Garmin 310/305 User Guide

This document, along with the pictures, will provide direction for the adaptation of the HUMAN heart rate monitor strip transmitter. The purpose of this kit is to adapt the human 'chest-belt' style transmitter for use with the saddled horse.

NOTE: THIS KIT DOES NOT CONTAIN A TRANSMITTER STRIP. YOU APPLY THE LEADS TO YOUR TRANSMITTER.

If the leads are properly connected to the transmitter and a good solid wet connection is made under the saddle and girth, the heart rate monitor will function properly. The Garmin transmitter is very sensitive to movement or a loose girth. It is VERY important to make sure the girth is secure and the electrode site is wet with electrode gel, aloe gel or water.

TEST THE CHEST BELT TRANSMITTER ON YOU BEFORE YOU MODIFY IT WITH THE ADAPTER KIT.
Read the GARMIN USER GUIDE for directions on how to place it on YOU and setup the GARMIN device. Make sure you can obtain a heart rate. If you cannot observe YOUR heart rate, there is an issue with the GARMIN unit. Refer this back to the dealer who sold you the GARMIN system.

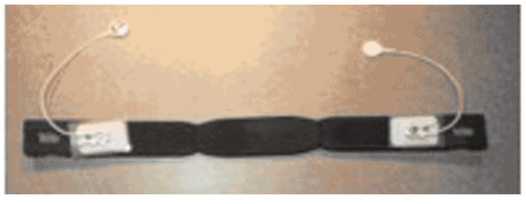
The complete KIT consists of:

- 2 small round pre-gelled self-stick on white electrodes.
- 2 4” white pigtail lead wires, CLIP TO SNAP pre-attached to the stick-on white electrodes.
- 2 standard black electrodes, placed under the girth and saddle, attached to the long black coil & 26” white leads.
- 1 Coil black wire – snapped to the pigtail lead attached to the transmitter, and routed to the girth and black electrode.
- 1 Standard white 26” lead – snapped to the 4” pigtail lead attached to the transmitter and routed under the saddle.
- Velcro strip- placed around the girth to hold the bottom electrode in place.
- User Guide, EKG gel (small tube).
- Transmitter Pouch with clips.
- 2 pieces of heat shrink tubing.

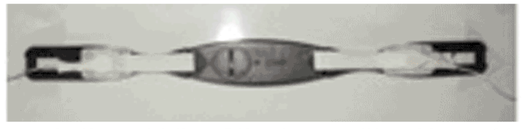
Modification directions for ANY human STRIP style Transmitter. (REFER TO THE IMAGES)

1. On the backside of the transmitter, the side that would be placed on your chest. Clean the two square ends of the electrode strips with alcohol. The electrode section on the transmitter has ridges. Let dry.

2. Remove the 2 stick-on electrodes from the package. Remove the backing and place over the 2 transmitter electrode contacts, one on



3. Connect the 4” white pigtail leads to the transmitter. Attach the CLIP on connection to the white stick-on electrode stud. The kit contains the STICK-ON electrodes with the pigtail CLIP-ON lead attached. Kit is normally supplied with the clip lead wire attached to the EKG electrode.



4. Use WATERPROOF adhesive tape (bandage tape) and cover the exposed electrode strip. Cover the stick-on electrode, and the pigtail lead wire snap. Cover from the end of the transmitter strip where the hole is, towards the middle of the transmitter. Use a ½ inch wide strip of adhesive tape. DO NOT wrap the tape around the body of the transmitter strap. It will make the end too thick to cover with the shrink tube. The object here is to cover the exposed transmitter electrode AND the stick-on EKG electrode with pigtail lead wire snap. This is to insulate the electrode and help secure the stick-on electrode.

5. Place the heat shrink tubing over the ends of the transmitter with the pigtail lead wires routed out the end. Do not pull on the lead wire. The shrink tube fit will be sung, press evenly to work the transmitter into the tubing. NOTE: The shrink tubing is tight; apply a thin film of light cooking oil, to the inside of the tubing. This will make it easier to slide the tubing over the transmitter ends. You have to flex the ends (a slight cup) to make it easier to slide the tube over the taped end. This is a must do when the CLIP-ON leads are provided.

6. Use a hair dryer set on high and shrink the tubing tight. Try not to heat up the middle section of the transmitter. This may take a few minutes on each end.

7. You now have a transmitter that is adapted to 'look like' the standard snap-on block transmitters.

8. Connect the black coil & 26” white lead wires to the transmitter. Hold the transmitter with the logo facing you, so you can read it. Connect the black coil lead to the left pigtail snap and the white 26” lead to the right pigtail snap. We have found the polarity issue is NOT a problem with most horse applications. A few may require the leads to be reversed.

9. Attach the transmitter to the saddle using the 'roll-up' transmitter pouch with clips.

10. Place the 2 black electrodes under the saddle and the girth as shown in the LEAD CONNECTION section.

11. Secure the saddle girth. The type of girth you use will affect the performance. We recommend a fleece type girth. Neoprene or leather may move too much and you may get bad or no readings.

12. Start the monitor – you should see a reading in about 5 sec.

13.If you get no reading, you should walk the horse a few steps and see if a reading is obtained. A snug girth is very important.

14. If the resting heart rate is UNDER 30 the transmitter may not detect it. Heart rate must be over 30 BPM.

15. You may have to swap the lead/electrode polarity.

16. If your horses have long hair use ear clippers or scissors and cut the hair very short. A wet horse and electrodes is very important!

17. If the heart rate will not display it means you are getting motion artifact readings. The transmitter cannot detect a valid heart rate. We found sometimes we just mount up and ride a bit then it starts to work.

18. You may have to adjust the electrode locations to get it right. Lower on the girth is better.

19. For some horses you may have to place both leads/electrodes on the LEFT side of the horse.

CONNECTION OF ELECTRODE PATCHES and LEADS

The attachment or placement of the electrode patches is the single MOST important step to obtain consistent and accurate pulse reading. Refer to the images below.

1. Saddle the horse and leave the girth loose.

2. Apply a good coating of EKG gel to each electrode and the area of contact on the horse. You may use ALOE Gel, Saltwater. DO NOT use any product with lanolin or oil based lubricants (Vaseline or KY jelly). You may want to wet the horse with a sponge in the contact area. Dry connections will cause bad readings. It is recommended to make the connection site wet with water.

3. Install the electrodes as follows:
a. Place the (white 26” wire) electrode under the saddle pad. Position it 3 inches below the centerline and 6 inches behind the left or right shoulder. The electrode position is under the saddle bars just in back of the fork. The best location is under the stirrup hanger. Keep it out of the pocket where the saddle may place undue weight on the electrode or shoulder motion may cause movement.
b. Route the black electrode on the black coil lead down the opposite side of the saddle. Place the electrode just behind the elbow at the area where you would use a stethoscope but on the opposite side.

4. Wrap the Velcro band around the girth. Place the electrode patch on this band to prevent the electrode from moving. This band will permit the use of any type of girth. Neoprene may slide too much.

5. Place this black coil wire at the edge of the saddle pad to keep the wire out of harm's way. If the black coil wire is too tight, just pull on the coiled lead section to make it longer - that will take out some of the coiled tension.

6. Place the transmitter in the pouch. Secure the pouch with clips to any set of D-rings at the front of the saddle. Transmitter range is about 4 feet.

7. Tighten the girth. The girth must be secure. A loose girth will cause bad (or no) readings due to electrode movement.

8. Start the monitor.

*At Right: The strip transmitter in the clip on pouch, attached to the front of the saddle D-rings.