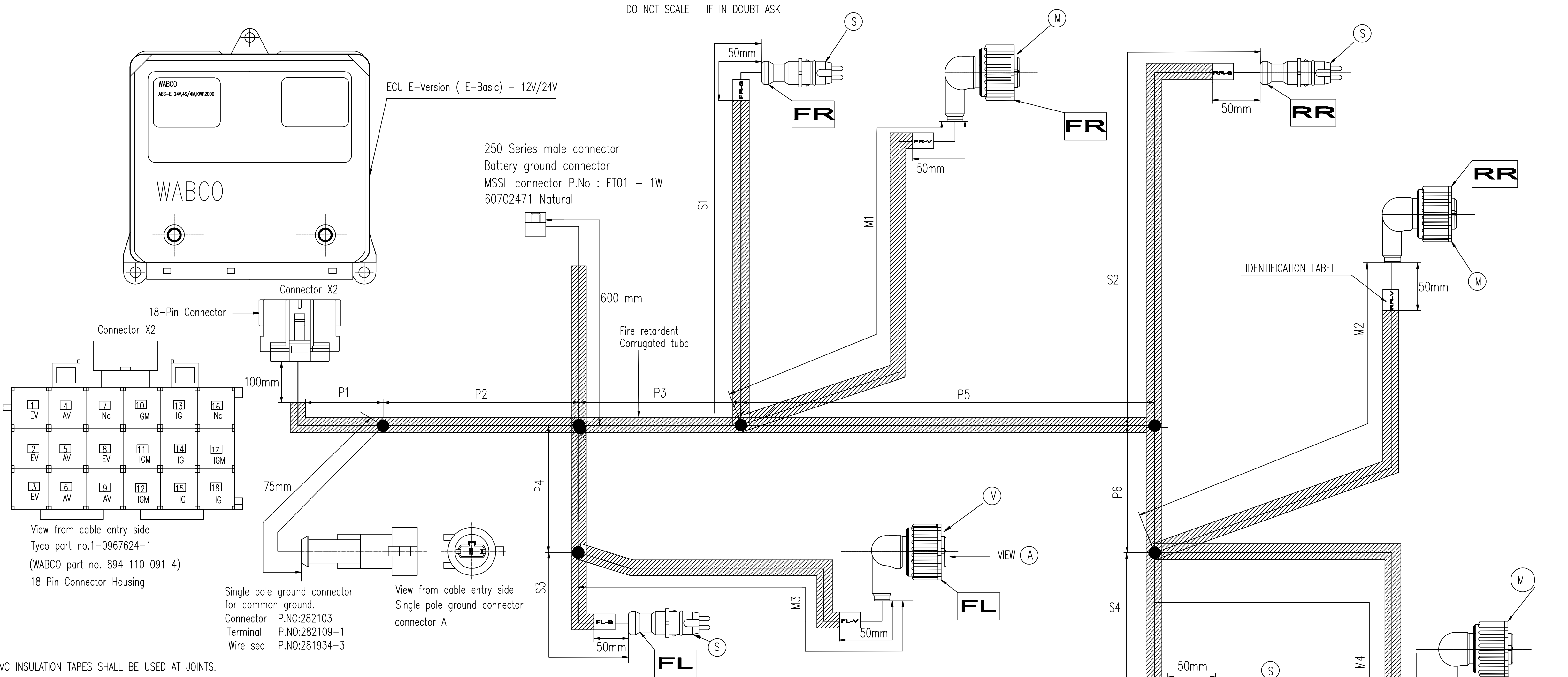


PART No.			
M592640 etc			
GA			
ENGINEERING CHANGES			
ECN No.	DATE	REV	SIGN
10259	06.07.06	1	RBS
Common ground connector changed from two pole to single pole.			
10447	27.10.06	2	RBS
Branchout change in all modulator valves and sensor extension cables. Ground connector wiring details added in the table. Refer sheet 2. Drawing redrawn.			
10845	24.07.07	3	RBS
ECN Details refer sheet 2.			
10946	28.09.07	4	RBS
ECN Details refer sheet 2.			
10961	23.10.07	5	RBS
ECN Details refer sheet 2.			
11197	06.06.08	6	RBS
ECN Details refer sheet 2.			
11299	07.10.08	7	RBS
Part No.M592920 (Rubber grommet) deleted. Battery ground connector Part No: ET01 - 1w 60702471 added. Drawing redrawn.			
11654	23.09.09	8	PB
ECN Details refer sheet 2.			
12083	16.03.11	9	RBS
Drawing template WABCO was SUNDARAM CLAYTON LTD.Drawing redrawn.			



- NOTE:
- SPLIT JOINTS- BLACK COLOR PVC INSULATION TAPES SHALL BE USED AT JOINTS.
 - ⑤ - 2 CORE POLYURETHANE SENSOR CABLES, HAVING A TWIST OF > 20 TWISTS/METER.
 - ③ - 3 CORE POLYURETHANE MODULATOR VALVE CABLES
 - ① - SEE VIEW A FOR CONTACT POSITIONS.

Crimping shall be done using automatic/semi automatic machines only.

** All MV Cable Terminal - Tyco P.No:0-0927768-3 (WABCO P.No:894 070 829 4)

All SE Cable Terminal - Tyco P.No:0-0927771-3 (WABCO P.No:894 070 734 4)

For Lengths P1, P2, P3, P5 Corrugated sleeve of outer diameter 32 mm shall be used

For Lengths P4, P6 Corrugated sleeve of outer diameter 20 mm shall be used

For Lengths S1,M1,S3,M3,S2,M4,S4,M2 Corrugated sleeve of outer diameter 10 mm shall be used

All Green / Yellow wires from the MV cables shall be splice jointed and connected to the common ground connector as shown

All the cables shall be covered with fire retardant slit type COT tubes (PPFR) of BLACK colour

The flammability of COT tubes :

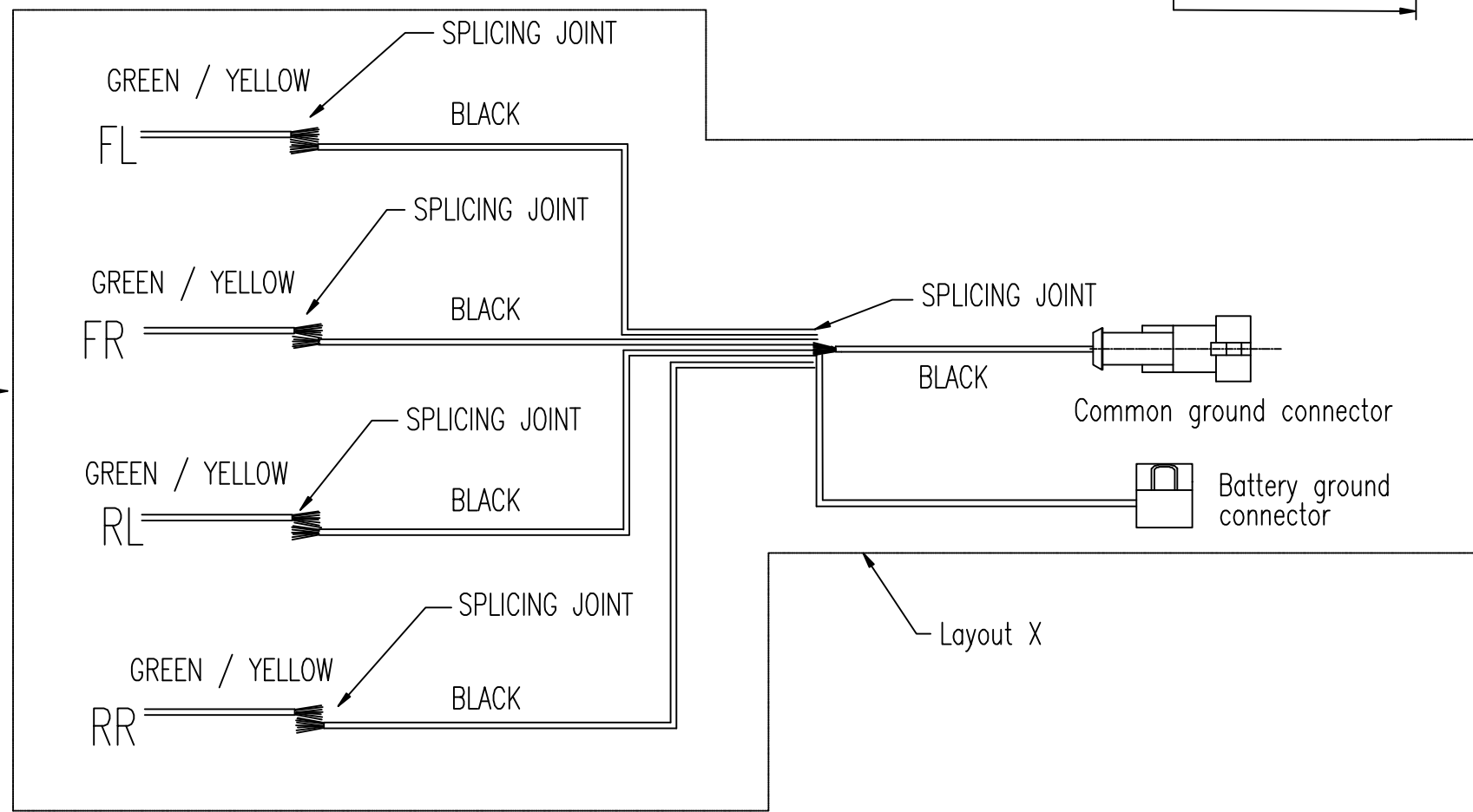
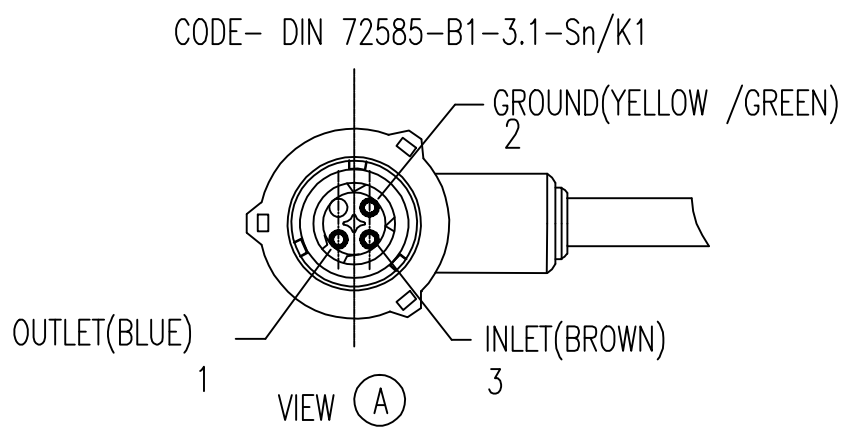
- a. Flame should extinguish naturally
- b. Combustion rate should be maximum 100mm / minute

Sensor extension and Modulator valve cables to be identified with respective labels.

FR - Front Right ; FL - Front Left ; RR - Rear Right; RL - Rear Left.

S.No	Wire Size	Wire Colour	Circuit From Connector X2	Circuit To
1	1.0 sq.mm	Brown	Pin No 1 of Connector X2	FR Modulator Valve Inlet terminal
2	1.0 sq.mm	Brown	Pin No 2 of Connector X2	RL Modulator Valve Inlet terminal
3	1.0 sq.mm	Brown	Pin No 3 of Connector X2	FL Modulator Valve Inlet terminal
4	1.0 sq.mm	Blue	Pin No 4 of Connector X2	FR Modulator Valve Outlet terminal
5	1.0 sq.mm	Blue	Pin No 5 of Connector X2	RL Modulator Valve Outlet terminal
6	1.0 sq.mm	Blue	Pin No 6 of Connector X2	FL Modulator Valve Outlet terminal
7	1.0 sq.mm	Brown	Pin No 8 of Connector X2	RR Modulator Valve Inlet terminal
8	1.0 sq.mm	Blue	Pin No 9 of Connector X2	RR Modulator Valve Outlet terminal

S.No	Wire Size	Wire Colour	Circuit From Connector X2	Circuit To
9	0.75 sq.mm	Black	Pin No 10 of Connector X2	FR Sensor extension
10	0.75 sq.mm	Black	Pin No 11 of Connector X2	RL Sensor extension
11	0.75 sq.mm	Black	Pin No 12 of Connector X2	FL Sensor extension
12	0.75 sq.mm	Brown	Pin No 13 of Connector X2	FR Sensor extension
13	0.75 sq.mm	Brown	Pin No 14 of Connector X2	RL Sensor extension
14	0.75 sq.mm	Brown	Pin No 15 of Connector X2	FL Sensor extension
15	0.75 sq.mm	Black	Pin No 17 of Connector X2	RR Sensor extension
16	0.75 sq.mm	Brown	Pin No 18 of Connector X2	RR Sensor extension
17	1.5 sq.mm	Black	Pin No 1 of Connector A & Battery ground connector	Gnd wires of all modulator valves (Refer layout X)



TATA MOTORS PART/DESC : W/H FRAME ASSEMBLY -ABS-E, 4S/4M - WABCO - RHD
TATA MOTORS PART NO : 2808 5460 04 02

● CRITICAL	● MAJOR	○ NO SYMBOL - MINOR
XVI	STEEL	NO TREATMENT
XVI	CAST IRON	PLATED
XV	STEEL	ZINC-IRON PLATED
XIV	CAST IRON	NO TREATMENT
XIII	ZINC ALLOY	ANODISED
XII	PLASTIC	NO TREATMENT
XI	RUBBER	NO TREATMENT
X	STAINLESS STEEL	NO TREATMENT
IX	BRASS	NO TREATMENT
VIII	ZINC ALLOY	CHROMATED
VII	ALUMINIUM ALLOY	ANODISED
VI	ALUMINIUM ALLOY	CHROMATED
V	CAST IRON	PAINTED
IV	STEEL	POWDER COATED
III	STEEL	PAINTED
II	STEEL	PHOSPHATED
I	STEEL	ZINC PLATED
PART CODE	MATERIAL	SURFACE PROTECTION

	SIGN	DATE	MATERIAL	--
DRN	BSN	13.03.11	ALTERNATE MATERIAL	--
CHD	RBS	13.03.11	SURFACE PROTECTION	REFER TABLE
APD	SN	13.03.11	RAW PART No.	--

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UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN mm
REMOVE BURRS AND SHARP EDGES FROM FINISHED PARTS
ALL DIMENSIONS ARE AFTER SURFACE PROTECTION / TREATMENT
MALE THREAD TO IS 14962 (Part 3) 6h : 2001
FEMALE THREAD TO IS 14962 (Part 3) 6H : 2001

GENERAL TOLERANCES					
RANGE OF NOMINAL DIMENSIONS (± mm)				FORCE, POWER, PRESSURE etc., (± %)	
≤ 50	> 50 ≤ 180	> 180 ≤ 400	> 400	(± °)	(± %)
1	2	3	4	3	10

SCALE NTS	ABS FRAME WIRING HARNESS(RHD) MV/SE CABLE ASSEMBLY	PART No. M592640 etc	GA
FOR ABS 4S/4M SYSTEM 12V/24V,KWP2000	SHEET 1 OF 2		

Date	Mod No.	SL No.	Modification	DO	CHK	APP
------	---------	--------	--------------	----	-----	-----

PART No.
M592640 etc

GA

ENGINEERING CHANGES

ECN No.	DATE	REV	SIGN
10259	06.07.06	1	RBS
1623 vehicle details added.			
10447	27.10.06	2	RBS
Assembly No. M592960 (709) and M593000 (909) with customer Part No. added in the table, Refer sheet 1.			
10845	24.07.07	3	RBS
Assembly No. M593710, M593720, M593730 and M593740 added in the table.			
10946	28.09.07	4	RBS
New assembly No M594040 added in the table. Drawing redrawn.			
10961	23.10.07	5	RBS
Assembly No. M593710, M593720 and M593730 deleted and made as separate drawing. Drawing redrawn.			
11197	06.06.08	6	RBS
In assy No : M592900 P1 and P2 length 250 mm and 550 mm were 800mm and 0 mm. Customer part no added. Drawing redrawn.			
11299	07.10.08	7	RBS
ECN details Refer sheet 1			
11654	23.09.09	8	PB
New Part No. M595280 added in the table Drawing redrawn.			
12083	16.03.11	9	RBS
Revision details refer sheet 1.			

DO NOT SCALE IF IN DOUBT ASK

SL.NO	VEHICLE MODEL	TML P.No	ASSY. P.No	CABLE BRANCHWISE LENGTH (mm)																LENGTH OF CABLE (mm)							
				P1	P2	P3	P4	P5	P6	S1	S2	S3	S4	M1	M2	M3	M4	SENSOR EXTENSION CABLE				MODULATOR VALVE CABLE					
																		FR	FL	RR	RL	FR	FL	RR	RL		
1	LPT2515/48 697, BS II	2808 5460 01 17N	M592640	250	1500	2450	1750	4000	0	250	100	250	900	350	700	350	950	4550	3850	8400	9200	4650	3950	9000	9250		
2	LPT1613/42 697, BS II	2632 5460 01 62N	M592890	250	1500	2450	1750	3850	0	250	630	250	1460	350	530	350	750	4550	3850	8780	9610	4650	3950	8680	8900		
3	1623 HIDECK BUS	2892 5460 0109N	M592900	250	550	0	0	4370	0	1600	2400	1400	1400	2300	2400	2000	1400	2500	2300	7670	6670	3200	2900	7670	6670		
4	1623 Globus		M592910	800	500	0	0	4370	0	1100	1900	1900	1900	1800	1900	2500	1900	2500	3300	7670	7670	3200	3900	7670	7670		
5	LPT709/909 WB 34 497 TCIC BSII	2641 5460 01 50N	M592960	250	1350	1050	250	3500	300	100	100	100	500	250	100	250	250	2850	2050	6350	7050	3000	2200	6650	6800		
6	LPT709/909 WB 38 497 TCIC BSII	2641 5460 01 51N	M593000	250	1350	1050	250	3700	300	100	100	100	500	250	100	250	250	2850	2050	6550	7250	3000	2200	6850	7000		
7	LP1510/52WB 697BS-II & LP1512TC/52WB BS-II & LP1512/52WB 497BS-II		M593710	900	2300	2000	250	4000	0	1000	200	100	200	1500	530	350	1400	6300	3650	9500	9500	6800	3900	9830	10700		
8	LP1510/59WB 697BS-II & LP1512TC/59WB 497BS-II		M593720	900	2300	2000	250	4800	0	1000	200	100	200	1500	530	350	1400	6300	3650	10300	10300	6800	3900	10630	11500		
9	LP1512/42WB TC BS-II		M593730	900	2300	2000	250	3200	0	1000	200	100	200	1500	530	350	1400	6300	3650	8700	8700	6800	3900	9030	9900		
10	LP909/49WB 497BS-III		M593740	250	1350	1050	250	5200	350	100	100	100	500	250	250	250	250	2850	2050	8050	8800	3000	2200	8550	8550		
11	LPS3516 697 /LPS3015 TC	2781 5460 0101N	M594040	250	1500	3400	2100	2200	0	100	100	100	1000	450	700	450	1000	5350	4050	7550	8450	5700	4400	8150	8450		
12	LPT 3118 TC (56 WB)	2846 5460 0109	M595280	250	1800	2100	1550	3500	2300	180	400	350	800	350	550	300	750	4430	4050	8150	10850	4600	4000	10600	10800		

Branch details:

FL-Sensor (From ECU connector X2 to FL sensor)

= P1+100mm+P2+P4+S3

FR-Sensor (From ECU connector X2 to FR sensor)

= P1+100mm+P2+P3+S1

RL-Sensor (From ECU connector X2 to RL sensor)

= P1+100mm+P2+P3+P5+P6+S4

RR-Sensor (From ECU connector X2 to RR sensor)

= P1+100mm+P2+P3+P5+S2

FL-Modulator valve (From ECU connector X2 to FL Modulator valve)

= P1+100mm+P2+P4+M3

FR-Modulator Valve (From ECU connector X2 to FR Modulator valve)

= P1+100mm+P2+P3+M1

RL-Modulator Valve (From ECU connector X2 to RL Modulator valve)

= P1+100mm+P2+P3+P5+P6+M4

RR-Modulator Valve (From ECU connector X2 to RR Modulator valve)

= P1+100mm+P2+P3+P5+P6+M2

Note:

All the cables shall be covered with fire retardant slit type COT tubes (PPFR)

The flammability of COT tubes :

a. Flame should extinguish naturally

b. Combustion rate should be maximum 100mm / minute

● CRITICAL

● MAJOR

NO SYMBOL - MINOR

XVII	STEEL	NO TREATMENT
XVI	CAST IRON	PLATED
XV	STEEL	ZINC-IRON PLATED
XIV	CAST IRON	NO TREATMENT
XIII	ZINC ALLOY	ANODISED
XII	PLASTIC	NO TREATMENT
XI	RUBBER	NO TREATMENT
X	STAINLESS STEEL	NO TREATMENT
IX	BRASS	NO TREATMENT
VIII	ZINC ALLOY	CHROMATED
VII	ALUMINIUM ALLOY	ANODISED
VI	ALUMINIUM ALLOY	CHROMATED
V	CAST IRON	PAINTED
IV	STEEL	POWDER COATED
III	STEEL	PAINTED
II	STEEL	PHOSPHATED
I	STEEL	ZINC PLATED
PART CODE	MATERIAL	SURFACE PROTECTION

	SIGN	DATE	MATERIAL	--
DRN	BSN	13.03.11	ALTERNATE MATERIAL	--
CHD	RBS	13.03.11	SURFACE PROTECTION	REFER TABLE
APD	SN	13.03.11	RAW PART No.	--

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UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN mm

REMOVE BURRS AND SHARP EDGES FROM FINISHED PARTS
ALL DIMENSIONS ARE AFTER SURFACE PROTECTION / TREATMENT

MALE THREAD TO IS 14962 (Part 3) 6h : 2001
FEMALE THREAD TO IS 14962 (Part 3) 6H : 2001

GENERAL TOLERANCES

RANGE OF NOMINAL DIMENSIONS (± mm)

≤ 50	> 50 ≤ 180	> 180 ≤ 400	> 400
1	2	3	4

FORCE, POWER, PRESSURE etc.,

(± %)	(± %)
3	10

SCALE NTS

ABS FRAME WIRING HARNESS(RHD)
MV/SE CABLE ASSEMBLY
FOR ABS 4S/4M SYSTEM 12V/24V,KWP2000

PART No.
M592640 etc

GA

SHEET 2 OF 2

TATA MOTORS PART/DESC : W/H FRAME ASSEMBLY-ABS-E, 4S/4M WABCO - RHD

TATA MOTORS PART NO : 2808 5460 04 02

Date	Mod No	SLNo	Modification	DO	CHK	APP