



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

Date: June 15, 2016
To: Dealer Principal, General Manager, Service Manager, North American Dealer Network
From: Richard Kenton, Technical Director; Jonathan LaForte, Technical Manager

Dear Dealers,

Please be informed that with this Electronic Service Bulletin Ducati technicians obtain comprehensive information regarding Ducati Immobilizer Systems (engine start lock systems) for all Ducati models from Model Year 2006 to Model Year 2016. The bulletin also contains all relevant reset procedures that can be performed in cases of system failure, or key loss.

Overview:

These electronic "Immobilizer" systems prevent the engine from starting without a key acknowledgement, thus increasing protection against theft. The system acknowledges the key by means of an antenna capable of reading the electronic code stored in a chip (transponder) inside the key. The electronic codes that allow override of the Immobilizer are stored in different control units according to the system used. (Instrument panel control unit, Engine control unit, Hands-Free control unit, E-Lock control unit).

The following are the Immobilizer Systems installed on all Ducati models from Model Year 2006 to Model Year 2016:

- **IRC** (Immobilizer, 3 Keys, Code Card)
- **I2K** (Immobilizer, 2 Keys)
- **HF** (Hands Free, 2 Keys)
- **E-LOCK** (E-Lock, 2 Keys)
- **I2K-2** (Immobilizer, 2 Keys)



Immobilizer Systems
Models: All models from Model Year 2006 to Model Year 2016
Electronic Service Bulletin SRV-ESB-16-002

Table of contents

	Page
1. Immobilizer Systems	4
2. IRC System (Immobilizer, 3 Keys, Code card)	7
2.1 IRC System operation	8
2.2 Key memorisation procedure on new system	9
2.3 Loss or damage of one black key	13
2.4 Loss or damage of the red key	13
2.5 Disassembly of the red and the black keys	14
2.6 Loss of the Code Card	15
2.7 Immobilizer override procedure	15
2.8 Replacement of the instrument panel	16
2.9 Replacement of the engine control unit	16
2.10 Replacement of the ignition switch	17
2.11 Replacement of the antenna	17
3. I2K System (Immobilizer, 2 Keys, Code Card)	18
3.1 I2K System operation	19
3.2 Key memorisation procedure on new system	20
3.3 Loss or damage of one black key	22
3.4 Key deletion procedure	22
3.5 Loss or damage of both black keys	24
3.6 Loss of both black keys and the Code Card	24
3.7 Loss of the Code Card	25
3.8 Replacement of the instrument panel control unit	25
3.9 Replacement of the antenna	25



Immobilizer Systems
Models: All models from Model Year 2006 to Model Year 2016
Electronic Service Bulletin SRV-ESB-16-002

4. HF System (Hands Free, 2 Keys)	26
4.1 HF System operation	28
4.2 Recovery procedure via Pin Code	29
4.3 Pin Code deletion procedure	30
4.4 Active key battery replacement procedure	31
4.5 Loss or damage of the active key	33
4.6 Loss or damage of the passive key	33
4.7 Key new memorisation on Hands Free control unit	34
4.8 Loss or damage of the active and passive key	34
4.9 Replacement of the Hands Free control unit	35
4.10 Key memorisation procedure on Hands Free control unit	35
4.11 Replacement of the antenna	35
5. E-LOCK System (E-Lock, 2 Keys)	36
5.1 E-Lock System operation	36
5.2 Recovery procedure via Pin Code	37
5.3 Pin Code deletion procedure	38
5.4 Loss or damage of one key	38
5.5 Key memorisation procedure	38
5.6 Loss or damage of both keys	39
5.7 Replacement of the E-Lock control unit	39
6. I2K-2 System (Immobilizer, 2 Keys)	40
6.1 I2K-2 System operation	41
6.2 Recovery procedure via Pin Code	42
6.3 Key memorisation procedure on new system	43
6.4 Loss or damage of one of the keys	45
6.5 Key reset procedure	45
6.6 Loss or damage of both keys	45
6.7 Damage and replacement of the instrument panel	46
6.8 Mechanical damage of the ignition switch	46



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

1. Immobilizer Systems

Model Year	Models	Immobilizer Systems				
		IRC	I2K	HF	E-LOCK	I2K-2
2006	Monster					
	Multistrada					
	SportClassic					
	SportTouring					
	Superbike					
	SuperSport					
2007	Monster					
	Multistrada					
	SportClassic					
	SportTouring					
	Superbike					
2008	Desmosedici RR					
	Hypermotard					
	Monster					
	Multistrada					
	SportClassic					
	Superbike					
2009	Hypermotard					
	Monster					
	Multistrada					
	SportClassic					
	Superbike					



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

Model Year	Models	Immobilizer Systems				
		IRC	I2K	HF	E-LOCK	I2K-2
2010	Hypermotard					
	Monster					
	Multistrada					
	SportClassic					
	Streetfighter					
	Superbike					
2011	Diavel					
	Hypermotard					
	Monster					
	Multistrada					
	Streetfighter					
	Superbike					
2012	Diavel					
	Hypermotard					
	Monster					
	Multistrada					
	Streetfighter					
	Superbike					
2013	Diavel					
	Hypermotard					
	Monster					
	Multistrada					
	Streetfighter					
	Superbike					



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

Model Year	Models	Immobilizer Systems				
		IRC	I2K	HF	E-LOCK	I2K-2
2014	Diavel					
	Hypermotard					
	Monster					
	Multistrada					
	Streetfighter					
	Superbike					
2015	Diavel					
	Hypermotard					
	Monster					
	Multistrada					
	Streetfighter					
	Superbike					
2016	Diavel					
	Hypermotard					
	Monster					
	Multistrada					
	Superbike					
	Scrambler					



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

2. IRC System (Immobilizer, 3 Keys, Code Card)

In the table below are all Ducati models equipped with the IRC Immobilizer System:

<i>Models</i>	<i>Model Year</i>				
	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Monster 620 - Monster 620 Dark					
Monster 695					
Monster 696					
Monster S2R Dark					
Monster S2R 800					
Monster S2R 1000					
Monster S4R S					
Monster S4R S Testastretta					
Monster S4R Testastretta					
Multistrada 620 - Multistrada 620 Dark					
Multistrada 1000 DS					
Multistrada 1000 S DS					
Multistrada 1100					
Multistrada 1100 S					
SportClassic Paul Smart 1000					
SportClassic Sport 1000					
SportClassic Sport 1000 S					
SportClassic GT 1000					
SportClassic GT 1000 Touring					
SportTouring ST3					
SportTouring ST3 S					
749 - 749 Dark					
749 S					
749 R					
999					
999 S					
999 R					
SuperSport 1000 DS					
SuperSport 800					



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

All vehicles equipped with IRC Immobilizer System have a standard supply consisting in:

- 1 red key
- 2 black keys
- 1 Code Card



The **red key**, also called “Master Key”, allows starting the engine and is the only one that allows programming, deleting and reprogramming the black keys.

The transponder is inside the red key and it can be replaced by removing the plastic shell of the key.

The **black key** allows starting the engine and can be disassembled to collect some of its components (transponder, shell and/or mechanical key) **ONLY** in case of mechanical damage to the same.

The **Code Card** contains the electronic code for the emergency override of the Immobilizer and for this reason it must be stored in a safe place together with the red key. Entering that code will temporarily allow starting of the engine - even if the Immobilizer system is damaged - until the next Key-OFF.

2.1 IRC System operation

The key inserted in the ignition switch (if compatible from a mechanical point of view) allows turning it ON; in this position the motorcycle's electric system and control units are powered.

The instrument panel control unit uses the antenna to read the electronic code of the transponder contained in the key and compares it with those memorized. If the electronic code corresponds to the enabled ones, before the engine starting is allowed, the system performs a further check via serial line with the engine control unit where the same codes are memorized.

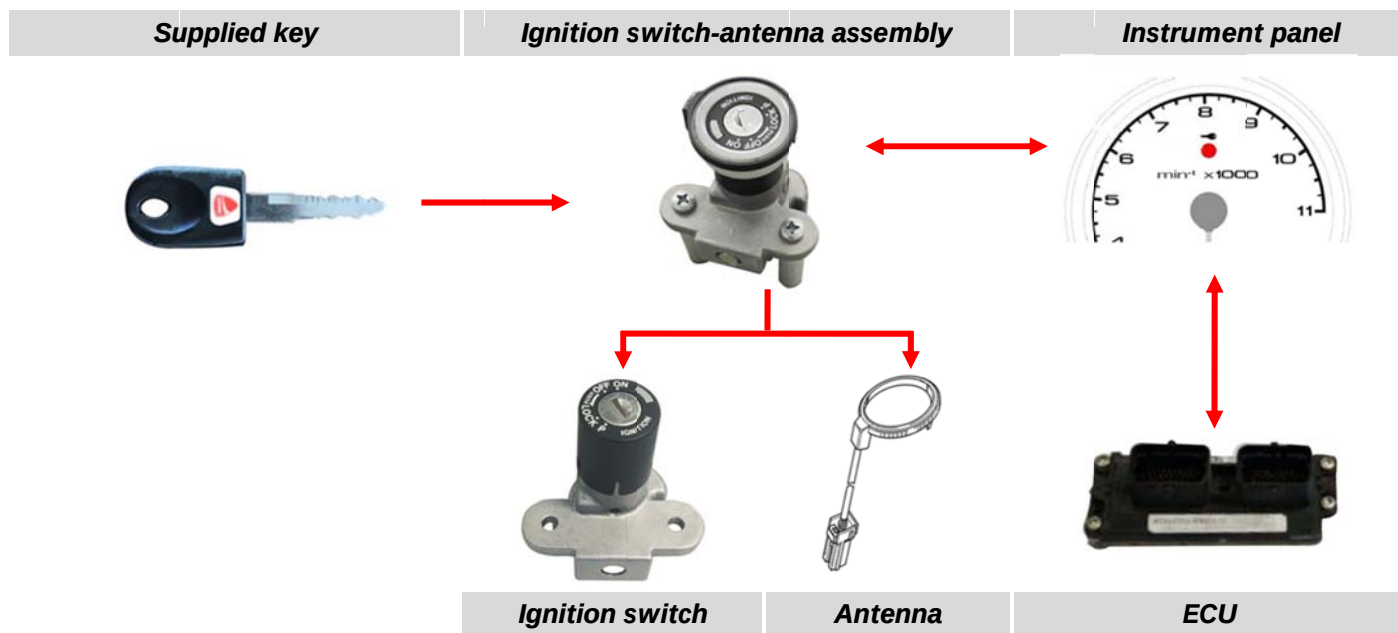


Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

Please find below a chart explaining the IRC System operation:



2.2 Key memorization procedure on new system

To memorize the keys in the IRC System it is necessary to memorize at least 3 keys (red key included); the maximum number of keys that can be memorized is 8:

- 7 black keys
- 1 red key

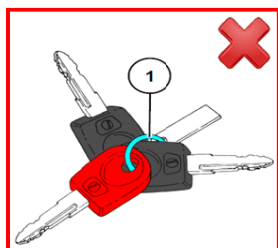
Before storing the keys make sure the ignition switch has been OFF for at least 30 seconds.

- 1) Cut **tie (1)** to release the keys and avoid any interference during the code acquisition of the transponder inside the keys.



NOTE

Ensure that the keys are at least 50 cm from each other..





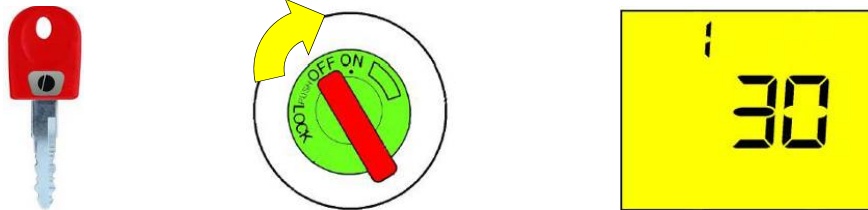
Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

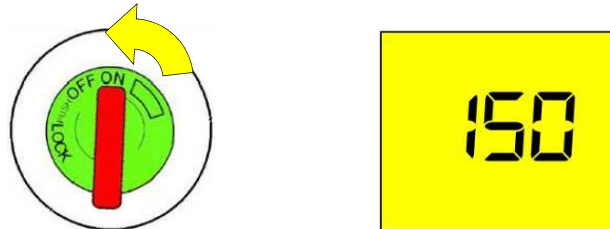
- 2) Perform a Key-ON with the red key.

The instrument panel shows the number of keys that have been inserted and at the same time it starts the countdown (30 tenths of a second).



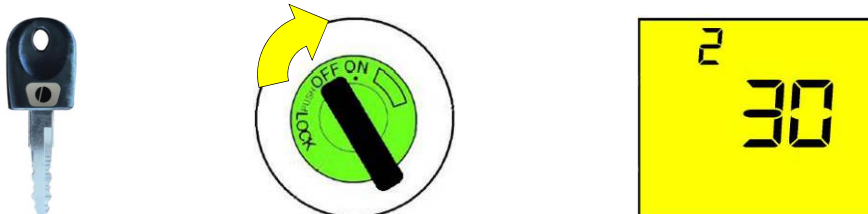
- 3) Perform a Key-OFF before the countdown of 30 tenths of a second displayed on the instrument panel is over and then remove the key.

The instrument panel shows a new countdown (150 tenths of a second). Insert the black key to be memorised within 15 seconds.



- 4) Perform a Key-ON with the black key before the countdown of 150 tenths of a second displayed on the instrument panel is over.

The instrument panel shows the number of keys that have been inserted and at the same time it starts the countdown of 30 tenths of a second.





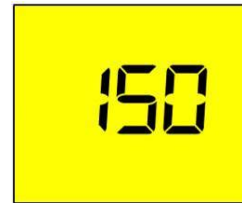
Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

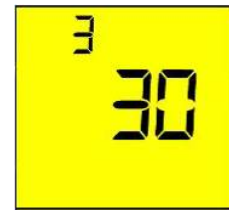
- 5) Perform a Key-OFF before the countdown of 30 tenths of a second displayed on the instrument panel is over and then remove the black key.

The instrument panel shows a new countdown (150 tenths of a second). Insert the second black key to be memorized within 15 seconds.



- 6) Perform a Key-ON with the second black key before the countdown of 150 tenths of a second displayed on the instrument panel is over.

The instrument panel shows the number of keys that have been inserted and at the same time it starts the countdown of 30 tenths of a second.



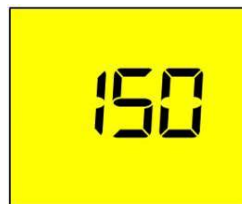
- 7) Perform a key-OFF before the countdown of 30 tenths of a second displayed on the instrument panel is over and then remove the second black key.



NOTE

If it is necessary to program more than 2 black keys, repeat points 6) and 7).

The instrument panel shows a new countdown (150 tenths of a second). Insert the already memorized red key within 15 seconds.





Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

- 8) Perform a Key-ON with the already memorized red key before the countdown of 150 tenths of a second displayed on the instrument panel is over.

The countdown of 30 tenths of a second starts on the instrument panel.

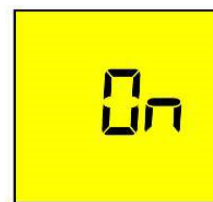
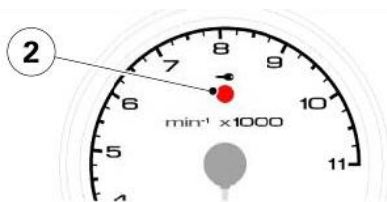


- 9) Perform a Key-OFF before the countdown of 30 tenths of a second displayed on the instrument panel is over without removing the key.



- 10) If the procedure is completed successfully, the **LED (2)** starts flashing and a new countdown of 150 tenths of a second is displayed. The ignition switch must be turned ON before that countdown is over.

Leave the key ON for at least 5 seconds and the instrument panel will show the message "ON".



- 11) Perform a Key-OFF.





Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

To check if the key memorization procedure has been performed correctly it is necessary to:

- insert the red key after 30 seconds;
- perform a Key-ON;
- ensure that the LED flashes once for 0.7 seconds and then for a number of times equal to the number of memorized keys (red one included).

At the end of this procedure, the system will work with all used keys; the instrument panel and the engine control unit have correctly recorded the electronic codes to override the immobilizer.

2.3 Loss or damage of one black key

In case of loss or damage of a black key it is necessary to:

- order a spare black key with transponder;
- copy the mechanical part of the black or red key;
- perform the key memorization procedure described on page 9.

The lost, damaged or replaced black key will no longer override the Immobilizer system.

2.4 Loss or damage of the red key

In case of loss or damage of the red key, it will NOT be possible to pair new keys to the Immobilizer system and as a consequence it will not be possible to delete, replace and/or add other keys to the already paired ones.

In this case, it is necessary to order and replace:

- the ignition switch (that comes with 2 black keys and 1 red key);
- the engine control unit;
- the instrument panel control unit;
- after the installation, perform the key memorization procedure described on page 9.

In case of damage to the red key mechanical part, which does not compromise the operation of the transponder inside of the same key, it is necessary to:

- purchase a new black key (there is only one type as spare part);
- copy the mechanical part of one of the black keys in your possession;
- replace the transponder inside the new purchased black key with the one inside the damaged red key.



WARNING

Remember to identify the new "Master Key" to distinguish it from the other black keys.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

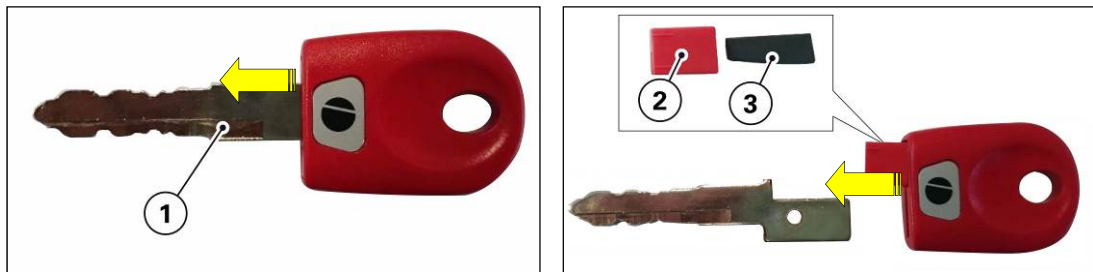
Electronic Service Bulletin SRV-ESB-16-002

2.5 Disassembly of the red and the black keys

Following is the disassembly procedure for the:

- Red key:

- 1) remove the **mechanical part (1)** from the red key.
- 2) slide out the **shell (2)** that contains the **transponder (3)**.

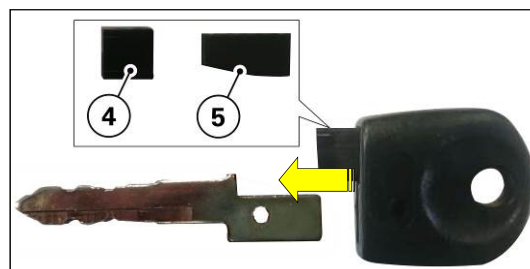


- Black key:

- 1) remove the **Ducati sticker (1)** from the black key.
- 2) Slide out the **pin (2)** and then remove the **mechanical part (3)**.



- 3) slide out the **shell (4)** that contains the **transponder (5)**.





Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

2.6 Loss of the Code Card

In case of loss of the Code Card it is not possible to temporarily start the engine by entering the electronic code written on the Card.



WARNING

It is NOT possible to order only the Code Card as spare part; in this case it is necessary to purchase and replace the components indicated below:

- ignition switch (with full lock kit);
- engine control unit;
- instrument panel control unit.

After the installation of the components mentioned above, perform the key memorization procedure described on page 9.

2.7 Immobilizer override procedure

The immobilizer override procedure can be performed in two ways:

- 1) Enter the alphanumeric keypad of the diagnosis test equipment (MATHESIS, DDS and DDS 2.0) the key electronic code indicated on the rear side of the Code Card.



- 2) Use the throttle control and follow the procedure indicated below:

- a) Turn the Key ON with the black key, open the throttle control completely and keep it fully opened. The EOBD light on the instrument panel turns off after a preset time of 8 seconds.
- b) When the EOBD light turns off, release the throttle control.
- c) The EOBD light will then start flashing again.
Enter the electronic code indicated on the Code Card.
- d) Count the number of flashes of the EOBD light that must correspond to the first digit of the secret code.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

Fully open the throttle control for 2 seconds and release it; this way, the system acknowledges the first digit, the EOBD light turns on and remains on for a preset time of 4 seconds.

Repeat the operation until entering the last digit.

If no operation is performed with the throttle control, the EOBD light will flash 20 times, then it will remain on and the procedure must be repeated.

- e) If the code has been entered correctly, when releasing the throttle control one of the following two cases will happen:
- 1) the EOBD light will start flashing to indicate the occurred override; the warning light will turn off after 4 seconds or if the engine exceeds 1000 rpm.
 - 2) The IMMO light flashes until the engine rpm reaches 1000 rpm, or until the engine is restarted.
- f) If the code has not entered correctly, the EOBD and IMMO lights remain on and it is possible to repeat the operations starting from point b) for an unlimited number of times.



NOTE

If the throttle control is released before the preset time, the light turns on again and it is necessary to turn the key OFF and repeat the sequence from point a).

2.8 Replacement of the instrument panel

In case of instrument panel failure it is possible to replace it by ordering a new spare instrument panel; then it is necessary to perform the key memorization procedure described on page 9.



WARNING

We remind you NOT to use instrument panels that have already been paired with other keys.

2.9 Replacement of the engine control unit

In case of engine control unit failure it is possible to replace it by ordering a spare control unit. The control unit will reprogram automatically upon the first key ON performed with the red key.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

2.10 Replacement of the ignition switch

1) In case of damage of the ignition switch and if you have a red key, it is necessary to order and install the following spare parts:

- ignition switch (with full lock kit and Code Card);
- remove the transponder from the old red key;
- insert the transponder in the new red key;
- replace all lock kits;
- perform the key memorization procedure described on page 9.

The keys of the old ignition switch (2 black keys and 1 red key) will no longer be acknowledged by the system.



WARNING

Remember to keep the original Code Card supplied with the bike as it allows starting the engine with the immobilizer override procedure described on page 15.

2) In case of replacement of the ignition switch and if you do NOT have a red key, it is necessary to order and install the following spare parts:

- key switch (with full lock kit);
- engine control unit;
- instrument panel control unit;
- after the installation, perform the key memorization procedure described on page 9.

2.11 Replacement of the antenna

In case of antenna fault and/or replacement, it is possible to order a new one and install it in the ignition switch.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

3. I2K System (Immobilizer, 2 Keys, Code Card)

In the table here below there are all the Ducati models equipped with the I2K Immobilizer System:

Models	Model Year								
	2007	2008	2009	2010	2011	2012	2013	2014	2015
848									
848 EVO									
848 EVO Corse									
1098									
1098 S									
1098 S Tricolore									
1098 R									
1198									
1198 S									
1198 R									
1198 SP									
Desmosedici RR									
Hypermotard 796									
Hypermotard 1100 EVO									
Hypermotard 1100 EVO SP									
Hypermotard 1100									
Hypermotard 1100 S									
Monster 696									
Monster 796									
Monster 1100									
Monster 1100 S									
Monster 1100 EVO									
Monster Diesel									
Streetfighter 848									
Streetfighter									
Streetfighter S									



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

All vehicles provided with I2K Immobilizer System are supplied with:

- 2 keys
- 1 Code Card



The **black keys** contain the electronic device (transponder) that allows starting the engine only if the same key is acknowledged by the instrument panel control unit.

The **Code Card** allows deleting and reprogramming other black keys in case one or both original keys are lost.



WARNING

If the Code Card gets lost, it will NO longer be possible to reprogram other keys; in this case we recommend keeping the Code Card in a safe place.

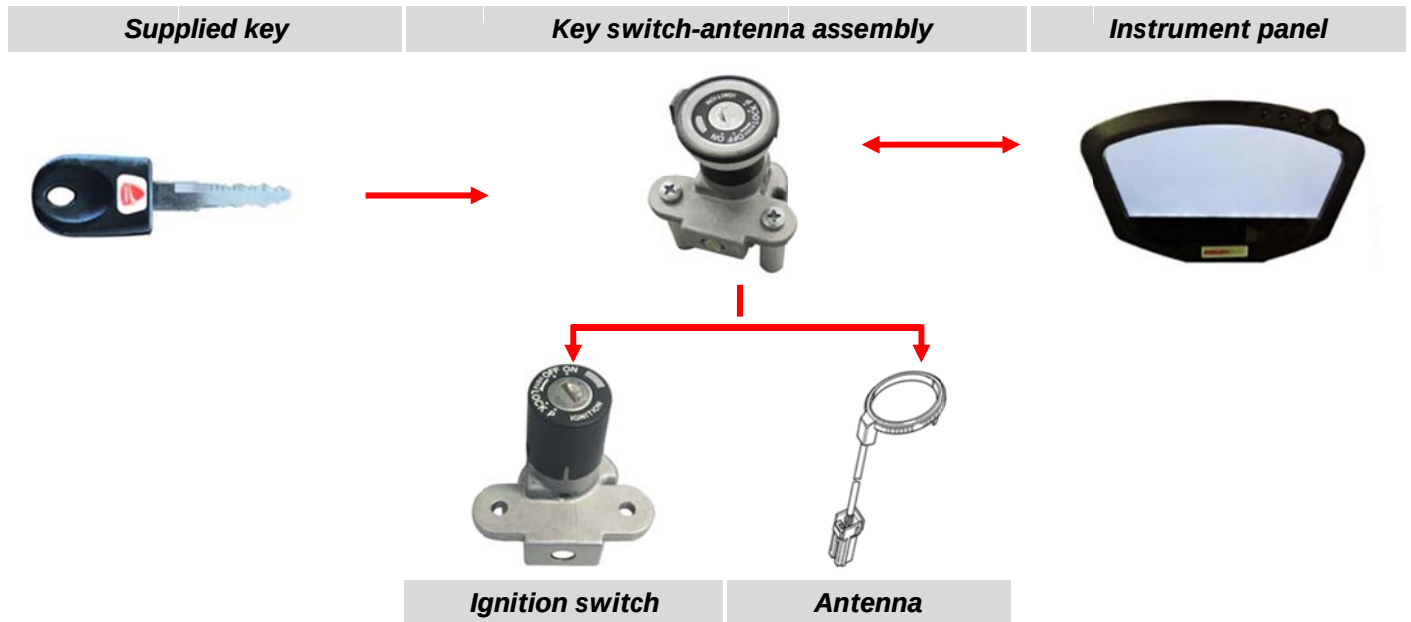
3.1 I2K System operation

The key inserted in the ignition switch (where mechanically compatible) allows its rotation to ON. In this position the bike's electric system and electronic control units are powered; the instrument panel uses the antenna to read the electronic code memorized in the transponder contained in the key and compares it with the stored ones that can start the engine. After the acknowledgement, the instrument panel allows starting the engine.



Immobilizer Systems
Models: All models from Model Year 2006 to Model Year 2016
Electronic Service Bulletin SRV-ESB-16-002

Please find below a chart explaining the I2K System operation:



3.2 Key memorization procedure on new system

To memorize the keys in the I2k System it is necessary to memorize minimum 2 and maximum 3 keys.

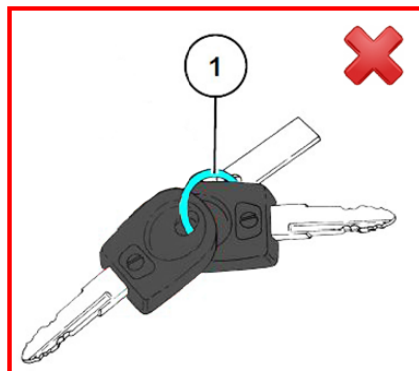
Before storing the keys make sure the ignition switch has been OFF for at least 30 seconds.

- 1) Cut **tie (1)** to release the keys and avoid any interference during the code acquisition of the transponder inside the keys.



NOTE

Ensure that the keys are at least 50 cm from another.





Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

- 2) Perform a Key-ON with the black key.

The countdown of 30 tenths of a second starts on the instrument panel.



- 3) Perform a Key-OFF before the countdown of 30 tenths of a second displayed on the instrument panel is over;



- 4) Perform a Key-ON with the second black key 2.

The countdown of 30 tenths of a second starts on the instrument panel.



- 5) Perform a Key-OFF before the countdown of 30 tenths of a second displayed on the instrument panel is over;



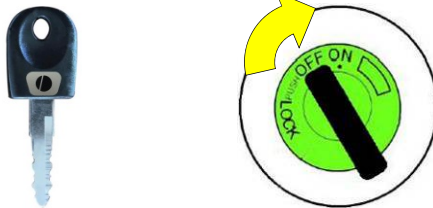


Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

6) Perform a Key-ON with the first black key.



If the procedure is completed successfully the message "Memorization OK" will be displayed on the instrument panel.



3.3 Loss or damage of one black key

In case of loss or damage of one of the 2 black keys, it is necessary to:

- order a spare black key with transponder;
- copy the mechanical part of one of the keys in your possession;
- perform the key deletion procedure and then the memorization procedure described on page 20.

3.4 Key deletion procedure

To delete the memorized keys it is necessary to use the electronic code indicated on the rear side of the Code Card.





Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

- 1) Keep button **(A)** pushed up and at the same time turn the key ON with the black key in your possession.



- 2) Select "REPR" in the instrument panel menu.

The instrument panel shows the initial code "00000"; by keeping **button (A)** pushed down "▼" for 3 seconds you activate the procedure to enter the electronic code indicated on the Code Card.



- 3) The first digit on the left starts flashing and it is therefore possible to enter the first digit of the code indicated on the Code Card by pushing **button (A)** down "▼" (the counter increases its value by one unit every time the button is pushed down "▼" until digit 9; then, it starts the sequence again).



- 4) To confirm the entered digit, push **button (A)** up "▲" and enter the second digit of the code indicated on the Code Card.



- 5) Proceed in the same way for all 5 digits of the number indicated on the Code Card.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

Once the 5 digits of the electronic code have been entered, the instrument panel will show “Pro.” and the entered code will start flashing. Then turn the key OFF.

From now on, the instrument panel control unit (Immobilizer) has no memorized code and it is possible to memorize the keys following the procedure on page 20.



NOTE

If the entered code is wrong, the instrument panel will show the initial code “00000” and it will be necessary to repeat the procedure described before.

3.5 Loss or damage of both black keys

In case of loss, damage or replacement of both black keys it will be necessary to order the new lock unit consisting in:

- 1 ignition switch (complete with lock unit);
- 2 black keys;
- 1 Code Card;

After the component installation, it is necessary to use the old Code Card to delete the keys memorized in the instrument panel control unit as explained on page 22 and then repeat the memorization procedure of the new keys as described on page 20.



WARNING

It is necessary to keep both Code Cards and identify them as:

- the old Code Card allows deleting and programming of the other keys in the instrument panel control unit.
- the new Code Card allows reprogramming the keys in case of instrument panel replacement.

3.6 Loss of both black keys and the Code Card

In case both black keys and the Code Card get lost, it will be necessary to order the following spare parts:

- 1 Instrument panel;
- 1 ignition switch (complete with lock unit);
- 2 black keys;
- 1 Code Card;
- 1 tank plug;

After the installation of these components, perform the key memorization procedure described on page 20.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

3.7 Loss of the Code Card

In case of loss of the Code Card it will no longer be possible to delete and program new black keys. Therefore, if both black keys are lost or damaged it will be necessary to order and install the following spare parts:

- Ignition switch kit (complete with lock unit);
- the instrument panel control unit.

After the installation of these components, perform the key memorization procedure described on page 20.

3.8 Replacement of the instrument panel control unit

In case of replacement of the instrument panel control unit it is necessary to memorize the keys as explained on page 20.

3.9 Replacement of the antenna

In case of antenna fault and/or replacement, it is possible to order a new one and install it in the ignition switch.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

4. HF System (Hands Free, 2 Keys)

In the table here below there are all the Ducati models equipped with the HF Immobilizer System:

<i>Models</i>	<i>Model Year</i>						
	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>
Diavel							
Diavel Carbon							
Diavel Titanium							
Diavel Cromo							
Diavel AMG							
XDiavel							
XDiavel S							
Multistrada 1200							
Multistrada 1200 S Sport							
Multistrada 1200 S Touring							
Multistrada 1200 S Touring D Air							
Multistrada 1200 S Pikes Peak							
Multistrada 1200 S Granturismo							
Multistrada 1200 DVT							
Multistrada 1200 S DVT							
Multistrada 1200 S DVT D Air							
Multistrada 1200 S DVT Pikes Peak							
Multistrada 1200 S DVT Enduro							



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

All vehicles equipped with HF Immobilizer System have a standard supply consisting in:

- 1 active key
- 1 passive key

ACTIVE KEY	PASSIVE KEY
<i>Multistrada MY10-14 – Diavel MY11-16</i>	
	
<i>Multistrada MY15-16</i>	
	
<i>XDiavel MY16</i>	
	

The **active key** (black key) is a mechanical “flip” key that contains a circuit with 2 types of key code acknowledgement systems:

- active, at high frequency
- passive, at low frequency (transponder)

The active system at high frequency needs to be battery powered (3V button battery, CR 2032) whereas the passive system at low frequency does not need a power supply.

The **passive key** (red key) is a mechanical key provided with a transponder and is used only if the active key gets lost. The Immobilizer system acknowledges the key when the same key is moved close to the Hands Free control unit antenna.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

The **Hands Free control unit** is the Immobilizer of this system and allows acknowledging the electronic codes of the keys.

The Immobilizer system consists of 2 antennas:

- one integrated in the Hands Free control unit wiring and dedicated to the acknowledgement of the high-frequency keys (active key);
- one dedicated to the low-frequency key acknowledgement system connected to Hands Free control unit by means of a 2-way connector and is positioned in different areas of the bike according to the model. This antenna is used by the system also to “monitor” the active key and start the high-frequency communication.

4.1 HF System operation

Working on the key-ON button on the RH switch and/or the Hands Free control unit, it is possible to activate the key acknowledgement system that can occur in active or passive mode.



NOTE

In case of flat battery or active key operation fault, it is possible to acknowledge the key using the passive mode of the same key (black key) or as an alternative using the same passive key (red key); it is sufficient to move one of the 2 keys close to the low-frequency antenna of the Hands Free control unit, which is positioned in different areas according to the bike model.

ACTIVE MODE



Antenna



Active key



Hands-Free control unit



Immobilizer Systems
Models: All models from Model Year 2006 to Model Year 2016
Electronic Service Bulletin SRV-ESB-16-002

PASSIVE MODE

Multistrada 1200 MY10-14



Multistrada 1200 MY15



Diavel MY11-16



XDiavel MY16



4.2 Recovery procedure via Pin Code

If the key is not acknowledged in active or passive mode, it is possible to use the “recovery” procedure that entails the use of a Pin Code (secret code) to release the engine start. This Pin Code is memorized in the instrument panel control unit and not in the Hands Free one.



WARNING

The Immobilizer release function via Pin Code is available **ONLY** if the Customer has performed the memorisation procedure of the secret code in the instrument panel control unit.



Immobilizer Systems

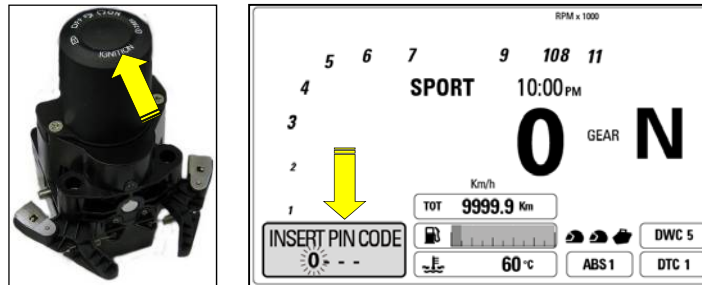
Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

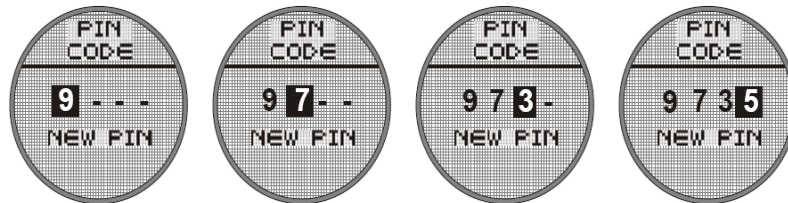
To perform the recovery procedure, if the Pin Code has already been memorized in the instrument panel control unit, follow the procedure described below:

- 1) perform a key ON with the button on the Hands Free control unit.

The instrument panel shows "INSERT PIN CODE":



- 2) Using the UP and DOWN buttons of the left-hand switch it is possible to enter the Pin Code set by the Customer and start the engine.



WARNING

When the instrument panel control unit is replaced, it is necessary to set the Pin Code again; otherwise it will not be possible to perform the recovery procedure.

4.3 Pin Code deletion procedure

If you do not remember the Pin Code memorized in the instrument panel control unit, it will be possible to delete it ONLY using the DDS 2.0 instrument following the operations described below:

- 1) access the "Self-diagnosis" section of the instrument panel control unit;
- 2) select "Settings";
- 3) select "Reset Pin Code";
- 4) select "Confirm" and the Pin Code will be deleted.



NOTE

To perform these operations it is necessary to turn the key ON using a key acknowledged by the



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

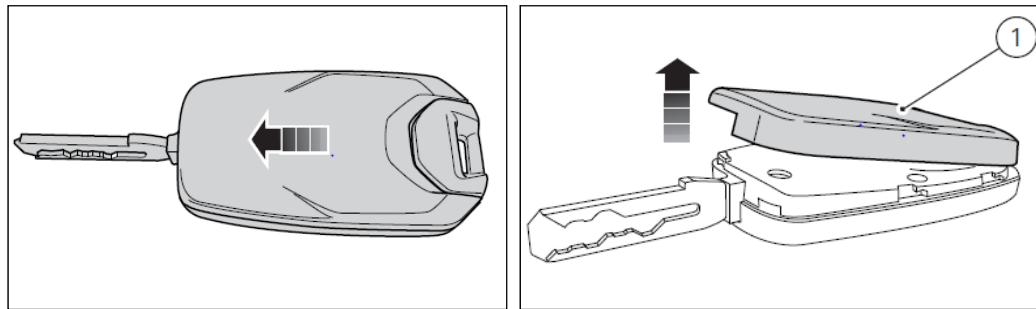
Immobilizer.

4.4 Active key battery replacement procedure

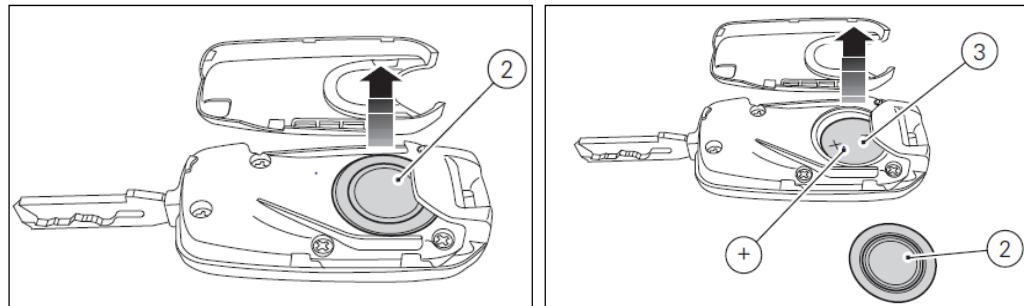
The replacement procedure of the active key battery varies according to the model.

- Multistrada 1200 MY15-16 and XDiavel MY16:

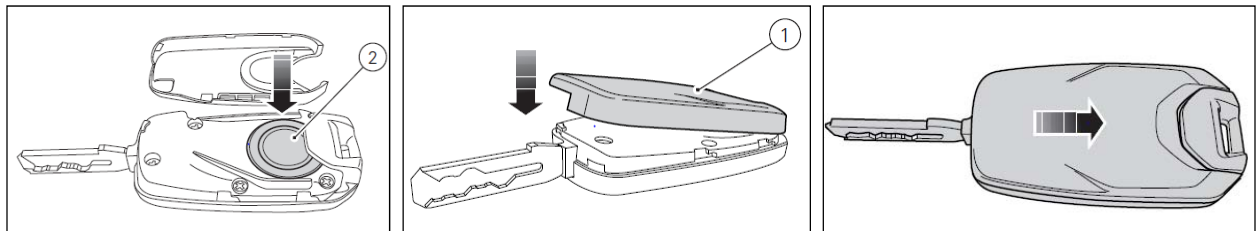
- 1) Remove the mechanical part from the key, remove the **rear plastic shell (1)** of the key grip by pushing it towards the key mechanical part and lifting it up as shown in the figure.



- 2) Remove the **protection (2)** of the battery and the **battery (3)** (the positive pole must be facing up).



- 3) Position the **battery protection (2)**, reposition the **rear plastic shell (1)** by pushing it with a slight pressure as shown in the figure. Make sure that the cover is closed correctly.





Immobilizer Systems

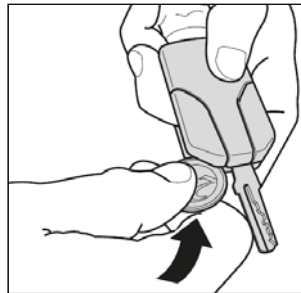
Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

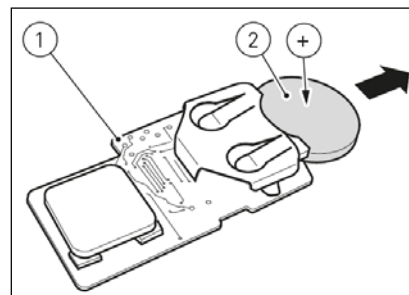
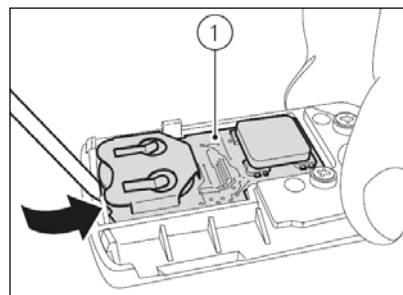
- Multistrada 1200 MY10-14 and Diavel MY12-16:

- 1) Remove the mechanical part of the active key.

Use a large sized coin to pry open the shells of the plastic grip (2 Euro coin) as shown in the figure.

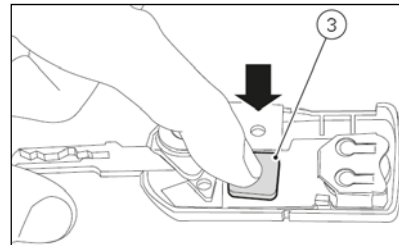
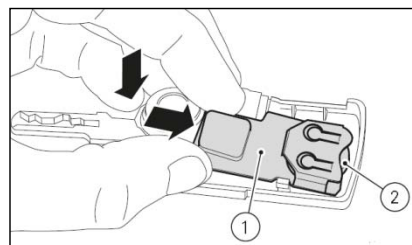


- 2) Remove the **printed circuit board (1)** prying it up **gently** with a small flat screwdriver, as shown in the figure.
- 3) Slide the **battery (2)** out of **the printed circuit (1)** and replace it with a new one (the positive pole (+) must be facing up).



- 4) Reinsert the **printed circuit board (1)** from the side with the **battery (2)** into the plastic shell.

Apply slight pressure on the **antenna (3)** of the printed circuit board until you hear the engagement "click".





Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

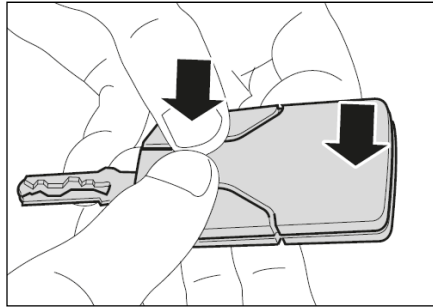
Electronic Service Bulletin SRV-ESB-16-002

- 5) Align the two shells of the grip and press on the area indicated by the arrows to close them again.



NOTE

Make sure you hear the usual “click” that indicates that the two shells are closed and check the key operation.



4.5 Loss or damage of the active key

In case of loss of the active key (black key) it is necessary to order a new one with electronic board and key insert to be milled (not coded); the mechanical part of the passive key (black key) in your possession must be duplicated in the new active key.

To reprogram the new active key follow the procedure of key memorization on Hands Free control unit described on page 34.

4.6 Loss or damage of the passive key

In case of loss of the passive key (red) it is necessary to request a new red key to be milled (not coded); the mechanical part of the key in your possession must be copied in the new passive key.

To reprogram the new active key follow the procedure of key new memorization on Hands Free control unit described on page 34.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

4.7 Key new memorization on Hands Free control unit



WARNING

The key memorization procedure indicated below is **ONLY** available in case of duplication of one of the 2 keys (active or passive).

To memorize the new key with DDS 2.0 it is necessary to follow the procedure below:

- 1) turn the key ON;
- 2) connect the bike to the DDS 2.0 diagnosis instrument;
- 3) select the bike model;
- 4) access the "Self-diagnosis" section of the Hands Free control unit;
- 5) select "Settings";
- 6) select "Key programming" and follow the displayed instructions.
The DDS 2.0 will guide you through the operations asking you to move one of the keys to be memorised close to the low-frequency antenna.

4.8 Loss or damage of the active and passive key

In case of loss of the active key (black key) and of the passive key (red key) it is necessary to replace the Hands Free kit system that consists in:

- 1) Hands-Free control unit;
- 2) Active key (black key) with electronic board and key coded insert installed;
- 3) passive key (red key) with transponder;
- 4) seat lock;
- 5) complete tank filler plug;
- 6) nipples for panniers (only for Multistrada 1200 MY10-16).



NOTE

After the installation of the components mentioned above, it is possible to start the engine without having to reprogram the keys since the 2 keys (active and passive) are already paired with the Hands Free control unit.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

4.9 Replacement of the Hands Free control unit

In case of Hands Free control unit fault it is necessary to order a spare one without keys.

After the installation it is necessary to perform the memorization procedure of the keys in your possession on the new Hands Free control unit on page 35.

4.10 Key new memorization on Hands Free control unit



WARNING

The key memorization procedure described below applies ONLY in case of replacement of the Hands Free control unit only.

To memorize the keys with DDS 2.0 it is necessary to follow the procedure below:

- 1) perform a key ON with the button on the Hands Free control unit;
- 2) connect the bike to the DDS 2.0 diagnosis instrument;
- 3) select the bike model;
- 4) access the section "Special functions";
- 5) select "Key programming" and follow the displayed instructions that prompt to bring the keys to be memorized close to the low-frequency antenna.

4.11 Replacement of the antenna

In case of antenna fault and/or replacement, it is possible to order a new one and install it in the ignition switch.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

5. E-LOCK System (E-Lock, 2 Keys)

In the table here below there are all the Ducati models equipped with the E-Lock Immobilizer System:

<i>Models</i>	<i>Model Year</i>				
	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>
899 Panigale					
959 Panigale					
1199 Panigale					
1199 Panigale S					
1199 Panigale S Tricolore					
1199 Panigale R					
1199 Superleggera					
1299 Panigale					
1299 Panigale S					
Panigale R					

All vehicles equipped with E-Lock Immobilizer System have a standard supply consisting in 2 keys.

Keys



The **keys** are provided with passive transponder powered by the antenna integrated in the E-Lock control unit.

5.1 E-Lock System operation

The E-Lock control unit contains the electronic codes of the keys enabled to start the vehicle.

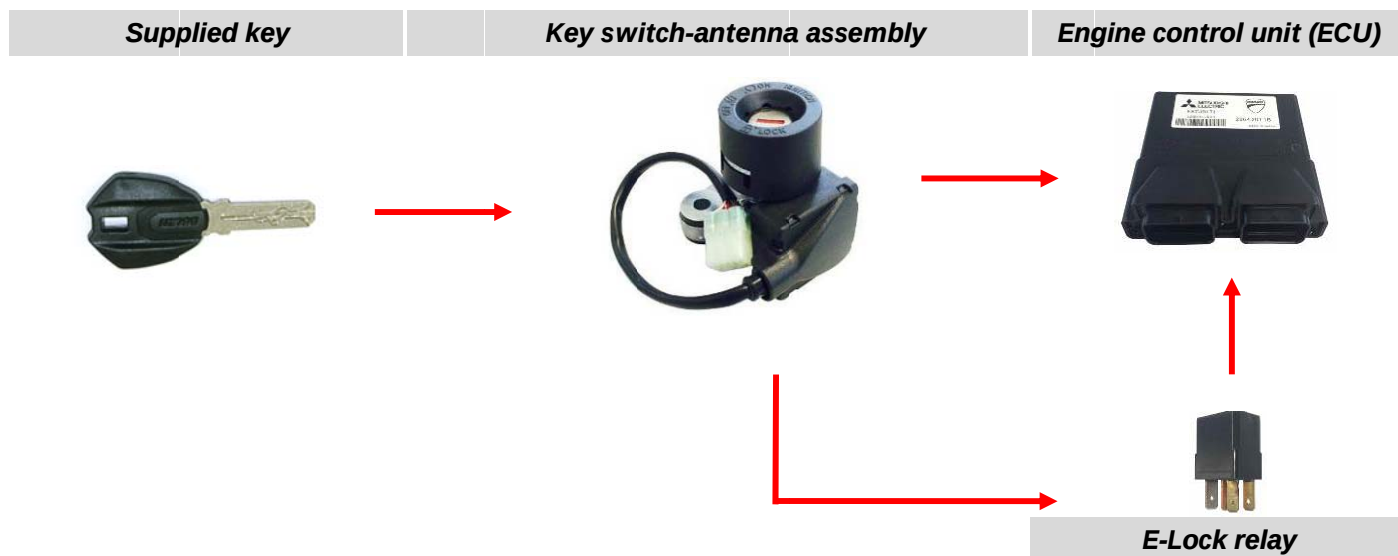
Upon Key-ON, the E-Lock control unit compares the electronic code in the key with those stored during the first memorization. If they match, the system electronic control unit supply relay is enabled and it sends the engine start enabling signal to the engine control unit via CAN line.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002



5.2 Recovery procedure via Pin Code

If the code of the transponder inside the key is not acknowledged, it is possible to perform the key-ON and start the "recovery" procedure that entails the use of a Pin Code (secret code) memorized in the E-Lock control unit.



WARNING

The Immobilizer release function via Pin Code is available **ONLY** if the Customer has performed the memorization procedure of the secret code.

In case of mechanical damage of the key it is **NOT** possible to access the "recovery" procedure by entering the secret code.

To perform the recovery procedure, if the Pin Code has already been memorized in the E-Lock control unit, follow the procedure described below:

- 1) Perform the Key-ON with the key in your possession and the instrument panel will show "PIN":





Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

- 2) using the UP and DOWN buttons of the left-hand switch it is possible to enter the Pin Code previously set by the Customer and start the engine.



5.3 Pin Code deletion procedure

If you do not remember the Pin Code memorized in the E-Lock control unit, it will be possible to delete it ONLY using the DDS 2.0 instrument following the operations described below:

- 1) access the "Self-diagnosis" section of the instrument panel control unit;
- 2) select "Settings";
- 3) select "Reset Pin Code";
- 4) select "Confirm" and the Pin Code will be deleted.

5.4 Loss or damage of one key

In case of loss or damage of one of the 2 available keys, it is necessary to order a spare part; then copy its mechanical part starting with the key already in your possession and perform the key memorization procedure on page 38.

5.5 Key memorization procedure

To memorize the key it is necessary to use the DDS 2.0 diagnosis instrument and follow the displayed instructions:

- 1) Turn the ignition switch ON with the key in your possession.
- 2) access the "Self-diagnosis" section of the E-Lock control unit;
- 3) access the section "Settings";
- 4) select "Key memorization";
- 5) select "Set";
- 6) follow the displayed procedure to memorize the keys. The DDS 2.0 will guide you through the operations and prompt you to insert the keys to memorize one after the other.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

5.6 Loss or damage of both keys

In case of loss or damage of both keys it is necessary to order a spare E-Lock control unit that will come with two already paired keys.

After the installation the system will operate correctly without having to perform any key memorization procedure.



NOTE

In case of E-Lock control unit replacement, to enable the “recovery” function by means of the Pin Code, it is necessary to enter the code again in the new control unit.

5.7 Replacement of the E-Lock control unit

In case of E-Lock control unit failure it is necessary to order a spare E-Lock control unit that will come with two already paired keys.

After the installation the system will operate correctly without having to perform any key memorization procedure.



NOTE

In case of E-Lock control unit replacement, to enable the “recovery” function by means of the Pin Code, it is necessary to enter the code again in the new control unit.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

6. I2K-2 System (Immobilizer, 2 Keys)

In the table here below there are all the Ducati models equipped with the I2K-2 Immobilizer System:

<i>Models</i>	<i>Model Year</i>			
	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>
Hypermotard 821				
Hypermotard 821 SP				
Hyperstrada 821				
Hypermotard 939				
Hypermotard 939 SP				
Hyperstrada 939				
Monster 821				
Monster 821 Dark				
Monster 821 Stripe				
Monster 1200				
Monster 1200 S				
Monster 1200 S Stripe				
Monster 1200 R				
Scrambler Icon				
Scrambler Full Throttle				
Scrambler Classic				
Scrambler Urban Enduro				
Scrambler Italia Independent				
Scrambler Flat Track Pro				
Scrambler Sixty2				



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

All vehicles equipped with IRC Immobilizer System have a standard supply consisting in 2 keys.

The **keys** are provided with a passive transponder. According to the Ducati model, the transponder can or cannot be removed (see the following chart):

1) I2k-2 System with REMOVABLE transponder:

Keys	Models (Model Year)
	• Monster 821 (15-16) • Monster 1200 (14-16) • Hypermotard 821 (13-15) • Hypermotard 939 (16)

2) I2k-2 System with NOT REMOVABLE transponder:

Keys	Models (Model Year)
	• Scrambler (15-16) • Scrambler Sixty2 (16)

6.1 I2K-2 System operation

The key electronic codes are stored in the instrument panel control unit that work as Immobilizer.

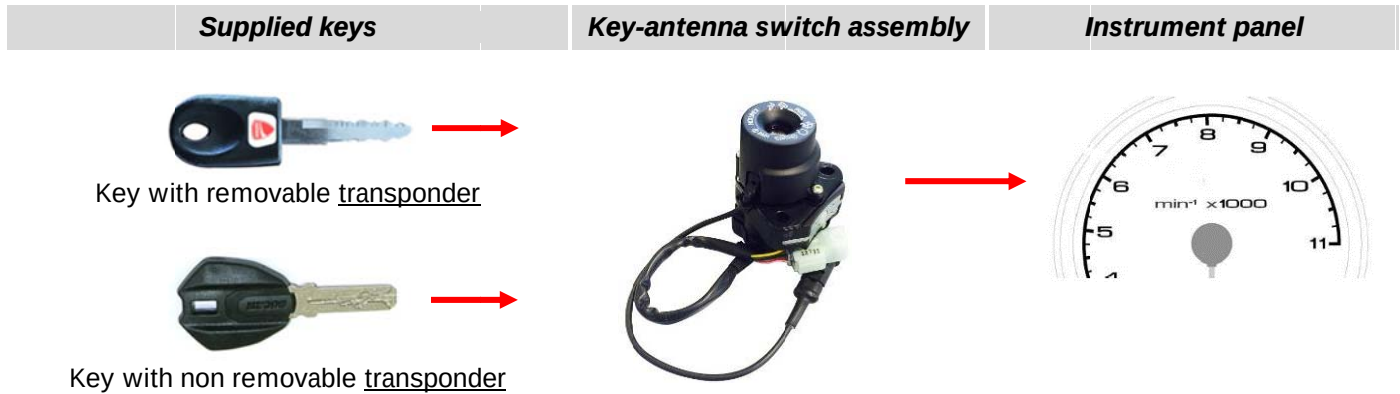
The transponder contained in each key is powered by the antenna inside the ignition switch. The instrument panel control unit reads the electronic code contained in the key and compares it with the codes enabled upon engine start; then it sends to the engine control unit the engine start enabling signal via CAN line.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002



6.2 Recovery procedure via Pin Code

If the code of the transponder inside the key is not acknowledged, it is possible to perform the key-ON and start the "recovery" procedure that entails the use of a Pin Code (secret code) memorized in the instrument panel control unit.



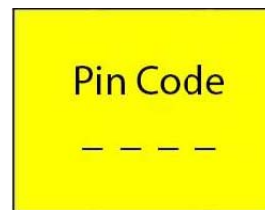
WARNING

The Immobilizer release function via Pin Code is available **ONLY** if the Customer has performed the memorization procedure of the secret code.

In case of mechanical damage of the key it is **NOT** possible to access the "recovery" procedure by entering the secret code.

To perform the recovery procedure, if the Pin Code has already been memorized in the instrument panel control unit, follow the procedure described below:

- 1) Perform a Key-ON and the instrument panel will show "PIN CODE":



- 2) Using the UP and DOWN buttons of the left-hand switch it is possible to enter the Pin Code set by the Customer and start the engine.





Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

6.3 Key memorization procedure on new system

The number of keys that can be memorized by the I2K-2 System is 2 and it is not possible to program one or more than 2 keys.

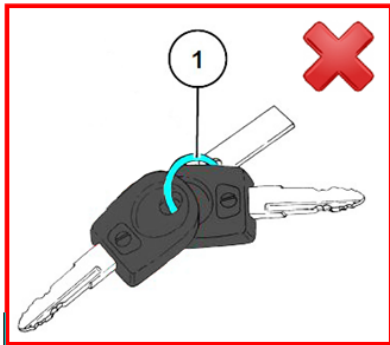
Before storing the keys make sure the ignition switch has been OFF for at least 30 seconds.

- 1) Cut **tie (1)** to release the keys and avoid any interference during the code acquisition of the transponder inside the keys.



NOTE

Ensure that the keys are at least 50 cm from another.



I2k-2 System with REMOVABLE transponder



I2k-2 System with NON REMOVABLE transponder



- 2) Perform a Key-ON with the first key.





Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

- 3) Perform a Key-OFF before the countdown of 30 tenths of a second displayed on the instrument panel is over (approx. 3 seconds).

Remove the key.



- 4) Perform a Key-ON with the second key.



- 5) Perform a Key-OFF before the countdown of 30 tenths of a second displayed on the instrument panel is over (approx. 3 seconds).

Remove the key.



- 6) Perform a new Key-ON with the first key used.



- 7) If the procedure is completed successfully the instrument panel will show "PROG. OK".



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

6.4 Loss or damage of one of the keys

In case of damage or loss of one of the 2 keys it is necessary to follow the procedure below:

- 1) order a spare key;
- 2) copy the mechanical part of the possessed black key;
- 3) use the DDS 2.0 diagnosis instrument to perform the key reset procedure indicated on page 45;
- 4) perform the key memorization procedure described on page 43.

6.5 Key reset procedure

To reset the key memorized in the instrument panel control unit using the DDS 2.0 diagnosis instrument, follow the procedure indicated below:

- 1) Turn the ignition switch ON with the possessed key.
- 2) access the "Self-diagnosis" section of the instrument panel control unit;
- 3) select "Settings";
- 4) select "Reset Keys";



NOTE

Once the keys are reset, the instrument panel control unit will not have memorized keys; therefore it will be necessary to program the 2 keys as described on page 43.

6.6 Loss or damage of both keys

In case of loss or damage of both keys it will be necessary to order:

- 1) a complete spare switch kit consisting in:
 - keys
 - lock unit
- 2) instrument panel
Install the components and then perform the key memorization procedure described on page 43.



WARNING

When the instrument panel control unit is replaced, it is necessary to set the Pin Code again; otherwise it will not be possible to perform the "recovery" procedure.



Immobilizer Systems

Models: All models from Model Year 2006 to Model Year 2016

Electronic Service Bulletin SRV-ESB-16-002

6.7 Damage and replacement of the instrument panel

In case of instrument panel failure it is possible to replace it by ordering a new spare instrument panel; then it is necessary to perform the key memorization procedure described on page 43.



WARNING

When the instrument panel control unit is replaced, it is necessary to set the Pin Code again; otherwise it will not be possible to perform the recovery procedure.

6.8 Mechanical damage of the ignition switch

In case of mechanical damage of the ignition switch it will not be possible to perform a Key-ON and, according to the system, proceed as follows:

1) I2k-2 System with REMOVABLE transponder:

It is necessary to order a spare ignition switch kit including the locks, remove the transponders from both original keys and insert them in the new ones.



NOTE

To replace the transponder perform the procedure indicated on page 14.

2) I2k-2 System with NOT REMOVABLE transponder:

It is necessary to order a new ignition switch kit complete with locks and a new instrument panel.

Install the components and then perform the key memorization procedure described on page 43.



WARNING

When the instrument panel control unit is replaced, it is necessary to set the Pin Code again; otherwise it will not be possible to perform the recovery procedure.

Thank you for your support.

Service Department
Ducati North America, Inc.