

# **Aprilia RSV4 / Dorsoduro**

## **Full LCD Instrument Cluster COBO**

### **For ASW-NEXT**

Short User Manual



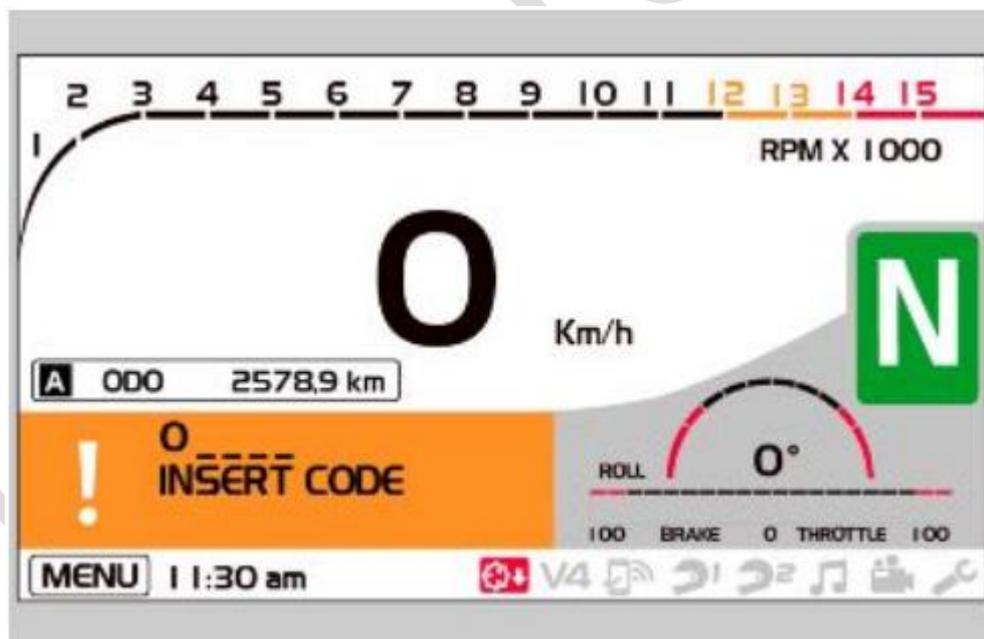
**February 2024**

## Important notes:

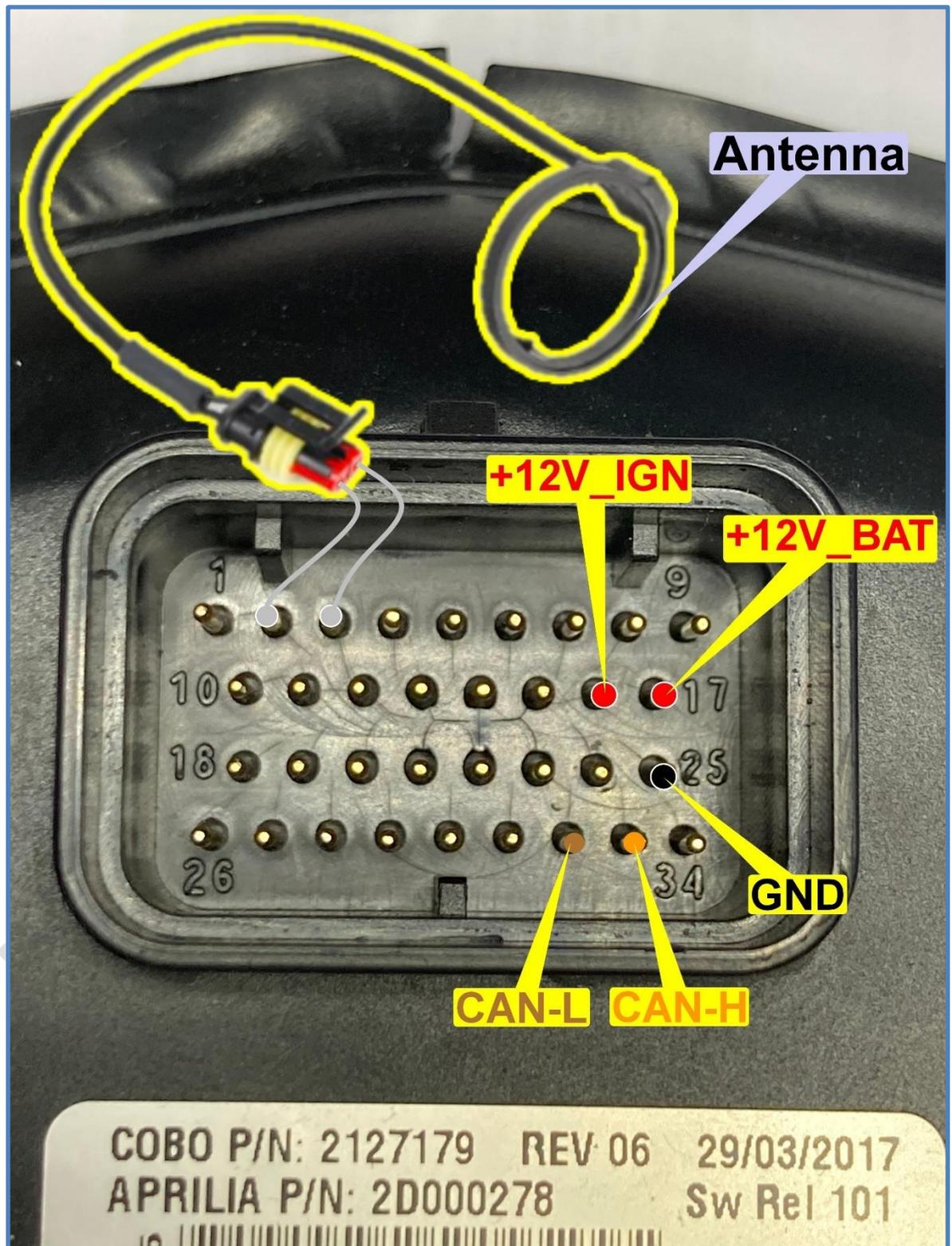
This option applies only to instrument cluster with a large color LCD made by **COBO**

Some software functions will trigger message INSERT CODE on the screen of instrument cluster (picture below).

To enter code in the on-the-bench connection will require joystick, wired-up to the CAN-BUS of the instrument cluster because instrument cluster by itself has no buttons to enter this code with. Better use functions that require USER CODE in the motorcycle directly with ASW-NEXT connected to motorcycle's diagnostic connector.



## 1. How to connect?



**NOTE:** Key antenna is for transponder acceptancy test only

## 2. Software functions

- **Reset Service Remainder**
- **Reset User CODE**
- **Reset Keys**

Erases all keys and stores value of the key that is in the ignition lock. Up to 4 keys can be programmed during this procedure. Requires **USER CODE**. Follow messages on the LCD screen of instrument cluster.
- **Set Odometer**

Set new odometer value. Mileage increase, decrease or set zero is available.

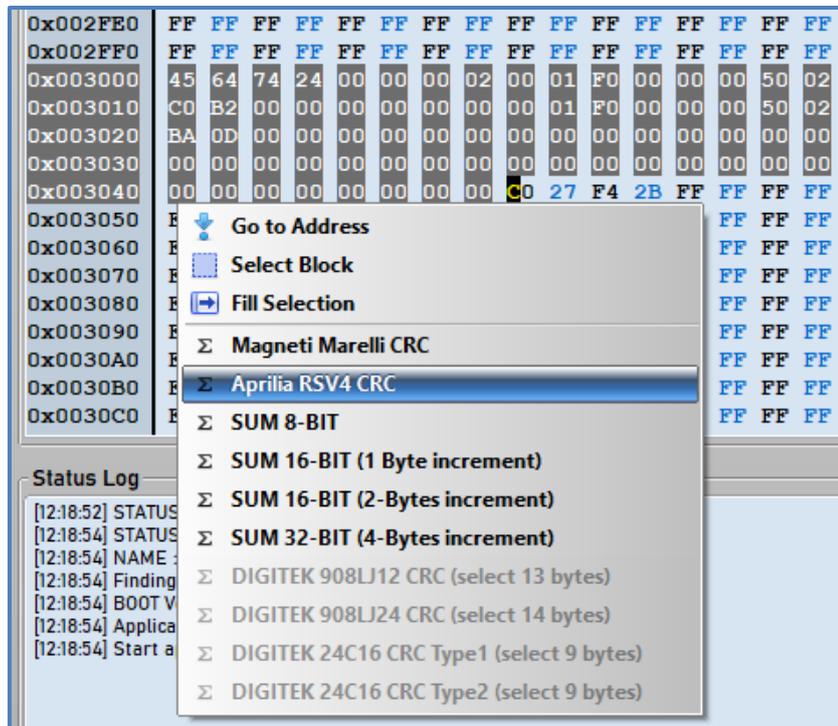
EEPROM dump functions:

- **Read / Set odometer in the EEPROM dump**
- **Read USER CODE from the EEPROM dump**
- **Read / Set Keys in the EEPROM dump**

Group of dump functions do require **24C512** content to be previously read from instrument cluster using suitable **EEPROM programmer**.  
EEPROM R/W by diagnostic is not implemented.

### 3. CRC for EEPROM 24C512 dump

You are free to edit EEPROM content manually but CRC for modified data block must be updated with correct value. Occupied EEPROM area is divided into information blocks where every block starts with ,**Edt\$**' and ends with 32-bit CRC. Select block in the HexEditor window and right-click with mouse on the selected block. Choose ,**Aprilia RSV4 CRC**'. Update 4 bytes of calculated CRC if necessary.

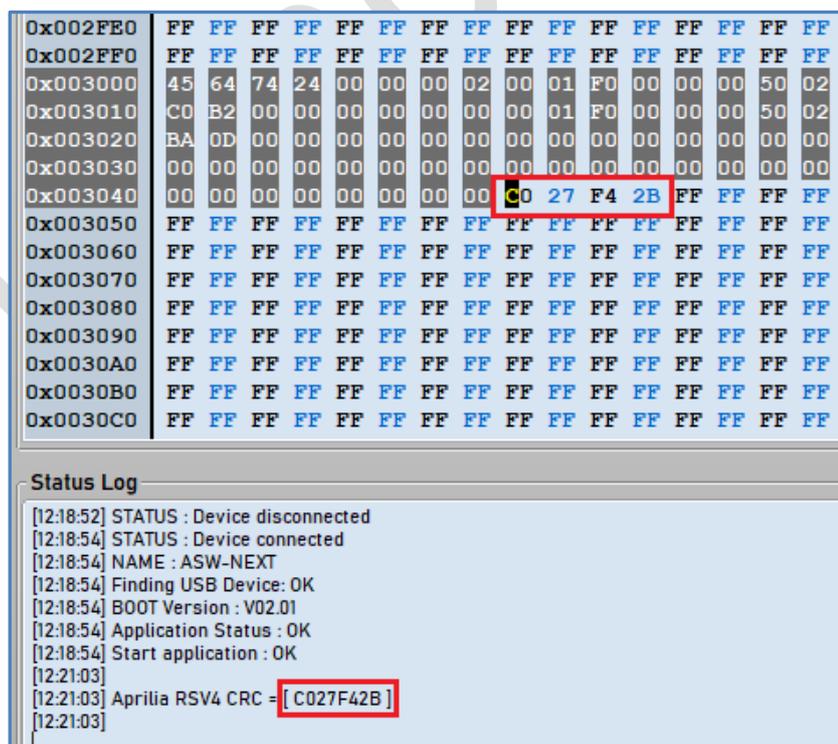


The screenshot shows a HexEditor window with a memory dump. The address 0x003040 is selected, containing the data C0 27 F4 2B FF FF FF FF. A context menu is open over this selection, listing various CRC calculation options. The 'Aprilia RSV4 CRC' option is highlighted.

0x002FE0	FF														
0x002FF0	FF														
0x003000	45	64	74	24	00	00	00	02	00	01	F0	00	00	50	02
0x003010	C0	B2	00	00	00	00	00	00	00	01	F0	00	00	50	02
0x003020	BA	0D	00	00	00	00	00	00	00	00	00	00	00	00	00
0x003030	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0x003040	00	00	00	00	00	00	00	C0	27	F4	2B	FF	FF	FF	FF
0x003050	FF														
0x003060	FF														
0x003070	FF														
0x003080	FF														
0x003090	FF														
0x0030A0	FF														
0x0030B0	FF														
0x0030C0	FF														

Context Menu Options:

- Go to Address
- Select Block
- Fill Selection
- Σ Magneti Marelli CRC
- Σ **Aprilia RSV4 CRC**
- Σ SUM 8-BIT
- Σ SUM 16-BIT (1 Byte increment)
- Σ SUM 16-BIT (2-Bytes increment)
- Σ SUM 32-BIT (4-Bytes increment)
- Σ DIGITEK 908LJ12 CRC (select 13 bytes)
- Σ DIGITEK 908LJ24 CRC (select 14 bytes)
- Σ DIGITEK 24C16 CRC Type1 (select 9 bytes)
- Σ DIGITEK 24C16 CRC Type2 (select 9 bytes)



The screenshot shows the same HexEditor window. The selected block at address 0x003040 now contains the updated data C0 27 F4 2B FF FF FF FF. The CRC value C0 27 F4 2B is highlighted with a red box. The Status Log at the bottom shows the application has calculated the CRC for the selected block.

0x002FE0	FF														
0x002FF0	FF														
0x003000	45	64	74	24	00	00	00	02	00	01	F0	00	00	50	02
0x003010	C0	B2	00	00	00	00	00	00	00	01	F0	00	00	50	02
0x003020	BA	0D	00	00	00	00	00	00	00	00	00	00	00	00	00
0x003030	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0x003040	00	00	00	00	00	00	00	C0	27	F4	2B	FF	FF	FF	FF
0x003050	FF														
0x003060	FF														
0x003070	FF														
0x003080	FF														
0x003090	FF														
0x0030A0	FF														
0x0030B0	FF														
0x0030C0	FF														

Status Log:

- [12:18:52] STATUS : Device disconnected
- [12:18:54] STATUS : Device connected
- [12:18:54] NAME : ASW-NEXT
- [12:18:54] Finding USB Device: OK
- [12:18:54] BOOT Version : V02.01
- [12:18:54] Application Status : OK
- [12:18:54] Start application : OK
- [12:21:03]
- [12:21:03] Aprilia RSV4 CRC = [ C027F42B ]
- [12:21:03]