Owner's Manual

REGAL ~~300~~

Floor-mounted Electronic Platform Scale

- *300 pound / 136 kg capacity; accurate to ±1.0%*
- *Optional remote display or printer*
- *Wall-mount or column-mount display*
- *Quick and easy to use*

Model Number: **12452-00-GZAHDH**

SSCI
Wheeling, IL (800) 323 7366

Form No. 702728 Rev. C 03/07

Inquiries should be addressed to **Suburban Surgical Co., Inc.**
Wheeling, Illinois 60090, USA

Table of Contents

Comments:

Chapter 1 - General Information

Introduction

Accuracy is what you need in a scale! So much depends on knowing the correct weight of your patients: anesthesia, medications, inoculations, feeding amounts. With an accuracy of ±1.0%, SSCI makes sure that you can depend on your new Regal 300 Electronic Platform Scale.

The motionless, stainless steel platform is supported by four load cells, one in each corner, to ensure reliability. State-of-the-art electronics take readings from all load cells to give you the most accurate weight - even if the animal is placed off-center. A Hold key on the console locks in the electronically-averaged weight, so you get accurate figures even with restless or active animals. The scale also features a Tare function to compensate for the extra weight when an animal is weighed in a carrier, or held by it's owner.

Either a remote display or a printer can be ordered to enhance the usability of your Regal 300 Electronic Platform Scale.

The easy-to-read, easy-to-use display console measures in pounds or kilograms and is touch-activated with automatic shut-off.
A reinforced, one-piece, welded, stainless steel covered frame gives you the strongest, most rigid platform scale available.

About this Manual

Every attempt has been made to insure that the information in this manual is correct and complete. SSCI, however, always welcomes our customer's suggestions for improvements to our products and associated publications.

Information & Safety Notices

Throughout this manual you will find text under the headings **Note:** and ***CAUTION:***.

Notes

Under **Note:** headings, you will be given additional information pertinent to the subject discussed in that paragraph or step.

> **Example:**
>
> After removing the top carton and the plastic wrap, make sure the parts listed in Table 2 are present.
> **Note:** Not all parts will be used in your particular installation.

CAUTIONS

Under ***CAUTION:*** headings, you will be alerted to potentially hazardous conditions which, if ignored or mishandled, could result in injury to yourself, or damage to the equipment.

> **Example:**
>
> ***CAUTION:*** **Do not place the scale in an area subject to drafts from air conditioners, heating vents, or exterior doors. Exposing the scale to wide variations in temperature can cause the microprocessor to read weights erroneously.**

Model

The model number for the Regal 300 Floor-mounted Electronic Platform Scale is 12452-00-GZAHDH.

Accessories

SSCI provides a variety of accessories for Regal 300 Scales to custom-fit them to your requirements. Descriptions, pictures, and information on SSCI products can be found in our current catalog, and on our website at www.suburbansurgical.com. To order accessories, refer to *Parts Ordering Procedure* on *Page 36*.

- Remote display - P/N 220101
- Printer - P/N 220102
- Mounting column - P/N 12470-00-AJEPAA
- Voltage adapter - Call SSCI for information

Care & Cleaning of Stainless Steel

Introduction

Stainless steel is steel alloyed with chromium to make it highly resistant to stain, rust, and corrosion. **Note:** This does NOT mean that stainless steel will *never* rust or corrode. Science has not yet developed a steel which is completely stainless or corrosion PROOF.

The type of stainless steel and finish selected by SSCI for the Regal 300 Electronic Platform Scale is the best available for the intended use.

Cleaning and Cleansers

The basic rule of thumb is to use the mildest cleaning procedure that will do the job effectively. Always rinse thoroughly with clear water and dry completely. Frequent cleaning will prolong the service life of stainless steel equipment and will help maintain a bright, pleasing appearance. **Note:** NEVER power-wash the scale.

Ordinary deposits of waste and fluids can usually be removed with soap and water. More stubborn deposits or tightly adhering debris may require harder scrubbing and possibly the use of commercial cleaning products acceptable for use on metal surfaces. When using any cleaning agent, rub in the direction of the polish lines or "grain" of the metal. For high luster finishes, clean soft cloths or pads should be used. If especially rough cleaning is necessary, use "stainless steel" wool, nylon, or plastic scrubbers. Test these scrubbers in an inconspicuous area first to be sure they do not mar or scratch the stainless steel finish.

Minor scale build-up and some hard water spotting may be removed by washing with vinegar, followed by a neutralizing rinse with clear water and a thorough drying with a soft cloth. For heavy deposits of scale, 5% oxalic acid (use warm), 5-15% sulfamic acid, or 5-10% phosphoric acid may be used. Always follow with a neutralizing rinse of clean water and a thorough drying.

Deodorizing Agents, Disinfectants, & Sanitizers

The large selection of brands and combinations of chemicals available for deodorizing, disinfecting, and sanitizing is staggering. Select one or more agents for use in your facility only after weighing all the benefits claimed by each product. Often this choice is made without adequate consideration of the effects these agents may produce on equipment or furnishings.

***CAUTION:* Before selecting a chemical to employ in your facility, review label statements regarding use with metals (stainless steel). Always consult the chemical supplier if there are any doubts.**

Avoid prolonged use of chlorides (such as chlorine bleach), bromides, iodides, and thiocyanates on stainless steel surfaces as these chemicals will cause pitting, corrosion, and metal discoloration. Allowing salty solutions to evaporate and dry on stainless steel may also contribute to corrosive conditions.

In summary, select chemical deodorizers, disinfectants, and/or sanitizers only after weighing all possible benefits and known adverse effects.

Effect on Warranty

***CAUTION:* The warranty for this product is void if the care and cleaning instructions provided in this manual are not followed.**

Safety Notes

Weight Limitations

***CAUTION:* The scale is designed to carry weights up to 300 pounds (136 kg). Placing weights greater than 300 pounds on the scale can damage the weighing mechanism.**

***CAUTION:* Do not allow heavy weights to be suddenly applied to the scale (for example: a child jumping on the scale). Such "shock loads" can damage the load cells under the scale, and will VOID YOUR WARRANTY!**

Electrical Hazards

***CAUTION:* When working with electrical components, always make sure that the unit is turned OFF, and the AC adapter/charger unplugged.**

***CAUTION:* When working inside the display console, always disconnect the black negative terminal wire immediately after removing the rear cover.**

Cleaning Requirements

Clean the scale exactly in accordance with the cleaning instructions provided in *Chapter 3* of this manual. Failure to follow these instructions can void your warranty.

SSCI Contact Information

Contact SSCI Customer Service by mail, telephone, or fax. The department is available from 8:30am to 5:00pm, Central Time, Monday through Friday. Closed holidays.

Address: Suburban Surgical Co., Inc.
275 Twelfth Street
Wheeling, Illinois 60090

Telephone: Illinois - (847) 537-9320, ext. 3518
Toll Free - (800) 323-7366

Fax: (847) 537-9061

Web: www.suburbansurgical.com

Warranty

Suburban Surgical Company, Inc. warrants the original purchaser that our products are of the highest standards in material and workmanship. Our stainless steel components are guaranteed to last a lifetime assuming they are used as intended, properly maintained and cared for. Mechanical, electrical, electronic, hydraulic, and any product's devices carry a one year warranty.

Items purchased by Suburban Surgical Company, Inc. from other manufacturers and incorporated into our equipment are covered by the respective manufacturer's warranties.

Warranties will not apply if it is determined by Suburban Surgical Company, Inc. that the equipment became defective due to an accident, misuse, abuse, improper maintenance, or alteration. Warranty freight charges are covered for the first year only.

Comments:

Chapter 2 - Setup

Introduction

This chapter guides you in setting up floor-standing models of the Regal 300 Electronic Platform Scale (P/N 12452-00-GZAHDH).

Unpacking and Inspection

CAUTION: **Unpacking and setting up the electronic scale is not difficult. However, the scale is heavy and we recommend that these procedures be done by at least two people.**

If the shipping container appears damaged in any way, contact the shipping company immediately. Save all damaged packing materials to assist in proving liability for damage.

Carefully inspect your electronic scale as you unpack it. If any damage is noted, or if parts appear to be missing (Refer to *Parts Included* on *Page 8*), call SSCI Customer Service at (800) 323-7366.

Setup Options

Floor model scales can be set up in either of two ways:

- Wall-mounted display console (Figure 1) - *Page 9*
- Column-mounted display console (Figure 2) - *Page 13*

Figure 1. Scale with Wall-mounted Display Console

Figure 2. Scale with Column-mounted Display Console

Parts Included

Make sure the parts listed in Table 1 are present in the shipment.
Note: Not all parts will be used in your particular installation.

Description	Part Number	Quantity	Refer to	Comments
Platform Frame Assembly	Refer to *Page 35* for individual part numbers	1	Fig. 3	Includes frame, stiffening board, scale top 4 load cells, summing board, and display cable
Display Console	220100	1	Fig. 4, A	
AC Adapter/Charger	854740	1	Fig. 4, B	Includes attached wire
Console Bracket	611293-1	1	Fig. 4, C	
Black Vinyl Mat	750650	1	none	Use is optional
Machine Screw	850188	1	Fig. 5, A	M6 x 10 mm Phillips In Parts Package 009022
Machine Screw	850172	2	Fig. 5, B	1/4-20 x 3/4" truss head, Phillips In Parts Package 009022
Screw Anchor	853920	2	Fig. 5, C	#10-12 x 1" green plastic In Parts Package 009022 Use with wall-mount display only
Sheet Metal Screw	853921	2	Fig. 5, D	#10 x 1" Phillips In Parts Package 009022 Use with wall-mount display only
Cable Clip	853215	3	Fig. 5, E	Adhesive-mount, locking, black plastic In Parts Package 009022 Use is optional

Table 1. Items Supplied with Floor Model Regal 300 Scale (Refer to Figures 3, 4, and 5)

Location Restrictions

CAUTION: **Do not place the scale in an area subject to drafts from air conditioners, heating vents, or exterior doors. Exposing the scale to wide variations in temperature can degrade the microprocessor's accuracy.**

Always place the scale on a surface that is fairly level. An unlevel floor will affect scale accuracy.

Figure 3. Platform Frame Assembly

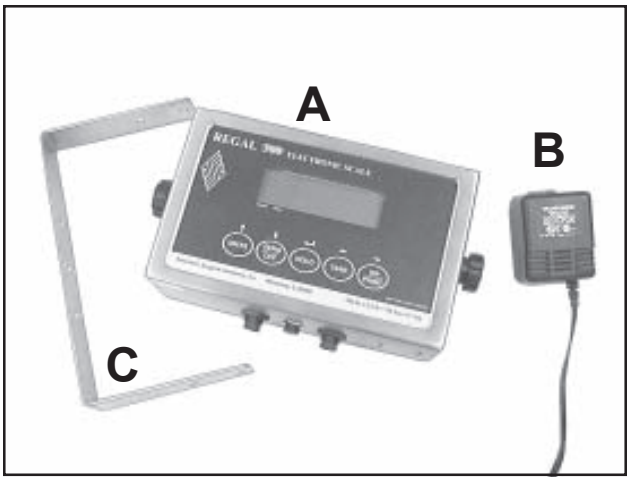

Figure 4. Display Console and Related Parts

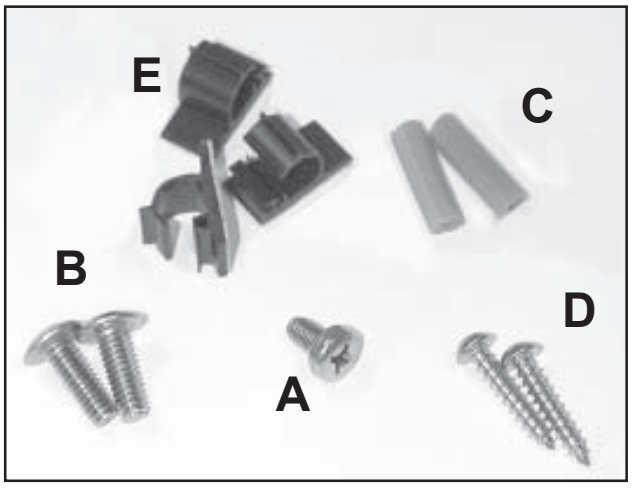

Figure 5. Items in Parts Package 009022

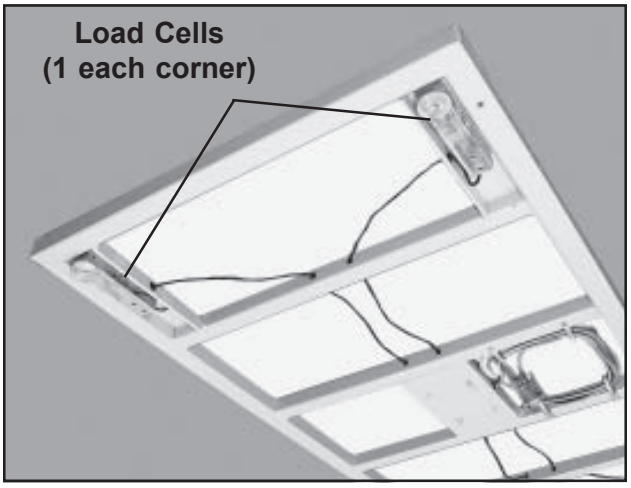

Figure 6. Load Cells under the Platform Frame

Setting Up the Scale With a Wall-Mounted Display Console

Follow the steps below to set up your Regal 300 Scale with a wall-mounted display console. To set up the scale with a column-mounted console, refer to *Page 13*.

Tools Required

- Phillips screwdriver
- Pencil
- Electric drill
- 1/4 in. drill bit

Mounting the Display Console on the Wall

1. Select a location for the scale keeping in mind the location restrictions on *Page 8*. It should also be close to a standard 120 VAC electrical outlet.

2. Place the scale platform on the floor in the chosen location. with the load cells on the bottom (Figure 6).

3. Unwrap the display cable from the hooks on the underside of the platform frame.

4. Temporarily, plug the connector on the display cable into its terminal on the bottom of the display console (Figure 7).

5. Hold the display console to the wall and find a convenient location that is within range of the display cable without stretching, and mark that location.

6. Disconnect the cable from the console.

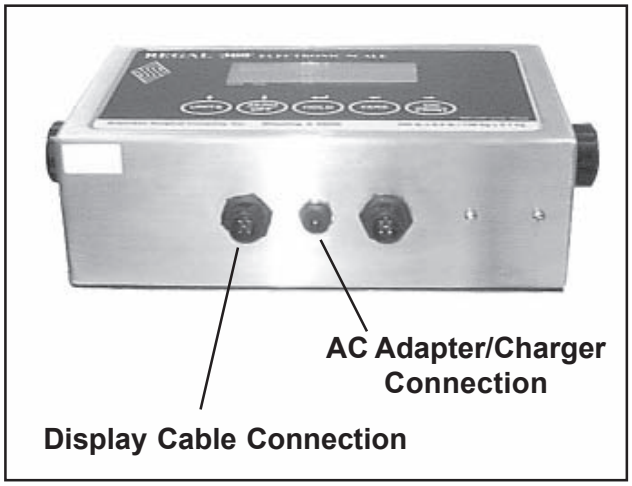

Figure 7. Bottom of Display Console

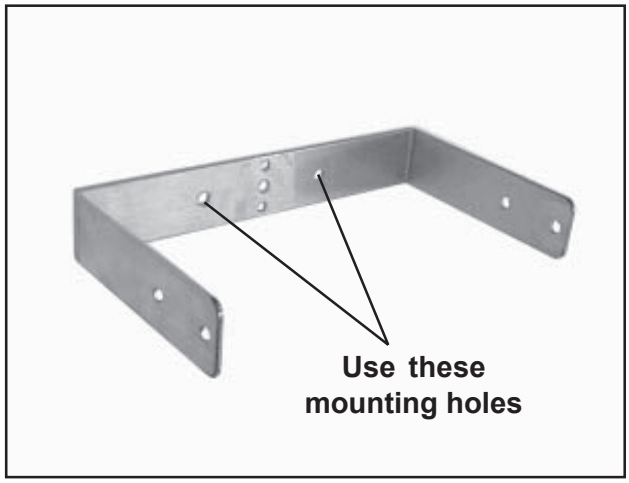

Figure 8. Console Bracket on Wall

7. Hold the mounting surface of the console bracket up to the wall at the chosen location (Figure 8) and mark the centers of the two mounting holes onto the wall. **Note:** Try to avoid a location where a mounting hole is directly over a stud.

Note: The mounting hardware supplied with the scale is suitable for wallboard construction only. If your walls are masonry, obtain and use suitable mounting hardware.

8. With a 1/4 in. bit, drill the two holes in the wall, level with each other.

9. Insert the two green plastic anchors into the holes.

10. Mount the console bracket to the wall with the two sheet metal screws supplied (or with suitable hardware on a masonry wall).

11. Mount the display console to the console bracket with the two black knobs supplied (Figure 9).

12. **Optional** - If desired, secure the display cable to the wall with the self-adhesive cable clips supplied.
Note: Be aware that the adhesive is fairly strong and can damage some walls.

13. Plug the display cable into the terminal under the display console (Figure 7). **Note:** The display cable must pass *under* the platform frame.

14. Peel the protective covering from the face of the display console.

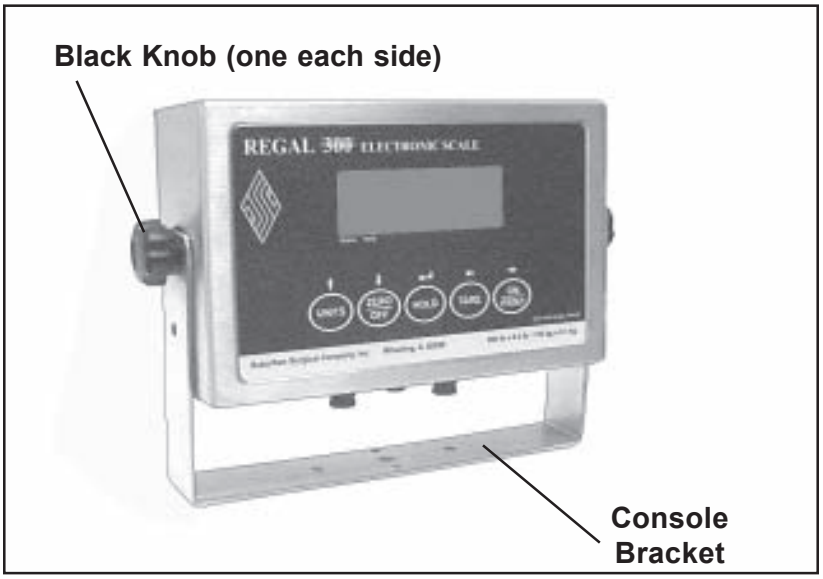

Figure 9. The Console Mounted on the Console Bracket

Setting Up the Scale Platform

1. Place the platform frame on the floor in the chosen location. with the load cells on the bottom (Figure 6).

2. Rewrap any excess length of display cable back around the hooks on the platform frame.

3. Peel the protective covering from the scale top.

4. Place the black vinyl mat on the scale platform.
Note: The scale is calibrated at the factory with the mat in place on the scale platform; placing the mat on the scale does not require recalibrating the scale.

5. Proceed as follows:
   - If a remote display is to be used, go to *Installing the Remote Display* on *Page 15*.
   - If a printer is to be used, go to *Installing the Printer* on *Page 16*.
   - If neither a remote display nor a printer is to be used, go to *Preparation for Use* on *Page 17*.

Setting Up the Scale With a Column-Mounted Display Console

Follow the steps below to set up your Regal 300 Scale with a column-mounted display console. To set up the scale with a wall-mounted console, refer to *Page 9*.

Tool Required

- Phillips screwdriver

Mounting Column

You will need a mounting column, SSCI P/N 12470-00-AJEPAA.

Setup Procedure

1. Select a location for the scale platform keeping in mind the location restrictions on *Page 8*. It should also be close to a standard 120 VAC electrical outlet.
2. Place the platform frame on the floor in the chosen location with the load cells on the bottom (Figure 6).
3. Unwrap the display cable from the hooks on the underside of the platform.
4. Remove the two Phillips head screws from the side of the platform frame (Figure 10).
5. Align the holes in the mounting column with the holes in the scale platform and reinstall the two screws removed in *Step 4*.

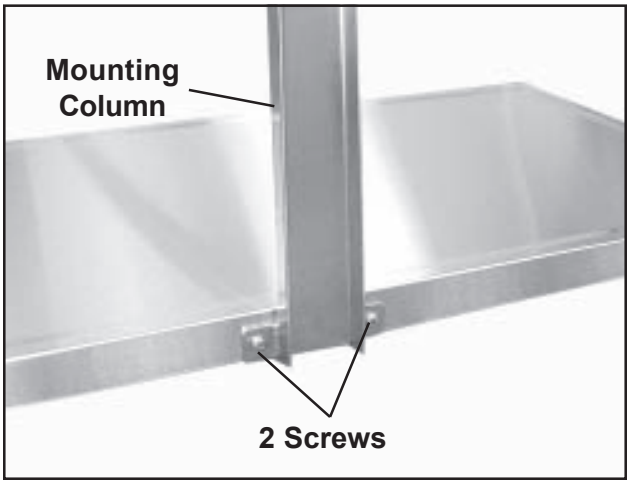

Figure 10. Attaching the Mounting Column to the Platform

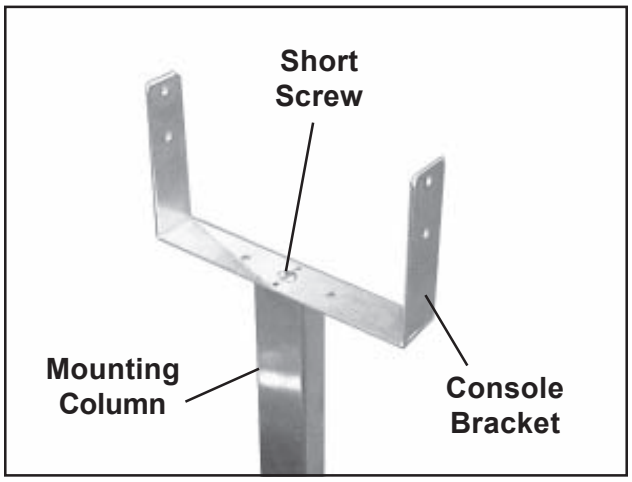

Figure 11. Mounting the Console Bracket to the Column

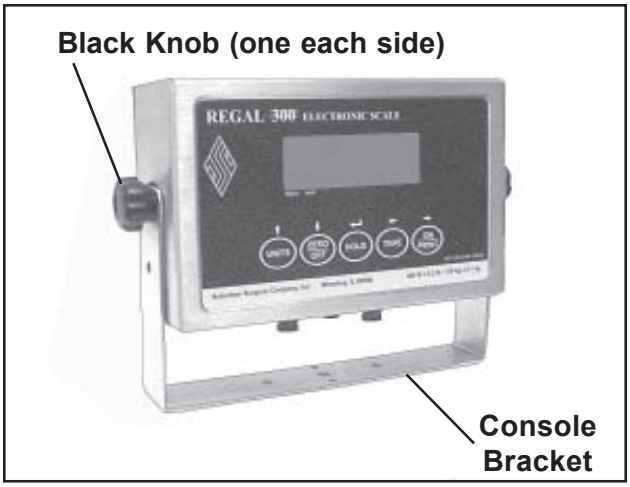

Figure 12. Display Console in Console Bracket

6. Mount the console bracket to the top of the column (Figure 11) with the short screw provided.

7. Plug the display cable into the terminal under the console (Figure 7). **Note:** The display cable must pass *under* the platform frame.

8. Mount the display console to the console bracket with the two black knobs supplied (Figure 12).

9. Rewrap any excess length of display cable back around the hooks on the platform frame.

10. Peel the protective covering from the face of the display console.

11. Place the black vinyl mat on the scale platform.
Note: The scale is calibrated at the factory with the mat in place on the scale platform; placing the mat on the scale does not require recalibrating the scale.

12. Place the black vinyl mat on the scale platform.

13. Proceed as follows:
- If a remote display is to be used, go to *Installing the Remote Display* on *Page 15*.
- If a printer is to be used, go to *Installing the Printer* on *Page 16*.
- If neither a remote display nor a printer is to be used, go to *Preparation for Use* on *Page 17*.

Installing the Remote Display (Optional)

Provision is made in the Regal 300 Scale for the attachment of an optional remote display. **Note:** The remote display and the printer cannot be used at the same time. Refer to Figure 15 - *System Wiring Diagram.*

1. Place the remote display in the desired location. It must be close enough to the scale console so that the cable between the two units will easily reach without being stretched.

2. Plug the large, grey, 9-pin connector on the RS-232 cable into the remote display (Figures 13 and 15).

3. Plug the other end of this cable into the serial port on the scale display console (Figure 14).

4 Plug the transformer on the remote display power cord into a standard 120 VAC wall outlet.

5 Plug the other end of the power cord into the remote display (Figure 13).

6. Proceed to *Preparation for Use* on *Page 17.*

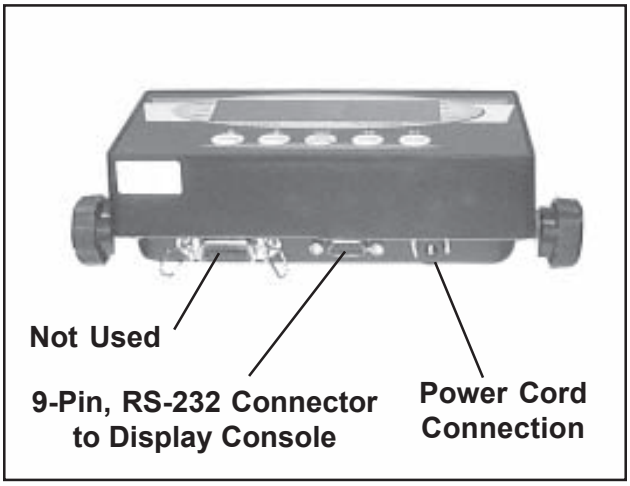

Figure 13. Remote Display Cable Connections

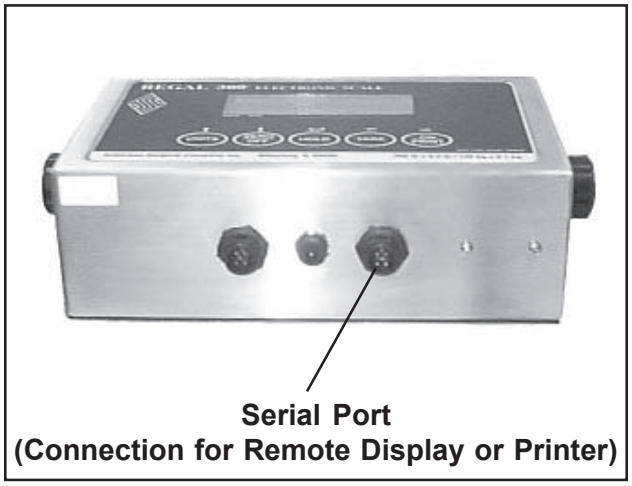

Figure 14. Display Console Serial Port

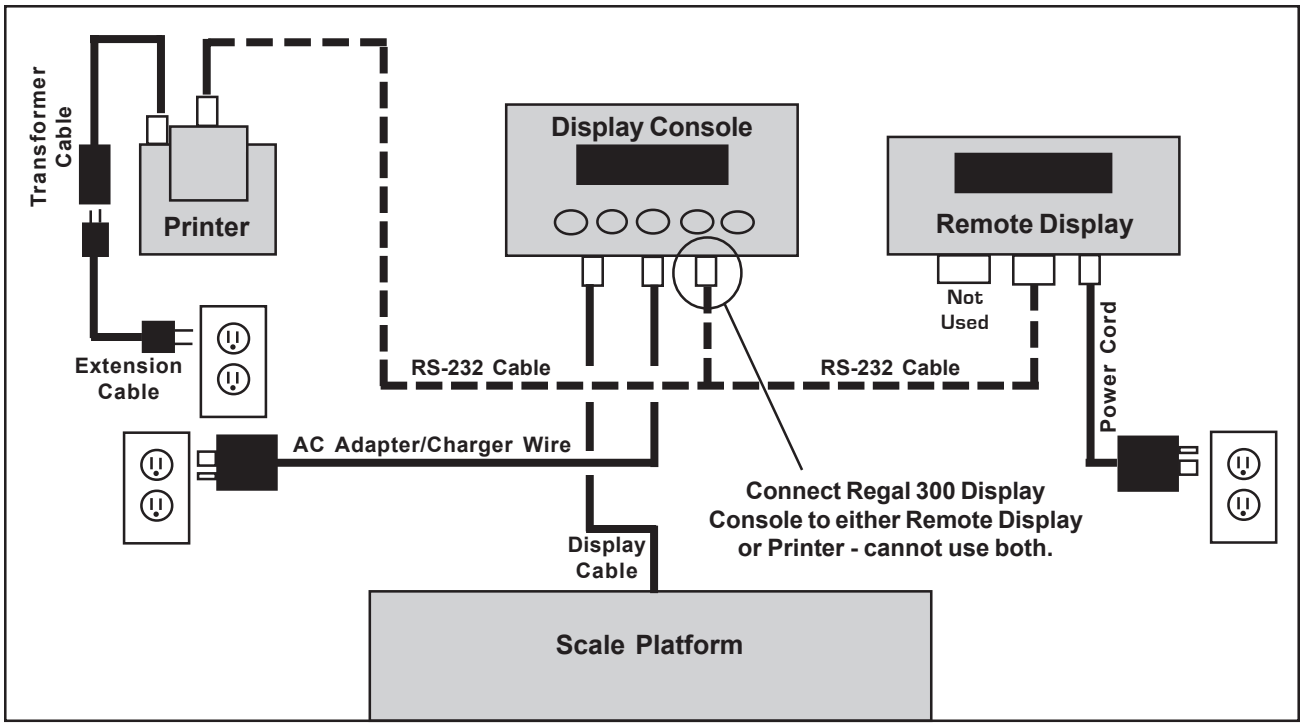

Figure 15. Regal 300 Electronic Scale - System Wiring Diagram

Installing the Printer (Optional)

Provision is made in the Regal 300 Scale for the attachment of an optional printer. **Note:** The printer and the remote display cannot be used at the same time. Refer to Figure 15 - *System Wiring Diagram.*

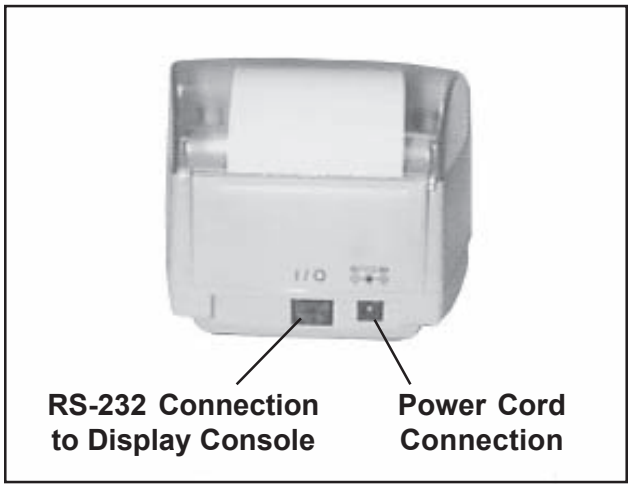

Figure 16. Printer Cable Connections

1. Place the printer in the desired location. It must be close enough to the scale console so that the cable between the two units will easily reach without being stretched.

2. Plug the connector on the RS-232 cable into the printer (Figures 15 and 16).

3. Plug the other end of the cable into the serial port on the scale display console (Figure 14).

4 Plug the printer extension cable into the transformer cable, and then plug the transformer cable into the printer (Figures 15 and 16).

5 Plug the other end of the printer power cord into a standard 120 VAC wall outlet.

6. Proceed to *Preparation for Use* below.

Preparation for Use

1. Plug the console AC adapter/charger wire into the terminal under the display console (Figures 7 and 15).

2. Plug the AC adapter/charger into a standard 120 VAC outlet.

3. Turn the scale **ON** by pushing the **ON/PRINT** key (Figure 18). The display will illuminate and count down to **0.0**.

4. Press the **UNITS** key to select either **lb** or **kg**.

5. Turn the scale **OFF** by pushing the **ZERO/OFF** key.

6. Allow the scale to charge for several hours. Refer to *Charging the Battery* on *Page 20* for details.

7. If a remote display or a printer is being used, proceed to *Configuring the Serial Port* below.

Configuring the Serial Port

If a remote display or a printer is to be used, the display console serial port must be configured to accommodate the device. To configure the serial port:

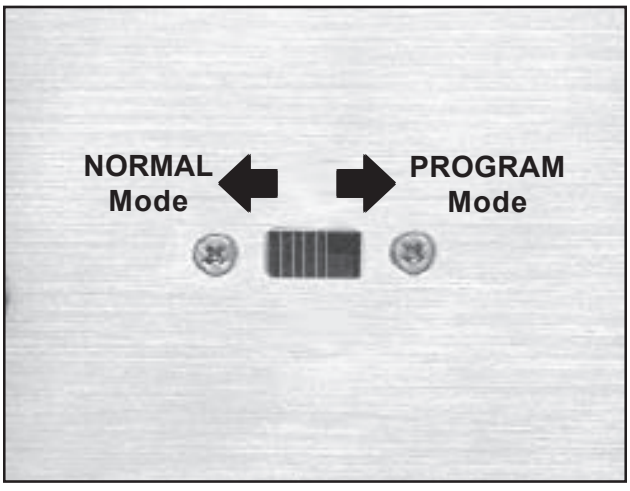

Figure 17. Mode Switch

1. Make sure the display console is **OFF**.

2. On the rear of the display console, move the Mode switch to the right (**PROGRAM**) (Figure 17). Refer to *Using the Mode Switch* on *Page 25*.

3. Turn the scale **ON** by pressing the **ON/PRINT** key. The word **Port** appears in the readout.

4. Press the **ZERO/OFF** key once. The current saved selection will be displayed:
   Prt = Printer
   dISP = Remote display

- If you are configuring the serial port for a printer, you want **Prt** to be displayed.
- If you are configuring the serial port for a remote display, you want **dISP** to be displayed.

5. Press the **TARE** key to select **Prt** or **dISP** as desired.

6. Press the **HOLD** key to save the setting.

7. Turn the scale **OFF**.

8. Move the Mode switch back to the left (**NORMAL**).

9. Replace and secure the Mode switch cover.

Chapter 3 - Operation & Care

Operating the Regal 300 Scale

Operating the Regal 300 Electronic Scale is simple. The following instructions cover:

Turning the Scale ON & OFF

To turn the scale **ON**, press the **ON/PRINT** key (Figure 18). The display will count down and then display **0.0**. When **0.0** is displayed, the scale is ready for use. If, after the countdown, the scale displays a figure other than **0.0**, press the **ZERO/OFF** key once and the scale will return to **0.0**. **Note:** A few seconds delay between turning the unit on and the display appearing on the screen is normal. This especially true if there is a weight on the scale platform.

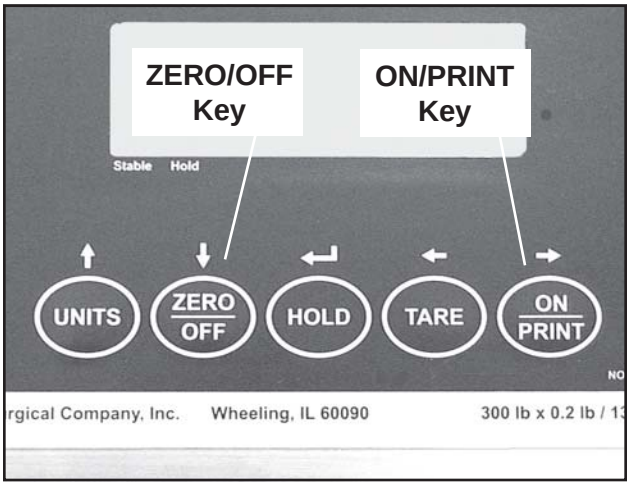

Figure 18. Control Panel ON & OFF Keys

To turn the scale **OFF**, press and hold the **ZERO/OFF** key for two to three seconds (Figure 18). **Note:** After five minutes of inactivity, the scale will turn off automatically, however, you can reset this interval if desired (refer to *Adjusting the Shut-down Interval* on *Page 27*).

Charging the Battery

If the AC adapter/charger is not in use and the scale is left on continuously, the battery will operate for about 26 hours. You should charge the battery whenever the scale is not going to be used for a period of time. It is usually convenient to charge the battery overnight. As a rule-of-thumb, you should charge the battery for one-and-one-half hours for every hour of use.

To recharge the battery, plug the AC adapter/charger into a standard 120 VAC wall socket and insert the other end of the wire into the terminal under the display console (Figure 20).

If the Battery Low icon (Figure 19) appears in the upper left corner of the display readout, you should recharge the battery, however, it is better not to wait for this indication. You may not get accurate readings when the Battery Low icon is illuminated.

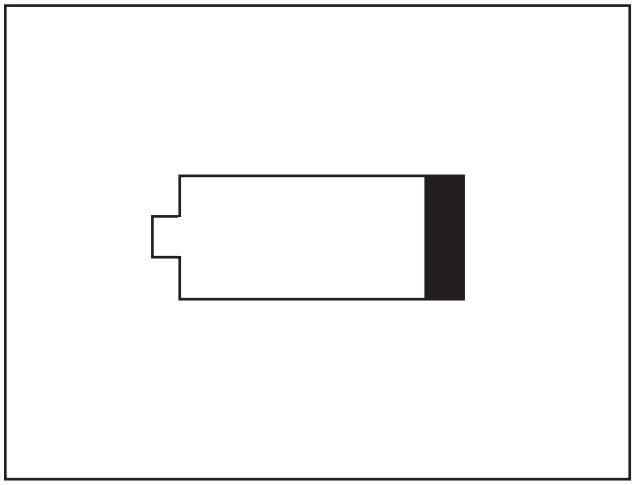

Figure 19. Battery Low Icon

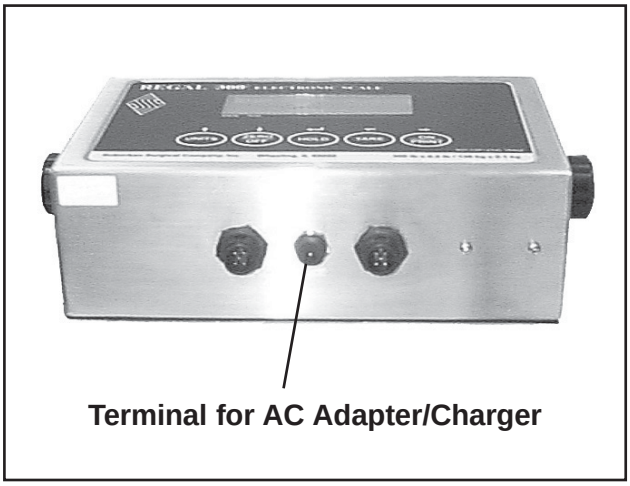

Figure 20. Display Console Connector for AC Adapter/Charger

Weight Limits

CAUTION: **The scale is designed to carry weights up to 300 pounds (136 kg). Placing weights greater than 300 pounds on the scale can damage the weighing mechanism.**

CAUTION: **Do not allow heavy weights to be suddenly applied to the scale (for example: a child jumping on the scale). Such "shock loads" can damage the load cells under the scale, and will VOID YOUR WARRANTY!**

Selecting the Units of Measure

You can select whether the Regal 300 Scale will display readings in pounds or kilograms. The **UNITS** key on the control panel (Figure 21) toggles between pounds and kilograms. To select the units of measure:

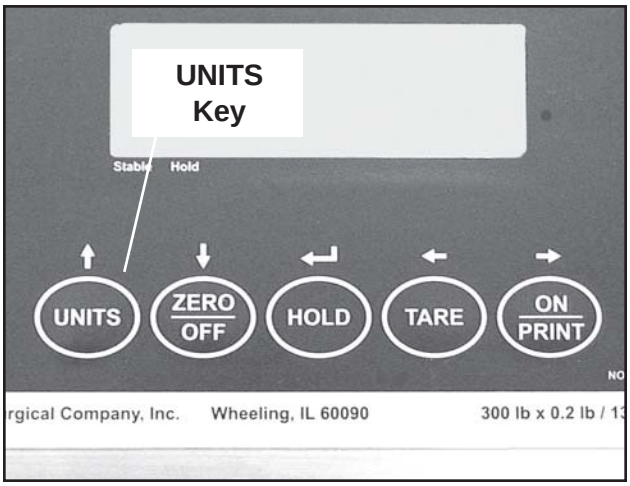

Figure 21. Selecting Units Of Measure

1. Turn the scale **ON**.

2. Press the **UNITS** key and observe the **lb** or **kg** indicators on the display readout.

The **lb** or **kg** indications on the readout will flash whenever you are not in the Hold function (refer to *Weighing Restless Animals* on *Page 22*).

Normal Weighing

To weigh an animal normally, the following conditions must be met:

- The scale must be turned **ON**.
- The console battery must be charged.
- The Mode switch must be in the **Normal** position (refer to *Using the Mode Switch* on *Page 25*).

To weigh an animal normally:

1. Turn the scale **ON**.

2. If the readout does not show **0.0**, press the **ZERO/OFF** key to zero the reading.

3. If necessary, select the desired units of measure (lb. or kg).

4. Place the animal on the scale platform.

5. Read the animal's weight on the display.

Normal weighing is fine for most animals. For cats, small dogs, and other animals under five pounds, we recommend you use this technique.

Weighing Restless Animals (Hold Function)

The Regal 300 Scale is equipped with a Hold feature that locks in to an average weight to weigh restless or active animals. To use the Hold function:

1. Turn the scale **ON**.

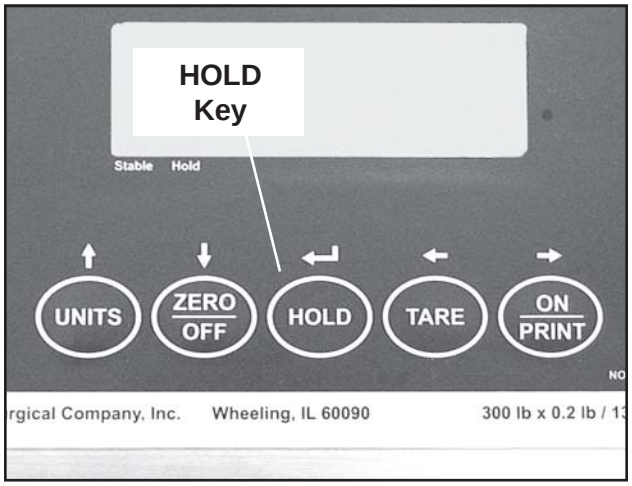

Figure 22. HOLD Key on Control Panel

2. Press the **HOLD** key (Figure 22).
3. Place the animal on the scale platform.
4. Once calculated, the **HOLD** annunciator will stop flashing and the animal's weight will be displayed.
5. Press the **HOLD** key to release the hold function.

The **lb** or **kg** indications on the readout will remain steady and will not flash whenever you are in the Hold function.

The reading will remain on the display until the **HOLD** key is pressed again, the animal is removed from the platform, or the scale is switched **OFF**.

We recommend that the Hold feature not be used for animals under five pounds. Use the normal weighing method for cats and small dogs.

Weighing Animals in a Container (Tare Function)

Occasionally, it may be necessary to weigh an animal in a basket, box, or other container. The Regal 300 Scale provides a Tare feature that involves weighing the empty container, then weighing the animal in the container. The scale computes the animal's weight and displays it in the readout. To use the Tare feature:

1. Place the empty container on the scale. The scale will display the container weight.

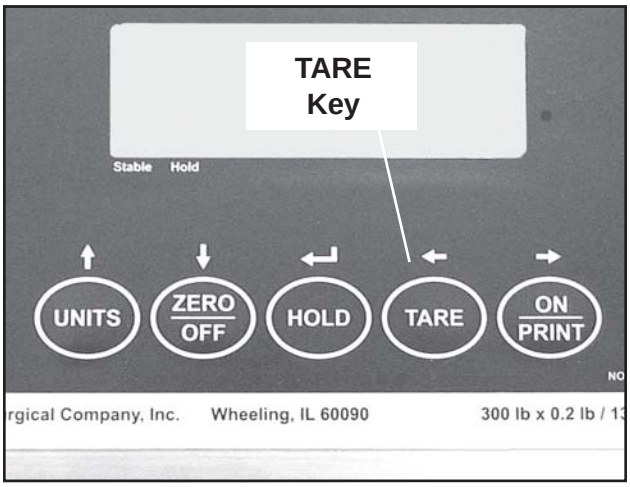

Figure 23. TARE Key on Control Panel

2. Press the **TARE** key (Figure 23). The letter **T** will appear in the display.

3. Place the animal in the container (still on the scale). The scale will display the weight of the animal only.

4. If the animal is active or restless, press the **Hold** key (refer to *Weighing Restless Animals* on *Page 22*).

5. Remove the animal and container from the scale.

6. If the **Hold** key was pressed above, press it again to deactivate the Hold feature.

7. Press the **TARE** key or the **Zero/OFF** key to return the display to **0.0**.

Using the Remote Display (Optional)

To operate the remote display, the following conditions must be met:

- The RS-232 cable between the display console and the remote display must be in place (Figure 15 on *Page 16*).
- The display console port must be configured to the remote display (refer to *Configuring the Serial Port* on *Page 17*).
- The remote display must be turned **ON**. Push the **I** (top) end of the **ON/OFF** rocker switch in back of the display (Figure 24).
- The remote display battery must be charged - plug the transformer into any standard 120 VAC wall outlet (Figure 15 on *Page 16*). When all these conditions are met, the remote display will show the same readings that are shown on the display console readout.

To turn the remote display **OFF**, push the **O** (bottom) end of the **ON/OFF** rocker switch.

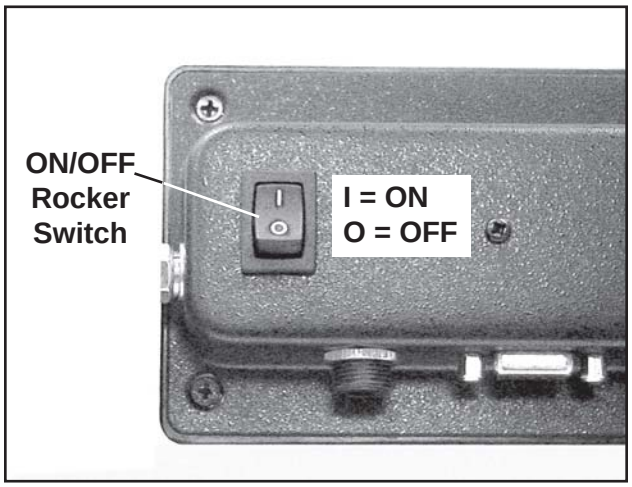

Figure 24. Remote Display On/Off Rocker Switch

Using the Printer (Optional)

To operate the printer, the following conditions must be met:

- The RS-232 cable between the display console and the printer must be in place (Figure 15 on *Page 16*).
- The display console port must be configured to the printer (refer to *Configuring the Serial Port* on *Page 17*).
- The printer must be plugged into any standard 120 VAC wall outlet (Figure 15 on *Page 16*).

When these conditions are met, press the **ON/PRINT** key on the display console to print out the current weight shown on the display console readout.

Using the Mode Switch

The Mode switch is located under a cover on the back of the display console (Figure 25).

To access the Mode switch, unscrew the two hex head screws (Figure 26) and remove the Mode switch cover.

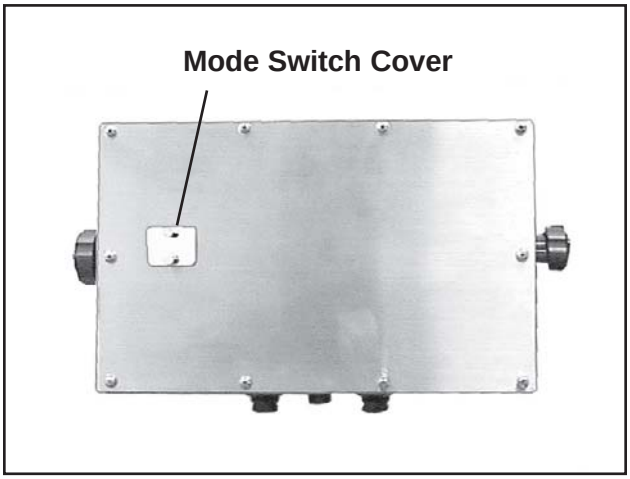

Figure 25. Mode Switch Location on Back of Display Console

The Mode switch has two positions (Figure 27):

- **NORMAL** (placed to the left, as you view the console from the rear) - For normal procedures.
- **PROGRAM** (placed to the right, as you view the console from the rear) - For calibrating the scale or making changes tothe User Setup Menu.

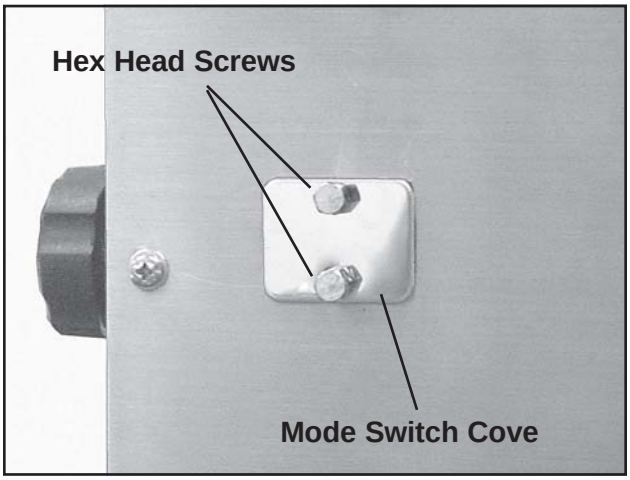

Figure 26. Mode Switch Cover

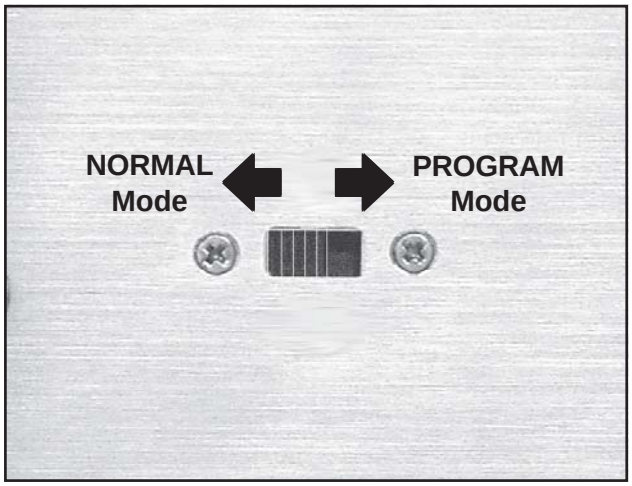

Figure 27. Mode Switch Positions

Except when actually calibrating the scale or when making changes to the User Setup Menu, the Mode switch should always be in the **NORMAL** position.

When the Mode switch is in the **PROGRAM** position and you enter the User Setup Menu, the functions of the console keys change to navigational tools.

Software

Menus

The scale software contains one User Setup Menu and two Factory Use Only Menus. This manual covers the User Setup Menu only. DO NOT attempt to enter or manipulate the Factory Use Only Menus.

On the rear of the display console, access the Mode switch (Refer to *Using the Mode Switch* on *Page 25*) and move the switch to the right (**PROGRAM**). The User Setup Menu contains four sub-menus. Each sub-menu has a variety of selections from which you can choose. The default selections are shown in bold type.

- **Port** (Serial Port Configuration)
  - **Prt** (Printer)
  - dlSP (remote display)
- **FLtr** (Digital Filter Selection)
  - 16 (fast)
  - **32** (slow)
- **oFF** (Auto Shut-down Interval)
  - Off (scale is always **ON**)
  - 1 (1 minute)
  - 2 (2 minutes)
  - 3 (3 minutes)
  - **5** (5 minutes)
  - 8 (8 minutes)
  - 10 (10 minutes)
  - 15 (15 minutes)
  - 20 (20 minutes)
  - 30 (30 minutes)
- **CAL** (Calibration) - press **ZERO** key to begin calibration sequence

To leave the User Setup Menu, move the Mode switch to the left (**NORMAL**) (Figure 27). Replace and secure the Mode switch cover.

Adjusting the Shut-down Interval

To prolong battery life, the scale automatically shuts down after a period of inactivity. The factory-set default interval is five-minutes, however, this period can be reset by the user. The scale shut-down time can also be set to **OFF**, in which case the shut-down feature is disabled and the scale remains **ON** at all times.

Shut-down intervals are in minutes and the options are: Off, 1, 2, 3, 5 (default), 8, 10, 15, 20, and 30. To reset the interval:

1. Make sure the display console is **OFF**.
2. On the rear of the display console, access the Mode switch (*Page 25*) and move the switch to the right (**PROGRAM**).
3. Turn the scale **ON** by pressing the **ON/PRINT** key. The word **Port** appears in the readout.
4. Press the **TARE** key repeatedly until the word **oFF** appears in the readout.
5. Press the **ZERO/OFF** key once. The currently saved selection is displayed on the readout.
6. Press the **TARE** key repeatedly until the desired time interval appears in the readout.
7. Press the **HOLD** key to save your selection.
8. On the rear of the display console, move the Mode switch to the left (**NORMAL**) (Figure 27).
9. Replace and secure the Mode switch cover.

Setting the Digital Filter

The digital filter averages weight readings to produce higher stability. The higher the filter setting, the greater stability but the slower the scale response time. There are two settings: 16 and 32.

- If you usually use the normal weighing technique, we recommend a filter setting of 32.
- If you use the Hold feature a lot, we recommend a setting of 16.

1. Make sure the display console is **OFF**.
2. On the rear of the display console, access the Mode switch (*Page 25*) and move the switch to the right (**PROGRAM**).
3. Turn the scale **ON** by pressing the **ON/PRINT** key. The word **Port** appears in the readout.
4. Press the **TARE** key repeatedly until the word **FLtr** appears in the readout.
5. Press the **ZERO/OFF** key once. The currently saved selection is displayed on the readout.
6. Press the **TARE** key to select either **16** or **32**.
7. Press the **HOLD** key to save the selection.
8. On the rear of the display console, move the Mode switch to the left (**NORMAL**) (Figure 27).
9. Replace and secure the Mode switch cover.

Testing the Scale Accuracy

It is good practice to check the scale's accuracy about once a month. The scale should be accurate to ± 1.0%. To check scale accuracy, place an object of exactly known weight (such as a bodybuilding lifting weight) on the scale. If an object of exactly known weight is not available, you can use bags of pet food or similar containers. Be aware, however, that the weights of pet food containers are not exact and can vary by several pounds between bags. A test weight of 2/3 of the scale capacity is recommended. Try to use a weight of at least fifty pounds.

The scale should display a weight within 1.0% of the weight of the object. Examples are:

- A 50 lb. weight should indicate 49.50 to 50.50 lbs.
- A 100 lb. weight should indicate 99 to 101 lbs.
- A 150 lb. weight should indicate 148.50 to 151.50 lbs.
- A 200 lb. weight should indicate 198 to 202 lbs.

If the indicated weight is not within 1.0% of the object weight, the scale should be calibrated (refer to *Calibrating the Scale* on *Page 30).*

Calibrating the Scale

The scale should be calibrated when:

- it appears to be not weighing accurately
- the display console is replaced

Overview

Whenever the scale appears to be displaying incorrect weights, it may need recalibration. The scale is calibrated in two steps:

1. Zero Calibration (Deadweight)
2. Span Calibration (Test Weight)

Each step saves a value into the scale's nonvolatile memory. The minimum test weight that can be used is 10% of full-scale capacity or 30 lbs. (13.6 kg). A test weight of 2/3 of the scale capacity is recommended.

Zero Calibration

1. Make sure there is nothing on the scale platform other than the mat.

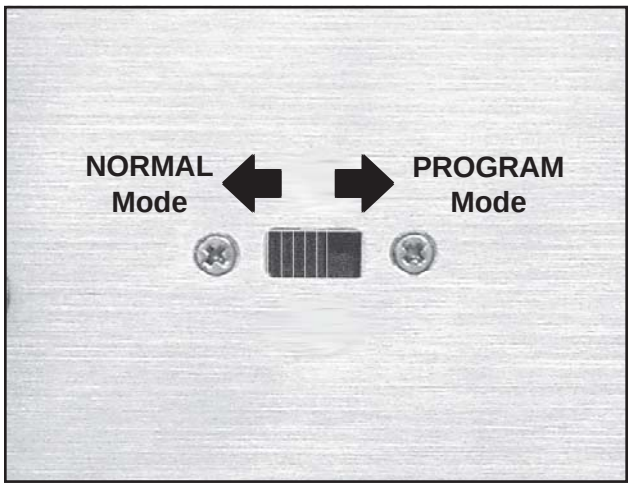

Figure 28. Mode Switch

2. Turn the display console **OFF**.
3. On the rear of the display console, access the Mode switch (*Page 25*) and move the switch to the right (**PROGRAM**) (Figure 28).
4. Turn the scale **ON** by pressing the **ON/PRINT** key. The word **Port** should appear in the readout.
5. Press the **TARE** key repeatedly until the word **CAL** appears in the readout.
6. Press the **ZERO/OFF** key to enter the calibration menu. The display will momentarily show **C 0** followed by a value. This value is the internal A-D count and can be useful when troubleshooting problems.
7. Make sure there is nothing on the platform.
8. Press the **ZERO/OFF** key again to zero out the displayed value.
9. Press the **HOLD** key to save the zero point value. The display will show **EndCO** momentarily, then **C 1** for the span calibration, followed by **0.0** with one flashing digit.

Span Calibration

1. Place the test weight on the scale platform.

2. Using the four navigational keys adjust the displayed value to the actual test weight value as follows:

   - Increase the flashing digit by pressing the **UNITS** key.
   - Decrease the flashing digit by pressing the **ZERO/ OFF** key.
   - Change the position of the flashing digit by pressing either the **TARE** or the **ON/PRINT** key.

3. After setting the exact value, press the **HOLD** key to save the value.

4. If the calibration was successful, the display will show **EndC1** momentarily, then revert back to **CAL**.

5. If the calibration was *not* successful, one of the error codes on *Page 32* will appear. Take the indicated action to correct the problem, then perform a new calibration.

6. After a successful calibration has been performed, turn the scale **OFF**.

7. Remove the test weight from the scale.

8. Move the Mode switch (Figure 28) back to the left (**NORMAL**).

9. Replace and secure the Mode switch cover.

10. The next time the scale is turned **ON**, the display will go through a digit check, then settle into the normal operating mode. The display console keys will return to their normal mode of operation.

Error Codes

One of the following error codes may be displayed after an unsuccessful calibration attempt:

- **Err0** - The calibration test weight, or the adjusted keyed-in weight is greater than 300 pounds. Change the calibration test weight or check the input data.
- **Err1** - The calibration test weight of the adjusted keyed-in weight is less than three pounds. Change the calibration test weight or check the input data.
- **Err2** - This error code can result from any of the following factors:
  - No test weight on the platform
  - Display cable not connected to the console
  - Bad connection between the console and platform
  - Bad connection between a load cell and the summing board
  - Damaged load cell
  - Internal fault in the console

List of Icons

Several icons are displayed on the readout. These icons and their meanings are shown in Table 2.

Icon	Meaning
	Battery is low
lb	Weight is displayed in pounds (flashes when scale is NOT in Hold Function)
kg	Weight is displayed in kilograms (flashes when scale is NOT in Hold Function)
T	Tare weight is being measured
	The reading is stable
—	Negative amount

Table 2. Icons Used in the Regal 300 Display Readout

Operating Tips

- Do not place the scale in an area subject to drafts from air conditioners, heating vents, or exterior doors. Exposing the scale to wide variations in temperature can degrade the microprocessor's accuracy.
- Always place the scale on a surface that is fairly level. An unlevel floor will affect scale accuracy.
- When the scale is turned on in the morning, allow it to warm up for about twenty minutes before using. If, after the 20-minute warm-up time, the scale does not display **0.0**, turn it **OFF**, and then **ON** again. This can help stabilize the microprocessor.
- If you have a busy office and the scale is in frequent use, we recommend that you leave the AC adapter/ chargerplugged in constantly, and turn the shut-down interval feature off (refer to *Adjusting the Shut-down Interval* on *Page 27*). This will give you greater efficiency and longer battery life.

Cleaning the Electronic Scale and Other Components

Introduction

You will no doubt want to clean your electronic scale whenever it becomes dirty or saturated with waste fluids. Maintaining high standards of sanitation will be an important priority for your facility.

CAUTION: **Always turn the scale OFF before cleaning.**

Cleaning the Display Console

When necessary, wipe the display console with a slightly damp cloth, then dry off with a clean dry cloth. Do not soak the console; excessive amounts of water can damage the electronics.

Cleaning the Remote Display

When necessary, wipe the remote display with a slightly damp cloth, then dry off with a clean dry cloth. Do not soak the remote display; excessive amounts of water can damage the electronics.

Cleaning the Printer

When necessary, wipe the printer with a slightly damp cloth, then dry off with a clean dry cloth. Do not soak the printer; excessive amounts of water can damage the electronics.

Cleaning the Scale Platform

Whenever necessary, rinse the platform with clear water and dry thoroughly with clean, soft cloths. **Note:** NEVER power-wash the scale.

Ordinary deposits of waste and fluids can usually be removed with soap and water. Stubborn deposits may require scrubbing with “stainless steel” wool, nylon, or plastic scrubbers and/or the use of commercial cleaning products. Always scrub in the direction of the “grain” of the metal. Rinse with clear water and dry thoroughly with clean, soft cloths. Minor scale build-up and some hard water spotting may be removed by washing with vinegar, followed by a neutralizing rinse of clear water and a thorough drying with clean, soft cloths.

For heavy deposits of scale, 5% oxalic acid (use warm), 5-15% sulfamic acid, or 5-10% phosphoric acid may be used. As always, rinse with clear water and dry thoroughly with clean soft cloths.

Avoid prolonged use of chlorides (such as chlorine bleach), bromides, iodides, and thiocyanates. Never allow salty solutions to dry on the stainless steel.

Chapter 4 - Repairs & Replacements

Replacement Parts

Table 3 lists the replacement parts available for the Regal 300 Floor-mounted Scale. For parts not listed below, contact SSCI Customer Service at (800) 323-7366. Refer to *Parts Ordering Procedure* on *Page 36*.

Description	SSCI Part Number	Replacement Instructions
Display Console	220100	*Page 37*
Scale Top	615157	*Page 38*
Stiffening Board	753200	*Page 39*
AC Adapter/Charger	854740	*Page 40*
Console Bracket	611293-1	*Page 41*
Display Console Battery	854741	*Page 42*
Fuse	854695	*Page 45*
Display Cable	854742	*Page 47*
Mounting Column (Column-mounted Consoles only)	12470-00-AJEPAA	*Page 50*
Load Cell	854061	*Page 51*
Remote Display (Optional)	220101	*Refer to Installation Instructions Page 15*
Remote Display Transformer Cable	854743	
Remote Display-to-Console RS-232 Cable 12'	854744	
Printer (Optional)	220102	*Refer to Installation Instructions Page 16*
Printer-to-Console RS-232 Cable	854745	
Printer Transformer Cable Assembly	854746	

Table 3. Replacement Parts for the Regal 300 Floor-mounted Electronic Scale

General

- Many threaded fasteners used on SSCI products are secured with thread adhesive to insure structural integrity. Removing any screw or bolt may be difficult at first.
- If during disassembly, you remove any tape, cable ties, etc., remember to replace them when the installation is complete.
- During disassembly, retain all hardware items such as screws, nuts, lockwashers, etc. for reassembly.
- If you have problems with any procedure, please feel free to call SSCI Customer Service at (800) 323-7366.

CAUTION: **When working with electrical components, always make sure that the unit is turned off, and the AC adapter/charger unplugged.**

Parts Ordering Procedure

Order new equipment, accessories, and/or replacement parts directly through SSCI Customer Service. Refer to *SSCI Contact Information* on *Page 5* for address, telephone, and fax numbers.

For more information on SSCI's fine line of products, refer to your SSCI catalog or our website, ww.suburbansurgical.com. Find replacement part descriptions and numbers on *Page 35*.

When ordering, please provide the following:

- Your name
- Company name
- Company account number
- Telephone number
- Fax number
- e-mail address
- Shipping address
- Billing address (if different from shipping address)
- Names, part numbers, and quantities of items being ordered
- Credit card number and expiration date, or other payment information
- Preferred method of shipment
- Information on whether the items are required on a normal or urgent basis

Procedures

Display Console
P/N 220100

Procedure

1. Make sure the scale is turned **OFF**.
2. Remove all cables from the bottom of the console (Figure 29).
3. Remove the two black knobs and remove the display console from the console bracket (Figure 30).

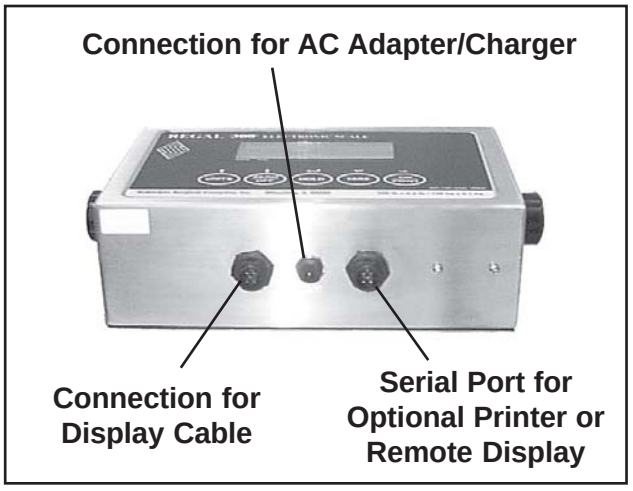

Figure 29. Display Console Cables

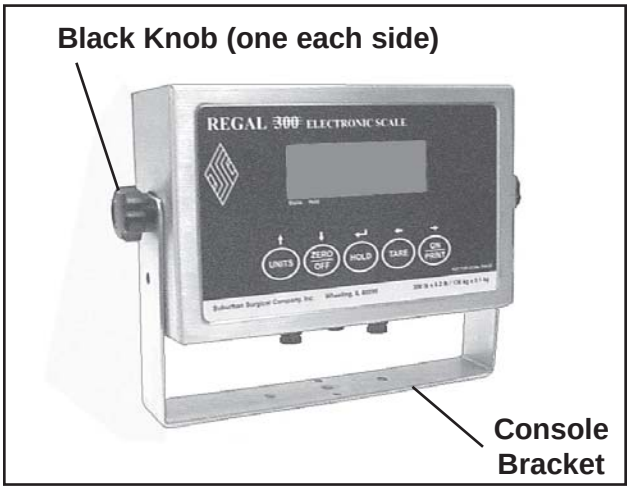

Figure 30. Removing the Console from the Console Bracket

4. Mount the new display console into the console bracket (Figure 30) and secure with the two black knobs.
5. Connect the display cable to the appropriate terminal on the underside of the console (Figure 29).
6. Plug the AC adapter/charger wire into its terminal under the console.
7. Plug the printer or remote display RS-232 cable (if used) into the serial port.
8. Allow the console to remain on the charger for several hours before use.
9. Calibrate the scale (refer to *Calibrating the Scale* on *Page 30*). **The Scale MUST be calibrated anytime the display console is replaced.**

Scale Top

P/N 615157

Tool Required

- Phillips screwdriver

Procedure

1. If your display console is column mounted, remove the two black knobs and lift the console from the console bracket(Figure 30). **Note:** It is not necessary to disconnect the cables from the console.

2. With a Phillips screwdriver, remove the two screws in the side of the scale platform (Figure 31). **Note:** If a mounting column is used, remove the column from the side of the platform at this time (Figure 32).

3. Lift the scale top from the platform frame.

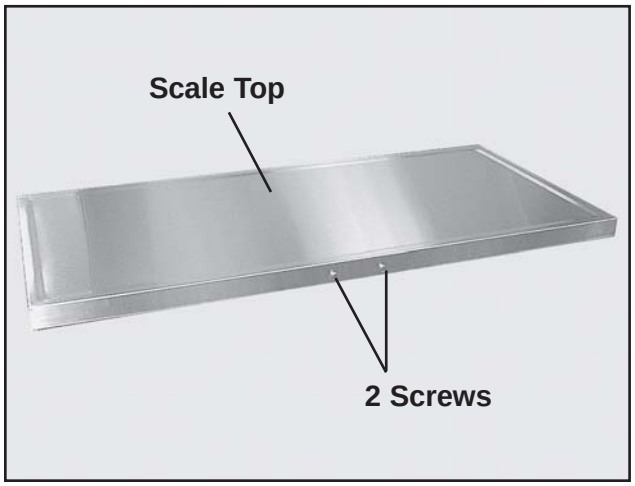

Figure 31. Screws in Scale Platform

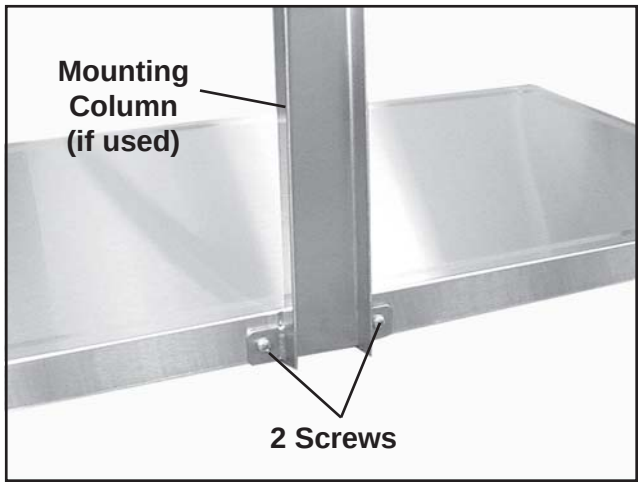

Figure 32. Screws in Scale Platform (column-mounted display)

4. Place the new scale top on the platform frame with the two screw holes aligned with the holes in the frame.

5. Secure the top by reinstalling the two screws removed in *Step 2*. **Note:** Reinstall the mounting column if used.

6. If the console is column-mounted, replace it into the console bracket and secure with the two black knobs.

Stiffening Board

P/N 753200

Tool Required

- Phillips screwdriver

Procedure

1. Remove the scale top. Refer to *Scale Top* on *Page 38* and perform *Steps 1*, 2, and *3*.

2. Lift the stiffening board off the platform frame (Figure 33).

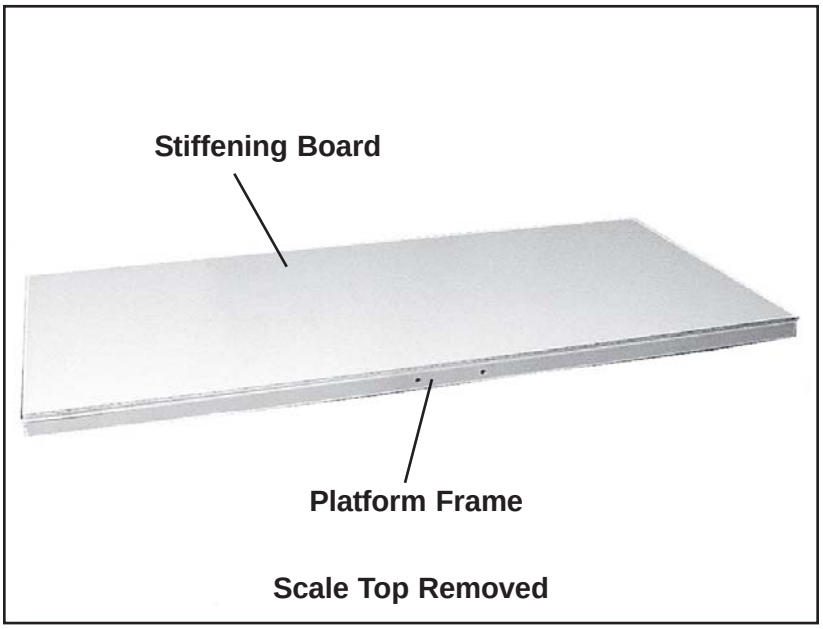

Figure 33. Removing the Stiffening Board

3. Place the new stiffening board on the platform frame.

4. Replace the scale top. Refer to *Scale Top* on *Page 38* and perform *Steps 4*, 5, and, *6*.

AC Adapter/Charger

P/N 854740

Procedure

1. Make sure the scale is turned **OFF**.

2. Unplug the AC adapter/charger wire from the bottom of the console (Figure 34).

3. Unplug the AC adapter/charger from the wall outlet and discard the AC adapter/charger.

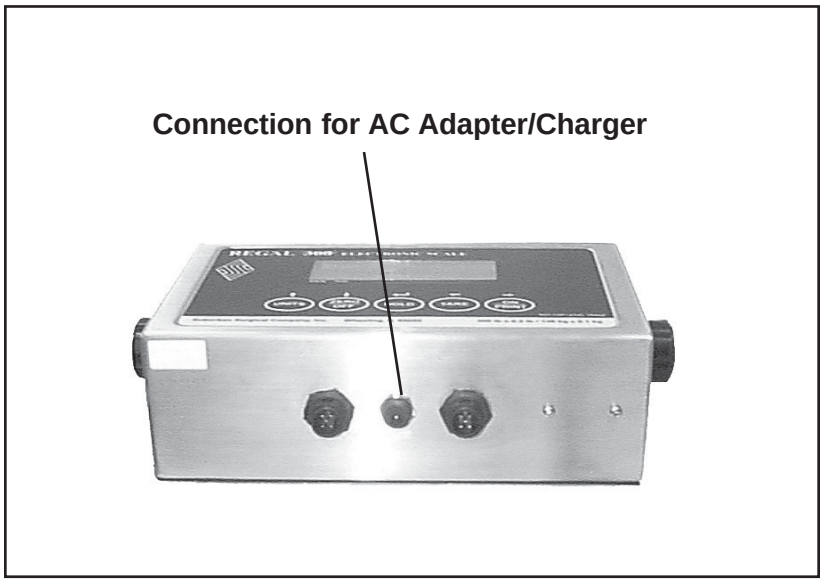

Figure 34. Removing the AC Adapter/Charger Wire

4. Plug the new AC adapter/charger into the wall outlet.

5. Plug the AC adapter/charger wire into the terminal on the bottom of the display console (Figure 34).

6. Allow the console to remain on the charger for several hours before use.

Console Bracket

P/N 611293-1

Tool Required

- Phillips screwdriver

Procedure

1. Remove the two black knobs and remove the display console from the console bracket (Figure 35).
   Note: It is not necessary to disconnect the cables from the console.

2. Remove the screw(s) that hold the console bracket to wall or mounting column, and remove the bracket.

3. Fasten the new bracket to the wall or mounting column with the screw(s) removed in *Step 2* (Figure 36).

4. Remount the display console to the console bracket.

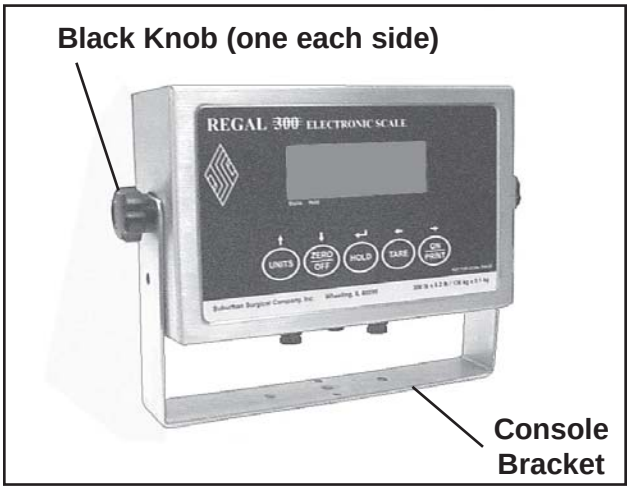

Figure 35. Removing the Console from the Console Bracket

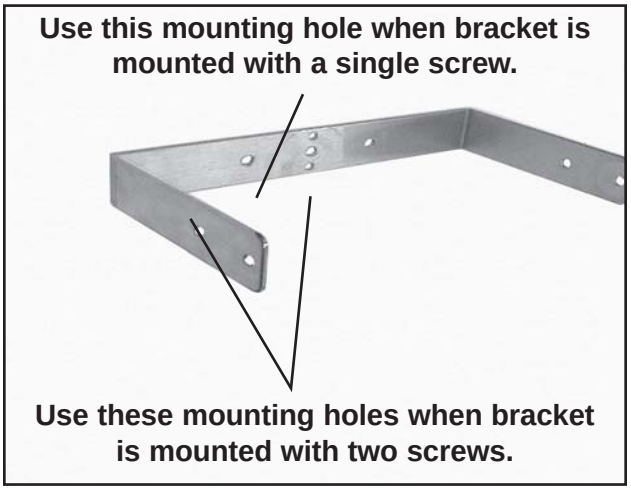

Figure 36. Console Bracket Mounting Holes

Display Console Battery

P/N 854741

Tools Required

- Small Phillips screwdriver
- 5mm nut driver

CAUTION: **Do not short across the battery terminals.**

CAUTION: **When working with electrical components, always make sure that the unit is turned OFF, and the AC adapter/charger unplugged.**

Removal

1. Make sure the scale is turned **OFF**.

2. Remove the display console from the console bracket. Refer to *Display Console, Steps 2* through *4* on *Page 37*.

3. With a small Phillips screwdriver and a 5mm nut driver, remove the ten screws that hold the rear cover onto the display console chassis (Figure 37).

CAUTION: **In the next step you will remove the rear cover and expose electrical components in the console. Use caution around the electrical wiring and components to prevent injury to yourself and/or damage to the equipment.**

4. Remove the rear cover (Figure 38).

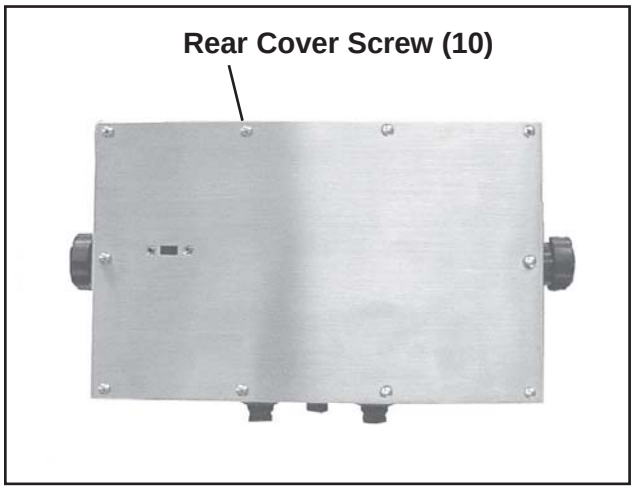

Figure 37. Removing Display Console Rear Cover

CAUTION: **When working inside the display console, always disconnect the negative terminal wire immediately after removing the rear cover.**

5. Pull the black wire off the negative battery terminal (Figure 38).

6. Pull the red wire off the positive battery terminal.

7. Pull the 2-pin connector off the terminal on the printed circuit board and separate the cover from the display console.

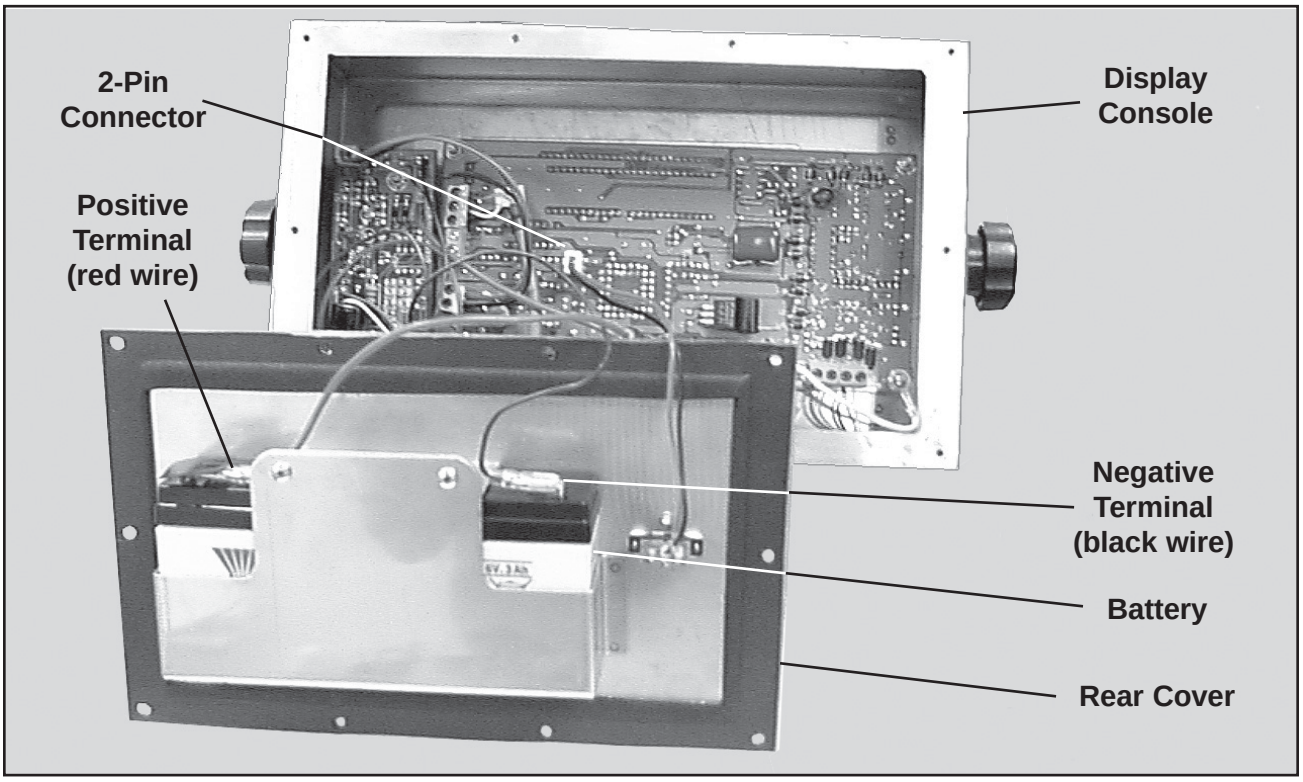

Figure 38. Rear Cover Removed from Display Console

8. With a small Phillips screwdriver, remove the two screws that secure the battery holder in the battery pocket (Figure 39).

9. Lift out the battery holder (Figure 40).

10. Lift the battery out of the battery pocket.

CAUTION: **Thoroughly flush skin or eyes immediately with clear water if contact is made with battery electrolyte (acid).**

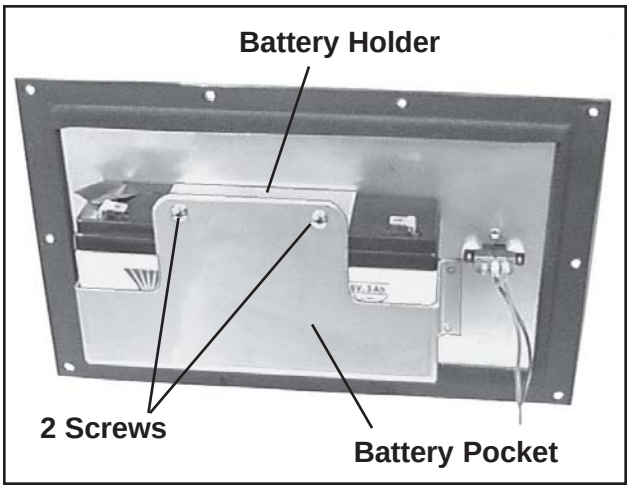

Figure 39. Battery Pocket & Holder

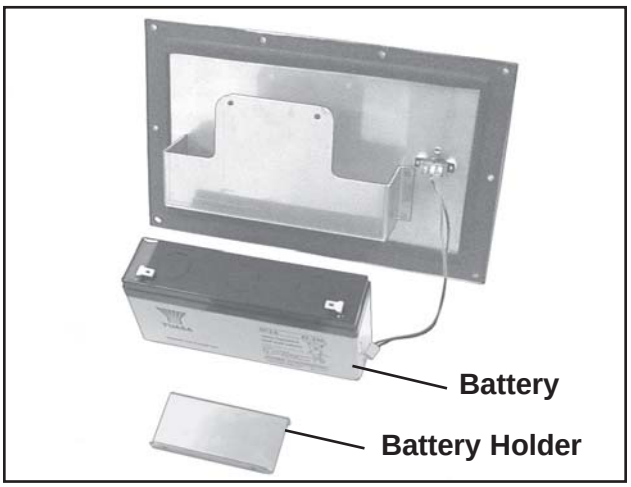

Figure 40. Battery & Holder

CAUTION: **Do not attempt to open the battery.**

CAUTION: **The used battery must be recycled. In the U.S.A., call 1-800-SAV-LEAD (800-728-5323) for information. The battery can be turned in, free of charge, to any facility that accepts old car batteries. DO NOT BURN THE BATTERY.**

Installation

1. A red panel on one side of the top of the new battery identifies the positive terminal (Figure 41). With this red panel on your left, place the battery into the battery pocket on the rear cover.

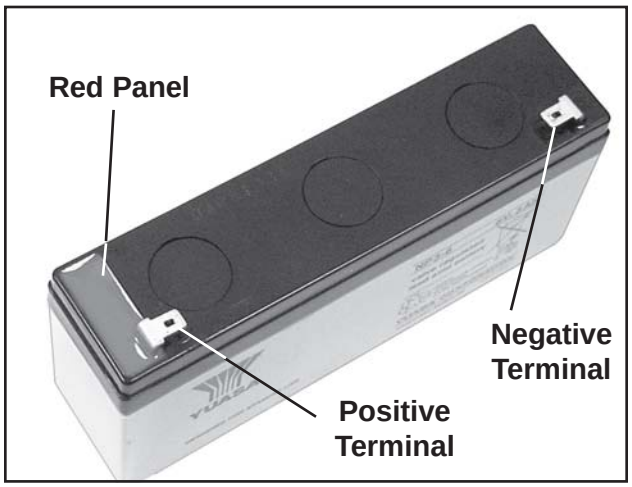

Figure 41. Battery Terminals

2. Place the battery holder in position with the two screw holes aligned with the screw holes in the battery pocket.

3. Secure the battery holder to the battery pocket with the two screws removed earlier (Figure 39).

4. Place the 2-pin connector back onto the terminal on the printed circuit board (Figure 38).

5. Place the red wire onto the positive battery terminal.

6. Place the black wire onto the negative battery terminal.

7. Place the rear cover in position on the back of the display console.

8. Secure the rear cover in place with the ten screws removed earlier.

9. Remount the display console chassis to the console bracket. Refer to *Display Console, Steps 5* through *8* on *Page 37*.

Fuse

P/N 854695

A single 0.8 Amp, 250 V slo-blo (metric, 5 x 20 mm) fuse is located in a fuse holder in the red, positive battery terminal wire. A replacement fuse can be ordered from SSCI, however, it will be cheaper and quicker to obtain one from your local hardware or electronics supply store. **Note:** Do not use a fast-acting fuse.

Tools Required

- Small Phillips screwdriver
- 5mm nut driver

CAUTION: **When working with electrical components, always make sure that the unit is turned off, and the AC adapter/charger unplugged.**

Figure 42. Fuse Holder in the Positive Battery Terminal Wire

Figure 43. Fuse Holder & Fuse

Removal

1. Make sure the scale is turned **OFF**.
2. Remove the display console from the console bracket. Refer to *Display Console*, *Steps 2* through *4* on *Page 37*.
3. With a small Phillips screwdriver and a 5mm nut driver, remove the ten screws that hold the rear cover onto the display console chassis (Figure 37).

CAUTION: **In the next step you will remove the rear cover and expose electrical components in the console. Use caution around the electrical wiring and components to prevent injury to yourself and/or damage to the equipment.**

4. Remove the rear cover (Figure 38).
5. Pull the black wire off the negative battery terminal (Figure 38).
6. Pull the red wire off the positive battery terminal.
7. Hold one end of the fuse holder and turn the other end counterclockwise until the holder separates into two parts (Figure 42).

8. Take the fuse out of the fuse holder (Figure 43).

Inspection

Look carefully at the fuse. Notice the fine wire visible inside the glass section of the fuse. If this wire is intact, the fuse is probably OK. If it is burned or broken, the fuse is bad and must be replaced.

Installation

1. Put the fuse into the fuse holder. It can go in either way - it makes no difference (Figure 43).

2. Push the two ends of the fuse holder together, and twist clockwise to lock them.

3. Place the red wire onto the positive battery terminal.

4. Place the black wire onto the negative battery terminal.

5. Place the rear cover in position on the back of the display console.

6. Secure the rear cover in place with the ten screws removed earlier.

7. Remount the display console chassis to the console bracket. Refer to *Display Console, Steps 5* through *8* on *Page 37*

Display Cable

P/N 854742

Tools & Supplies Required

- Phillips screwdriver
- Small Phillips screwdriver
- Small flat-blade screwdriver
- Small wire cutter
- Small wire tie

CAUTION: **When working with electrical components, always make sure that the unit is turned off, and the AC adapter/charger unplugged.**

Removal

1. Make sure the scale is turned **OFF**.

2. Remove the display cable from the bottom of the console.

3. Remove the scale top. Refer to *Scale Top* on *Page 38* and perform *Steps 1*, 2, and *3*.

4. Lift the stiffening board off the platform frame (Figure 33).

5. Unwrap the display cable from the hooks in the platform frame.

6. With a small wire cutter, snip off the wire tie on the cable where it nears the summing board (Figure 44).

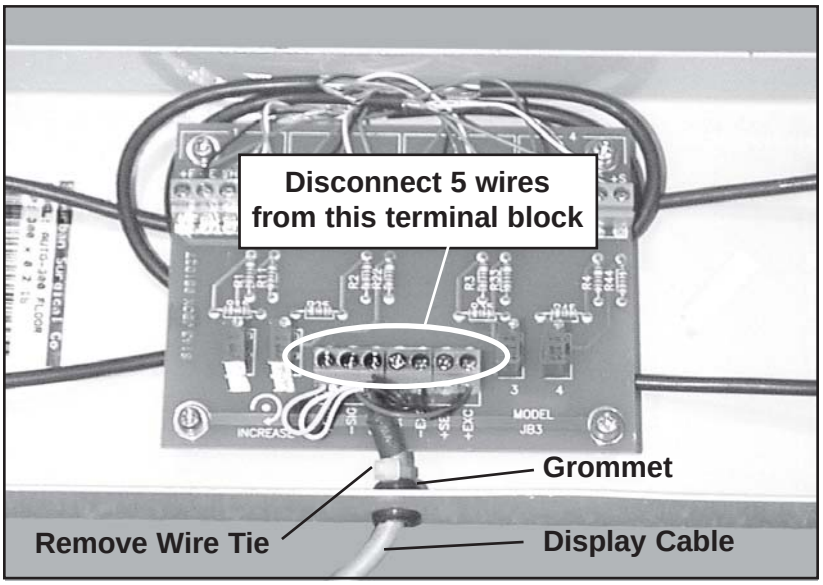

Figure 44. Summing Board

7. With a small Phillips screwdriver, loosen the five screws holding the display cable wires to the terminal block and remove the wires.

8. Pull the old display cable out of the platform frame and discard it.

Installation

Note: The replacement display cable may not look exactly like the old cable. Don't worry about it - the new cable is a direct replacement for the old and will fit and operate just fine.

1. Slip the wires and the end of the cable through the grommet next to the summing board in the platform frame (Figure 44).

2. Connect the five wires from the cable to the terminal block as shown in Figure 45. **Note:** Terminals **-SEN** and **+SEN** are not used.

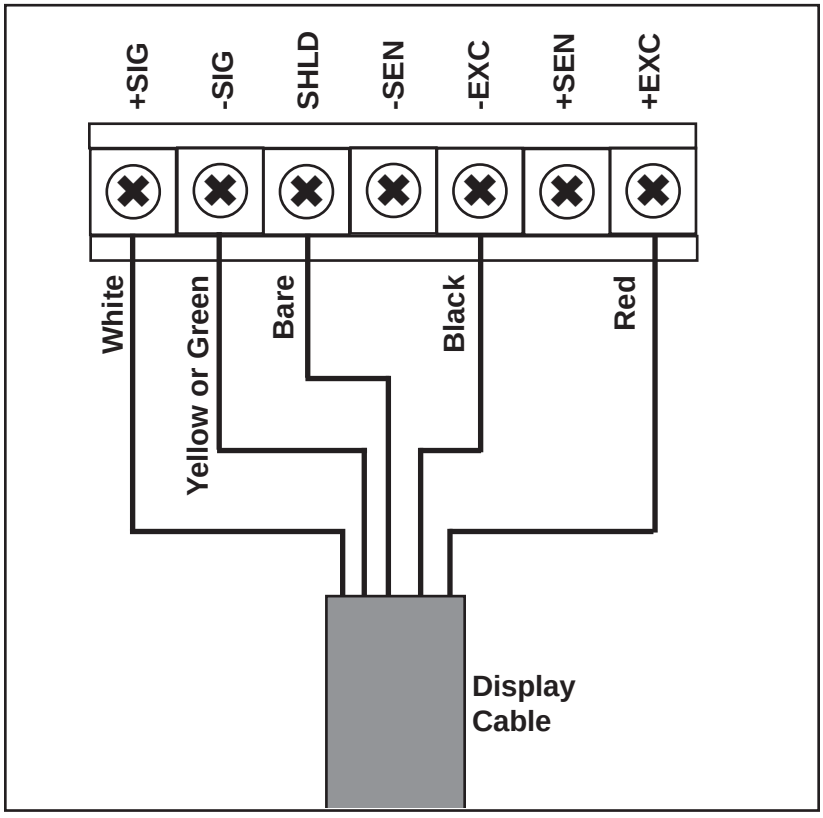

Figure 45. Connecting Display Cable Wires to Summing Board Terminal Block

3. Secure the cable in place with a small wire tie similar to the one removed earlier.

4. Wrap excess cable length around the hooks in the platform frame. Remember, the cable must exit under the frame.

5. Place the stiffening board on the platform frame (Figure 33).

6. Replace the scale top. Refer to *Scale Top* on *Page 38* and perform *Steps 4*, 5, and, *6*.

7. Connect the new display cable to the underside of the display console (Figure 34).

Mounting Column

P/N 12470-00-AJEPAA

This section applies only to those scales using column-mounted display consoles.

Tool Required

- Phillips screwdriver

Procedure

1. Remove the two black knobs and lift the display console from the console bracket (Figure 35). **Note:** It is not necessary to disconnect the cables from the console.

2. Unscrew the mounting screw and remove the console bracket from the mounting column (Figure 36).

3. With a Phillips screwdriver, remove the two screws in the side of the scale platform and remove the old column from the side of the platform (Figure 46).

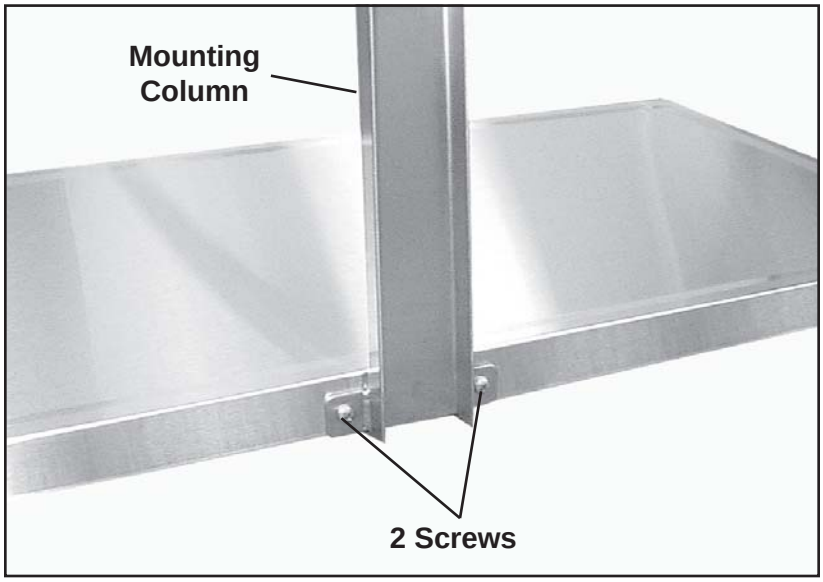

Figure 46. Screws in Scale Top & Mounting Column

4. Secure the new mounting column to the scale platform by reinstalling the two screws removed in *Step 2*.

5. Mount the console bracket to the top of the mounting column.

6. Replace the display console into the console bracket and secure with the two black knobs.

Load Cell

P/N 854061

Four identical load cells are mounted under the corners of the platform frame. In the following procedures, we will discuss the procedures for removing and replacing Load Cell #1. Procedures for the other three load cells are exactly the same. Refer to Figure 47 to determine the number of the load cell you are replacing.

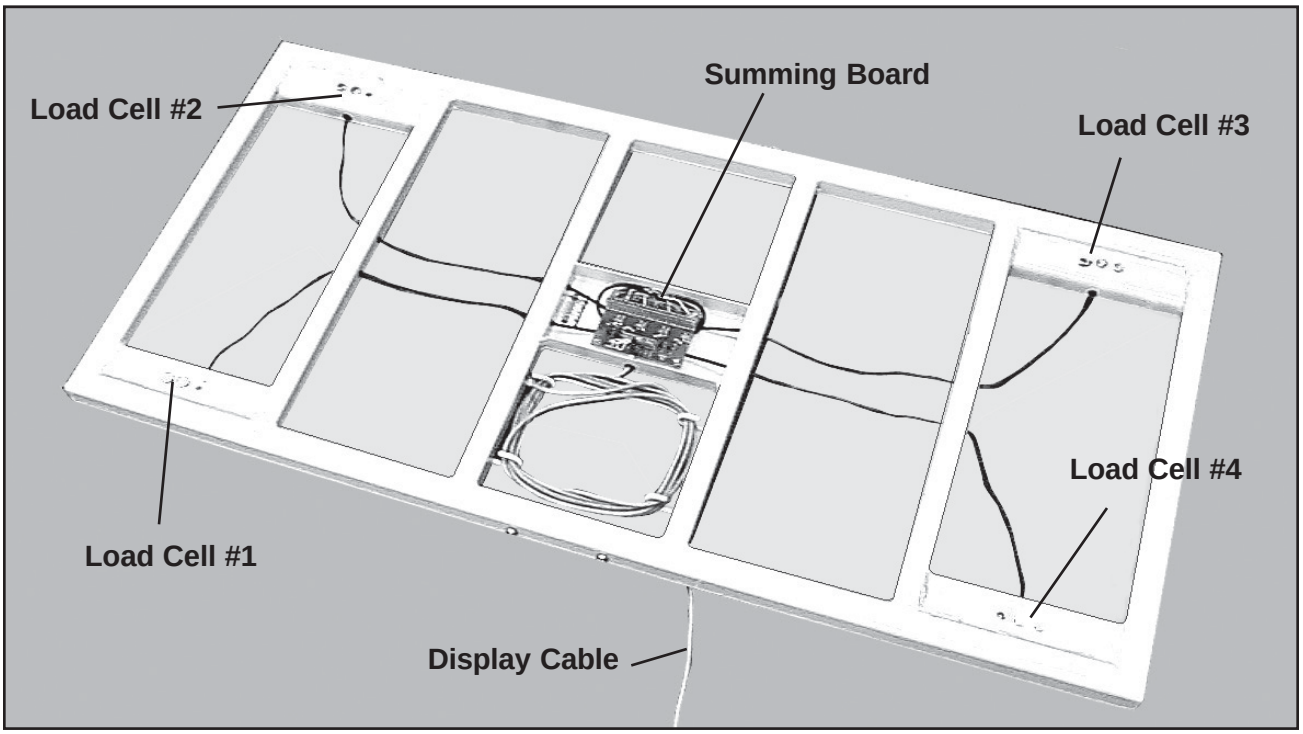

Figure 47. Overall View of Platform Frame, Load Cells, & Summing Board

Tools Required

- Phillips screwdriver
- Small Phillips screwdriver
- Small flat-blade screwdriver
- Adjustable wrench

CAUTION: **When working with electrical components, always make sure that the unit is turned off, and the AC adapter/charger unplugged.**

Removal

1. Make sure the scale is turned **OFF**.

2. Remove the scale top. Refer to *Scale Top* on *Page 38* and perform *Steps 1*, 2, and *3*.

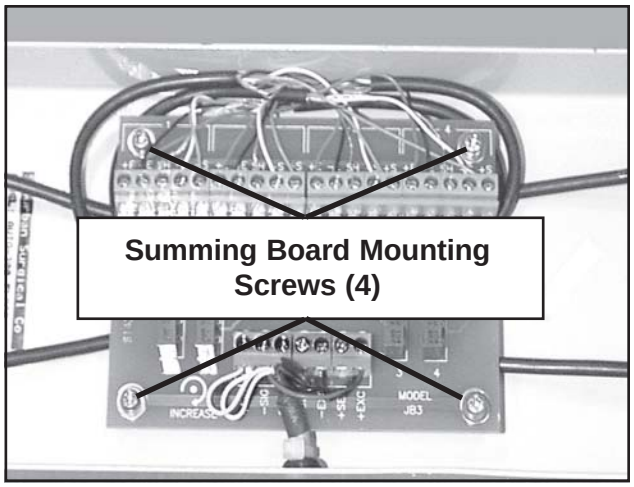

Figure 48. Summing Board - Mounting Screws

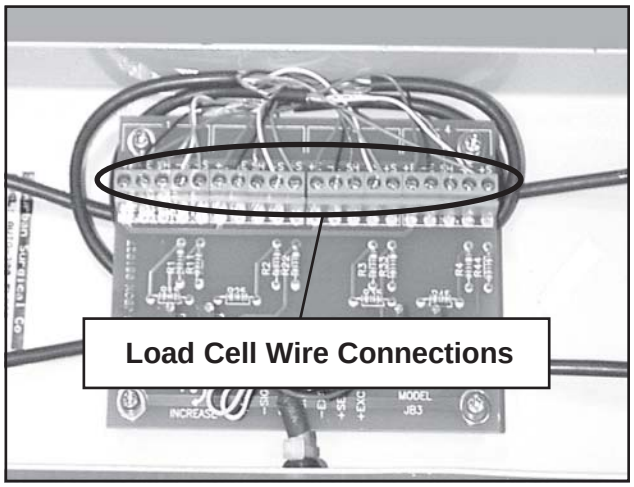

Figure 49. Summing Board - Load Cell Wire Connections

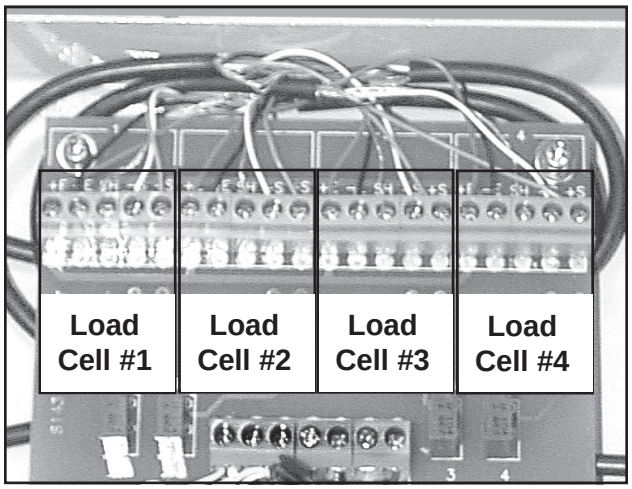

Figure 50. Load Cell Wiring Groups

3. Lift the stiffening board off the platform frame (Figure 33).

4. With a Phillips screwdriver, remove the four summing board mounting screws (Figure 48).

5. Refer to Figures 49 and 50 and disconnect the five wires that go to the load cell you are replacing. DO NOT disconnect wires to the other load cells.

6. Pull the load cell cable out through the two frame crossmembers (Figure 51).

7. With an adjustable wrench, remove the two hex screws that hold the load cell to the platform frame.

8. Turn the platform frame over so that the load cells are up.

9. Lift out the load cell and pull the cable out of the frame.

Note: You can continue to use your Regal 300 Scale even with one load cell removed. The scale will still give you reasonably accurate readings.

Installation

1. Slip the wires and cable from the new load cell though the grommet next to the load cell position (Figure 52).

2. Place the load cell in position and secure with the two hex screws removed above.

3. Route the cell cable through both frame crossmembers to the summing board (Figure 51). **Note:** If you have difficulty in passing the cable through the holes in the crossmembers, try this:
   a. Pry out both grommets from the holes in the crossmember.

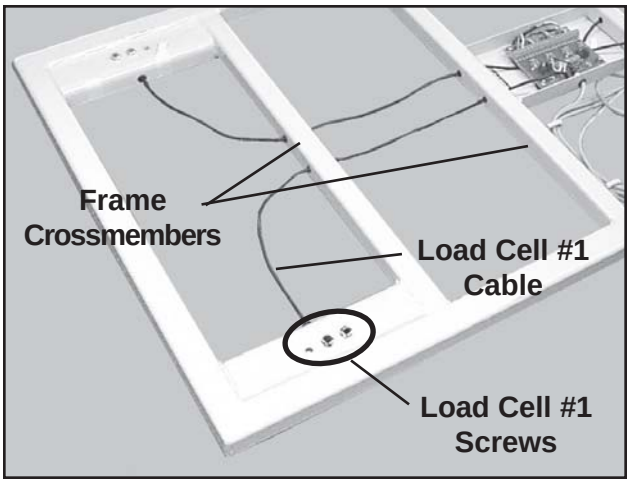

Figure 51. Removing Load Cell #1 Cable from the Frame Crossmembers

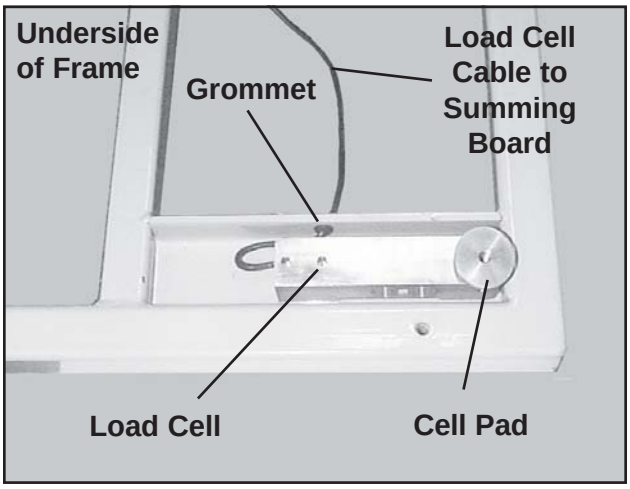

Figure 52. Typical Load Cell & Associated Parts

b. Slip one of the grommets onto the cable.
c. Slide the cable through both holes in the crossmember.
d. Push the grommet on the cable into the entry hole in the crossmember.
e. Slip the second grommet onto the cable.
f. Push this grommet into the exit hole in the crossmember.

4. Connect the wires from the cell cable to the appropriate terminals on the summing board (Figures 49 and 50).

5. Mount the summing board to the frame and secure with the four screws (Figure 48). **Note:** Tuck the wires from the load cell neatly under the summing board making sure that none are pinched or stretched.

6. Place the stiffening board on the platform frame.

7. Replace the scale top. Refer to *Scale Top* on *Page 38* and perform *Steps 4,* 5, and, *6*.

Comments:

Chapter 5 - Troubleshooting

General

The following procedures will help you fix most of the problems that you might encounter with the Regal 300 Electronic Scale. If necessary, please feel free to call SSCI Customer Service at (800) 323-7366. Our experienced personnel will be glad to help you.

For more information on contacting SSCI, refer to *SSCI Contact Information* on *Page 5*.

Part numbers for available replacement parts are shown in the table on *Page 35*. To order replacement parts, refer to *Parts Ordering Procedure* on *Page 36*.

Possible problems are listed below along with their page references:

If it is decided that your scale must be returned to SSCI for repairs, refer to *Returning the Scale for Repairs* on *Page 56* for directions.

Returning the Scale for Repairs

RMA Numbers

If your scale should require return to SSCI for repairs, discuss the problem with one of our Customer Service Representatives. Obtain an RMA number (Return Merchandise Authorization) from them before shipping the unit back. **Note:** Merchandise returned without an RMA number will not be accepted.

Packing and Shipment

Package the scale securely, and ship documentation with the scale including:

- Destination
- RMA Number
- Your name, company, and address
- Your telephone number
- A description of the reason for returning the scale

Troubleshooting Procedure

Overview

If your Regal 300 Scale malfunctions, follow the procedures below to isolate the problem.

Keep in mind that the most common cause of inaccurate readings is a loose display cable. If you are getting bad readings from the scale, make sure that the display cable is securely in place (Figure 53).

Basic System Test

1. Check the display cable connection at the console. Make sure it is fully seated (Figure 53).

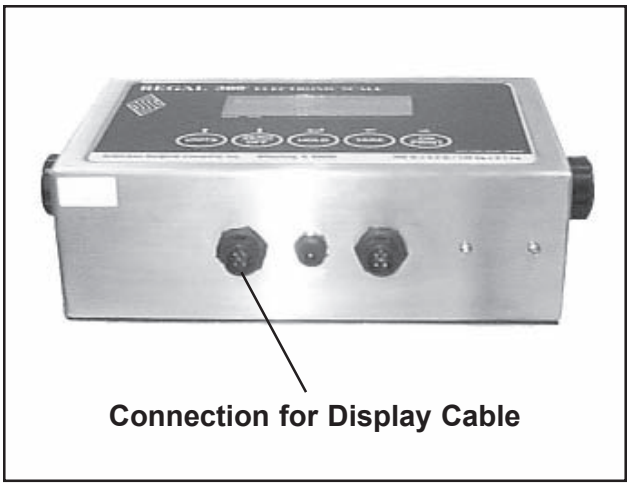

Figure 53. Display Console Display Cable Connection

2. Check that the five display cable wire connections are correctly terminated on the summing board (Figure 48). All five wires should be securely fastened in place. Give each one a slight tug to be sure it is not loose.

3. If the cable connections are OK, perform the A-D Test (Page 58). This test checks the complete scale.

   If the scale passes the A-D Test, re-calibrate the scale (*Page 30*). If the read out still sits on **0.0**, replace the display console.

If calibration fails with an Err2 message, perform the Load Cell A-D Test (Page 59).

If, during the A-D Test, the counts are unstable, check the battery and the AC adapter/charger. If the battery and charger appear OK, perform the Load Cell A-D Test (Page 59). If all load cells pass the test, replace the display console.

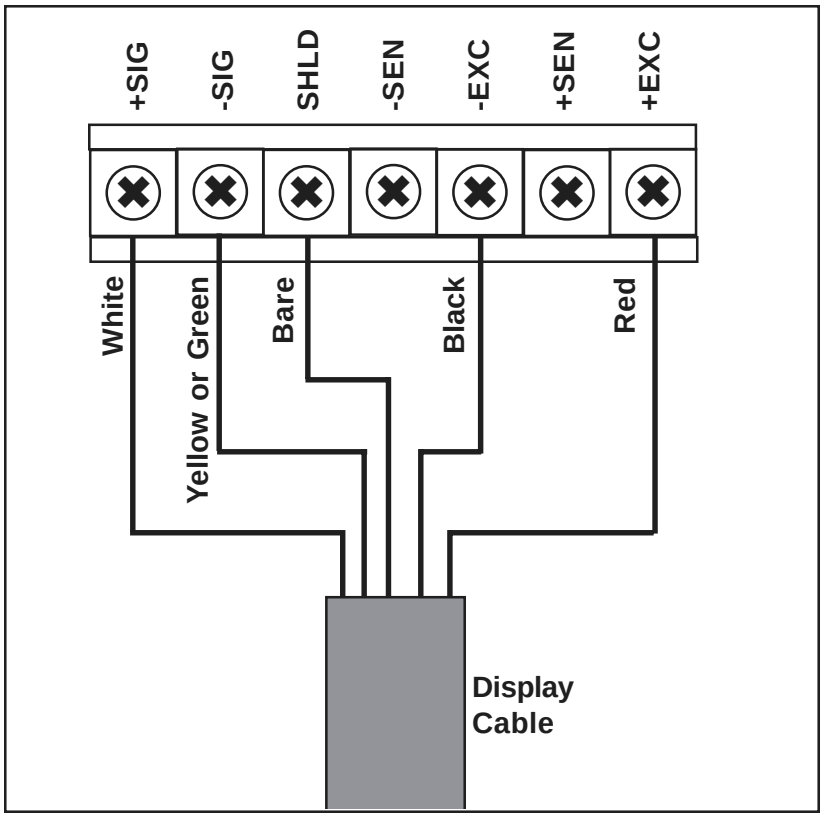

Figure 54. Display Cable Wire Connections to Summing Board Terminal Block

A-D Test

1. Turn the scale **OFF** and remove all loads from the platform.
2. Access the Mode switch (*Page 25)* and move it to the **PROGRAM** position.
3. Turn the scale **ON**.
4. Press the **TARE** key until **CAL** appears in the readout.
5. Press the **ZERO/OFF** key.
6. A number between 30,000 and 40,000 should be displayed on the readout. The number will quickly change up and down by a few digits but should not change by much. The symbol ◣◢ will appear on the lower left of the readout meaning that the count is stable.
7. Push down on the platform with your hand. You should see the display count increase. When you remove your hand, the displayed counts should go back to the number you saw in *Step 5* (within a few digits).

If the above result is what you see, the scale is probably OK. If not, a load cell is probably bad. Perform a Load Cell A-D Test (below) to isolate the bad cell.

Load Cell A-D Test

Perform the following steps to check the operation of the four load cells. The test involves disabling three cells at a time, and checking the scale readings for the remaining cell.

To identify load cell numbers and wiring, refer to Figures 55, 56, 57, and 58. **Note:** Perform the complete test. Do not stop if you find one bad load cell, but continue on to check all four cells.

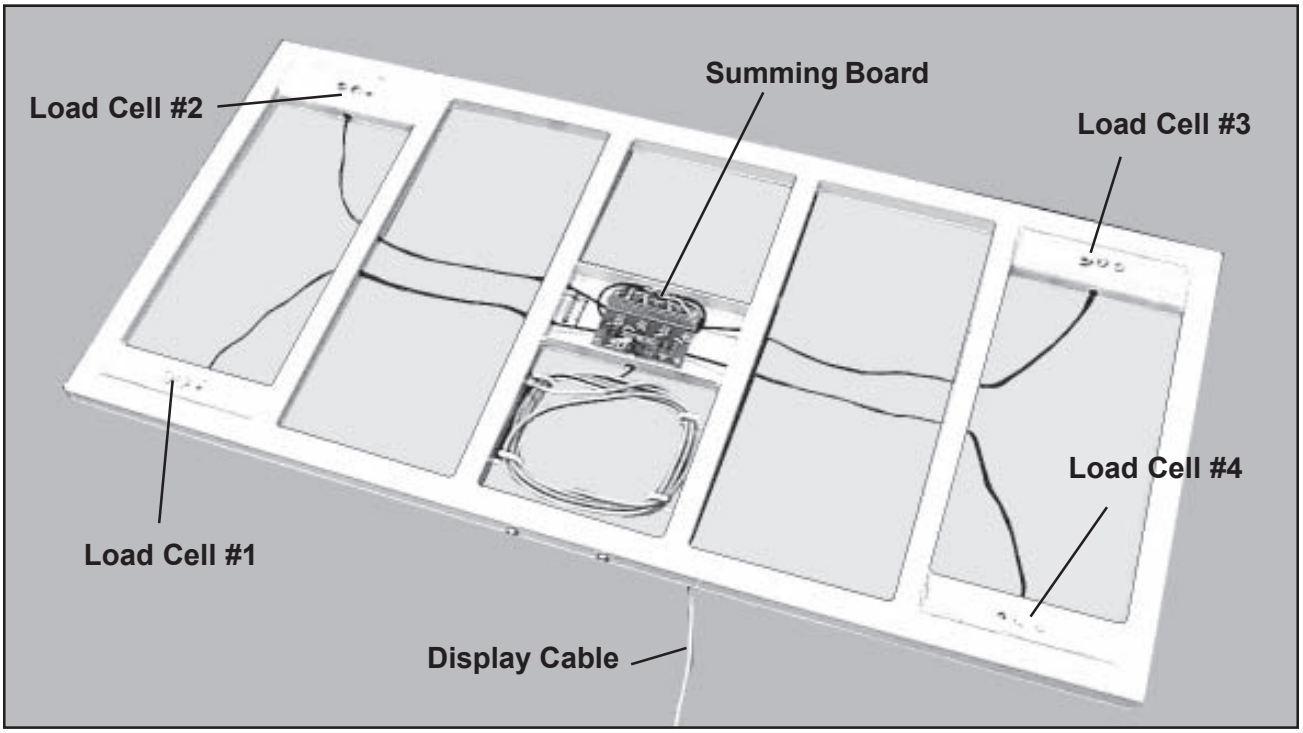

Figure 55. Overall View of Platform Frame, Load Cells, and Summing Board

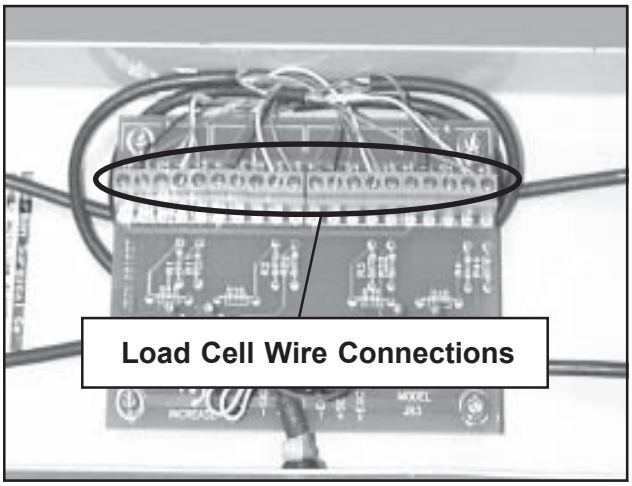

Figure 56. Summing Board - Load Cell Wire Connections

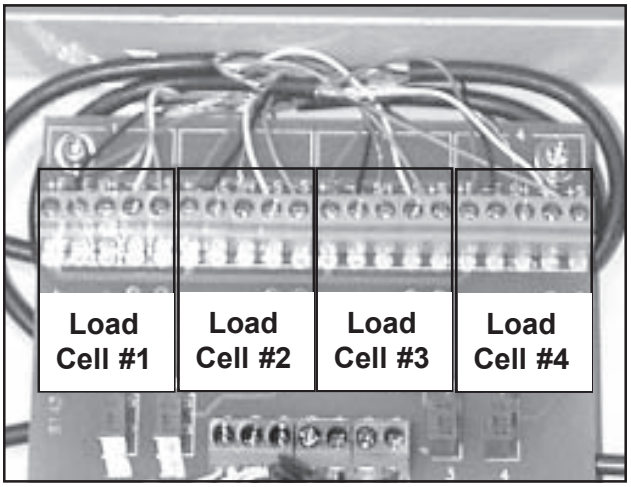

Figure 57. Load Cell Wiring Groups

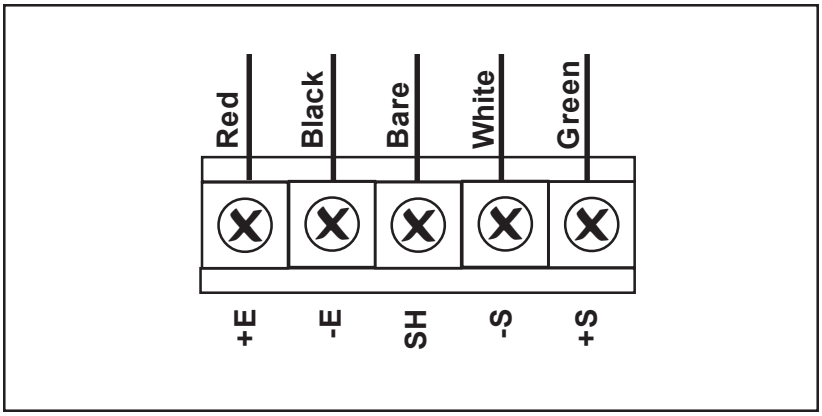

Figure 58. Load Cell Wire Connections to Terminal Block (same for all 4 Load Cells)

Check Load Cell 1

1. Turn the scale **OFF** and remove all loads from the platform.

2. Remove the scale top and stiffening board to access the summing board.

3. On the summing board, disconnect the green (+S) and white (-S) wires from the Load Cells 2, 3, and 4 connections.

4. Access the Mode switch (*Page 25)* and move it to the **PROGRAM** position.

5. Turn the scale **ON**.

6. Press the **TARE** key until **CAL** appears in the readout.

7. Press the **ZERO/OFF** key.

8. A number between 30,000 and 40,000 should be displayed on the readout. The number will quickly change up and down by a few digits but should not change by much. The symbol ◣◢ appears on the lower left of the readout meaning that the count is stable.

8. If the readout indicates within the 30,000 to 40,000 range, Load Cell 1 is OK. If the count is not within range, Load Cell 1 is bad.

Check Load Cell 2

1. Turn the scale **OFF**.

2. Reconnect the green (+S) and white (-S) wires to the Load Cell 2 connection.

3. Disconnect the green (+S) and white (-S) wires from the Load Cell 1 connection. Load Cells 1, 3, and 4 should now be disconnected, and Load Cell 2 connected.

4. Turn the scale **ON**.

5. Press the **TARE** key until **CAL** appears in the readout.

6. Press the **ZERO/OFF** key.

7. A number between 30,000 and 40,000 should be displayed on the readout. The number will quickly change up and down by a few digits but should not change by much. The symbol ◣◢ appears on the lower left of the readout meaning that the count is stable.

8. If the readout indicates within the 30,000 to 40,000 range, Load Cell 2 is OK. If the count is not within range, Load Cell 2 is bad.

Check Load Cell 3

1. Turn the scale **OFF**.

2. Reconnect the green (+S) and white (-S) wires to the Load Cell 3 connection.

3. Disconnect the green (+S) and white (-S) wires from the Load Cell 1 connection. Load Cells 1, 2, and 4 should now be disconnected, and Load Cell 3 connected.

4. Turn the scale **ON**.

5. Press the **TARE** key until **CAL** appears in the readout.

6. Press the **ZERO/OFF** key.

7. A number between 30,000 and 40,000 should be displayed on the readout. The number will quickly change up and down by a few digits but should not change by much. The symbol ◣◢ appears on the lower left of the readout meaning that the count is stable.

8. If the readout indicates within the 30,000 to 40,000 range, Load Cell 3 is OK. If the count is not within range, Load Cell 3 is bad.

Check Load Cell 4

1. Turn the scale **OFF**.

2. Reconnect the green (+S) and white (-S) wires to the Load Cell 4 connection.

3. Disconnect the green (+S) and white (-S) wires from the Load Cell 1 connection. Load Cells 1, 2, and 3 should now be disconnected, and Load Cell 4 connected.

4. Turn the scale **ON**.

5. Press the **TARE** key until **CAL** appears in the readout.

6. Press the **ZERO/OFF** key.

7. A number between 30,000 and 40,000 should be displayed on the readout. The number will quickly change up and down by a few digits but should not change by much. The symbol ◣◢ appears on the lower left of the readout meaning that the count is stable.

8. If the readout indicates within the 30,000 to 40,000 range, Load Cell 4 is OK. If the count is not within range, Load Cell 4 is bad.

Completion of Test

1. Turn the scale **OFF**.

2. Reconnect the green (+S) and white (-S) wires to the Load Cells 1, 2 and 3 connections. All four load cells should now be reconnected.

3. Return the Mode switch to **NORMAL** and replace and secure the switch cover (*Page 25*).

4. Replace the scale top and stiffening board.

If all load cells check out OK, the console is defective and must be replaced.

The scale will not turn on.

Remedial Action

First: Make sure the scale is **ON**.

Second: Make sure the battery is charged. Refer to *Charging the Battery* on *Page 20.*

Third: Make sure the AC adapter/charger is securely plugged into the wall socket and into the terminal under the console. Refer to *Charging the Battery* on *Page 20.*

Fourth: You may have blown a fuse. Refer to *Page 45*, under *Fuse - Removal, Steps 1* through *8*. Inspect the fuse and, if blown, replace it.

Fifth: If the steps above do not get the scale up and running, you may have a defective AC adapter/charger that is not charging the scale battery as it should.

Call SSCI and order a new AC adapter/charger, P/N 854740. Refer to *Page 40* for replacement instructions.

Sixth: If the scale still will not turn on, you probably have a bad display console.

Call SSCI and order a new display console, P/N 220100. Refer to *Page 37* for replacement instructions.

The scale turns on but will not display weight.

Remedial Action

First: Make sure the display cable is securely plugged into the bottom of the display console.

Second: The display cable may be bad. Inspect it to determine if it has been damaged in any way. If so, replace the cable.

Call SSCI and order a new display cable, P/N 854742. Refer to *Page 47* for replacement instructions.

Third: The display wire and load cell wire connections on the summing board may be loose. Access the summing board (refer to *Load Cell - Removal, Steps 1* through *4* on *Page 51*) and make sure that all wire connections on both terminal blocks are tight. Refer to the wiring diagrams in Figures 56 and 57 and reconnect or tighten any loose wire connections you find.

Fourth: Refer to *Troubleshooting Procedure* on *Page 57* and try to isolate the problem.

The scale displays the wrong weight.

Remedial Action

First: Make sure you are not trying to weigh loads heavier than the scale's maximum weight of 300 lbs. (136 kg). Placing weights greater than 300 pounds on the scale can damage the weighing mechanism.

Second: Make sure the battery is charged. Refer to *Charging the Battery* on *Page 20*.

Third: Make sure that the scale is not in an area subject to drafts from air conditioners, heating vents, or exterior doors. Exposure to temperature extremes can degrade the microprocessor's accuracy.

Fourth: Make sure that the scale is sitting on a level surface, does not rock, and that all four load cells are in firm contact with the floor or other mounting surface.

Fifth: Test the scale accuracy. Refer to *Testing the Scale Accuracy* on *Page 29*. If the scale does not pass the test, recalibrate the scale. Refer to *Calibrating the Scale* on *Page 30*.

Sixth: Refer to *Troubleshooting Procedure* on *Page 57* and try to isolate the problem.

The printer (optional) does not work.

Remedial Action

First: Make sure that the printer power cord is plugged into the rear of the printer (Figure 15), and that the extension cord is securely plugged into the printer transformer and a standard wall outlet.

Second: Make sure that the RS-232 cable (Figure 15) is securely connected to the printer and the correct terminal on the bottom of the display console.

Third: Make sure that the display console serial port is correctly configured to the printer (refer to *Configuring the Serial Port* on *Page 17*).

Fourth: If the scale is not in the Hold function (the **lb** or **kg** indicators are flashing), the reading is stable icon (◣◢) should be displayed. If not, put the scale in the Hold function with a weight on the scale, and try to print.

Fifth: The power cord transformer may be defective. Call SSCI Customer Service and order P/N 854746.

Sixth: If all the above actions do not cure the problem, the printer itself is probably bad. Call SSCI Customer Service and order P/N 220102.

The remote display (optional) does not work.

Remedial Action

First: Make sure that the remote display is turned **ON**. Refer to *Using the Remote Display* on *Page 24*.

Second: Make sure that the remote display power cord is securely plugged into the rear of the display (Figure 15), and a standard wall outlet.

Third: Make sure that the RS-232 cable (Figure 15) is securely connected to the remote display and the correct terminal on the bottom of the display console.

Fourth: Make sure that the display console serial port is correctly configured to the remote display (refer to *Configuring the Serial Port* on *Page 17*).

Fifth: The power cord may be defective. Call SSCI Customer Service and order P/N 854743.

Sixth: If all the above actions do not cure the problem, the remote display itself is probably bad. Call SSCI Customer Service and order P/N 220101.

Comments:

Inside back cover

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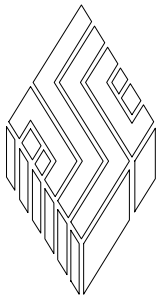
For more information on SSCI's fine line of products and accessories, talk to your SSCI sales representative.



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Form No. 702728 Rev. C 03/07