

## RC card Layout Version 1.7

The RC card will have a file structure described below.

The RC application data will reside in EFs under the [RC-DF](#), which is created under the MF. The RC-DF will contain the following EFs under it.

- [Key file](#) File Id = 5002
- [SE file](#) File Id = 500C
- [Vehicle and Personal Information File](#) File Id = 5003
- [Insurance Details File](#) File Id = 5004
- [PUC Details File](#) File Id = 5005
- [Fitness Details File](#) File Id = 5006
- [Tax Details File](#) File Id = 5007
- [Endorsement File](#) File Id = 5008
- [Review File](#) File Id = 5009
- [Permit Details File](#) File Id = 500A
- [Countersignature File](#) File Id = 500B
- [Authorization File](#) File Id = 500D

The sections below describe the FCP and the contents of each of these files.

### ***Directory RC-DF***

The directory RC-DF will have the following FCP.

Tag	Len	Value	Remarks
82	01	38	FDB only
83	02	50 00	File identifier
84	10	RC	DF Name (Padded with spaces)
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
8C	08	7F FF FF 22 22	Security Attributes. AM Byte: 7F Delete File (Self): Never Terminate DF: Never Activate File: (SE#2) Deactivate File: (SE#2)

		22	Create File DF: (SE#2)
		22	Create File EF: (SE#2)
		FF	Delete File (Child): Never
AB	08	86 04 22 F4	Security Attributes (expanded format)
		22 F2	Command MSE Erase is:
		97 00	Never allowed
			Command MSE Store is:
			Never allowed
8D	02	50 0C	File id of the SE file

### Key File EF2

The key file will have the following FCP.

Tag	Len	Value	Remarks
82	05	0C	FDB (Linear variable record internal EF)
		01	DCB (Write once, 1 byte Data unit)
		00 15	MRL (21 bytes)
		0D	No. of records (13 keys)
83	02	50 02	File identifier
88	01	10	Short EF id
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
8C	06	6B	Security Attributes. AM Byte: 6B
		FF	Delete self: Never
		FF	Terminate EF: Never
		22	Deactivate EF: (SE#2)
		FF	Update record: Never
		FF	Read record: Never

The EF2 will have the following records.

Record 1: Key D\_CARD\_KEY, used for proving authenticity of the RC card (internal auth)

81 02 FF FF 00 <16 byte D\_CARD\_KEY>

Record 2: Key D\_COMMON\_STA\_KEY, used for verifying that the other party is some STA in the country (external auth).

82 01 FF 00 <16 byte D\_COMMON\_STA\_KEY>

Record 3: Key D\_STA\_KEY, used for verifying that the other party is the STA of the issuing state (external auth).

83 01 FF 00 <16 byte D\_STA\_KEY>

Record 4: Key D\_COMMON\_RTO\_KEY, used for verifying that the other party is an RTO in the issuing state (external auth).

84 01 FF 00 <16 byte D\_COMMON\_RTO\_KEY>

Record 5: Key D\_RTO\_KEY, used for verifying that the other party is the RTO of the issuing DRTO's region (external auth).

85 01 FF 00 <16 byte D\_RTO\_KEY>

Record 6: Key D\_COMMON\_DRTO\_KEY, used for verifying that the other party is a DRTO in the issuing state (external auth).

86 01 FF 00 <16 byte D\_COMMON\_DRTO\_KEY>

Record 7: Key D\_DRTO\_KEY, used for verifying that the other party is the issuing DRTO (external auth).

87 01 FF 00 <16 byte D\_DRTO\_KEY>

Record 8: Key D\_PUC\_KEY, used for verifying that the other party is an authorized PUC center (external auth).

88 01 FF 00 <16 byte D\_PUC\_KEY>

Record 9: Key D\_INSURANCE\_KEY, used for verifying that the other party is an approved insurance company (external auth).

89 01 FF 00 <16 byte D\_INSURANCE\_KEY>

Record 10: Key D\_FITNESS\_KEY, used for verifying that the other party is an approved fitness checking center (external auth).

8A 01 FF 00 <16 byte D\_FITNESS\_KEY>

Record 11: Key D\_ENDORS\_KEY, used for verifying that the other party is an enforcement officer (external auth).

8B 01 FF 00 <16 byte D\_ENDORS\_KEY>

Record 12: Key D\_REVIEW\_KEY, used for verifying that the other party is a judiciary officer (external auth).

8C 01 FF 00 <16 byte D\_REVIEW\_KEY>

Record 13: Key D\_AUTHORIZATION\_KEY, used for verifying that the other party is a valid Permit Authorization entity. (external auth).

8D 01 FF 00 <16 byte D\_AUTHORIZATION\_KEY >

### **SE File**

The SE file will have the following FCP.

Tag	Len	Value	Remarks
82	05	0C 01 00 0E 0A	FDB (Linear variable record internal EF) DCB (Write once, 1 byte Data unit) MRL (14 bytes) No. of records (10 SE Records)
83	02	50 0C	File identifier
88	01	60	Short EF id
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
8C	06	6B FF FF 22 FF FF	Security Attributes. AM Byte: 6B Delete self: Never Terminate EF: Never Deactivate EF: (SE# 2) Update record: Never Read record: Never

The SE File will have the following records.

Record 1: SE#1 External Authentication with Key D\_COMMON\_DRTO\_KEY (Key Reference 86)

80 01 01 A4 06 83 01 86 95 01 80

Record 2: SE#2 External Authentication with Key D\_DRTO\_KEY (Key Reference 87)

80 01 02 A4 06 83 01 87 95 01 80

Record 3: SE#3 External Authentication with Key D\_FITNESS\_KEY (Key Reference 8A)

80 01 03 A4 06 83 01 8A 95 01 80

Record 4: SE#4 External Authentication with Key D\_ENDORS\_KEY (Key Reference 8B)

80 01 04 A4 06 83 01 8B 95 01 80

Record 5: SE#5 External Authentication with Key D\_REVIEW\_KEY (Key Reference 8C)

80 01 05 A4 06 83 01 8C 95 01 80

Record 6: SE#6 External Authentication with Key D\_COMMON\_STA\_KEY (Key Reference 82) or with Key D\_COMMON\_RTO\_KEY (Key Reference 84)

80 01 06 A4 09 83 01 82 83 01 84 95 01 80

Record 7: SE#7 External Authentication with Key D\_STA\_KEY (Key Reference 83) or with Key D\_RTO\_KEY (Key Reference 85)

80 01 07 A4 09 83 01 83 83 01 85 95 01 80

Record 8: SE#8 External Authentication with Key D\_DRTO\_KEY (Key Reference 87) or with Key D\_PUC\_KEY (Key Reference 88)

80 01 08 A4 09 83 01 87 83 01 88 95 01 80

Record 9: SE#9 External Authentication with Key D\_DRTO\_KEY (Key Reference 87) or with Key D\_INSURANCE\_KEY (Key Reference 89)

80 01 09 A4 09 83 01 87 83 01 89 95 01 80

Record 10: SE#10 External Authentication with Key D\_AUTHORIZATION\_KEY (Key Reference 8D)

80 01 0A A4 06 83 01 8D 95 01 80

**Vehicle Info, Personal Info, and Registration Details file**

The FCP of the vehicle and personal info file will be as follows.

Tag	Len	Value	Remarks
80	02	01 68	File size (360 bytes, with enough growth space)
82	02	01 01	FDB (Transparent working EF) DCB Write Once, One byte data unit
83	02	50 03	File identifier
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
88	01	18	SFI – 03 coded in 5 MSBs.
8C	05	6A FF FF 22 22	Security Attributes. AM Byte: 6A Delete File (Self): Never Terminate EF: Never Deactivate File: (SE#2) Update Binary: (SE#2)

The contents of the file will include the following as simple TLV data. (The entries in the Max size column are in shown in decimal numbers. All other entries are in hexadecimal number representation). Note that not all tags need to be present in the file. A tag value of 0 will indicate the end of file data.

Field	Tag	Max size	Data format
Vehicle Registration Number	C0	10 bytes	String
Name	C1	35 bytes	String
Father's Name	C2	35 bytes	String
Tax Paid Upto	C3	4 bytes	Date
Registration Validity	C4	4 bytes	Date
Issuing Authority Id	C5	10 bytes	String
Owner Serial	C6	1 byte	Integer
Hypothecation Details	C7	73 bytes	See below
NOC Details	C8	60 bytes	See below
Additional Vehicle Details (for commercial vehicles only)	C9	80 bytes	See Below

Following is the format for Hypothecation Details (tag C7).

Field	Size	Format
Financier	35 bytes	String
Address	30 bytes	String
Hypothecated from	4 bytes	Date
Hypothecated to	4 bytes	Date

Following is the format for NOC Details (tag C8).

Field	Size	Format
NOC Number	30 bytes	String
State to	2 bytes	String
RTO to	4 bytes	String
NCRB Number	20 bytes	String
NOC Issue Date	4 bytes	Date

Following is the format for Additional Vehicle Details (tag C9).

Field	Size	Format
Gross Vehicle Weight (in Kilograms)	3 bytes	Integer (6 digits)
Number of Semi Trailers	1 byte	Integer (1 digit)
<b>Number, description, and size of tyres</b>		
Front Axle	16 bytes	String
Rear Axle	16 bytes	String
Tandem Axle	16 bytes	String
Any Other Axle	16 bytes	String
<b>Registered Axle Weights</b>		
Front Axle	3 bytes	Integer (6 digits)
Rear Axle	3 bytes	Integer (6 digits)
Tandem Axle	3 bytes	Integer (6 digits)
Any Other Axle	3 bytes	Integer (6 digits)

### ***Insurance Details file***

The FCP of the Insurance Details file will be as follows.

Tag	Len	Value	Remarks
80	02	00 46	File size (70 bytes, with growth space)
82	02	01	FDB (Transparent working EF)
		01	DCB Write Once, One byte data unit

83	02	50 04	File identifier
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
88	01	20	SFI – 04 coded in 5 MSBs.
8C	05	6A FF FF 22 29	Security Attributes. AM Byte: 6A Delete File (Self): Never Terminate EF: Never Deactivate File: (SE#2) Update Binary: (SE#9)

The contents of the file will include the following contents. First 35 bytes give the insurance company name (string), the next 25 bytes give the cover note/ Policy Number, next 1 byte gives the type of Insurance and the last 4 bytes give the date till which the insurance is valid (Date format).

### ***PUC Details file***

The FCP of the PUC Details file will be as follows.

Tag	Len	Value	Remarks
80	02	00 0C	File size (12 bytes, with growth space)
82	02	01 01	FDB (Transparent working EF) DCB Write Once, One byte data unit
83	02	50 05	File identifier
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
88	01	28	SFI – 05 coded in 5 MSBs.
8C	05	6A FF FF 22 28	Security Attributes. AM Byte: 6A Delete File (Self): Never Terminate EF: Never Deactivate File: (SE#2) Update Binary: (SE#8)

The contents of the file will include the following the data elements: Checking Center Code (first 4 bytes), Validity of PUC (next 4 bytes, Date format)



***Fitness Details file***

The FCP of the Fitness Details file will be as follows.

Tag	Len	Value	Remarks
80	02	00 28	File size (40 bytes, with growth space)
82	02	01 01	FDB (Transparent working EF) DCB Write Once, One byte data unit
83	02	50 06	File identifier
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
88	01	30	SFI – 06 coded in 5 MSBs.
8C	05	6A FF FF 22 23	Security Attributes (compact form): 6A Delete File: Never Terminate File: Never Deactivate File: (SE# 2) Update Binary: (SE#3)

The contents of the file will include the following contents. The first 4 bytes give the date till which the fitness certificate is valid (Date format), the next 16 bytes give the id of the inspector who performed the fitness test (String), and the last 16 bytes give the location where the fitness test was performed (String).

***Tax Details file***

The FCP of the Tax Details file will be as follows.

Tag	Len	Value	Remarks
82	05	03 41 00 23 05	FDB (Linear fixed record simple TLV working EF) DCB Write OR (one byte data unit) MRL (size of each record including Tag and length) Number of records
83	02	50 07	File identifier
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
88	01	38	SFI – 07 coded in 5 MSBs.
8C	06	6E FF FF 22 21 21	Security Attributes (compact form): Delete File: Never Terminate File: Never Deactivate File: (SE# 2) Write Record: (SE#1) Update Record: SE#1

The contents of the file will consist of records with simple TLV structure. The tags will be a number from 01 to 05, unique for each record. The length of the record will be fixed (33 bytes). Each record will contain the following.

Field	Size	Data format
Amount	3 bytes	Integer (6 digits)
Fine	3 bytes	Integer (6 digits)
Exemption/Receipt No.	11 bytes	String
Payment Date	4 bytes	Date
Valid From	4 bytes	Date
Valid To	4 bytes	Date
Exemption	1 byte	String (either "Y" or "N")
DRTO Code	2 byte	String
Backend Update Flag (BUF)	1 byte	Integer (00 or 01)

First record will contain Tag 01, length 0x21 and value as per the document "Data elements required for RC". Each Record from 2 to 5 are initialized to tag from 02 to 05, length 0x21 and value all zeroes by the boot operator/card personaliser at the time of RC card personalization. BUF will have a value of 00 initially while storing the tax details. Once the record is added to the back end database, BUF is updated to 01 using WRITE RECORD command.

### ***Endorsement file***

The FCP of the endorsement file will be as follows.

Tag	Len	Value	Remarks
82	05	03 01 00 47 05	FDB (Linear fixed record simple TLV working EF) DCB Write Once (one byte data unit) MRL (size of each record including Tag and length) Number of records
83	02	50 08	File identifier
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
88	01	40	SFI – 08 coded in 5 MSBs.
8C	05	6A FF FF 22 24	Security Attributes (compact form): Delete File: Never Terminate File: Never Deactivate File: (SE# 2) Update Record: (SE#4)

The contents of the file will include the records with simple TLV structure. The tags will be a number from 01 to 05, unique for each record. The same tag will be used in the review file data to cross reference the data. The length of the record will be fixed (69 bytes).

Records 1 to 5 are initialized with corresponding tag 0x01 to 0x05, length 0x45 and value all zeroes at the time of personalization.

Each record will contain the following.

Field	Size	Data format
Challan number	6 bytes	String
Accused	1 byte	String: either "D" (driver), "C" (conductor), or "O" (owner)
Section(s) under which booked	30 bytes	5 strings (6 bytes each)
Endorsing Officer Id	16 bytes	String
Location	10 bytes	String
Date of Endorsement	4 bytes	Date
Time of Endorsement	2 bytes	Integer (Eg. 1450 stored in packed BCD format as 14H, 50H )

### **Review file**

The FCP of the review file will be as follows.

Tag	Len	Value	Remarks
82	05	03 41 00 25 05	FDB (Linear fixed record simple TLV working EF) DCB Write OR (one byte data unit) MRL (size of each record including Tag and length) Number of records
83	02	50 09	File identifier
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
88	01	48	SFI – 09 coded in 5 MSBs.
8C	06	6E FF FF 22 25 25	Security Attributes (compact form): Delete File: Never Terminate File: Never Deactivate File: (SE# 2) Write Record: (SE#5) Update Record: SE#5

The contents of the file will include the records with simple TLV structure. The tags will be a number from 01 to 05, unique for each record. The same tag will be used in the endorsement file data to cross reference the data. The length of the record will be fixed (35 bytes).

Records 1 to 5 are initialized with corresponding tag 0x01 to 0x05, length 0x22 and value all zeroes at the time of personalization.

Each record will contain the following.

Field	Size	Data format
Penalty	3 bytes	Integer (6 digits)
Review date	4 bytes	Date
Reviewing Officer id	16 bytes	String
Receipt Number	11 bytes	String
Backend Update Flag (BUF)	1 byte	Integer (00 or 01)

BUF will have a value of 00 initially while storing the review details. Once the record is added to the back end database, BUF is updated to 01 using WRITE RECORD command.

### ***Permit Details file***

The FCP of the Permit Details file will be as follows.

Tag	Len	Value	Remarks
80	02	00 E6	File size (230 bytes, with growth space)
82	02	01 01	FDB (Transparent working EF) DCB Write Once, One byte data unit
83	02	50 0A	File identifier
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
88	01	50	SFI – 0A coded in 5 MSBs.
8C	05	6A FF FF 27 27	Security Attributes (compact form): 6A Delete File: Never Terminate File: Never Deactivate File: (SE# 7) Update Binary: (SE#7)

The contents of the file will include the following as simple TLV data. (The entries in the Max size column are in shown in decimal numbers. All other entries are in hexadecimal number representation). Note that not all tags may be present in the file contents. A tag value of 0 will indicate the end of file contents.

Field	Tag	Max size	Data format
Permit Type	C0	6 bytes	String
Valid from	C1	4 bytes	Date
Valid to	C2	4 bytes	Date

Area of Operation	C3	1 byte	String: one of "L" (local), "D" (district), "R" (region), "S" (state), "N" (national), "I" (Inter-State), "A" (All-India)
Route from	C4	20 bytes	String
Route to	C5	20 bytes	String
Stage 1	C6	20 bytes	String
Stage 2	C7	20 bytes	String
Stage 3	C8	20 bytes	String
Meter Number (for taxi/auto only)	C9	25 bytes	String
Permit Action Details	CA	36 bytes	See below
AITP/Inter-state Permit Details	CB	8 bytes	See below

Following is the format for permit action details.

Action Code	3 bytes	String (such as "SUR", "SUS", "CAN" etc.)
From Date	4 bytes	Date
To Date	4 bytes	Date
Reason	25 bytes	String

Following is the format for AITP/Inter-State Permit Details

Valid from	4 bytes	Date
Valid to	4 bytes	Date

### **Authorization File**

The FCP of the authorization file will be as follows.

Tag	Len	Value	Remarks
82	05	03 01 00 3F 0A	FDB (Linear fixed record simple TLV working EF) DCB Write Once (one byte data unit) MRL (size of each record including Tag and length) Number of records
83	02	50 0D	File identifier
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
88	01	68	SFI – 0D coded in 5 MSBs.

8C	05	6A	Security Attributes (compact form):
		FF	Delete File: Never
		FF	Terminate File: Never
		27	Deactivate File: (SE# 7)
		2A	Update Record: (SE#10)

The contents of the file will include the records with simple TLV structure. The tags will be a number from 01 to 0A, unique for each record. The length of the record will be fixed (63 bytes including Tag and Length).

Records 1 to 10 are initialized with corresponding tag 0x01 to 0x0A, length 0x3D and value all zeroes at the time of personalization.

Each record will contain the following.

Field	Size	Data format
State to	2 bytes	String
Valid from	4 bytes	Date
Valid till	4 bytes	Date
Draft amount	3 bytes	Integer (6 digits)
Draft number	10 bytes	String
Draft date	4 bytes	Date
Bank code	4 bytes	String
Bank branch	30 bytes	String

### **Counter Signature file**

The FCP of the Counter Signature file will be as follows.

Tag	Len	Value	Remarks
80	02	00 84	File size (132 bytes, with growth space)
82	02	01 01	FDB (Transparent working EF) DCB Write Once, One byte data unit
83	02	50 0B	File identifier
8A	01	01 or 05	LCSI. When file is created first, it will be in 01 state (creation). Later it will be turned into 05 (activated state)
88	01	58	SFI – 0B coded in 5 MSBs.
8C	05	6A FF FF 27 26	Security Attributes (compact form): 6A Delete File: Never Terminate File: Never Deactivate File: (SE#7) Update Binary: (SE#6)

The contents of the file will include the following fields.

<b>Field</b>	<b>Size</b>	<b>Data format</b>
Authorizing Office Id	16 bytes	String
Valid from	4 bytes	Date
Valid till	4 bytes	Date
Route from	20 bytes	String
Route to	20 bytes	String
Stage1	20 bytes	String
Stage 2	20 bytes	String
Stage 3	20 bytes	String