



SP/AM141 / a

This is a compact motorbike security system, incorporating a 117dB piezoelectric siren.

It is remote controlled using the supplied coded radio keys and is equipped with the unique SPYBALL anti-scanning/anti-grabbing system *Ghost Code*.

Arming is obtained by depressing push button n. 1 of the remote key (see picture A) and is confirmed by a visual signal (long flash of the turn indicators) and an audible one (two bleeps). It is followed by a 40-sec.-arming delay, which the system needs to settle. During this period a **function check facility** gives the opportunity to test the movement detector, the instantaneous alarm trigger negative input, the ignition lock protection and the anti-sabotage circuit: shaking the motorbike repeatedly, tampering with the rear pannier (if protected by a contact switch), turning the ignition key on or cutting the power supply will be followed by as many bleepings confirming that the relevant functions are working correctly.

Protection is ensured by **double engine immobilisation** - which becomes active immediately upon arming the system -, by an alarm trigger negative input for **contact switches** (for protection of rear panniers, for example), by a circuit detecting unauthorized attempts to turn the ignition on whilst the system is armed and by an **ultrasonic movement detector** (SPYBALL patent). The sensitivity of the movement detector is adjustable (see para "*Adjusting & Selections*").

The security system is **protected against sabotage**, since it is equipped with Ni-Cd back-up batteries which will allow it to sound even if power supply is cut.

Every **alarm cycle** lasts 30 secs. and is accompanied by the flashing of the bike hazard warning lights. After that the system automatically returns to the set condition. During the alarm condition, push-button n. 1 of the remote key shall be depressed **twice to disarm, once to stop the siren and the hazard lights only, without disarming.**

Sound and optical warning may be obtained also by deliberate action (**panic function**) using push-button n. 2 of the radio key; that is possible both when the system is armed and when it is disarmed. The panic alarm has a duration of 10 secs., but can be stopped earlier by depressing push-button n. 1.

Every **theft attempt** is memorised and signalled to the user via a short double bleep upon disarming.

To ensure a very high security level this system has been equipped with **passive arming of the engine immobiliser**, so that if the system is not armed via the remote key within 20 seconds of the bike ignition being switched off, the engine immobiliser will automatically arm. The passive function may be disabled to allow for example for maintenance operations (see para. *Adjusting and Selections*).

To **disarm the system**, just depress push-button n. 1 of the remote key once (twice if in alarm condition). Disarming is confirmed by a short flash of the turn indicators and a bleep and shall be followed by starting the engine within 20 secs., or the immobiliser will rearm.

If only the **immobiliser is armed**, the user is warned by an acoustic signal upon turning ignition on; to **disarm**, depress push-button n. 1 of the remote key whilst keeping ignition on. Disarming is confirmed by a deep bleep.

This system has the facility to **monitor alarm cycles**. This limits the number of repeated alarm cycles generated by the ignition lock protection and by the pannier contact switch(es) to a maximum of 8 per arming period; after that both functions are automatically shutdown. They will be reinstated upon the subsequent arming or during the same arming period in case the alarm system should be activated by a movement detection (the alarm cycles generated by the movement detector are not limited).

This shutdown facility is designed not only to minimise any environmental disturbance but also in consideration of the small capacity of motorbike batteries.

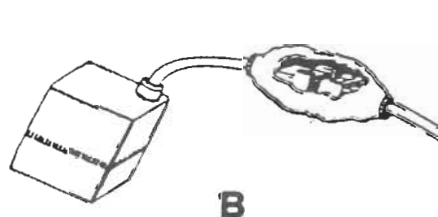
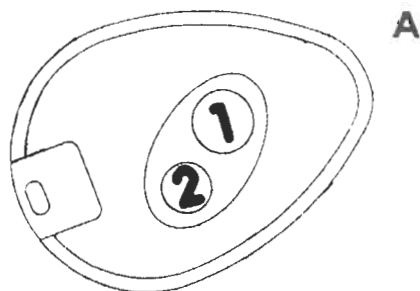
Finally, the SP/AM141A is equipped with a special circuit ("**SLEEP**" function) reducing its current consumption rates down to about 1,5mA after the motorbike has been stationary for 7 hrs with the alarm system in disarmed status or 25hrs with the alarm system in armed status.

TECHNICAL DATA:

* Power supply	: 12V \pm 3V d.c.,
* Current drain	: 3,8mA;
* Capacity of the engine immobiliser relays	: 10A;
* Working temperature range	: -20°C ÷ + 85°C;
* Siren power	: 117dB;
* Dimensions	: 65x65x60mms.

RECOMMENDATIONS:

- * *It is recommended to install the system far from sources of excessive heat and dampness, with the loudspeaker and the connector of the feeding cable facing downwards;*
- * *Use the plug protection nylon sleeve as shown (picture B);*
- * *Steam cleaning the bike will cause damage to the alarm system; avoid directing the jet at the unit and protect the unit to ensure minimal water ingress;*
- * *Failure to follow these instructions will render the warranty of the system void.*



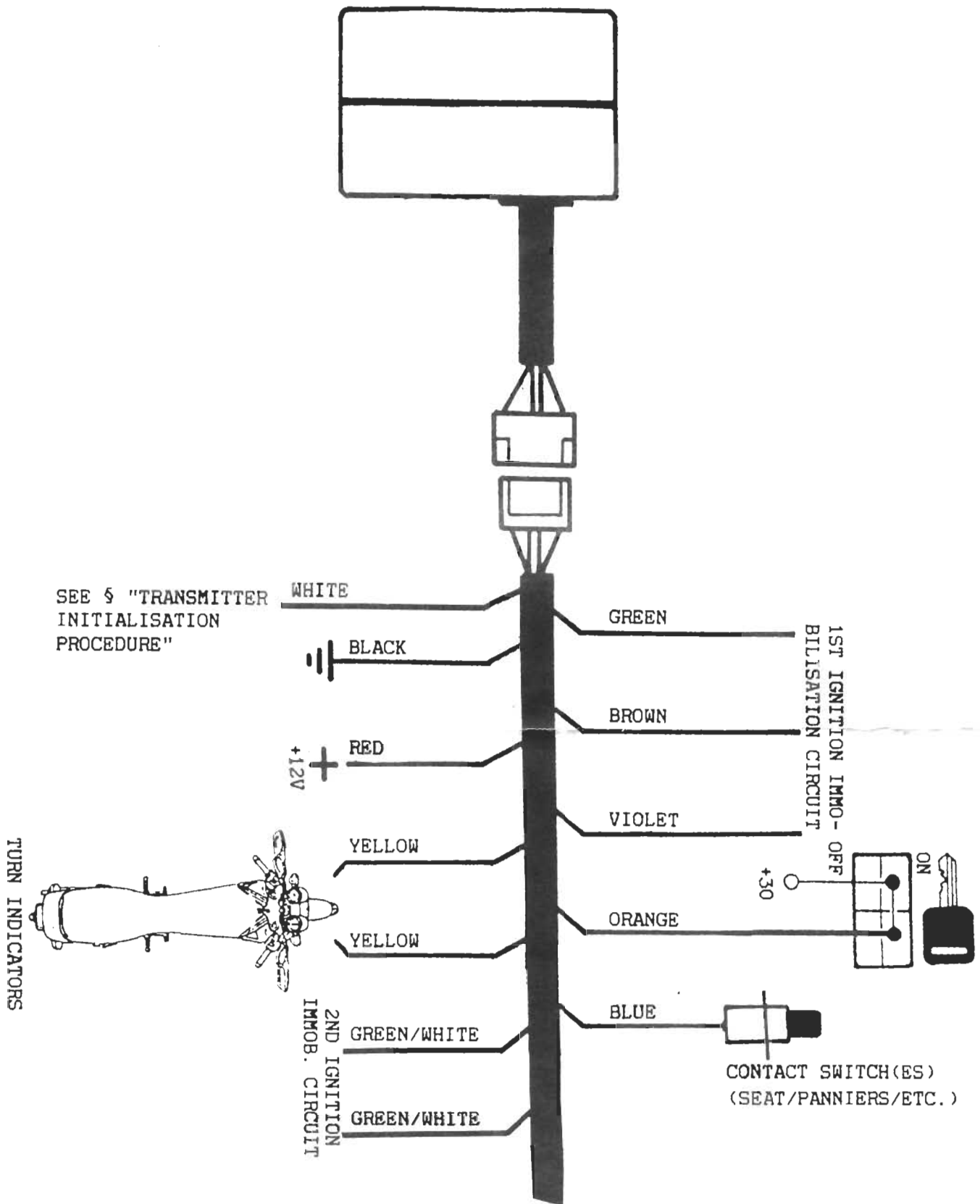
NOTE:

The Ni-Cd back-up battery equipping the unit might be flat when the unit is delivered. After installation allow for full recharge (about 48 hours) before testing the anti-sabotage circuit.

AUTOTECNICA WILL NOT BE RESPONSIBLE FOR THE MOTORBIKE'S ELECTRICAL SYSTEM BEING
POSSIBLY DAMAGED AS A RESULT OF INCORRECT INSTALLATION.

WIRING INSTRUCTIONS (First disconnect bike battery):

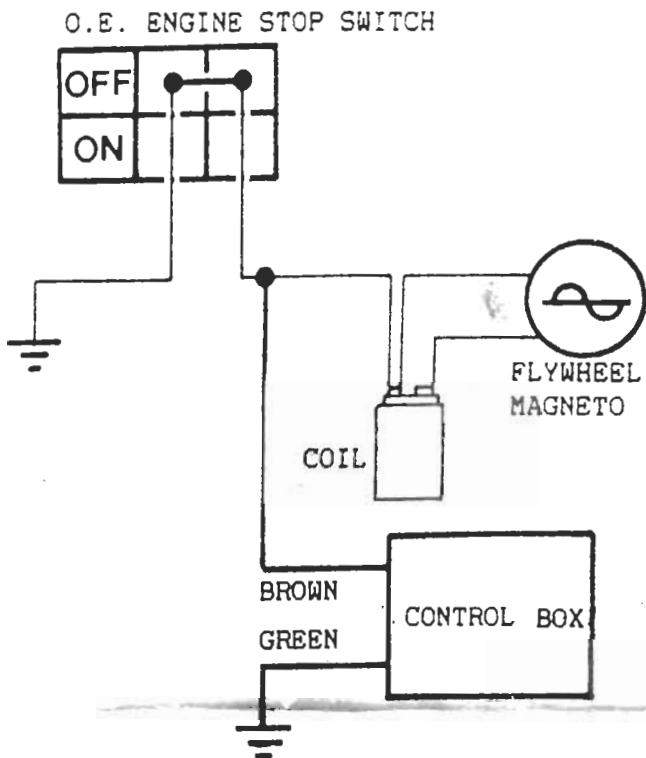
- RED wire** : positive power supply. Connect to a permanent positive polarity (+30) via 10Amp-fuse;
- BLACK wire** : negative power supply. Connect to a good ground;
- BLUE wire** : instantaneous negative alarm trigger input for contact switches (for the protection of panniers, seat, side panels, etc.);
- YELLOW wires** : outputs to control turn indicators; connect one to the right line of the turn indicators (positive polarity), the other one to the left line of the turn indicators (positive polarity);
- ORANGE wire** : connect to an ignition controlled positive supply (+15). ALWAYS CONNECT. MAKE SURE THAT THIS SUPPLY IS ALSO LIVE WHEN THE ENGINE IS CRANKING; this security connection makes accidental arming impossible whilst the engine is running;
- GREEN wire - BROWN wire**
- VIOLET wire** : 1st engine immobilisation circuit (see appl. diagrams);
- GREEN/WHITE wires** : 2nd engine immobilisation circuit (see appl. diagrams);
- WHITE wire** : see paragraph "Transmitter initialisation procedure".
- PINK wire** : insulate, DO NOT CONNECT.



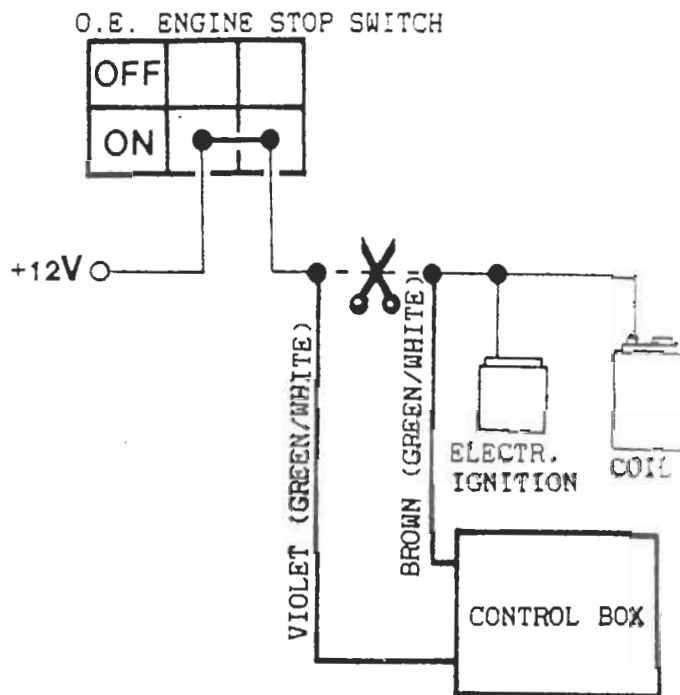
PINK WIRE: INSULATE, DO NOT CONNECT

GENERAL WIRING DIAGRAM

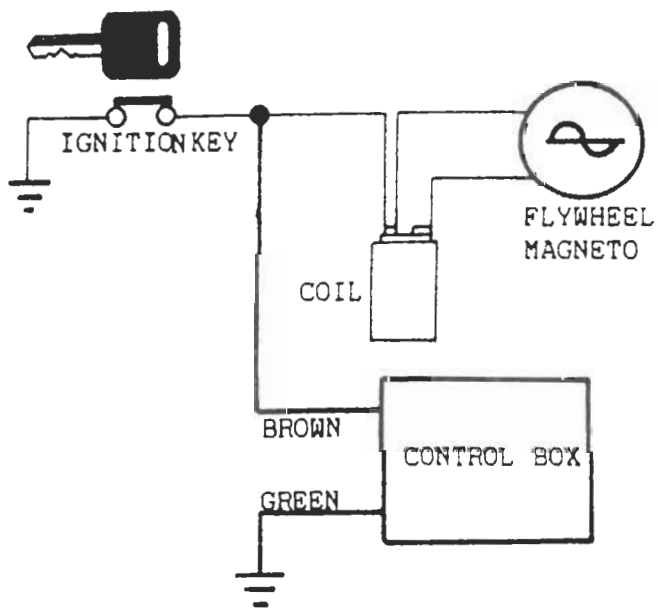
IGNITION IMMOBILISATION APPLICATION DIAGRAMS



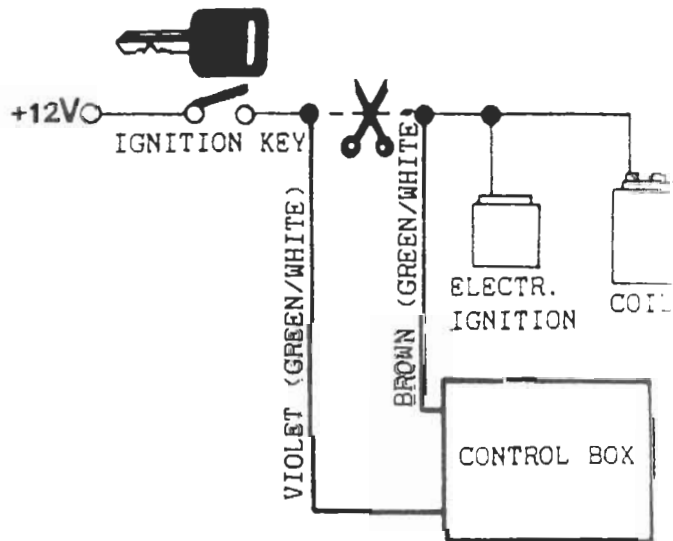
A - motorcycles equipped with ENGINE STOP switch and electronic ignition powered by a flywheel magneto.



B - motorcycles equipped with ENGINE STOP switch and electronic ignition powered by the battery



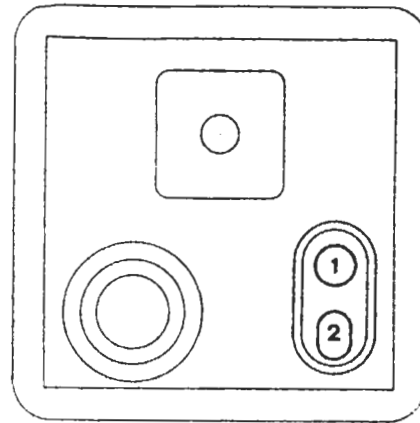
C - motorcycles without ENGINE STOP switch with electronic ignition powered by a flywheel magneto



D - motorcycles without ENGINE STOP switch with electronic ignition powered by the battery

ADJUSTING AND SELECTIONS

- 1 (US) = U.S. MOVEMENT DETECTION SENSITIVITY ADJUSTING TRIMMER
- 2 (RF) = DO NOT TOUCH



Movement detection sensitivity

A trimmer located under a rubber grommet (see picture C) allows to **adjust the sensitivity** of the ultrasonic movement detector. Turn in clockwise direction to increase sensitivity (+), in counter-clockwise direction to decrease it (-). The system has also a facility to **temporarily reduce movement detection sensitivity by about 50%** (this is useful for example in windy weather conditions). During the 40-sec.-arming delay, depress push-button n. 2 of the remote key. An audible signal will confirm **sensitivity has been reduced**. The 50% reduction is applicable to one operation of the system only, i.e. full sensitivity is restored upon the subsequent disarming.

De-selection of the functions of movement detection - passive arming

These functions can be temporarily ~~disabled to allow for example for vehicle maintenance operations.~~

To enter the programming procedure, turn the vehicle ignition key on, then depress and keep depressed push-button n. 1 of the remote key. You will hear a single sharp bleep followed by a series of quick sharp bleeps. Immediately release button. At this stage, if the push-button is depressed again, 3 different types of audible signals will be heard in turn.

Their meanings are explained in the table herebelow:

AUDIBLE MESSAGE	PASSIVE ARMING	MOVEMENT DETECTION
NO SOUND	ACTIVATED	ACTIVATED
BLEEP BLEEP BLEEP BLEEP	ACTIVATED	DE-ACTIVATED
BLEEP-BLEEP BLEEP-BLEEP	DE-ACTIVATED	-

If the push-button is kept depressed, the three signals (1 silent and 2 audible) will go on following each other in this order. To implement the condition required, the button must be released during the appropriate sequence and the ignition turned off. For security reasons, de-selections are valid for an operating period only; any disabled function is automatically restored upon the subsequent arming.

De-selection of the audible signal of arming/disarming

To deactivate the audible signal of arming/disarming, turn the ignition key on, then depress and keep depressed push-button n. 1 of the radio-key. You will hear a single sharp bleep followed by a series of quick sharp bleeps followed by a single deep bleep. Release the push-button and turn off ignition. This deletes the signal permanently; to reinstate it, repeat the same procedure.

TRANSMITTER INITIALISATION PROCEDURE (this is a dealer operation) **

The alarm system is supplied with two coded radio keys.

In case of loss or failure of one of them, a new key may be initialised as follows: while the system is disarmed (that is within 20 secs. of disarming), turn the ignition key on, then earth the WHITE wire of the alarm system. Depress push button n. 1 of either the original or the new radio key, then depress push-button n. 1 of the other radio key. Turn the ignition key off. Disconnect the WHITE wire from earth (top important - if this wire is not disconnected, you will be alerted by a series of bleeps during the arming time). Arm and disarm again using both keys to make sure that both work properly. If not, repeat the procedure.

In case of loss or failure of both radio keys, the procedure for coding new units is the following:

- a - Cut the power supply to the security system (for example, by disconnecting the pos. terminal of the motorcycle battery)
- b - Let the security system back-up battery discharge completely;
- c - Earth the alarm WHITE wire;
- d - Depress push-button n. 1 of one of the radio keys, then reinstate power supply whilst keeping it depressed;
- e - Let the security system perform its "SELF-TEST" cycle;
- f - Using the first radio key - which is now initialised -, disarm the system to code the second spare key.

The complexity of this procedure (which shall be carried out by Your SPYBALL dealer) is due to security reasons.

For the same reasons the alarm receiver can be operated by no more than two transmitters; if a third key is entered, one of the previously stored ones is cancelled. This will allow the user to delete lost or stolen radio keys from the system simply by initialising new units.

DIAGRAMS, DESCRIPTIONS AND FEATURES ARE ONLY INDICATIVE. AUTOTECNICA RESERVES THE RIGHT TO MODIFY THEM WITHOUT NOTICE.

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NOTE ():** If the security system is equipped with the (optional) emergency key ref. SP/CH41, follow the instructions which come with the key to code spare transmitters.