Specifications, shapes and how to use may change without prior notice.

Thank you for using the Hit-Air.

For your safety, peace of mind and correct use of your airbag jacket, make sure that items 1-6 are confirmed before use as follows:

1. A CO2 cartridge of the right size (capacity) for the model is installed.
   - The seal attached the cartridge shows its size (capacity).
   - A CO2 cartridge and the key box are properly sealed at the time of shipment.
   - A CO2 cartridge is tightly screwed into the key box.
   - An used/empty cartridge should not be installed.

2. Sealed properly (No damage to the seal)
   - No seal is attached in case re-assembling is done by yourself.
   - Unused CO2 cartridge and the key box are properly sealed at the time of shipment.
   - A CO2 cartridge with a hole at its bottom is unusable.

3. Is there any deterioration of the wire loop or the coiled wire?
   - If so, replace it with a new one. Its replacement in every 1 to 2 years is recommendable.

4. A screw hole at the bottom of the key box is visible.
   - Make sure that the setting bolt has been removed from the key box.
   - The setting bolt is a tool to be used for setting the key ball into the hole of the key box for re-assembling. (see page 23 in detail)

5. A coiled wire is set properly.
   - See “Attaching Coiled wire to Motorcycle” (page 17 to 18)

6. Key Ball
   - It will be activated when the key ball comes out.

Be sure to read this page before using and after re-assembling the Hit-Air.

Specifications, shapes and how to use may change without prior notice.
To avoid any damage to the airbag, do not prick a needle or sew emblems or iron on the jacket with the Hit-Air. Consult with an authorized dealer where to sew an emblem.

To make sure the Hit-Air will function properly, take it to an authorized dealer for a maintenance check, once a year depending on frequency of use.

Keep the jacket with the Hit-Air by hanging up on a coat hanger. Do not fold or lay anything on it. Avoid high temperature and high humidity.

If a fray, rust or wear is found on the “wire loop” or the “coiled wire” attached to the “key ball”, replace it immediately.

Take full responsibility for correct removing and replacing of the Hit-Air inner system.

Don’t use a Hit-Air inner system (shock buffering protection system) separately from the vest or jacket.

Don’t wash a Hit-Air inner system. Remove it from the vest or jacket and wash the vest or jacket only.
The jacket with the Hit-Air (Shock-buffering Protection System) is to be worn as an outerwear when riding a motorcycle.

It will be activated/inflated immediately after a distance from the rider to the motorcycle exceeds the “activation distance” (*1) when the rider falls off or thrown off the motorcycle. It will be activated at the moment the key ball is pulled out from the key box (see P12). This causes the gas cartridge to release the CO2 gas into the air cushions to inflate them immediately. Inflated air cushions are designed to come between the rider’s body and objects against which the rider may strike after falling off or being thrown off the motorcycle. The Hit-Air will act as a buffer to absorb the shock of impact and reduce the risk of injury the rider who wears it.

**However, this does not imply or guarantee rider’s safety.**

The key ball requires considerable strength to be pulled out and will not be released easily because of the elastic nature of the coiled wire, thus the Hit-Air will not inflate under normally anticipated riding conditions including standing on pegs.

(*1) The “activation distance” is defined as the length of the coiled wire stretched to its full length from the motorcycle to the rider’s key box on the Hit-Air without any obstacles in between.
## 4-1 Function

1. As soon as the “activation distance” is reached, the Hit-Air is activated and the CO₂ gas is sent into the air cushions so that it will provide protection from the shock of impact even before it is fully inflated.
2. The CO₂ gas cartridge and the “key box” area is covered by an ABS protector with buffer material to protect the rider’s breast from the projecting objects in case of an accident.
3. After the airbag is inflated in full, the gas will leak out gradually. Depending on the amount of the pressure given to the airbag by the accident, a feeling of tightness may be felt but gradually subsides.

### CAUTION
1. The Hit-Air may not function properly, if there is a damage to the Hit-Air, cloth of the wear, air cushion, Velcro, zipper, buckle etc. If so, consult with an authorized dealer. The Hit-Air may not be repairable in some cases.

### CAUTION
5. Even if no damage is visible, there may be damages to the air cushion. Therefore, take the Hit-Air to an authorized dealer for a maintenance check *1.

### 4-2 Air Cushion

1. The air cushions are made of high quality strong urethane film to absorb and reduce the shock of impact as much as possible when they are swollen.
2. The maximum pressure is about 30kpa(0.3kg/cm²) when the air cushion is fully inflated, but gradually decreases as gas comes out of the air cushion.
3. The strength against breakage depends on the material of the jacket the material of the inner tube (urethane) and the strength of the stitch it also depends on the degree of impact, shape or hardness of the object the rider may hit after the Hit-Air inflates.
4. The gas is sent from the “key box” to each air cushion through urethane tubing.

### CAUTION
6. The Hit-Air is designed to act as a shock absorber and may break depending on the shape of the object against which it strikes and also the extent of impact given.

### 4-3 Key Box (Y-type)

With a tensile strength of approximately 30kg-35kg by the “coiled wire”, the “key ball” comes out of the “key box”. Then a needle in the “key box” is activated and punctures the seal of the gas cartridge to inflate the Hit Air instantly.

### CAUTION
1. Do not take the “key box” a part or remove any part.

### CAUTION
2. Screw in the gas cartridge fully until it seats firmly in the key box but do not over tighten.

### 4-4 Key Ball (Y-type)

The key ball holds a compression spring and an interlocking needle in the key box.

When the system is activated, the key ball comes out of the key box and a needle in the key box is released and punctures the seal of the gas cartridge to inflate the Hit-Air immediately.

The key ball and the key ring are integrated parts.

### 4-5 CO₂ Gas Cartridge

1. The gas cartridge contains CO₂ gas.
2. When the “key ball” is released from the “key box”, a needle punctures the seal of the gas cartridge to let the gas go into each air cushion.
3. Screw the CO₂ cartridge fully into the bottom until it cannot go any further. Otherwise, a needle in the “key box” may not puncture the seal of the CO₂ cartridge and Hit-Air may not be activated properly.
4. Do not reuse the gas cartridge once used. Change it to a new one.

### WARNING
1. Keep and use at the temperature below 40ºC/104°F. Do not keep in the car where the temperature may go up high.
2. Do not give the cartridge a strong shock.
3. Do not heat the cartridge.
4. Do not let corrosion form on the surface of the cartridge. If corrosion is noticed, replace it immediately.
5. Confirm that the used gas cartridge is empty of gas before disposing.
6. Do not cut or puncture the gas cartridge.
7. The size (capacity) of the gas cartridge varies from model to model. Install the designated size (capacity) for the model. Visit http://www.hit-air.com “Replacement Gas Cartridges list” to find out the right size for the jacket.

### CAUTION
8. Use the gas cartridge for the Hit-Air only, and not for any other purpose.
9. Use a Hit-Air CO₂ gas cartridge only. Do not use any other one.
10. Keep the gas cartridges out of the reach of children.
11. Once the gas cartridge is installed, don’t attempt to turn, loosen or remove it.
12. Screw the CO₂ cartridge fully until it seats firmly in the key box but do not over tighten.

### 4-6 Hit-Air Structure

**Hit-Air Structure**

- **Air tube**
  - One-touch Connector
  - Neck cushion
  - Hip cushion
  - A zipper
  - C zipper
  - Hip cushion plastic button 3 places
  - Neck cushion plastic button 2 places
  - Zipper to join the body cushion to the vest/jacket

**Hit-Air Inner system**

- **Air tube**
  - Neck cushion plastic button 3 places
  - Hip cushion plastic button 3 places
  - Hip cushion
  - Zipper to join the body cushion to the vest/jacket
  - Neck cushion and body cushion to be joined

*Shape of model may vary.*

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**Key ball set (Y-type)**

- Key Ball
- Key Ring
- Wire Loop
- One-touch connector (Female)

**Key box structure**

- CO₂ gas cartridge
- Air cushion side
- Needle
- Compressed spring
- Key box (Y-type)
- When the key ball comes out of the key box, the compressed spring pushes up the needle which punctures the seal of the CO₂ cartridge to release the gas into the airbag system.

**Photos:**

1. Hit-Air inner system is attachable to or removable from the jacket or vest in the same way with buttons, zipper or Velcro.

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*Hit-Air Structure Diagram*
Using Hit-Air

5-1 One-touch Release

Use the “one-touch release” for easy connection or disconnection of the “coiled wire” attached to the motorcycle and the “key ball” inserted in the “key box”.

CAUTION
1. The one-touch release may come in contact with and cause damage to the tank or other part of the motorcycle. If such situation is expected, putting a seal around such parts for protection is recommended.
2. Hold the female connector and insert the male one. A clicking sound will confirm that a connection is made properly. Otherwise, it may come off by itself.
3. Change it for a new one if/when the insertion is not made properly.
4. When getting off the motorcycle, make sure that the male part does not touch the hot part of the motorcycle, such as the engine or muffler, because the heat could damage the optimal shape of the male part.

5-2 Connecting Coiled Wire and Jacket with Hit-Air

1. Hold both sides of the female part of the “one-touch release” into which insert the male connector (Photo 1).
2. Before getting off the motorcycle, press the press button of the “one-touch release” for disconnection (Photo 2).

WARNING
Before riding the motorcycle, make sure the red slide cover on the tank or other part of the motorcycle. If such problem is foreseeable, remove the “one-touch release” from the motorcycle.

5-3 Attaching Coiled Wire to Motorcycle

Where and how to attach the “coiled wire” to the motorcycle varies with the motorcycle.

CAUTION
1. Fix the “coiled wire” not in use on the part of the motorcycle, to avoid the “coiled wire” touching the heated engine etc., obstructing rider’s movement, causing around the wheel and causing damages to it or the motorcycle.
2. Due to the elastic nature of the “coiled wire”, the “key ball” or the “one-touch release” may hit the fuel tank or other part of the motorcycle causing damages when the Hit-Air is activated.
3. If the “coiled wire” is not attached to the motorcycle properly, it may come off when it is stretched then the Hit-Air will not be activated.
4. Before the “coiled wire” is put into the jacket in its place, it should pass through a protector tube, which is sold separately.

Coiled Wire

A strong wire of Kevlar cord coated with urethane resin.

Coiled Wire

Protector tube

Connect the “one-touch release” to the female part of the connector (photo 1). The “one-touch release” can be fixed at a location away from the ground, where it is not easily accessible.

WARNING
Do not use the coiled wire other than the one supplied by an authorized dealer.

5-4 Where and how to fix a coiled wire.

Where and how to fix a coiled wire.

1. Wind the protector tube round a frame, adjust its length and cut the excess tube.
2. Pass the coiled wire through the protector tube.
3. Temporarily fix the coiled wire in the loop setter and adjust its length.
4. Determine the length of the coiled wire by standing on the pegs to make the coiled wire fully stretched.
5. Lastly, fix the wire firmly with the loop setter, knot it tightly, cut it leaving 2cm and cap the cut end.

Knot a wire tightly

A knot works as a stopper of the wire.

6. Put the seat back.

5-4 How to adjust the length of a coiled wire.

How to adjust the length of a coiled wire.

Standing on the pegs so as to make the coiled wire fully stretched.

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Standing in a slack wire.

This may cause a delay of activation.

This may cause a malfunction of the airbag.

Scooter example 1

Scooter example 2

Scooter example 3

A wire fixed to the neck of the handle. Standing on the scooter and the wire is at full stretch.

A wire fixed to the seat. Standing on the ground and the wire is at full stretch.

A wire fixed to the rear seat. Standing on the rear step in a half crouching position and the wire is at full length.

Where to adjust and fix a coiled wire may vary depending on the size and make of the motorcycle as shown above.

(sold separately) Connector holder

To hold the free end of a coiled wire while it is not in use.
The jacket with Hit-Air is designed to provide protection especially to the wearer’s neck, so when it is inflated, there will be some pressure around the neck, and if it is difficult to release the strap of helmet, take the Hit-Air off immediately.

Watching around the situation calmly, unzip and release the buckle to take off the jacket.

If the scene of accident seems to be dangerous, go to the safe area before taking off the jacket.

If the air cushion is punctured when fully inflated, the gas in all the cushions will immediately escape and the cushions deflate.

If the Hit-Air inflates accidentally for some reason while riding, do not upset. Look for a safe place and take an appropriate action. To continue to ride with the inflated Hit-Air may be dangerous due to the increasing wind resistance etc. Remove it first.

If there is an external damage to the Hit-Air due to its activation, take it to an authorized dealer for a maintenance check and to replace the gas cartridge. In cases of extreme damages externally or internally, it may not be repairable.

Be aware of the points listed below when attempting to re-assemble the Hit-Air by yourself after it is activated.

When the Hit-Air is inflated, a feeling of tightness may be felt, but the gas will leak out gradually. Therefore, calm yourself even if the body with the inflated jacket is pressed down by something.

Confirm that the airbag is fully inflated when it is activated.

Confirm that the gas cartridge to be replaced is the correct size and unused.

Go over the points listed above and if there are no problems, re-assemble the Hit-Air carefully at your own risk.

It may not work as designed if there are external or internal damages. For further details for re-assembling see Chapter 7, (pages 20 to 24).

Outline of re-assembling by yourself

1. Get tools for re-assembling ready
   (Photo 1)
   Get an unused CO₂ cartridge, a hexagon wrench and a setting bolt ready

   CAUTION
   As the CO₂ cartridge for the jacket with the Hit Air varies in size (capacity), choose the right size of the cartridge matching the size of the wear.

2. Unscrew the used gas cartridge by turning anticlockwise. (Photo 2)

3. To remove all remaining gas from the air cushion, spread the Hit Air, face down on a flat smooth surface. By pressing down each cushion using your hands, knees and legs, remove gas completely. Do not fold or roll up the Hit Air to avoid damages inside. It may take time to release all the gas in the air cushion but it is necessary as it cannot be re-assembled with gas left remaining in any of the air cushion. (Photo 3)

   CAUTION
   If the gas left remaining in any of the air cushion, it cannot be re-assembled.

4. Insert a setting bolt into the hole at the bottom of the key box and tighten up by hand (Photo 4). (As tightening the bolt, the hole for the key ball goes down.)

5. When it becomes too tight by hand, tighten it further with the hexagon wrench until the inside hole is placed at the center of the outside hole. (Photo 5)

6. Set the key ball in the hole (Photo 6)
   Insert the “key ball” with a ring deeply into the hole of the “key box”. If it is blocked by the ring and does not come down, tighten or loosen the “setting bolt” and/or press down the edge of the ring around the key ball by the fingernail until the “key ring” fits in the hole.
   Make sure that the key ring is completely settled down into the hole of the key box. (See Good Example)

   WARNING
   If not, (See Bad Example), the key ball may come out spontaneously or with a slight pull to cause unwanted activation of the Hit Air
7-2 Re-assembling Key Box

7. Remove the setting bolt. (Photo 7)
   Loosen the “setting bolt” by the 5 mm hexagon wrench to remove it.

   **WARNING**
   Remove the “setting bolt” from the “key box” without fail.
   Otherwise the Hit Air will not be activated.

8. Re-pack all air cushions and fasten all buttons (Photo 8)

9. Install an unused CO2 cartridge (Photo 9)
   Screw an unused gas cartridge until it is firmly seated, do not overtighten. If there is a problem with fitment, consult with an authorized dealer.

   A unused cartridge is placed on the seal closed to the cartridge

10. Take the female side of the one-touch connector out through the hole of the key box cover and close the key box cover. (Photo 10)

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Dismantling and Assembling of Hit-Air inner system

Take the responsibility for correct dismantling and assembling.
In case of washing or mending of the vest/jacket, the Hit-Air has to be dismantled and assembled carefully and correctly, otherwise it may not work as originally intended or may be damaged. (*Harness type Hit-Air (all-in-one airbag) cannot be dismantled)

**8-1 How to dismantle the Hit-Air inner system**

1. Spread out the vest/jacket on a flat surface.
2. Unscrew the CO2 cartridge to remove.
   **CAUTION**
   Never attempt to turn, loosen or remove the CO2 cartridge except for reassembling.
3. Unfasten plastic buttons and Velcro of the neck and hip cushions.

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Air cushions exposed to the outside of the vest/jacket are fastened with buttons and velcro.

4. Fully open the front zipper and the zipper across the lower part of the inside of the vest/jacket.

5. Open 3 zippers for the back cushion(A) and for the body cushion(B,C).

6. Open the fastener (C)

7. Unfasten metal buttons of the hip cushion in 3 places.

8. Take the end of the neck cushion out through the opening of the left shoulder, unfasten Velcro around the neck and pull it in the direction of an arrow to be separated from the vest/jacket.

9. Screw an unused gas cartridge until it is firmly seated, do not overtighten. If there is a problem with fitment, consult with an authorized dealer.

   A unused cartridge is placed on the seal closed to the cartridge

10. Take the female side of the one-touch connector out through the hole of the key box cover and close the key box cover. (Photo 10)

   **CAUTION**
   Don’t pull air cushions by force. It may cause damage to the Hit-Air.

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*Packed hip cushion type has no hip Velcro and no fastener
Unfasten metal buttons of the hip cushion in 2 places.
1. The jacket (cloth) or inner fabric (cloth) or inner fabric (cloth, mesh) becomes frayed or is torn and inner tubing (white urethane film) is exposed.

2. A crack or rust is found on the “key box” or on the gas cartridge.

3. The “coil wire” or the “wire loop” gets scraped and frays.

4. Considerable change of color or deterioration of material.

If a problem listed below is found on the jacket with the Hit Air, consult with an authorized dealer to change or repair/replace.

### How to assemble (the reverse of dismantling)

1. Spread out the vest/jacket on a flat surface, with the inside up, and open the zipper across the lower part of the inside of the vest/jacket.

2. Place the key box of the Hit-Air in the opening of the right-hand side of the vest/jacket and fasten it with Velcro on all sides.

3. Let the neck cushion go through from the inside of the right shoulder opening in the direction of an arrow. Then put its end into the left shoulder opening.

4. Join the end of the neck cushion to the C zipper of the body cushion.

5. Join 3 zippers of A and B to the inside of the vest/jacket.

6. Take the hip cushion out through the hip opening, fasten 3 metal buttons and fix it to the right place with Velcro.

*For the packed hip cushion type, metal buttons to be fastened.

7. Fasten the neck cushion with Velcro to the matching place of the vest/jacket.

   - Neck cushion Velcro
     - Shoulder 2 places, Neck 3 places.

8. Fasten neck cushion plastic buttons on the shoulders and the back. (Shoulder 2 places, Neck 3 places)

   - Fasten hip cushion plastic buttons (3 places)

9. Lastly, install a CO2 cartridge and let the female side of the one-touch connector out through the hole of the key box cover and close the zipper. (See P25,7-2,9, for the installation of a CO2 cartridge)

### How to Store

For longer life and safety, avoid the following conditions:

1. High temperature. (Under the direct sunlight, in the closed automobile, near the heater or open flames, etc.)

2. Exposure to rain or extreme moisture, including steam and high humidity

3. Storing items on top of the Hit-Air System / Jacket

4. Leaving jacket within the reach of children, pets or other animals

5. Folded or rolled up (Hang up on a coat hanger is preferable)

### Washing

1. Do not wash or launder the Hit Air (Shock-buffering Protection System).

2. Take the Hit-Air system and protectors (shoulder, elbow, back etc.) out from the vest/jacket and wash or launder the vest/jacket only in accordance with the washing instructions.(See. 4-7, page 16 to 18)

3. Wipe the surface of the Hit-Air system (neck, hip cushions etc.) with a damp cloth to remove stains.

### Change

If a problem listed below is found on the jacket with the Hit Air, consult with an authorized dealer to change or repair/replace.

1. The jacket (cloth) or inner fabric (cloth) or inner fabric (cloth, mesh) becomes frayed or is torn and inner tubing (white urethane film) is exposed.

2. A crack or rust is found on the “key box” or on the gas cartridge.

3. The “coil wire” or the “wire loop” gets scraped and frays.

4. Considerable change of color or deterioration of material.