING DISC	2	1902431		NIL	NIL
6	INNER PRIMARY SPRING	2	1267412		NIL	NIL
5	OUTER PRIMARY SPRING	2	1267411		NIL	NIL
4	CENTRING DISC	2	1262875		NIL	NIL
3	RUBBER PAD	2	1901097		NIL	NIL
2	CONTROL ARM LOWER LEFT	1	1267716		NIL	NIL
1	CONTROL ARM UPPER ASSLY	2	1268845		NIL	NIL



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WELD LENGTH	ITEM	DESCRIPTION & DIMENSIONS	QTY	ASSY	DETAIL DRG	MATL. & SPEC.	REMARKS
NIL	M	GROUP	PRIMARY SUSPENSION			SUPERSEDES: 1268732 ALT 07R1	
		WEIGHT	FILE	\\10.12.17.2\bogie\126873207R2.prt (3D)			
NIL	KG	S. AREA		SCALE	SSE/REC		
NIL	M ²	LENGTH/DIA		1:2	CHD	SNDP	
NIL	M	WIDTH/THICK.		DRN	PKRV	PKRV	
NIL	M	HEIGHT		RAIL COACH FACTORY, KAPURTHALA			REF.DRG.No. 1268732 VER.07
NIL	M			रल कोच फैक्टरी कपूरथला			PL NO. 0000000
				IRS			DRG.NO. 1268732
				17.06.2019			ALT. 07R2SSE/REC/1/1

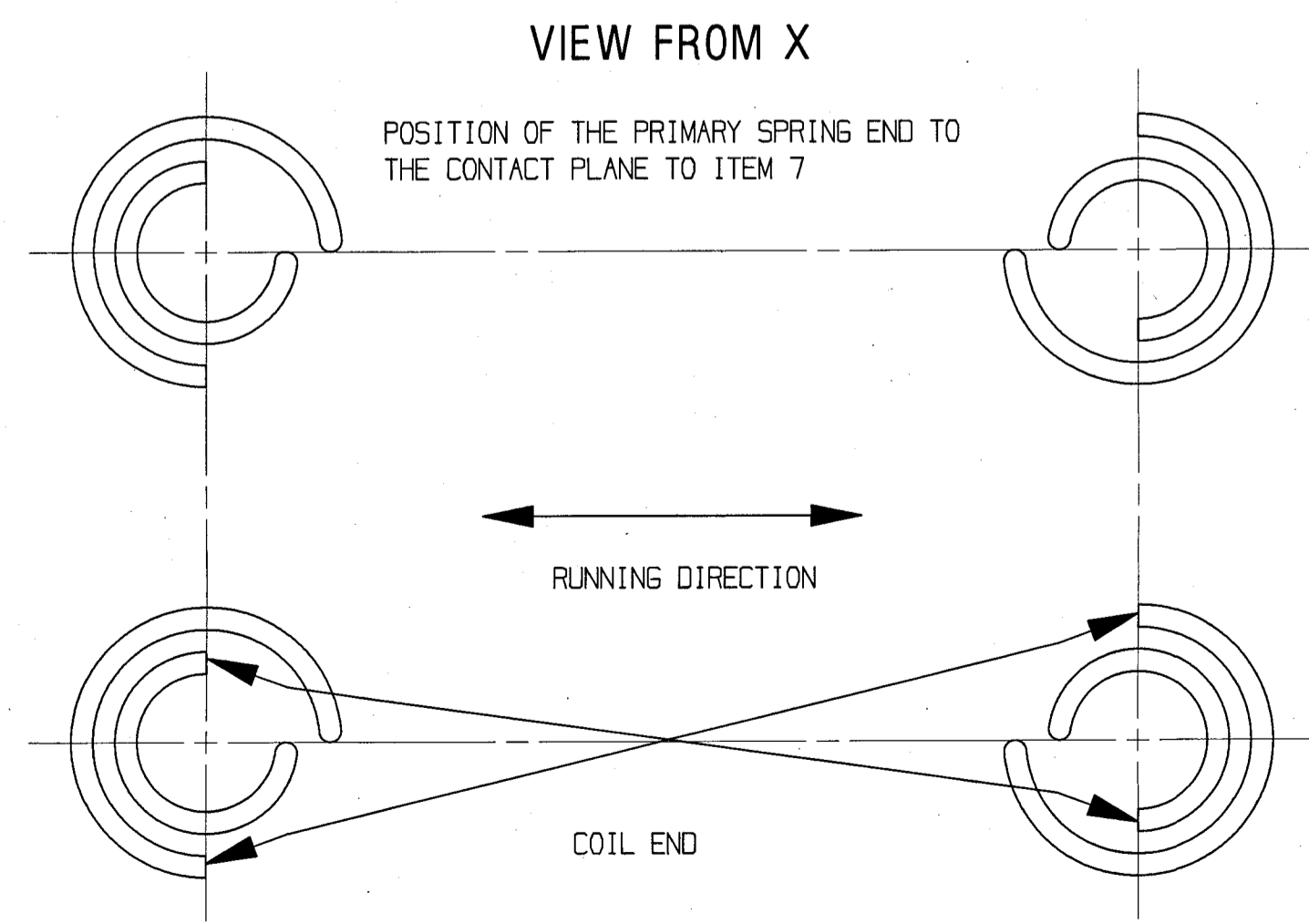
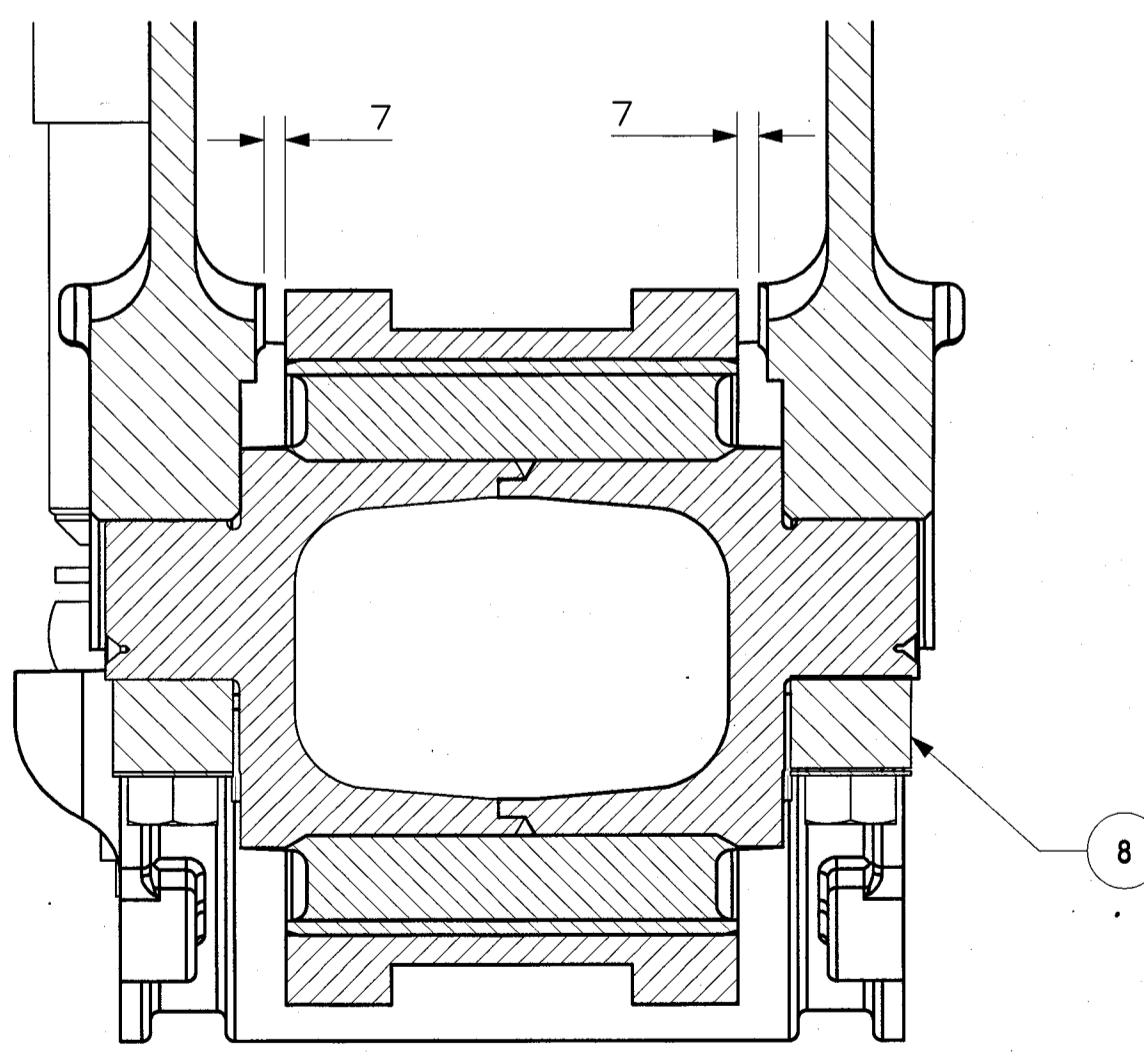
ALT. NO.	ALT. DATE	ZONE	ALTERATIONS	AUTHORITY
06R	27/09/2016	ALL	BILL OF MATERIAL UPDATED.	DY. CME D-1 NOTING ON MD44121
08R	04/06/2019	ALL	THICKNESS DEFINED FOR ITEM NO. 22	DIC NO. - MD190021



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COACH TYPE	COMPENSATING RING THICKNESS (IN MM)
POWER CAR	8
DOUBLE DECKER	8

ITEM	DESCRIPTION & DIMENSIONS	QTY	ASSEMBLY	DETAIL DRG	MATL. & SPEC.	REMARKS
25	LOCKING PIN	8	1227320		NIL	NIL
24	SEALING O-RING 35502000	8	IS: 9975-81 PT-1 TAB-1		IS: 9975-84 PT-2 CL-A	NIL
23	CONTROL ARM LOWER RIGHT	1	1267717		NIL	NIL
22	COMPENSATING RING	2	1227229		NIL	*
21	SPLIT PIN 8X45	2	NIL		IS: 549-05, ST 34	COATING TO MDTS 057
20	MACHINED WASHER Z5	2	NIL		IS: 2016-1967 TAB1, STEEL	COATING TO MDTS 057
19	PUNCH WASHER A18	8	LIHW09		IS: 2016-1967 STEEL	ITEM-11 COATING TO MDTS 057
18	SPRING WASHER B12	2	LIHW09		IS: 3063-1994	ITEM-22 COATING TO MDTS 057
17	ALL METAL PREVAILING TORQUE TYPE HEX NUT M16	8	NIL		DIN925/DIN980V IS: 1367-02 PT-8 10, A3B	NIL
16	ALL METAL PREVAILING TORQUE TYPE HEX NUT M12	2	NIL		DIN925/DIN980V IS: 1367-02 PT-8 10, A3B	NIL
15	HEX HEAD BOLT M20X100	8	NIL		IS: 1364-02 PT-1 IS: 1367-02 PT-3 10, 9 CE	COATING TO MDTS 057
14	HEX HEAD BOLT M16X90	4	NIL		IS: 1364-02 PT-1 IS: 1367-02 PT-3 10, 9 CE	COATING TO MDTS 057
13	HEX HEAD BOLT M16X70	4	NIL		IS: 1364-02 PT-1 IS: 1367-02 PT-3 10, 9 CE	COATING TO MDTS 057
12	PRIMARY VERTICAL DAMPER	2	LW05102		NIL	NIL
11	LOCKING PLATE	4	1356259		NIL	NIL
10	PIN	2	LW01116		NIL	NIL
9	VERTICAL BUMP STOP	2	1227081		NIL	NIL
8	FIXATION BALL JOINT	4	1227331		NIL	NIL
7	CENTRING DISC	2	1902431		NIL	NIL
6	INNER PRIMARY SPRING	2	1277143		NIL	NIL
5	OUTER PRIMARY SPRING	2	1277142		NIL	NIL
4	CENTRING DISC	2	1262875		NIL	NIL
3	RUBBER PAD	2	1901097		NIL	NIL
2	CONTROL ARM LOWER LEFT	1	1267716		NIL	NIL
1	CONTROL ARM UPPER ASSLY	2	1268845		NIL	NIL



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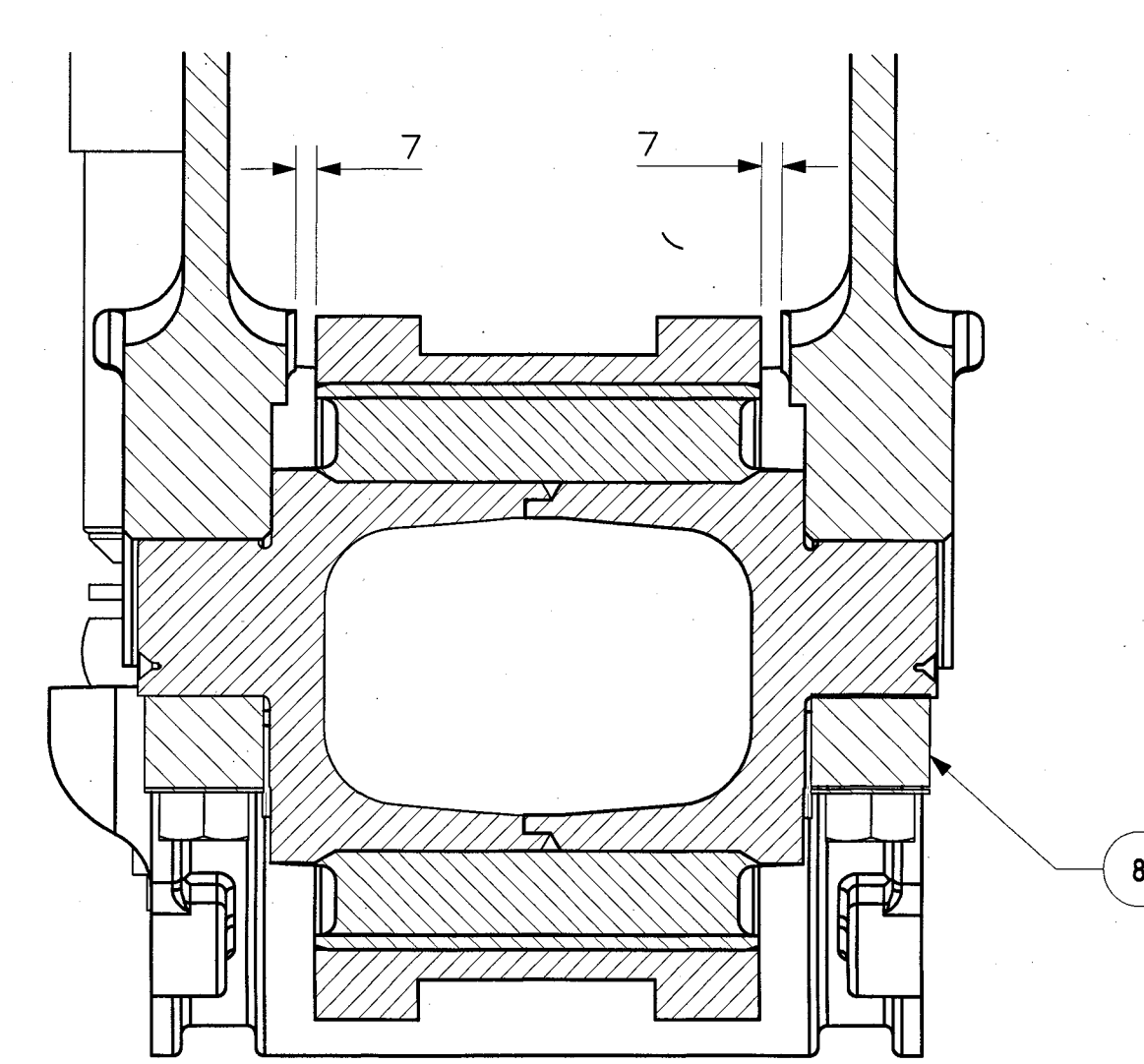
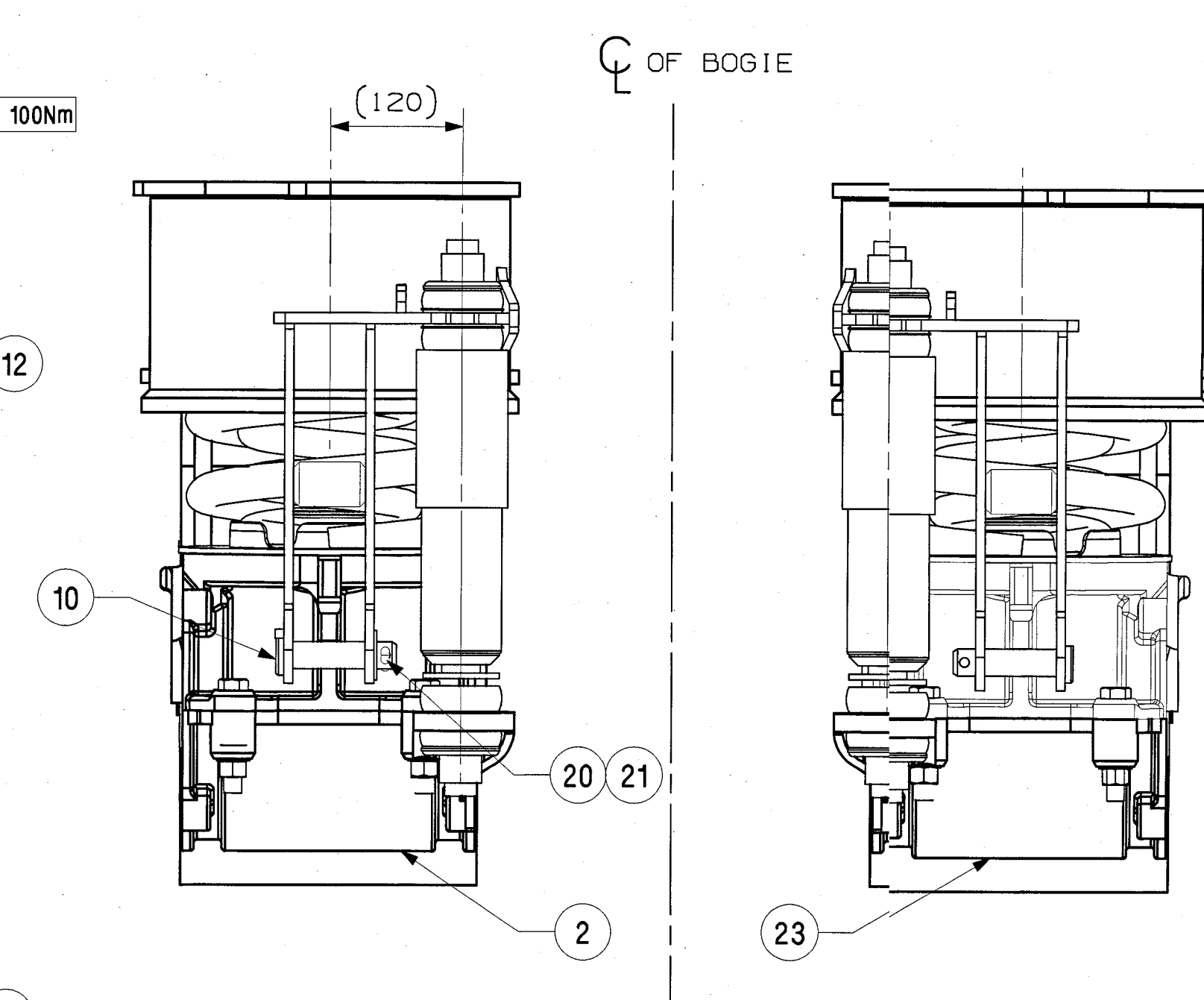
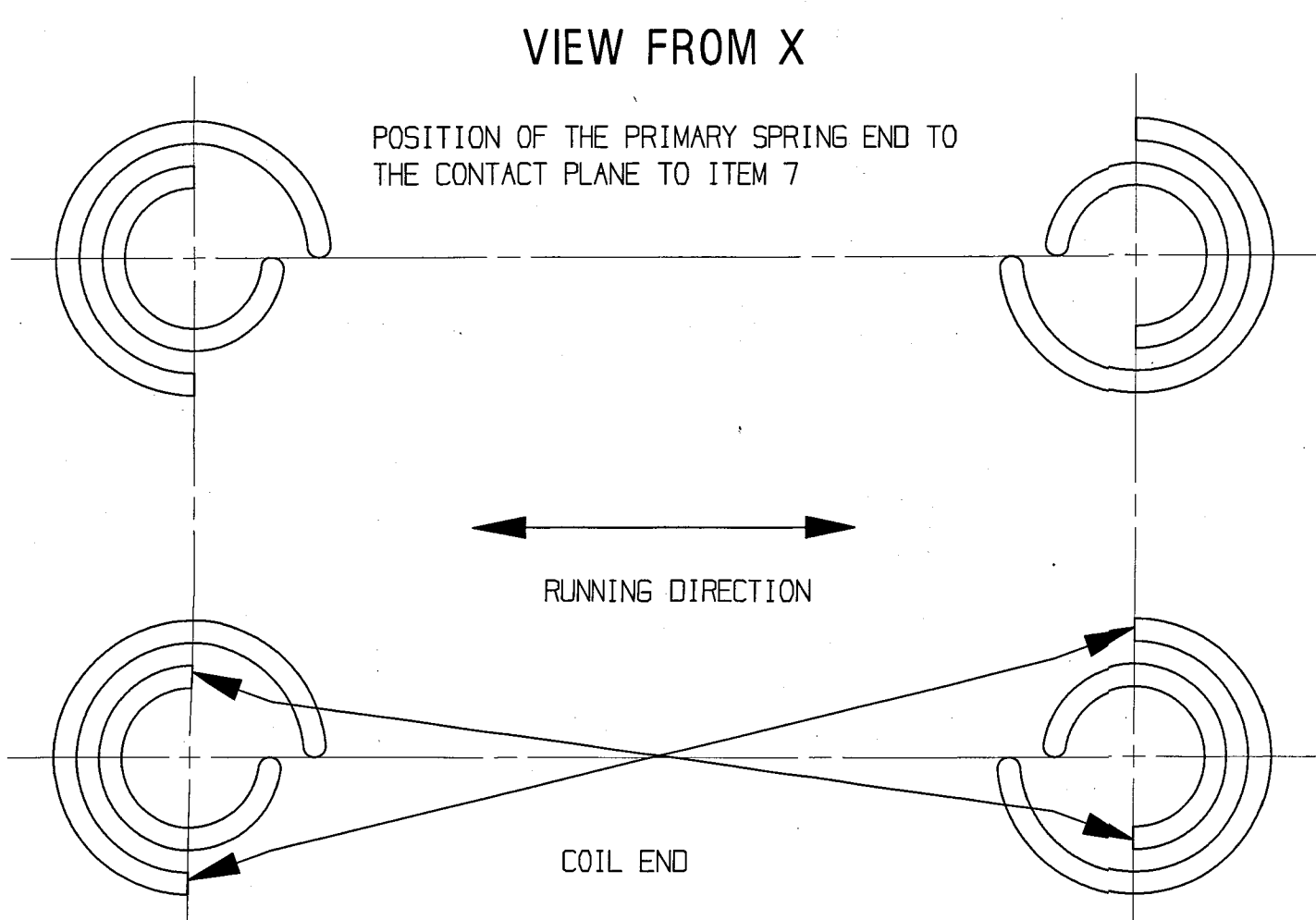
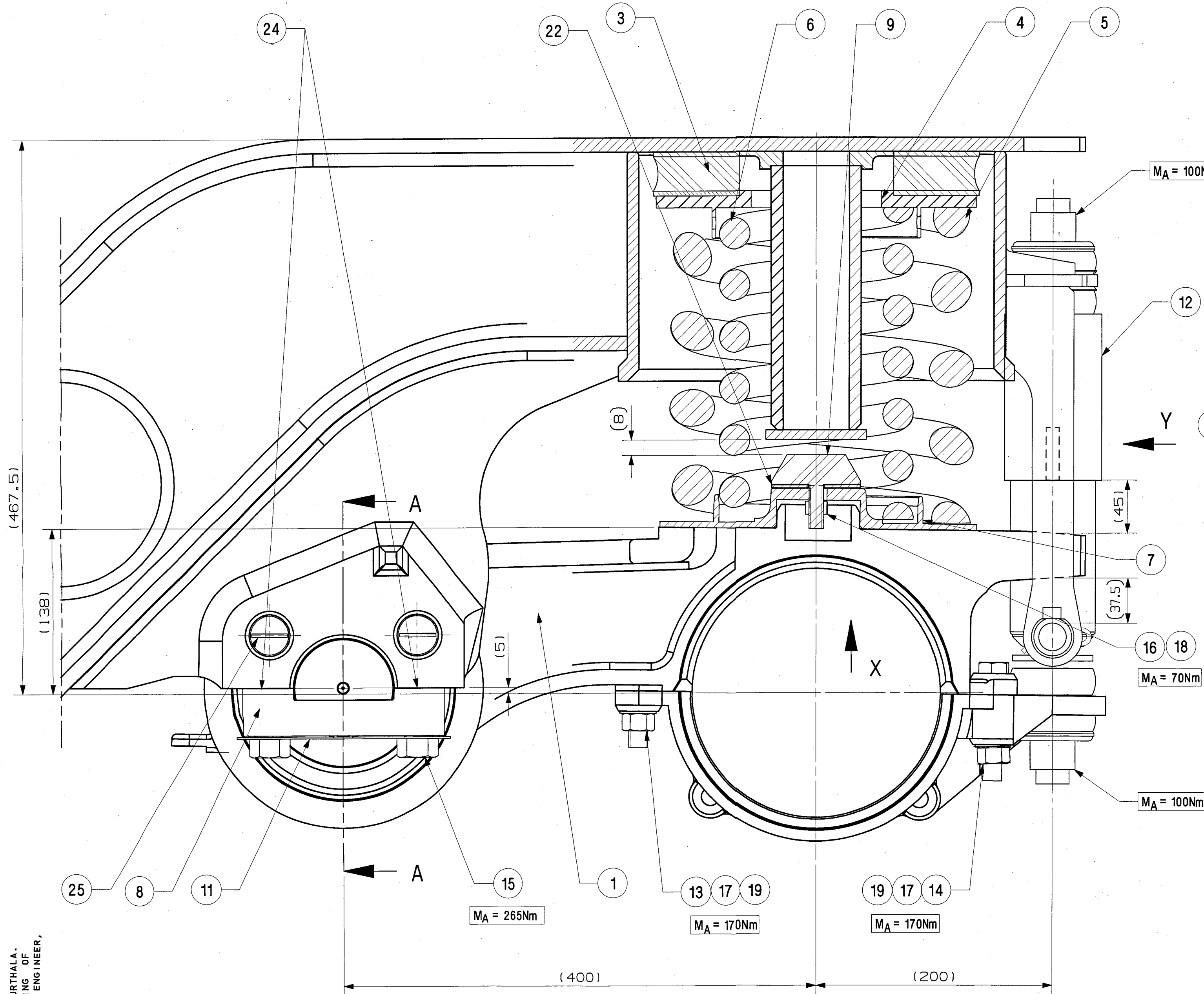
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DETAIL DRGS STARTING WITH "LI" ARE INTERNAL REFERENCE LISTS ONLY AND ARE NOT FOR ISSUE. DATE OF FIRST ISSUE: 28/11/2000

WELD LENGTH	ITEM	DESCRIPTION & DIMENSIONS	QTY	ASSEMBLY	DETAIL DRG	MATL. & SPEC.	REMARKS
NIL	M	GROUP	PRIMARY SUSPENSION				SUPERSEDES: 1272174 ALT 06R
WEIGHT	FILE	\\10.12.17.2\bogie\127217406R1.prt (3D)					SCALE: 1:2
NIL	KG						SSE/REG: CHD
S.AREA	M ²						DRN: PRRV
LENGTH/DIA	M						REF.DRG.No. 1272174 VER.06
WHGT/H+OK.	M						PL NO. 0000000
NIL	M						DRG.NO. 1272174
HEIGHT	M						ALT. 06R SIZE A SHEET 1/1

ENTERED INTO DATA BASE

07 JUN 2019



ALT. NO.	ALT. DATE	ZONE	ALTERATIONS	AUTHORITY
a	28/09/2016	ALL	1. DRAWING NO. FOR ITEM 3,9&10 WERE LW01101,LW01102&1262374.	DY. CME-D1 NOTING ON MD44121
		ALL	2. SPEC. UPDATED FOR ITEM 13,14,15,16,17&21.	
		ALL	3. DESCRIPTION REVISED FOR ITEM 16&17.	
b	04/06/2019	D-7	THICKNESS DEFINED FOR ITEM NO. 22.	DIC NO.-MD190021
c	17/06/2019	D-16	NOTE MODIFIED	DIC NO.-MD190021

NOTE :

COACH TYPE	THICKNESS OF COMPENSATING RING (AIR SPRING IN SEC. SUSPENSION)	THICKNESS OF COMPENSATING RING (COIL SPRING IN SEC. SUSPENSION)
LWACCW	8 mm	NA
LWACCN	8 mm	8 mm
LWFCWAC	8 mm	NA

ITEM	DESCRIPTION & DIMENSIONS	QPASSLY	DETAIL DRG	MATL. & SPEC.	REMARKS
25	LOCKING PIN	8	1227320	NIL	NIL
24	SEALING O-RING 35502000	8	IS: 9975-81 PT-1 TAB-1	IS: 9975-84 PT-2 CL-A	NIL
23	CONTROL ARM LOWER RIGHT	1	1267717	NIL	NIL
22	COMPENSATING RING	2	1227229	NIL	SEE NOTE
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19	PUNCH WASHER A18	8	LHW09	IS: 2016-1967 STEEL	ITEM-11 COATING TO MDT5 057
18	SPRING WASHER B12	2	LHW09	IS: 3063-1994	ITEM-22 COATING TO MDT5 057
17	ALL METAL PREVAILING TORQUE TYPE HEX NUT M16	8	NIL	DIN6925/DIN904 IS: 1367-02,PT-8 IO, A3B	NIL
16	ALL METAL PREVAILING TORQUE TYPE HEX NUT M12	2	NIL	DIN6925/DIN904 IS: 1367-02,PT-8 IO, A3B	NIL
15	HEX HEAD BOLT M20X100	8	NIL	IS: 1364-02 PT-1 IO, 9 CE	COATING TO MDT5 057
14	HEX HEAD BOLT M16X90	4	NIL	IS: 1364-02 PT-3 IO, 9 CE	COATING TO MDT5 057
13	HEX HEAD BOLT M16X70	4	NIL	IS: 1364-02 PT-1 IO, 9 CE	COATING TO MDT5 057
12	PRIMARY VERTICAL DAMPER	2	LW05102	NIL	NIL
11	LOCKING PLATE	4	1356259	NIL	NIL
10	PIN	2	LW01116	NIL	NIL
9	VERTICAL BUMP STOP	2	1227081	NIL	NIL
8	FIXATION BALL JOINT	4	1227331	NIL	NIL
7	CENTRING DISC	2	1902431	NIL	NIL
6	INNER PRIMARY SPRING	2	1277143	NIL	NIL
5	OUTER PRIMARY SPRING	2	1267411	NIL	NIL
4	CENTRING DISC	2	1262875	NIL	NIL
3	RUBBER PAD	2	1901097	NIL	NIL
2	CONTROL ARM LOWER LEFT	1	1267716	NIL	NIL
1	CONTROL ARM UPPER ASSLY	2	1268845	NIL	NIL

WELD LENGTH	ITEM	DESCRIPTION & DIMENSIONS	QPASSLY	DETAIL DRG	MATL. & SPEC.	REMARKS
NIL	M	GROUP PRIMARY SUSPENSION	SUPERSEDES: LW01001 ALT b			
NIL	FILE	\\10.12.17.2\bogie\lw01001c.prt(3D)				
NIL	KG	SCALE SSE/REC 1:2.5 CHD SNDP				
NIL	M ²	DRN PKRV @ravi				
NIL	M	RAIL COACH FACTORY, KAPURTHALA REF.DRG.No. 1268732 VER.07				
NIL	M	PL NO. 00000000				
NIL	M	DRG.NO. LW01001				
NIL	M	DATE: 27.06.19 ADE/SME 12/06/2019 DY.CME NR CDE ALT. c SIZE A1 SHEET 1/1				

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