

OPERATOR'S MANUAL ADDENDUM

BACKFAT AND LOIN DEPTH MEASUREMENT IN CATTLE

The RENCO PREG-ALERT will measure both backfat and loin in cattle in a manner similar to that used with hogs and sheep. The user is expected to exercise judgment regarding the readings obtained. It is assumed the user has read and understands the PREG-ALERT Operator's Manual, especially as regards Loin testing on swine. The testing procedure with cattle is very similar.

1. For the measurement of both the backfat and loin muscle in cattle, select an area between the 12th and 13th rib, 3 to 4 inches (7.62-10.16cm) away from the spine, (3 inches for small breeds, and 4 inches for the larger breeds). Make a habit of always measuring from the same location, as uniformity and consistency are important for valid comparisons.
2. For both backfat and loin measurements, make sure the PREG-ALERT is turned on and warmed up. Place oil on the selected location and press the probe to the oily area, while keeping the probe at a 90° angle to the hide. Work the probe into the oil, while pressing lightly so you do not squeeze the fat under the hide. It is possible to obtain an inaccurate reading by compressing the fat layer or the muscle.
3. For measuring backfat, set the function switch to "**BF**". You will be reading the **0-50mm** scale marked "**B**".

Adjust the sensitivity control slowly back and forth, until you notice two prominent spikes, but not so much as to introduce unwanted "noise" spikes. The first spike will represent the bottom of the hide, at about 6mm (.24 in) to 16mm (.63 in). The second spike will be the bottom of the fat layer.

The depth of the hide and fat will vary with the breed and condition of the animal. In general, heifers have thicker hides than bulls, steers or cows. The fat layer may vary from less than 3mm (.12 in), to 40mm (1.57 in), dependent on finish.

4. For measuring the **Loin** muscle, set the function switch to "**L**". You will be reading the **0-200mm** scale marked "**L**".

Using the same procedure as with backfat, start with the sensitivity control turned all the way up (full clockwise). Adjust the sensitivity control down (counterclockwise) until there are 3 distinct spikes. The first two spikes will be very close together. These are the hide and backfat layers. The third spike will be the bottom of the loin, generally about 80mm (3.15 in) to 110mm (4.33 in).

DETERMINING DEPTHS

Remember that the layer of hair and dirt will add to the depth of the hide on the display.

For **BACKFAT** only, subtract the bottom of the hide layer from the bottom of the backfat layer. This is the thickness of the backfat.

For **LOIN** only, subtract the bottom of the backfat layer from the bottom of the ribeye. This is the thickness of the Loin.

TROUBLE?

- A.** BARELY VISIBLE READINGS, or none at all, even with sensitivity full on. Use more oil.

How much oil you should use depends on how thick the hair, or how dirty the animal. The biggest problem in the use of any ultrasound instrument is the lack of sufficient coupling oil. So if no spikes are present, add more oil.

- B.** CONFUSING DISPLAY, too many spikes. Check sensitivity control.

If you turn the sensitivity up too high, it is possible to see too many echoes which confuse the relevant ones. Turn the sensitivity knob slowly counterclockwise until only the relevant echoes remain. Even so, you may see some echoes way to the right. This means you are penetrating below the rib eye with the ultrasound. Just ignore these echoes.

- C.** CANNOT READ THE LOIN. Check probe placement.

Loin muscle depths should be taken BETWEEN the 12th and 13th ribs and not on these ribs themselves. Bone will disperse and scatter ultrasound. When correctly placed, the display will show the hide and backfat layers, and the bottom of the loin. If the reading is taken over a rib, the ultrasound will be blocked from penetrating and the rib eye echo will not be seen. Avoid turning the sensitivity up too far and garbling the reading with unwanted echoes from the abdominal and muscle area.

- D.** OTHER PROBLEMS. Check the Operators's Manual.