



## Ducati Immobilizer Systems

### Electronic Service Bulletin SRV-ESB-20-001

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**Date:** 20/02/2020  
**Addressed to:** Authorised dealers, Importers, General Managers, Service Managers  
**Released by:** Francesco Penazzo, Head of Service  
Alberto Migliaccio, Service Technical Trainer and Service Area Manager

**This Electronic Service Bulletin replaces and cancels  
the bulletin SRV-ESB-18-004 published on 03/05/2018.**

Dear Dealers,

with this Electronic Service Bulletin we want to provide you with all information about the Immobilizer Systems (engine start lock systems) and the relevant reset procedures that a Ducati technician shall perform in case of a system failure or if the keys got lost.

These are electronic systems called "Immobilizer" that prevent the engine from starting when a key not acknowledged among the supplied ones is detected, thus increasing the 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 overriding 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).

Following are the Immobilizer systems installed on the Ducati models from Model Year 2006 to Model Year 2020:

- **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)

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#### 1. Immobilizer systems

Model Year	Family/Model	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		●			
2010	Hypermotard		●			
	Monster		●			
	Multistrada			●		
	SportClassic	●				
	Streetfighter		●			
	Superbike		●			

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Model Year	Family/Model	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		●		●	
2014	Diavel			●		
	Hypermotard					●
	Monster					●
	Multistrada			●		
	Streetfighter		●			
	Superbike				●	

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Model Year	Family/Model	Immobilizer systems				
		IRC	I2K	HF	E-LOCK	I2K-2
2015	Diavel			●		
	Hypermotard					●
	Monster					●
	Multistrada 1200 DVT			●		
	Streetfighter		●			
	Superbike				●	
2016	Diavel			●		
	Hypermotard					●
	Monster					●
	Multistrada 1200 DVT			●		
	Superbike				●	
	Scrambler					●
2017	Diavel			●		
	Hypermotard					●
	Monster					●
	Multistrada 1200 DVT			●		
	Multistrada 950					●
	Superbike				●	
	Scrambler					●
	SuperSport					●
2018	Diavel			●		
	Hypermotard					●
	Monster					●
	Multistrada 950					●
	Multistrada 1260 DVT			●		
	Superbike V2				●	
	Superbike V4					●
	Scrambler					●
	SuperSport					●

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Model Year	Family/Model	Immobilizer systems				
		IRC	I2K	HF	E-LOCK	I2K-2
2019	Diavel			●		
	Hypermotard					●
	Monster					●
	Multistrada 950					●
	Multistrada 950 S			●		
	Multistrada 1260 DVT			●		
	Superbike V2				●	
	Superbike V4					●
	Scrambler					●
	SuperSport					●
2020	Diavel			●		
	Hypermotard					●
	Monster					●
	Multistrada 950					●
	Multistrada 950 S			●		
	Multistrada 1260 DVT			●		
	Streetfighter V4					●
	Superbike V2				●	
	Superbike V4					●
	Scrambler					●
SuperSport					●	

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#### 2. IRC system (Immobilizer, 3 Keys, Code Card)

Below are the Ducati models equipped with IRC Immobilizer System:

Models	Model Year				
	2006	2007	2008	2009	2010
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	●				

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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 as well; this allows reaching some components of the key (transponder, shell and/or mechanical key) **ONLY** in case of mechanical damage.

The **Code Card** contains the electronic code for the emergency override of the engine 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.

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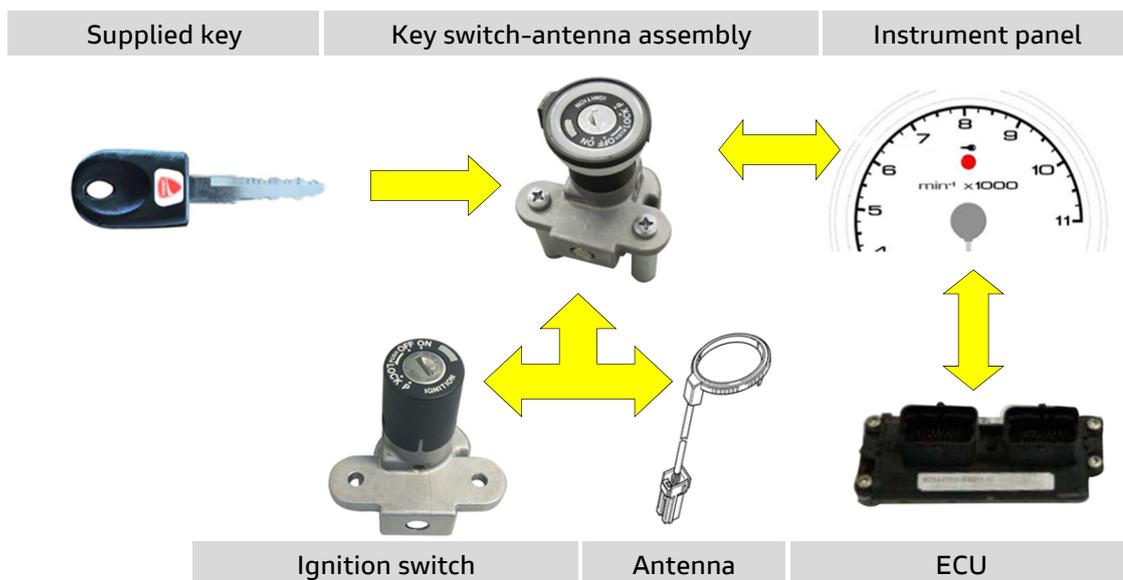
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#### 2.1 IRC system operation

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 memorised. 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 memorised.

Please find below a chart explaining the IRC system operation:



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#### 2.2 Key memorisation procedure on new system

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

- 7 black keys
- 1 red key

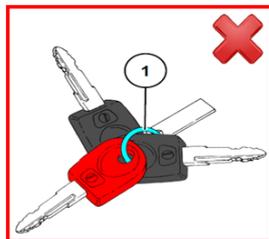
Before storing the keys make sure the ignition switch has been OFF for at least 30 seconds.

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



#### NOTE

Make sure that the keys are at least 50 cm from another.



- 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).



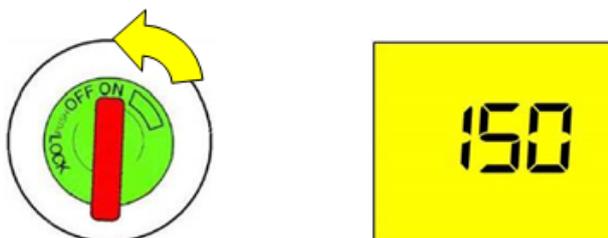
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- 3) Perform a Key-OFF before the countdown of 30 tenths of a second displayed on the instrument panel is over and then remove the key.

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



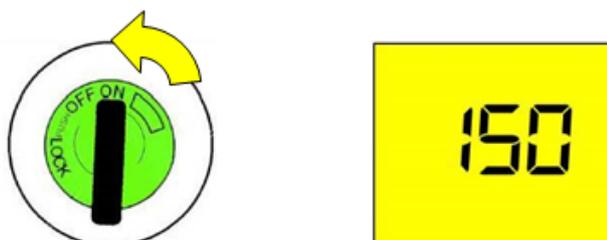
- 4) Perform a Key-ON with the black key before the countdown of 150 tenths of a second displayed on the instrument panel is over.

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.



- 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 memorised within 15 seconds.



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- 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.



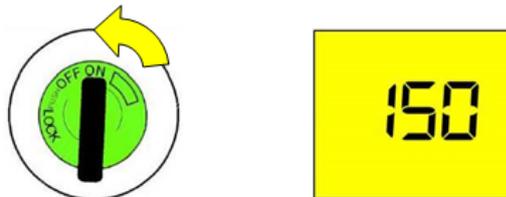
- 7) Perform a key-OFF before the countdown of 30 tenths of a second displayed on the instrument panel is over and then remove the second black key.



#### NOTE

If it is necessary to programme 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 memorised red key within 15 seconds.



- 8) Perform a Key-ON with the already memorised 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.



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- 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.



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

- insert the red key after 30 seconds;
- Turn the Key ON;
- check that the LED flashes once for 0.7 seconds and then for a number of times equal to the number of memorised 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.

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#### 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 memorisation procedure described on page 11.

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 memorisation procedure described on page 11.

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.



#### ATTENTION

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

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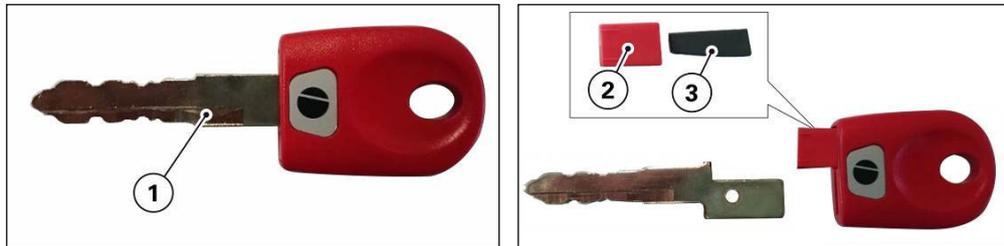
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#### 2.5 Disassembly of the red and the black keys

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)**.

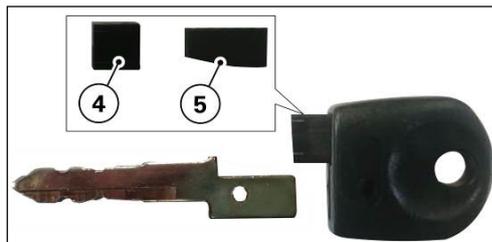


- Black key:

- 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)**.



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#### 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.



#### ATTENTION

It is NOT possible to order the Code Card only; the only way is to purchase and replace the components listed below:

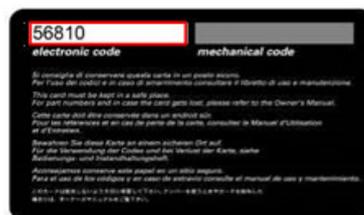
- key switch (with full lock kit);
- engine control unit;
- instrument panel control unit.

After the installation of the components mentioned above, perform the key memorisation procedure described on page 11.

#### 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.
- d) Enter the electronic code indicated on the Code Card.

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- e) Count the number of flashes of the EOBD light that must correspond to the first digit of the secret code.  
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.
- f) 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 reaches 1000 rpm, or until the engine is restarted.
- g) 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 memorisation procedure described on page 11.



#### ATTENTION

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

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#### 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 reprogramme automatically upon the first key ON performed with the red key.

#### 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 memorisation procedure described on page 11.

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



#### ATTENTION

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 17.

2) In case of damage 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 memorisation procedure described on page 11.

#### 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.

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#### 3. I2K system (Immobilizer, 2 Keys, Code Card)

Below are the Ducati models equipped with 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				●	●	●	●			

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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.



#### ATTENTION

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

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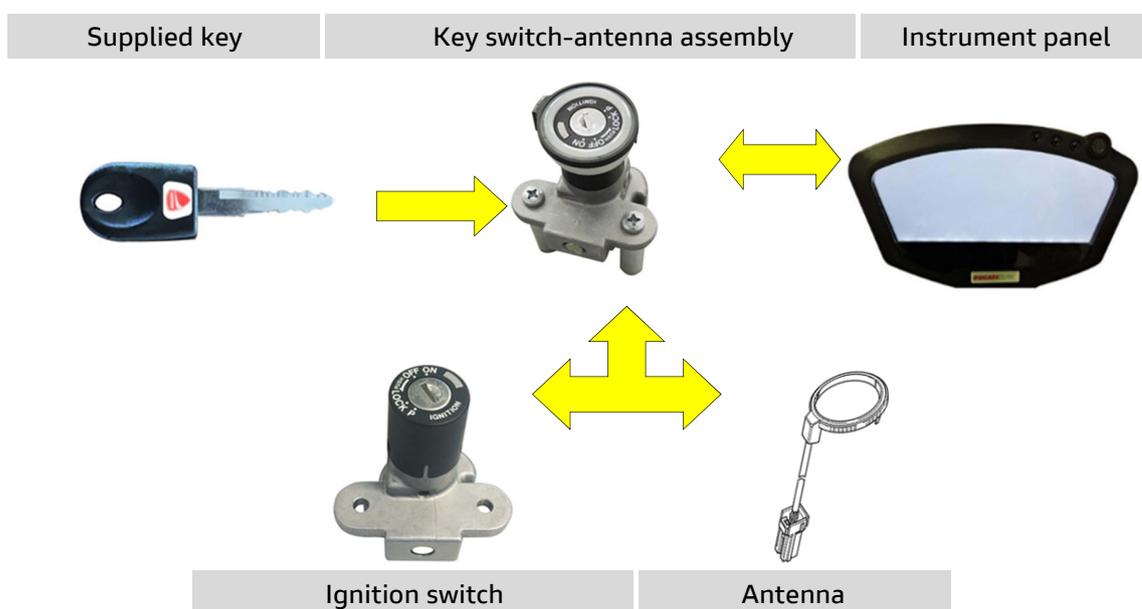
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#### 3.1 I2K system operation

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 memorised 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.

Please find below a chart explaining the I2K system operation:



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#### 3.2 Key memorisation procedure on new system

To memorise the keys in the I2K system it is necessary to memorise 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

Make sure that the keys are at least 50 cm from another.



- 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.



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- 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.



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



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



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#### 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 memorisation procedure described on page 23.

#### 3.4 Key deletion procedure

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



- 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.



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- 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. 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 memorised codes and it is possible to memorise the keys following the procedure on page 23.



#### 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.

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#### 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 memorised in the instrument panel control unit as explained on page 25 and then repeat the memorisation procedure of the new black keys as described on page 23.



#### ATTENTION

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 memorisation procedure described on page 23.



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#### 3.7 Loss of the Code Card

In case of loss of the Code Card it will no longer be possible to delete and programme 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);
- instrument panel control unit.

After the installation of these components, perform the key memorisation procedure described on page 23.

#### 3.8 Replacement of the instrument panel control unit

In case of replacement of the instrument panel control unit it is necessary to memorise the keys as explained on page 23.

#### 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.

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#### 4. HF system (Hands Free, 2 Keys)

Below are the Ducati models equipped with HF Immobilizer System:

Models	Model Year											
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Diavel		●	●	●	●	●	●	●	●			
Diavel Carbon		●	●	●	●	●	●	●				
Diavel Diesel								●				
Diavel Titanium						●						
Diavel Cromo			●									
Diavel AMG			●									
Diavel 1260										●	●	
Diavel 1260 S										●	●	
XDiavel							●	●	●	●	●	
XDiavel S							●	●	●	●	●	
Multistrada 950 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							●	●				
Multistrada 1200 S DVT Enduro Pro								●	●			
Multistrada 1260 DVT									●	●	●	
Multistrada 1260 S DVT									●	●	●	
Multistrada 1260 S DVT D Air									●	●	●	
Multistrada 1260 S DVT Pikes Peak									●	●	●	
Multistrada 1260 S DVT Enduro										●	●	
Multistrada 1260 S Gran Tour										●	●	

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

- 1 active key
- 1 passive key

ACTIVE KEY	PASSIVE KEY
Multistrada 1200 MY10-14 / Diavel MY11-18	
	
XDiavel MY16-20 / Multistrada 1200 MY15-17	
	
Multistrada 1260 MY18-20 / Multistrada 950 S MY19-20 / Diavel 1260 MY19-20	
	

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.

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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.



#### NOTE

The Immobilizer system installed on the Multistrada 1260 model consists of a first antenna integrated in the body of the Hands Free system, and of a second antenna dedicated to the low-frequency key acknowledgement system connected to the Hands-Free control unit through a 3-way connector.

#### 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 fault in the active key operation, it is possible to:

- 1) use the "RESET" function on the new active key Part no.59810352B described on page 40.
- 2) use the key passive mode (black key); simply move the key closer to the low frequency antenna of the Hands Free control unit, placed in different areas of the motorbike according to the model.

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#### ACTIVE MODE (Multistrada 1200 – XDiavel - Diavel)



Antenna

Active key

Hands-Free control unit

#### ACTIVE MODE (Multistrada 1260 – Multistrada 950 S – Diavel 1260)



Antenna

Active key

Hands-Free control unit

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#### PASSIVE MODE

Multistrada 1200 MY10-14



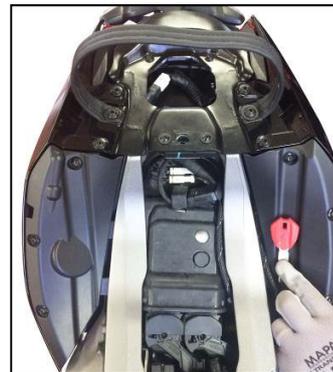
Multistrada 1200 MY15-17  
Multistrada 1260 MY18-20  
Multistrada 950 S MY19-20



Diavel MY11-18



XDiavel MY16-20



Diavel 1260 MY19-20



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#### 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 memorised in the instrument panel control unit. Instead, for the Multistrada 1260 version the secret code is memorised inside the Hands Free control unit.

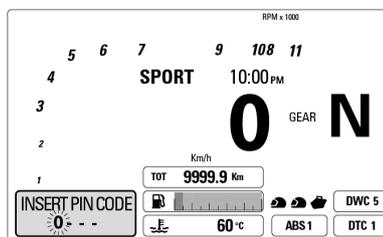


#### ATTENTION

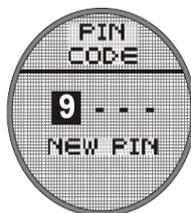
The Immobilizer release function via Pin Code is available ONLY if the Customer has performed the memorisation procedure of the secret code in the instrument panel control unit (for the Multistrada 1260 model, the secret code is memorised in the Hands Free control unit).

To perform the recovery procedure, if the Pin Code has already been memorised 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.



#### ATTENTION

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.

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#### ATTENTION

For the Multistrada 1260 model, when the Hands Free 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 memorised in the instrument panel control unit (for the Multistrada 1260 model the Pin code is memorised in the Hands Free control unit) it will be possible to delete it **ONLY** using the DDS 2.0 diagnosis instrument following the operations described below:

- 1) Access the "Self-diagnosis" section of the Instrument Panel control unit (for the Multistrada 1260 model access the "Self-diagnosis" section of the Hands Free control unit);
- 2) select "Settings";
- 3) select "Reset Pin Code";
- 4) select "Confirm" and the Pin Code will be deleted.



#### NOTE

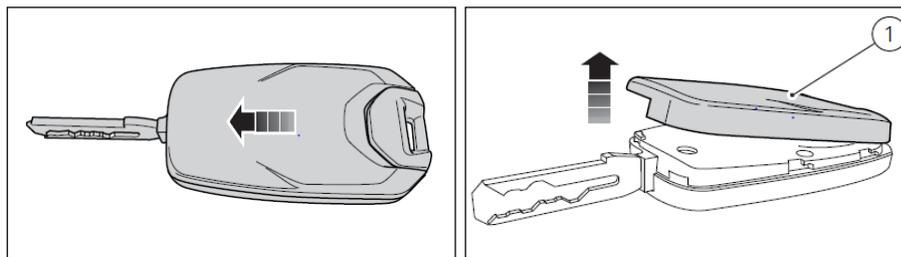
To perform these operations it is necessary to turn the key ON using a key acknowledged by the Immobilizer.

#### 4.4 Active key battery replacement procedure

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

- Multistrada 1200 MY15-17, Multistrada 1260 MY18-20, Diavel 1260 MY19-20 and XDiavel MY16-20:

- 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.

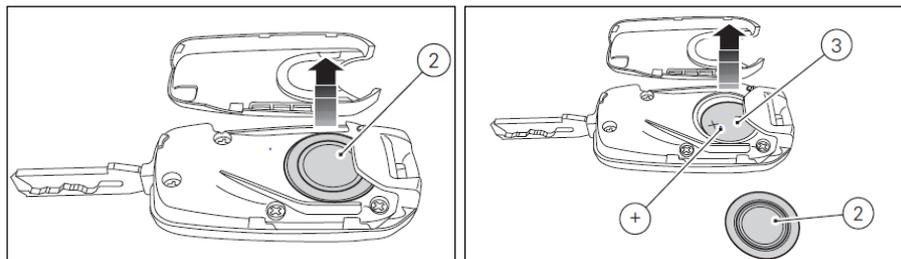


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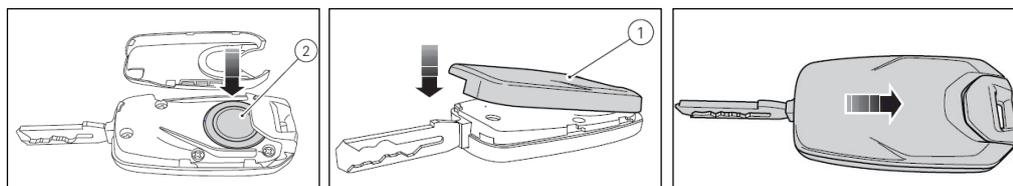
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- 2) Remove the **protection (2)** of the battery and the **battery (3)** (the positive pole must be facing up).

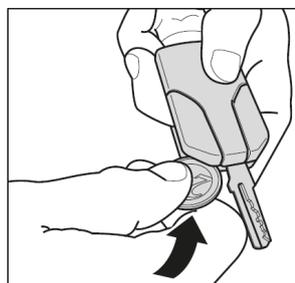


- 3) Position the **battery protection (2)**, reposition the **rear plastic shell (1)** by pushing it with a slight pressure as shown in the figure. Make sure that the cover is closed correctly.



- Multistrada 1200 MY10-14 and Diavel MY11-18:

- 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.

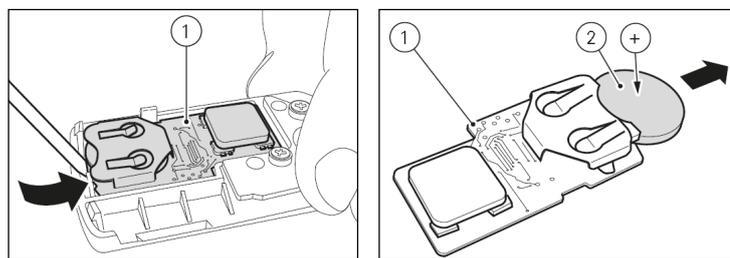


## Ducati Immobilizer Systems

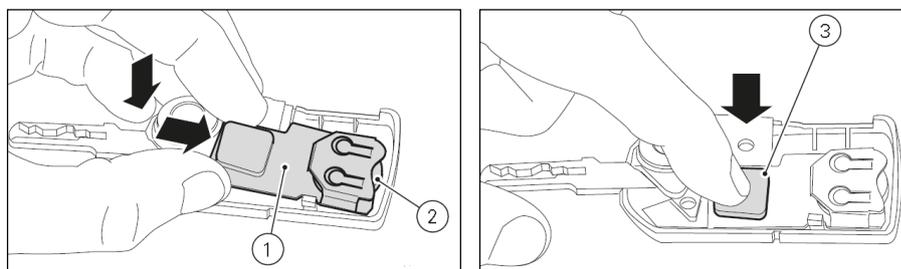
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- 2) Remove the **printed circuit board (1)** prying it up gently with a small flat screwdriver, as shown in the figure.
- 3) Slide the **battery (2)** out of the **printed circuit (1)** and replace it with a new one (the positive pole (+) must be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

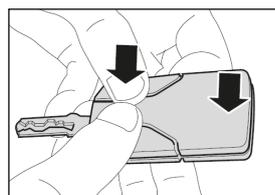


- 5) Align the two shells of the grip and press on the area indicated by the arrows to close them again.



#### NOTE

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



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#### 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 reprogramme the new active key follow the procedure of key new memorisation on Hands Free control unit described on page 38.

#### 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 reprogramme the new active key follow the procedure of key new memorisation on Hands Free control unit described on page 38.

#### 4.7 Key new memorisation on Hands Free control unit



##### ATTENTION

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

To memorise 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.

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#### 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) Pawls for panniers.



#### NOTE

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

#### 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 memorisation procedure of the keys in your possession on the new Hands Free control unit on page 40.



#### NOTE

For the Multistrada 1260, Diavel 1260 and Multistrada 950 S models, in case of failure of the Hands Free control unit it is necessary to order a new control unit, an active key and a passive key without mechanical parts, as the parts already in your possession will be used.

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#### 4.10 Key new memorisation on Hands Free control unit



##### ATTENTION

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

To memorise 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 memorisation" and follow the displayed instructions that prompt to bring the keys to be memorised 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.

#### 4.12 Reset button functionality (Multistrada 1260, Multistrada 950 S and Diavel 1260 excluded)

Starting from Model Year 2017, the new active key Part no.59810352B is equipped with a reset button that manages its electronics; should a Key-ON not be possible due to failure to acknowledge the key in active and/or passive mode by the Hands Free system, the simple pressure of the RESET button will allow the reactivation of the key correct operation.

The use of the RESET button hence prevents the need to remove and refit the battery with consequent waiting time of 60 seconds, as recommended for the previous version.

For further information, refer to the Service Bulletin SRV-SRB-16-004 "New Hands Free active key functions for Model Year 2017".

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To reset the active key follow the procedure below:

- 1) Open the coded part by pressing the opening **button (1)**.



- 2) Remove the rear plastic cover by pushing it forward and then lifting it as shown in the figures.



- 3) Press the **RESET button (2)** until you hear the stop "click".



- 4) Reposition the rear plastic cover and push it backward by pressing it slightly, as shown in the figure. Check whether it is closed correctly.



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#### 5. E-LOCK system (E-Lock, 2 Keys)

Below are the Ducati models equipped with E-Lock Immobilizer System:

Models	Model Year									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	
899 Panigale			●	●						
959 Panigale					●	●	●	●		
959 Panigale Corse								●		
Panigale V2									●	
1199 Panigale	●	●	●							
1199 Panigale S	●	●	●							
1199 Panigale S Tricolore	●	●								
1199 Panigale R		●	●							
1199 Superleggera			●							
1299 Panigale				●	●	●				
1299 Panigale S				●	●	●				
1299 Panigale S Annivers.						●				
1299 Panigale R Final Ed.						●	●			
Panigale R				●	●	●				
1299 Superleggera						●				

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.

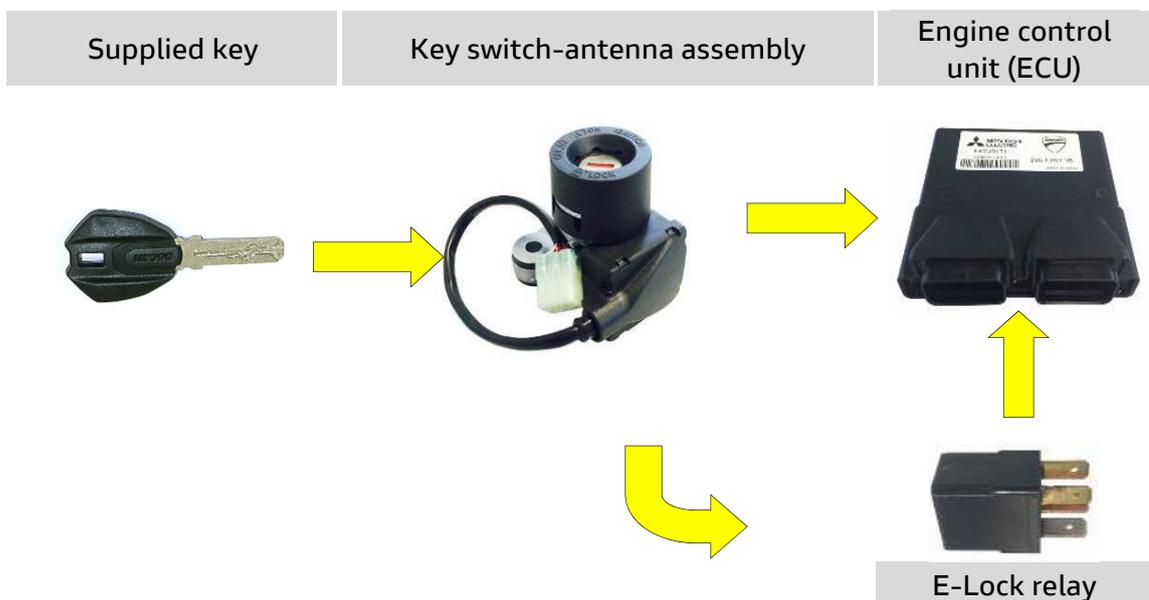
## Ducati Immobilizer Systems

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#### 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 memorisation. 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.



#### 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) memorised in the E-Lock control unit.



#### ATTENTION

The Immobilizer release function via Pin Code is available ONLY if the Customer has performed the memorisation 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.

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To perform the recovery procedure, if the Pin Code has already been memorised 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":



- 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.



#### 5.3 Pin Code deletion procedure

If you do not remember the Pin Code memorised in the E-Lock control unit, it will be possible to delete it ONLY using the DDS 2.0 diagnosis 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 one; then copy its mechanical part starting with the key already in your possession and perform the key memorisation procedure on page 45.

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#### 5.5 Key memorisation procedure

To memorise 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 possessed key;
- 2) access the "Self-diagnosis" section of the E-Lock control unit;
- 3) access the section "Settings";
- 4) select "Key memorisation";
- 5) follow the displayed procedure to memorise the keys. The DDS 2.0 will guide you through the operations and prompt you to insert the keys to memorise one after the other.

#### 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 memorisation 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 memorisation 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.

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#### 6. I2K-2 system (Immobilizer, 2 Keys)

Below are the Ducati models equipped with I2K-2 Immobilizer System:

Models	Model Year							
	2013	2014	2015	2016	2017	2018	2019	2020
Hypermotard 821	●	●	●					
Hypermotard 821 SP	●	●	●					
Hyperstrada 821	●	●	●					
Hypermotard 939				●	●	●		
Hypermotard 939 SP				●	●	●		
Hyperstrada 939				●		●		
Hypermotard 950							●	●
Hypermotard 950 S							●	●
Monster 821			●	●	●	●	●	●
Monster 821 Dark			●	●				
Monster 821 Stripe			●	●	●	●	●	
Monster 1200		●	●	●	●	●	●	●
Monster 1200 S		●	●	●	●	●	●	●
Monster 1200 S Stripe			●	●				
Monster 1200 R				●	●	●		
Multistrada 950					●	●	●	●
Scrambler Icon			●	●	●	●	●	●
Scrambler Full Throttle			●	●	●	●	●	●
Scrambler Classic			●	●	●	●		
Scrambler Urban Enduro			●	●				
Scrambler Italia Independent				●				
Scrambler Flat Track Pro				●				
Scrambler Cafè Racer					●	●	●	●
Scrambler Desert Sled					●	●	●	●
Scrambler Mach 2.0						●		
Scrambler 1100						●	●	

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Models	Model Year							
	2013	2014	2015	2016	2017	2018	2019	2020
Scrambler 1100 Sport						●	●	
Scrambler 1100 Special						●	●	
Scrambler 1100 Pro								●
Scrambler 1100 Sport Pro								●
Scrambler Sixty2				●	●	●	●	●
SuperSport					●	●	●	●
Streetfighter V4								●
Panigale V4						●	●	●
Panigale V4						●	●	●
Panigale V4 S						●	●	●
Panigale V4 Speciale						●	●	●
Panigale V4 R							●	●
Panigale V4 S Corse							●	●
Panigale V4 S 916 25°Ann.							●	●

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) 12k-2 system with REMOVABLE transponder:

Keys	Models (Model Year)
	● Monster 821 (15-20)
	● Monster 1200 (14-20)
	● Hypermotard 821 (13-15)
	● Hypermotard 939 (16-18)
	● SuperSport (17-20)

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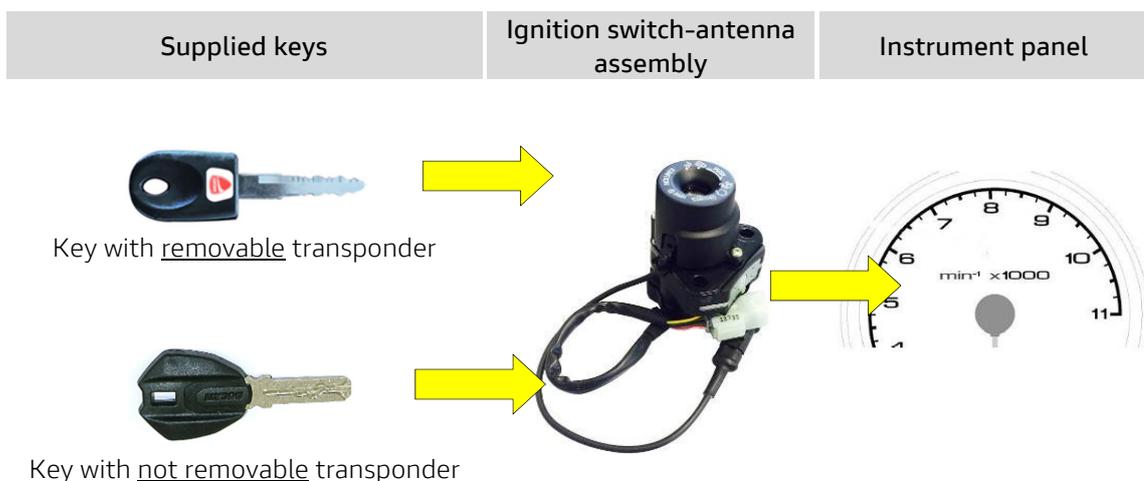
2) I2k-2 system with NOT REMOVABLE transponder:

Keys	Models (Model Year)
	<ul style="list-style-type: none"> <li>• Multistrada 950 (17-20)</li> <li>• Panigale V4 (18-20)</li> <li>• Hypermotard 950 (19-20)</li> <li>• Streetfighter V4 (20)</li> </ul>
	<ul style="list-style-type: none"> <li>• Scrambler 800 (15-20)</li> <li>• Scrambler Sixty2 (16-20)</li> <li>• Scrambler 1100 (18-20)</li> </ul>

#### 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.



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#### 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) memorised in the instrument panel control unit.



#### ATTENTION

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

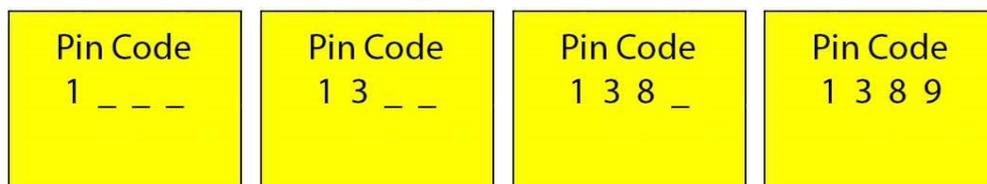
In case of mechanical damage of the key it is NOT possible to access the "recovery" procedure by entering the secret code.

To perform the recovery procedure, if the Pin Code has already been memorised 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.



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#### 6.3 Key memorisation procedure on new system

The number of keys that can be memorised by the I2K-2 system is 2 and it is not possible to programme one or more than 2 keys.

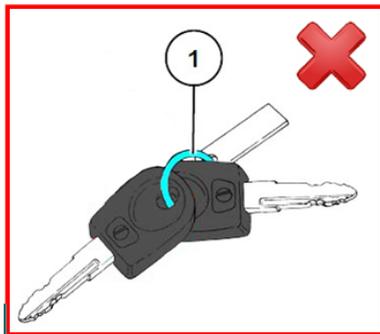
Before storing the keys make sure the ignition switch has been OFF for at least 30 seconds.

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



#### NOTE

Make sure that the keys are at least 50 cm from another.



#### I2k-2 system with REMOVABLE transponder



#### I2k-2 system with NON REMOVABLE transponder



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



- 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.



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- 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".

#### 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 52;
- 4) perform the key memorisation procedure described on page 50.

#### 6.5 Key reset procedure

To reset the key memorised 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";

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#### NOTE

Once the keys are reset, the instrument panel control unit will not have memorised keys; therefore it will be necessary to programme the 2 keys as described on page 50.

#### 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 memorisation procedure described on page 50.



#### ATTENTION

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.

#### 6.7 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 memorisation procedure described on page 50.



#### ATTENTION

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.

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#### 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 16.

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 (it is necessary to order the instrument panel only in case you do not have the old keys, in this case proceed with the installation of the components and then perform the key memorisation procedure described on page 50).



#### ATTENTION

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.

If it is necessary to replace the ignition switch and you have at least one of the 2 keys supplied, follow the procedure below:

- a) Remove the ignition switch and install the new one;
- b) Wrap one of the two keys aluminium foil so as to shield the Transponder;





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- c) Place one of the old keys near the antenna;
- d) Insert the new key into the switch and perform a Key-ON;
- e) Use the DDS 2.0 diagnosis instrument to perform the reset of the keys stored in the instrument panel;
- f) Remove the aluminium foil from the key used and reprogramme the 2 new keys following the specific procedure shown on page 50.

For questions about this Electronic Service Bulletin,  
please contact your Service Area Manager.

Best regards.

**The information contained in this document and any annexes thereto  
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