

Name

Address

Country

Phone

E-mail

Model

Model name

Color

Size

Dealer

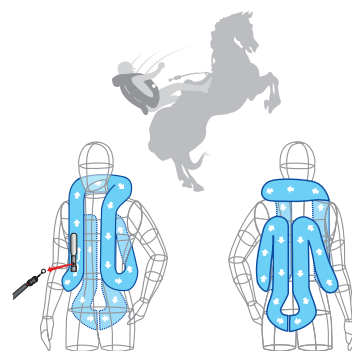
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HAM-SV3-HR-20240528EN

IMPORTANT

- ※Read instructions before first use.
- ※Follow safety precautions.
- ※Keep instructions for future reference.

AIRBAG SYSTEM MANUAL**USER'S GUIDE
SV3****Keybox Type-Y**

www.hit-air.com

Table of Contents Hit-Air USER'S GUIDE

Please read this User's guide carefully before use.

Hit-Air vest should be properly set up before use; Incorrect settings may result in malfunctions. In addition, it may not operate properly due to damage or deterioration of parts. If damage is observed or a strong shock is received, stop using the vest and contact a Hit-Air dealer or distributor. Even if no damage is found, please have the equipment inspected annually by a hit-air dealer or distributor.

If there is anything unclear, please contact a dealer of purchase or mugen@hit-air.com.

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1 Safety Precautions

This product and its accessories should not be used with parts supplied by other manufacturers or companies. When purchasing optional accessories, please refer to this User's Guide and be sure to use the accessories specified in this Guide. For purchase, please contact an authorised dealer, distributor or Hit-Air.

The safety precautions in this User's Guide use the following safety signal words that are defined as follows:

⚠ WARNING This word means that if the "WARNING" is ignored, it could result in death or a serious injury to the user of this product.

⚠ CAUTION This word means that if the "CAUTION" is ignored, it could result in physical injury or a material damage.

IMPORTANT Use the Hit-Air vest for safety to those riding a horse and not for any other purpose.

There is no guarantee that Hit-Air will prevent all possible injury. Also, no protection is provided where the airbag is not located or if it doesn't inflate.

•After the airbag inflates, it reduces the risk of injury by cushioning the impact in the event of a fall or an impact from an object. However, this vest doesn't offer protection against twisting, bending or other extreme movements. Also, this vest may not offer protection to the rider under all circumstances such as during the first impact between the horse and an obstacle or a fall from the horse without separation. There is no protector that can guarantee full protection in all situations.

⚠ WARNING If mishandled, the airbag may not deploy properly to provide protection, resulting in death or serious injury.

- Hit-Air should be worn as outerwear over the upper half of the body. Don't wear any other garment over this vest.
- This vest will not work properly if any zipper or buckle is not closed properly. Be sure all zippers and buckles are closed properly before every use.
- Do not remove any parts of the Hit-Air.
- Any alteration or misuse will reduce the protection and could be dangerous.
- Do not use vest if it is extremely dirty. Clean before use.

⚠ CAUTION If mishandled, it could result in physical injury or a material damage.

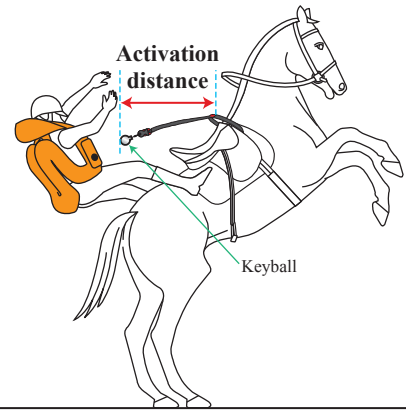
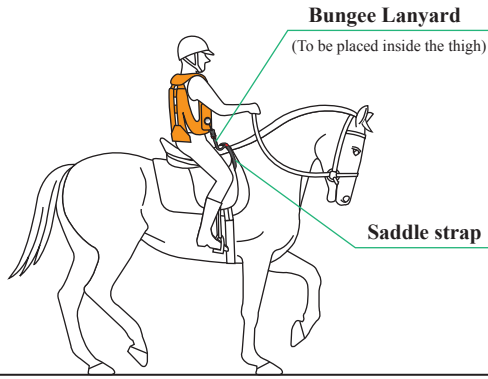
- Remove sharp or pointed objects such as pins or pens from the Hit-Air or from the underwear before wearing. They may damage the air cushion before or at the time of activation and prevent the proper functioning of the Hit-Air.
- Keep open flames and cigarettes away from the Hit-Air as holes or tears caused by them will prevent its proper function. Keep and use at temperatures between 0°C/32°F and 40°C/104°F as the Hit-Air CO2 gas cartridge may burst at a higher temperature. Also, Extremely low temperatures may result in a loss of pressure and failure to provide adequate protection.

- To avoid any damage to the airbag, do not prick a needle or sew emblems or iron on the Hit-Air. Consult with an authorized dealer about where to sew an emblem.
- Disconnect the Hit-Air from the "Bungee Lanyard" at the "one-touch release (connector)" before dismounting the horse. Otherwise, an accidental activation may occur.
- Inspect this vest and any accessories before every use. If there is any damage or deterioration of any part, replace it or consult with an authorized dealer for a maintenance check. In addition, we recommend routine maintenance by an authorized dealer.

- The activation of the airbag makes a certain noise, and it may startle the horse.
- Use caution when mounting and dismounting the horse.

If riding on a Western saddle, consider fastening up the vest after mounting and removing it before dismounting to avoid the possibility of getting caught on the horn of the saddle.





The Hit-Air is to be worn as outerwear when riding a horse.

It will be activated and inflated immediately when the rider falls off or is thrown off of the horse and the distance of the rider from the horse exceeds the "activation distance" (*1), and the keyball is pulled out from the keybox. This causes the gas cartridge to release the CO₂ gas into the air cushions to inflate them immediately. The Hit-Air will act as a buffer to absorb the shock of impact and reduce the risk of injury to the rider who wears it.

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

The keyball requires considerable strength to be pulled out and will not be released easily because of the elastic nature of the Bungee Lanyard, 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 Bungee Lanyard stretched to its full length from the horse to the rider's keybox on the Hit-Air without any obstacles in between.

Attention after Activation

When activated, the polyurethane tube inside the vest inflates to act as an airbag.

Pay attention when the Hit-Air inflated as follows.

1. The 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.
2. Watching around the situation calmly, unzip or release the buckle to take off the Hit-Air.
3. If the scene of accident seems to be dangerous, go to the safe area before taking off the Hit-Air.
4. When the Hit-Air 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 Hit-Air is pressed down by something.
5. If the air cushion is punctured when fully inflated, the gas in all the cushions will immediately escape and the cushions deflate.
6. If the Hit-Air inflates accidentally for some reason while riding, do not be alarmed. 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.



CAUTION

3 Product Overview

Hit-Air model / SV3

Front / Before Inflation

Back / Before Inflation



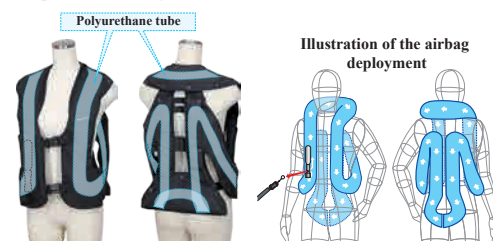
Front / After Inflation

Back / After Inflation



*Design and shape of model/size may vary.

Shape of the airbag

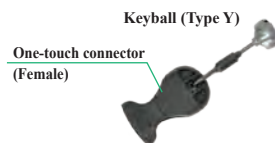


*Hit-Air doesn't offer any protection where the airbag is not located.

*Design and shape of model/size may vary.

Keybox and Keyball (Type Y)

The "keyball" comes out from the "keybox" when it was pulled by a certain tensile force. Then a needle in the "keybox" is activated and punctures the seal of the gas cartridge to inflate the Hit-Air instantly.

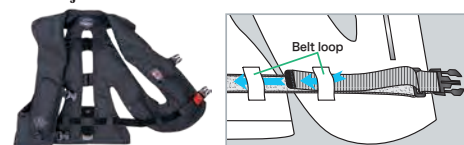


CAUTION

If mishandled, it could result in physical injury or a material damage.

When the airbag activated, the keyball may come in contact with and cause damage to the horse, saddle or other equipment.

Waist adjustment belt



IMPORTANT

Adjust the waist belt to ensure the vest fits tightly to the body.

A loose waist belt may delay activation or prevent the airbag from operating properly.

When adjusting the waist belt, be sure to put the belt through the belt loops.

Failure to pass the waist belt through the belt loops may result in the waist belt coming off and the vest not operating as designed.

Hit-Air CO2 gas cartridge

Warning: "CO2 gas cartridges should be used with caution".

Make sure the gas cartridge is screwed fully and straight into the bottom until it cannot go any further. Otherwise, the needle in the "keybox" may not puncture the seal of the gas cartridge and the airbag may not be properly inflated. Do not reuse the gas cartridge once used.

The seal at the bottom of a used cartridge is pierced with a hole. Install a new cartridge.



- CO2 gas cartridges can be dangerous. If mishandled, resulting in death or serious injury.
 - Keep the gas cartridges out of the reach of children. It may cause unexpected accidents or injuries.
 - Do not give the cartridge a strong shock. Cartridge may be damaged, resulting in explosion or injury.
 - Do not heat the cartridge. Gas may be blown out or the cartridge may rupture, resulting in explosion or injury.
 - Do not let corrosion or other damage form on the surface of the cartridge.
 - If corrosion or damage is noticed, replace cartridge immediately. It may cause unexpected accidents or injuries.
 - Confirm that the used gas cartridge is empty of gas before disposing.
 - When disposing, do not cut or puncture the gas cartridge. It may cause unexpected accidents or injuries.
 - Do not reuse the gas cartridge once used. Change it to a new one.
- The airbag will not deploy, resulting in death or serious injury.



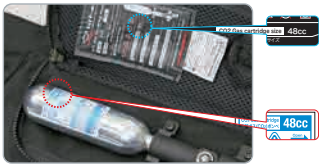
A cartridge without a hole:
Unused and filled with CO2 gas.



A cartridge with a hole:
Used and Empty. Cannot be used again.



- Be sure to use a genuine gas cartridge exclusively for Hit-Air.
- Do not use any other one or use it or any other purpose. The Hit-Air may be damaged, resulting in unexpected accidents or injuries. In addition, use of anything other than Hit-Air may cause unexpected hazards.
- The Hit-Air CO2 gas cartridge has a sticker showing its size in cubic centimeters (cc). Confirm that the size of the cartridge is the same as the cartridge size shown on the label of the vest. Use of the wrong size cartridge may result in malfunction or injury.



SV3	Size	XS-S	S-M	M-L
Size of the gas cartridge	48cc	48cc	48cc	48cc

1. Perform pre-use checks.

Pre-use checks are important for safe and proper use of Hit-Air. Please use the following pre-use checklist to perform pre-use checks. If a problem is found with Hit-Air after conducting a pre-use check, discontinue use and consult your dealer or distributor.

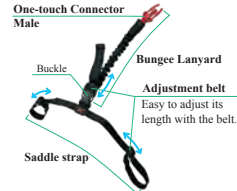
IMPORTANT

Replacement is recommended after using three to five years at the longest even if no noticeable damage is found.

section	Confirmation details
All	Understanding of the contents of the User's Guide. No significant change of color or deterioration of material. Not extremely dirty or damaged.
Model / Vest	No frayed or torn fabric areas. No exposed inner tube (white polyurethane film).
All-in-one Bungee Lanyard-Short	Not frayed or torn. Connector must not be damaged.
Keybox and CO2 gas cartridge	No cracks, rust or other damages. CO2 gas cartridge must be unused and genuine. CO2 gas cartridge must be screwed and tight. The keyball is set correctly and deeply so that the ring of the keyball is parallel to the hole. (For the resin keyball, it is correctly set until the red dots are hidden in the horizontal direction.)

2. Fix the saddle strap of the All-in-one Bungee Lanyard to the bars of the saddle.

All-in-one Bungee Lanyard (Saddle strap + Bungee Lanyard)

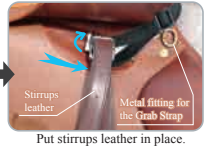
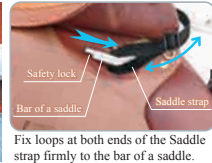


If mishandled, it could result in physical injury or a material damage.

- Replace the "A-I-O Bungee Lanyard" if any damage or change of shape is found.
- Due to the elastic nature of the "Bungee Lanyard", the "keyball" or the "one-touch connector" may hit the saddle or horse when the Hit-Air is activated.

How to attach the saddle strap to the saddle

To use the Hit-Air, the saddle strap needs to be attached to the saddle. Follow the instructions to attach the saddle strap to the saddle correctly. Incorrect settings may result in malfunctions such as accidental activation or an inoperative airbag.



Fix loops at both ends of the Saddle strap firmly to the bar of a saddle.

Put stirrups leather in place.



If mishandled, it could result in physical injury or a material damage.

- Follow the instructions to securely fasten the saddle straps to the bars of the saddle. If these instructions are not followed, the saddle strap connected to the bar of a saddle may come off at activation and the airbag may not inflate.
- Don't fix the Bungee Lanyard directly to metal fittings for the grab strap which may be broken or may come off and the vest may not activate.



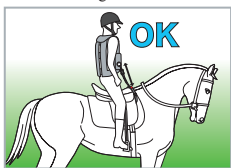
3. Wear the vest and close the two front buckles.

4. Adjust the waist belt. (See <P6> Waist adjustment belt)

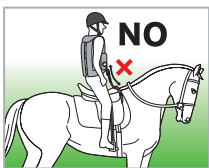
5. Ride the horse.

6. Adjust the length of the Bungee Lanyard.

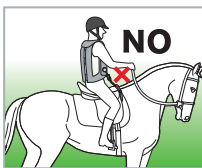
Adjust the length of the bungee lanyard adjustment belt so that the bungee lanyard is fully stretched when standing on the horse.



Standing up with a stretched Bungee Lanyard.



Standing with a slack Bungee Lanyard.



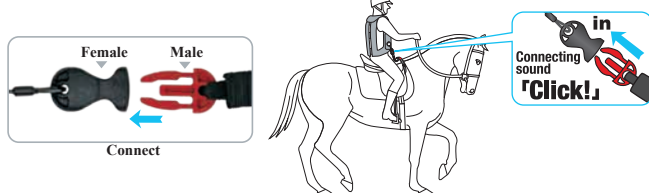
Sitting or half crouching with a stretched Bungee Lanyard.

7. Connect the vest to the bungee lanyard.

Hold the female connector of the vest and insert the male connector of the one-touch connector.

A clicking sound will confirm that the connection is made properly.

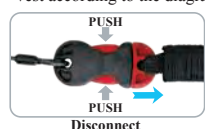
Pull on the male connector lightly to make sure that the connection has been made properly.



- Follow the instructions and make sure the connectors are properly connected.
- The connector may come off by itself, causing the airbag to not operate.
- If the connection is not made properly, replace the bungee lanyard with a new one.
- Additional force to connect/disconnect the one-touch release may cause damage or malfunction.

8. After riding, remove the bungee lanyard from the vest before dismounting from the horse.

Disconnect the male connector of the one-touch connector from the female connector of the vest according to the diagram below.



NOTE: If the rider dismounts the horse without disconnecting the buckle, the Hit-Air can activate after the activation distance is reached.

5 How to reuse after activation

Before starting the reactivation procedure

If there is any damage to the vest or accessories, the airbag may not work properly the next time it is activated. If any damage is observed, or it has received a strong impact, don't use and consult your dealer or distributor. Even if there is no external damage, the inside may be damaged due to deterioration, so please consult your dealer or distributor for a maintenance-check after using the vest for a year.

After confirming the above, please follow the following procedures carefully and at your own risk, when you reactivate the system by yourself.

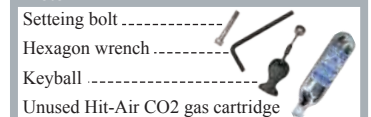
Reactivation procedure

- | | |
|---|--------------------------|
| Reset the keyball in the keybox. | See <P10-11> Step 1 to 5 |
| Uncrew and remove the used CO2 gas cartridge. | See <P11> Step 6 |
| Remove all the air from the air cushions. | See <P12> Step 7 |
| Re-pack all air cushions and fasten all buttons and Velcro. | See <P12> Step 8 |
| Install a new gas cartridge. | See <P12> Step 9 |
| Zip up the cover around the gas cartridge. | See <P12> Step 10 |

Reactivating procedures

- Prepare an unused correct size CO2 gas cartridge and tool set (Setting bolt and Hexagon wrench). The tool set is included with the purchase. In case you lost it, please consult your dealer or distributor.

Photo 1



- Insert the setting bolt to the bottom of the keybox. (Photo 2)

Photo 2

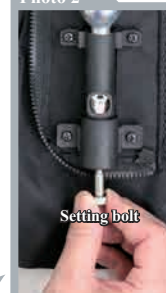
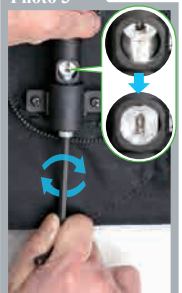


Photo 3



- Screw the setting bolt by the hexagon wrench. The metal hole of the keybox comes down accordingly. (Photo 3) As tightening the bolt, the hole for the keyball is coming down.

P.T.O.

- 4-1. Put the keyball and its metal ring to the metal hole. (Photo 4-1)
Insert the keyball with the ring deeply into the hole. If it doesn't fit well, tighten or loosen the setting bolt and/or press down the edge of the ring around the keyball by the fingernail.
Make sure that the key ring is completely settled down into the hole of the keybox. (See Good Example)

WARNING

If not, (See Bad Example), the keyball may come out spontaneously or with a slight pull to cause unwanted activation of the Hit Air.

- 4-2. When the resin keyball is inserted into the keybox, the red points must be in a horizontal position and hidden. (Photo 4-2)

WARNING

Incorrect installation may cause malfunction.

5. Unscrew the setting bolt and take it away from the bottom of the keybox. (Photo 5)

WARNING

Remove the "setting bolt" from the "keybox" without fail. Otherwise the Hit-Air will not be activated.



6. Unscrew and remove the used gas cartridge by turning anticlockwise. (Photo 6)

CAUTION

After unscrewing the used cartridge, please check if the needle inside of the keybox is not damaged. If there is any damage on the needle, please consult with an authorized dealer. The airbag doesn't work nor inflate if the needle is damaged or deformed.

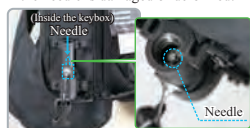
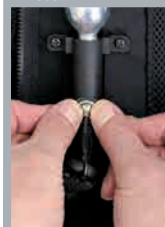


Photo 4-1



Keyball / Type Y



Photo 4-2



Resin keyball / Type Y



Photo 5



Photo 6



P.T.O.

7. Remove air from the vest. (Photo 7)
To remove all remaining gas from the air cushion, spread the Hit-Air vest, face down on a flat smooth surface. By pressing down each cushion using your hands, remove gas completely. Do not fold or roll up the Hit-Air vest 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.

NOTE

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

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

9. Screw a new CO2 cartridge. (Photo 9)
Please confirm if the seal of the cartridge is not punctured and it's new.

CAUTION

If the cartridge is not seated completely and firmly, the Hit-Air may not be activated/infused.

10. Take the connector out through the hole of the keybox cover. Close the zipper around the keybox. (Photo 10)

IMPORTANT

Before closing the cover, confirm the following points.

- The setting bolt has been removed, and is not inserted in the keybox.
- The CO2 cartridge is genuine and screwed straight and tight.

Photo 7



Photo 8

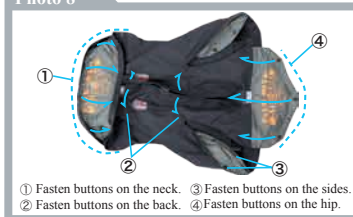


Photo 9



Photo 10



End

6 Cleaning and How to Store

Cleaning

1. Hit-Air airbag system must not be washed/laundered.
2. It must not be dipped in the water.
3. It must be dried in the shade if it gets wet.

How to remove stains.

- Wipe with a wet towel.
- Hang the Hit-Air (without detaching the CO2 cartridge) and spray water with a hose, trying not to get the keybox part wet.

CAUTION

Do not use detergents or fabric softeners.

They can cause deterioration or damage to the polyurethane tube inside the vest.

How to Store

Store the Hit-Air by hanging up on a coat hanger.

For longer life and safety, avoid the following conditions:

1. High temperature.
(In direct sunlight, in a closed automobile, near a 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 airbag system
4. Leaving Hit-Air within the reach of children, pets or other animals
5. Folded or rolled up (Being placed on a hanger is preferable.)
6. For transport, use an appropriate packaging (for example e.g. vest in transport bag).

NOTE : Hit-Air is sensitive to ammonia components and should not be stored in stables or left in sweat. Those may hasten deterioration and impair function of the airbag.

Do not wash! Airbag



7 Disposal

This protector includes several materials including fabrics, metal parts, plastics and the CO2 gas cartridge. They cannot be disposed of as general waste. Contact an authorized dealer for correct disposal of the product.

Incorrect disposal of the product can cause dangerous situations or environmental pollution.

CAUTION

The CO2 cartridge cannot be disposed before it has been punctured. In case the cartridge is unused, activate the Hit-Air and puncture the CO2 cartridge to release the CO2 gas from the cartridge.

8 Hit-air warranty Policy

Please read the user's guide first and use the product properly.

Please keep this warranty policy and warranty claim form with the purchase receipt.

1. Warranty Information

Hit-Air product or each part of the hit-air product will be replaced or repaired for free if it's due to a manufacturing defect. (It might take a few months for the repair or replacement. Also, the replacement item can be an equivalent product in case the same item is not available.)

2. Warranty Period

One year after purchase. (Please store a purchase receipt with this warranty.)

3. Exclusions

The following cases are not covered by the warranty and the repair is at user's expense. (Based on the condition of the damage, the product might not be able to be repaired.)

- Normal wear and tear
- Damage from failure to follow the instructions in this User's Guide
- Damage from friction or impact which was caused during use or store
- Damage from friction or impact which was caused by an accident during use
- Damage or deterioration from improper use or storing
- Appearance changes which have no effect on function (eg. Wrinkle, Color-fade, Stain)
- Damage by natural disasters
- When a purchase receipt or the warranty claim form is not submitted
- After repair by a person other than Mugen Denko or an official Hit-Air distributor or dealer

4. Warranty Application

This warranty is limited to repair or replacement of the product.

This warranty doesn't cover the replacement cost of the CO2 cartridge.

This warranty doesn't cover any damages arising out of the use or inability to use the product.

(eg. Travel cost, telephone cost, leave compensation, operating losses)

This warranty is only valid in a country where the product is purchased.

5. Others

Mugen Denko Co., Ltd. and its distributors and dealers will be held in no way responsible for any risk that may occur while using any hit-air products. The risk includes serious injuries and death. There is a possibility that the product doesn't work properly due to deterioration or damage which is caused by long time use or store. Annually maintenance check by an authorized distributor or dealer is highly recommended. Please consult with an authorized distributor or dealer if any damage or deterioration is found on the product. Please consult with an authorized distributor or dealer for inspection if the product had a strong impact. The product can be damaged invisibly.

Hit-Air items are wear-and-tear items. **Replacement is recommended after using three to five years at the longest even if no noticeable damage is found.**

Please consult with an authorized distributor/dealer for more details.