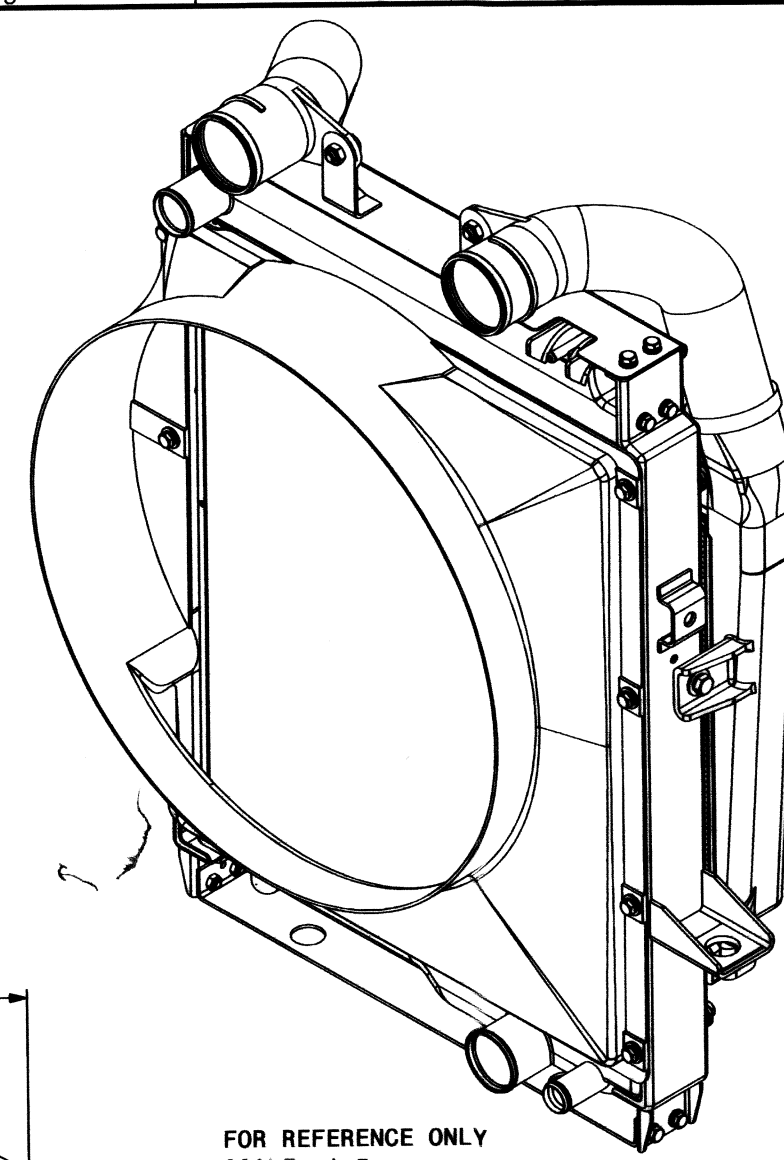
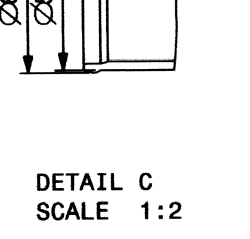
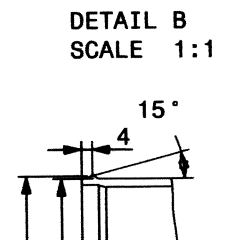
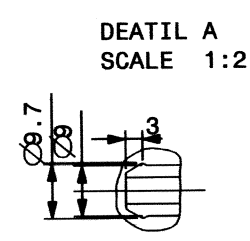
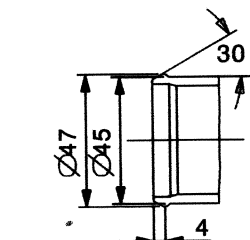
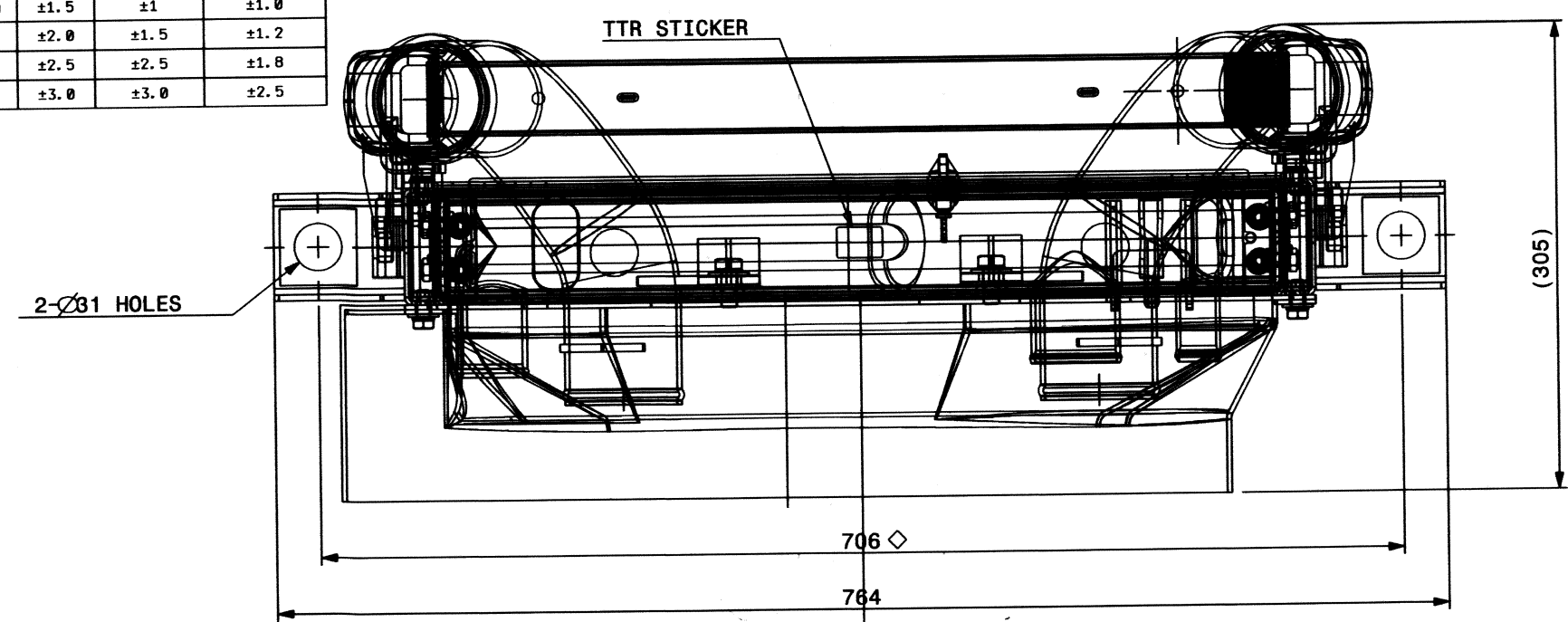


SYMBOL	DESCRIPTION	CLASSIFICATION	REMARKS	MATERIAL	PLASTIC PARTS
1	FLATNESS	LESS THAN 100	11.5	11	11.5
2	CIRCULARITY	100 TO 200	12.5	11.5	11.7
3	CYLINDRICITY	200 TO 400	12.5	11.5	11.8
4	RECTITUDE OF SURFACE	400 TO 999	13.5	11.5	12.5



TATA MOTORS
LPTA 715 BS III
2069 5010 0203
892110 1081
TATA TOYO INDIA

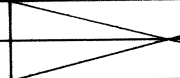
TTR STICKER

- NOTES:
- 1) THE ASSEMBLY SHALL BE FREE FROM SHARP CORNERS BURR, DUST OIL ETC.
 - 2) RADIATOR CONSTRUCTION:-
 - CORE-BRAZED ALUMINIUM- 2 ROWS
 - TANK-PAGE-6F30
 - TANK CORE SEALING- EPDM
 - NUMBER OF TUBES-108
 - 3) INTERCOOLER CONSTRUCTION:-
 - CORE : BRAZED ALUMINIUM-1 ROW, TANK : ALUMINIUM, NUMBER OF TUBES 37 NOS
 - 4) RADIATOR ASSY SHALL WITHSTAND A TEST PRESSURE OF 1.5 kgf/cm² g
 - 5) INTERCOOLER ASSY SHALL WITHSTAND A TEST PRESSURE OF 2.5 kgf/cm² g FOR 30 s
 - 6) RADIATOR ASSY SHALL BE TESTED ON VIBRATION TEST BENCH AS PER JIS D 1601.

- SPECIAL NOTES:
- 1) RADIATOR VENT TUBE ID TO BE FREE FROM BLOCKAGES.
 - 2) COOLANT TO BE USED : 50/50 LLC.

SRNO	CUST PART NO.	PART NO.	PART NAME	MATERIAL	QTY.	REMARKS
5		S0209009M001	BOLT ASSY M8X1.25X20L	ASSY	8	
4		A01HF0801M00	SHROUD	FRP	1	
3		S0209046M001	BOLT ASSY M10X1.5X25L	ASSY	6	
2		A01HC5001M00	INTERCOOLER ASSY	ASSY	1	
1		A01HB5001M00	RADIATOR ASSY	ASSY	1	

FINISH	NATURAL	MATERIAL	ASSY	PART NAME / TITLE	ENGINE COOLING SYSTEM
SIZE	---	SCALE	3:10		
MASS	31.253 kg	DATE	20.10.09		
APPROVED	CHECKED	DRAWN		CUSTOMER PART NO.	2069 5010 0203
RAJIV	SUBHASH	ATUL		TTR PART NO / DRG. NO.	A01HA5001M00

RADIATOR					
DIV	HEADING		UNIT	VALUE	
PERFORMANCE	CONDITION	AIR FLOW	m/s	8.50	
		WATER FLOW	L/min	230	
		TEMP DIFFERENCE	°C	54	
		RADIATOR CAPACITY	KW	92.50 79658.7 kcal/hr	
	AIR RESISTANCE	Pa	302	30.80 mmAq	
	COOLANT RESISTANCE	Kpa	39.8	298.3 mm Hg	
	VALVE OPENING PRESSURE	PRESS	Kpa		
		VACCUUM	Kpa		
	TEST PRESSURE			147.1	1.5 Kgf/cm
	CORE TYPE			2	CF23-2
STRUCTURE	CORE SIZE	WIDTH	mm	537.2	
		HEIGHT	mm	650	
		THICKNESS	mm	36	
	FIN PITCH		mm	3.5/2 (LOUVERED)	
	RADIATION AREA	FIN	mm	12.58	
		TUBE	mm	2.39	
		TOTAL	mm	14.97	
	FRONT AREA		mm ²	0.35	
WATER PASSAGE AREA		mm ²	19.62		
COOLANT QUANTITY		2L	(3.405)		
CORE MASS		Kg	(4.718)		
SURFACE TREATMENT			NO PAINTING		
REMARKS					

INTERCOOLER					
DV	HEADING	UNIT	COOLING SIDE	CHARGING SIDE	
PERFORMANCE	ENTRANCE CONDITION	AIR PRESSURE	KPa	101.3	-----
		AIR FLOW		6.5 m/s	918 kg/h
		AIR IN TEMP	°C	46	178
	AIR OUT TEMP	°C	-----	MAX	
	HEAT EFFICIENCY	%	-----	-----	
	INTERCOOLER CAPACITY	KW	-----	32.6 28068.6Kcal/h	
	AIR RESISTANCE	KPa	0.250 25.48 mmHg	13.2 98.94 mmHg	
STRUCTURE	CORE SIZE	CORE TYPE	IFLO-48		
		WIDTH	mm	425.1	
		HEIGHT	mm	547	
	RADIATION AREA	THICKNESS	mm	48.5	
		FIN PITCH	mm	0fp=5.0/2 (L) 1fp=2.75/2 (O)	
		INNER FIN	mm2	5.34	
			OUTER FIN	mm2	6.33
			TUBE	mm2	2.06
TOTAL	mm2	8.40			
AIR PASSAGE AREA	cm2	56.18			
REMARKS			NO PAINTING		

PART No. 2069.5010-0203-PR
ALLOTTED TO M/S PERFECT RADIATORS
AND OIL COOLERS (P) LTD. NEW DELHI.

FIRM	ITEM NOMENCLATURE	PT. No.
M/s Perfect Radiators & Oil Coolers (P) Ltd. New Delhi	Assy. Radiator Complete	2069-5010-0203-P

SAMPLE TO BE APPROVED

TOLERANCES FOR PRESSING		Material Description: Size, Spec, Std. No.	
CLASSIFICATION	TOLERANCE	CLASSIFICATION	TOLERANCE
MATING SURFACE	±0.5	CRITICAL	±0.5
TRIM	±1.0	NON CRITICAL	±1.0
DIA	±0.2	CRITICAL	±0.2
OFF CENTRE	±0.5	NON CRITICAL	±0.5
PITCH	±1.0	CRITICAL	±1.0
FLANGE WIDTH	±0.5	NON CRITICAL	±0.5
DEPTH	±0.5	CRITICAL	±0.5
POSITION	±1.0	NON CRITICAL	±1.0

LAST SECTION NAMED = -
LAST VIEW NAMED = -
LAST LINE NAMED = -
LAST POINT NAMED = -

PART NUMBER	PART NAME	MATERIAL DESCRIPTION	REMARKS
5	S0209009M001	BOLT ASSY M8X1.25X20L	
4	A01HF0801M00	SHROUD	
3	S0209046M001	BOLT ASSY M10X1.5X25L	
2	A01HC5001M00	INTERCOOLER ASSY	
1	A01HB5001M00	RADIATOR ASSY	

TOLERANCES FOR PRESSING		Material Description: Size, Spec, Std. No.	
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PITCH	±1.0	CRITICAL	±1.0
FLANGE WIDTH	±0.5	NON CRITICAL	±0.5
DEPTH	±0.5	CRITICAL	±0.5
POSITION	±1.0	NON CRITICAL	±1.0

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OFF CENTRE	±0.5	NON CRITICAL	±0.5
PITCH	±1.0	CRITICAL	±1.0
FLANGE WIDTH	±0.5	NON CRITICAL	±0.5
DEPTH	±0.5	CRITICAL	±0.5
POSITION	±1.0	NON CRITICAL	±1.0