

SCALE-TRONIX

2001 BedScale

INSTRUCTION AND SERVICE MANUAL



APPLICABLE FOR SCALES WITH SERIAL NUMBERS 1200 AND HIGHER

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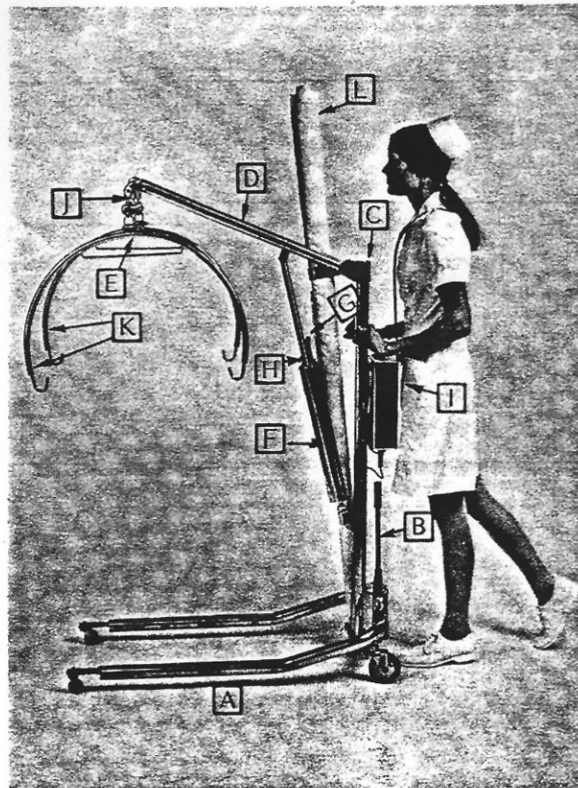
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INTRODUCTION

The instructions in this manual relate to the Scale-Tronix 2001 digital "Bedscale" patient weighing scale. The manual covers both the mechanical assembly and electronic sections of the scale.

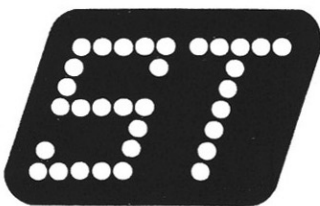
It is important that the manual be read thoroughly before attempting to install or operate the equipment. Serious damage to the equipment may result if this is not observed.

Keep this manual on file for future reference. Refer to the scale serial and model numbers in any correspondence with Scale-Tronix, Inc.



Throughout this manual the parts of your SCALE-TRONIX 2001 scale will be referred to by name and identified as follows (refer to figure above):

- A. The Special Low Profile Castered Base
- B. The Shifter Handle For The Base
- C. The Mast, With Steering Handle
- D. The Boom
- E. The Stretcher Frame That Supports The Stretcher Fabric
- F. The Hydraulic Pump Assembly
- G. The Pump Handle
- H. The Control Valve
- I. The Readout Console To Indicate Weight
- J. "U" Brackets Of The Stretcher Frame
- K. Rings Of The Stretcher Frame
- L. Fabric Stretcher Rolled Up In Storage Position.



SCALE-TRONIX, INC.

SCALE-TRONIX, INC.
Wheaton, Illinois
White Plains, New York

SECTION II OPERATION OF SCALE

I-A Operation

Brief operating instructions are contained on a label attached to the front of the read-out.

A. Determine Empty Stretcher Weight

It is critical to understand the importance of checking and adjusting the scale for the empty weight of the stretcher. The stretcher and bars weigh approximately 3.4 KG (or 7.5 LBS). The following procedure is used.

1. Attach the empty stretcher (with bars) to the 4 hooks on the stretcher frame.
2. Position stretcher to hang free and clear; must not touch anything.
3. If scale is equipped with switchable "POUNDS-KILOGRAM" option, select "POUNDS" or "KILOGRAMS" by means of small toggle switch located on bottom of read-out. With the switch handle positioned toward the operator, the scale will read out in KILOGRAMS. With the switch positioned away from the operator, the scale will read out in POUNDS. The mode selected, KG or LB, is indicated on the front panel by the position of the decimal point. The KG-LB label on the front panel tells which mode is selected — simply follow the line pointing to the decimal point to determine whether KG or LB is displayed.
4. Press the white button labeled "READ" and hold it down.
5. Adjust knob labeled "ZERO" slowly until display reads "00.0". NOTE: Scale will automatically shut off approximately 20 seconds after button is released.
6. Remove stretcher fabric and bars from frame hooks.
7. Press "READ" button and note reading after 3 seconds.
8. This is the actual weight of the stretcher fabric and bars (should be between -3 and -4 KG or -6 and -8 LBS). Record and

remember this value. Mark it on a piece of tape or label attached to top of mast or other convenient location. Note the minus sign indicating a negative value. This weight value is to be used to calibrate scale before each use. NOTE: Different types of stretcher fabrics will have different weights.

B. Weighing Patients

1. Place stretcher fabric under patient (with bars inserted). This is similar to the procedure of changing a bed sheet.
2. Position patient so heels are a few inches over one end of the fabric. This will properly position the patient to prevent tipping. Small children should be placed in the center.
3. Before attaching scale, press "READ" button to check for proper setting of scale. Adjust "ZERO" knob if necessary for a reading equal to the empty weight of the stretcher previously obtained. Be sure it is a "minus" reading so the value is subtracted. Be sure stretcher frame is not touching anything.
4. Move scale into position next to the bed with stretcher frame over patient (pump handle if necessary to raise frame).
5. There are two controls on the Pump Assembly: The Pump Handle (G) and the Control Valve (H). The valve is closed as it is moved toward the pump handle. With the control valve closed, the pump handle is moved up and down with slow strokes of even pressure, to raise the boom. The boom is lowered by opening the control valve, moving the control valve away from the pump handle. A safety gate is part of the hydraulic system that prevents sudden lowering of the boom regardless of how far the control valve is opened.

NOTE: The pump handle may be rotated to operate from either side of lift, right or left handed.

6. Spread the legs of the base with Shifter Handle (B). To do this grasp the shifter handle in one hand and place the opposite hand on the steering handle of the

mast for balance. Rotate the handle down to your right only to 45 degree position, not down parallel with the floor, to release the lock pin, then bring the handle towards you in a complete half-circle. The lock pin should insert into a hole in the plate to lock the legs in full open position and the shifter handle should once again be vertical. To close the legs to a narrow position, when necessary, or for storage, reverse this above procedure. If the shifter handle is not vertical (straight up or down), the lock pin is not seated in place.

NOTE: For maximum stability — and patient safety — operate this scale with the base legs in maximum open position and locked when weighing a patient.

7. Open control valve and gently lower stretcher frame over patient to attach stretcher bars to hooks in frame. Close control valve. Be sure all four (4) hooks are attached.
8. Gently operate the pump to raise patient clear of bed. Only an inch or two is required. Leave scale in position. Do not move patient while on scale. Do not move bed away from patient.
9. NEVER MOVE PATIENT AWAY FROM BED OR LEAVE PATIENT UNATTENDED.
10. When patient is free and clear of bed, side rails, etc., press "READ" button and wait for a stable reading (2-3 seconds). Stop patient from swinging if necessary. Scale will stay on approximately 20 seconds after button is released. It will then shut itself off automatically. The turn-off timer can be reset by pressing the button again during the ON period providing another 20 seconds of on time.
11. Read patient's weight when display stabilizes (2-3 seconds). If reading is unstable, stop patient from moving. Be certain any IV tubes, catheters, oxygen tubes, etc., are loose to prevent them from affecting weight reading.

12. Weight will be displayed directly in kilograms or pounds depending on how the read-out is internally programmed. Some scales have an optional selector switch on bottom of read-out allowing the operator to select kilograms or pounds easily.
13. When weight has been obtained, open control valve slowly, gently lowering patient back to the bed.
14. Close base legs with shifter handle.
15. Disconnect stretcher from stretcher frame hooks.
16. Close pump valve and pump up stretcher frame high enough to clear patient.
17. Move scale away from bedside.
18. Remove stretcher from under patient. Stretcher may be rolled up and stored on the shelf bracket located on base, and secured by the spring clip attached to the top of mast. This storage position is convenient while moving scale from room to room and for storage.

19. The control valve only requires gentle finger pressure to open and close. Do not force it in either position. Damage to the valve could result if excess force is applied.

20. NOTE: When battery voltage is too low for proper operation, display will blank out except for one decimal point. This indicates that the battery pack needs re-charging. Re-charge 8 to 12 hours before using. A safety interlock prevents the scale from operating while the battery pack is charging.
21. A certain amount of self-discharge occurs when the batteries are not used or charged. When first unpacked and set up, it is recommended that the batteries be charged overnight before use.
22. The scale should be plugged in to charge the batteries at all times when not in use to weigh patients. This insures freshly charged batteries at all times.

CAUTION

1. Frame contains delicate weight sensors. Do not bang into doors, elevators, etc. Damage may result causing the scale to shift off zero. This abuse is not covered by the warranty.
2. The scale is designed for static weighing of patients only. Scale must not be used as a patient lift or transfer. The delicate weight sensors can be damaged by moving scale with patient. This also voids the warranty.
3. Weight sensors are delicate and expensive to replace. Be careful!
4. DO NOT MOVE PATIENT AWAY FROM BED OR BED AWAY FROM PATIENT.
5. Do not attempt to lift bed with scale.
6. Do not leave patient unattended while in scale.

ACCESSORIES

The following items are available for use with the 2001 "Bedscale":

1. **Heavy duty stretcher fabric** made of plasticized nylon — "Staph-Chek" (trademark). Will not stain, easily cleaned.
2. **Disposable Covers.** Disposable stretcher covers are available. They will completely cover the stretcher and are packaged in rolls of 200. Recommended for incontinent patients, isolation, etc.
3. **Pediatric Stretchers and Bars.** Short stretchers (3½ ft.) and bars designed to fit down inside a crib.
4. **Additional Stretchers and Bars.** Extra stretchers and bars are available. Dialysis units usually leave stretchers under each patient who is weighed frequently.

II-B. Battery Charging and Replacement

1. Scale should be plugged into a wall socket (115 VAC/60 Hz) at all times when not in use. Battery pack will not be damaged on continuous charge.
2. Illuminated red dots (decimal points) in display window indicate batteries are charging.
3. NOTE: Scale will not operate (weigh) when plugged in for charging. This is a safety interlock feature.
4. Wrap power cord around hooks for convenience when using the scale. The charger should be hung from the top hook.
5. Charge time for fully discharged battery is 14 hours.

The battery pack used in the SCALE-TRONIX 2001 is a long lasting Ni-Cad rechargeable type. It is designed for over 1000 recharges. It cannot be over-charged or damaged when used with the special charger supplied with the scale. Do not use any other charger. Do not replace charger with a 115 VAC line plug. Damage to the instrument will occur if connected directly to 115 VAC line voltage. The special charger provides an isolated low voltage output of 12 VAC.

The battery pack contains sufficient energy for over 500 weighings between charges. To insure proper operation, however, it should be recharged every night. In fact, the scale should be plugged in at all times, except when in use to weigh patients.

It is wise to replace the battery pack before it is actually depleted. Annual replacement, although not necessary, is certainly recommended. Replacement battery packs are available only from SCALE-TRONIX INC. at nominal cost. These are special matched batteries. Replacement is quick and easy, requiring no special tools. Order battery packs direct from SCALE-TRONIX INC.

CAUTION

Do not plug in battery charger with battery pack unplugged from circuit board. Damage to the circuit board could result.

II-C Calibration

The scale is completely checked out and calibrated at the factory before shipping. It should not require calibration after assembly.

During normal use, the calibration of the Readout may be quickly checked by the "TEST" push button located on the bottom of the Readout. The proper procedure is as follows:

1. Turn scale on by pressing "READ" push button.
2. Press "TEST" on bottom of readout.
3. A reading of 99.0 to 101.0 KG (or 218 to 222 LBS) indicates proper calibration of the readout.

Periodic calibration checks can be made by placing accurate test weights in the center of the stretcher. Weights must be accurate test weights. Weights used for traction or physical therapy are not accurate enough for this purpose. The weight marked on these weights may vary from actual true weight by as much as 5-10%.

II-D Storage

The scale should be stored in a safe convenient location when not in use, such as a closet, storeroom or office with an AC (115 volt) outlet. Keep the scale plugged in at all times when not in use. Protect scale from abuse while stored.

The stretcher may be stored on the self-contained storage shelf and bracket provided. Simply roll stretcher tightly and place on end of shelf mounted on base near bottom of mast. Then clip top portion of stretcher into the spring clip mounted to top of mast. The stretcher will then store in a vertical position. This is also useful when scale is moved from one location to another.

II-E Maintenance

The SCALE-TRONIX 2001 is a very rugged scale requiring a minimum of maintenance.

The lift mechanism is designed and made to provide a maximum of safe, efficient and satisfactory service through many years of use with a

minimum of care and maintenance. All parts of the hydraulic pump are precision machined, then carefully assembled and tested to insure reliable service. The pump assembly is completely enclosed and sealed with Neoprene rings to prevent leakage of hydraulic oil. A small amount of oil (about a drop) will accumulate around the piston from time to time and this should be removed with facial tissue.

A soft cloth, dampened with water and a small amount of mild detergent, is all that is needed to clean the chrome finish of the scale. A polish with auto wax or furniture polish will help to maintain the sparkling finish of chrome over a long period of time. Remember ... clean and attractive equipment will do much to brighten the patient's spirits.

All parts of the scale are made of the best grades of steel, but even so the metal to metal contact in some parts will wear after considerable use. All sling metal parts should be inspected every three months and if wear is apparent a replacement should be made. If you question the safety of any part of the lift or scale, contact SCALE-TRONIX immediately and advise them of your problems. Casters and axle bolts require inspection every six months to be sure the axle nuts are tight, the caster swivels and rolls smoothly. A light grease (water-proof auto lubricant) may be applied to the ball bearing swivel of the casters once a year or more frequently if the casters are exposed to extreme moisture conditions.

The hydraulic pump is sealed at the factory and if service is required, the pump unit must be returned to the factory for repair ... please do not attempt to open the hydraulic pump or obtain local service as this will void the guarantee and might result in damage and costly repair. Consult your dealer or write the factory for information — this will very seldom be necessary but after many years of service the seals may require a replacement.

All stretchers are made of selected quality fabrics and will withstand repeated laundering and extensive use. The use of warm water and a mild detergent is suggested. Nylon and Open Mesh Nylon fabrics should be dried at a very low temperature if machine dried ... and treated as delicate fabrics. Nylon web straps should be hand laundered and air dried.

The Readout Console can be wiped clean with a soft damp cloth. Be careful not to wipe or press too hard on the readout window.

Contact the factory for electronic maintenance or problems. Problems are quickly diagnosed on the phone and repairs can be handled on an exchange basis for reasonable cost.

In returning any components to the factory, please use original shipping containers designed for the purpose.

If information is to be obtained by calling the factory, the serial and model number helps our service staff refer to the manufacturing records, calibration curves, special components, or other unique description for the particular scale.

II-F Special Instructions for "STAPH-CHEK" Stretchers

The heavy duty plasticized stretcher fabric made out of "STAPH-CHEK" material requires special care to insure long life. The following procedures and cautions must be followed.

1. Soil or stains that may accumulate on the fabric's surfaces should be removed periodically for a fresh, new appearance. "STAPH-CHEK" fabrics can be cleaned quickly and easily. Use neutral soap suds and lukewarm water. Then rinse with water and allow fabric to dry.
2. **HOW TO CLEAN SPOTS:** Standard household/vinyl cleaners such as "Fantastik" and/or a soft bristle brush can be used for removing troublesome spots or stains that will not come out easily. Heavy "dried on" soil and excreta may first require soaking to loosen. **DO NOT USE HARSH CLEANERS OR SOLVENTS.**
3. It is generally unnecessary to launder the "STAPH-CHEK" stretcher because of its easy soil release and self-sanitizing properties. When laundering is required, however, the following procedures of the International Fabricare Institute should be used:
 - A. Wash and rinse at temperatures not exceeding 100°F.
 - B. Can be extracted with centrifugal extractor.

C. Tumble dry in a steam (not gas!) dryer at 120°F maximum.

D. DO NOT IRON.

II-G Disposable Stretcher Covers

Plastic disposable stretcher covers are available to protect the standard nylon stretchers. The covers are packaged in rolls of 200. The covers are packaged in a self dispensing carton. The carton should be opened by cutting along one corner along the long dimension of the carton. Reach inside the carton and pull a cover out. Roll will stay inside carton and allow easy removal of the cover. Covers are perforated every 6 feet for easy tear-off (like a roll of "baggies"). The carton can be stored on a shelf or floor.

The cover is simply placed over the nylon stretcher. Hold one bar into the cornered and edge of the cover bag and shake other bar down to conform to the shape of the bag.

The stretcher is then used in the normal manner. The hooks of the stretcher frame simply punch through the bag. Remove and dispose of the bag when finished weighing.

II-H Warranty

SCALE-TRONIX, INC. warrants the 2001 scale to be free from defects in parts and workmanship. Its obligation under this warranty is limited to repairing or replacing an improperly operating unit, providing the scale has been under normal usage and service. The following terms and conditions apply:

1. The warranty period is for one year starting on the date of shipment to the purchaser.
2. The warranty covers parts and factory labor to repair the scale, except where parts failure is caused from abuse or misuse of the scale, or load sensors.
3. Notice of the alleged defect must be given during the warranty period and must state the model number, serial number, and date of purchase. The scale

or portion thereof is to be shipped prepaid back to the factory. The seller accepts no responsibility for loss or damage to any product or part in transit, nor will any claim be honored unless the product or part is received intact with no evidence of previous attempts at repair.

4. The seller's sole obligation under this warranty shall be, at its option to repair or replace or refund the purchase price of the equipment supplied if, any product or part thereof which proves to be other than warranted.
5. The obligation of SCALE-TRONIX INC. under this warranty does not include responsibility for any transportation expense of equipment or field labor and expenses that may be requested by the purchaser in lieu of returning the scale to the factory.
6. As with any precision electronic instrument, this scale may require periodic calibration to insure continued accuracy. It is recommended that the scale be checked on a periodic basis depending on amount of usage. The recommended interval ranges from six months to one year.
7. The seller shall not be responsible for:
 - (a) consequential, collateral, or special losses or damages.
 - (b) defects caused by fair wear and tear, abnormal conditions of use, accident, neglect or misuse.
 - (c) improper operating, maintenance, or repair.
 - (d) batteries.
8. This warranty and any obligation of liability shall cease and terminate immediately if:
 - (a) any unauthorized modification, alteration or substitution of any part or parts of the product is made; or
 - (b) the serial number of the product is altered or defaced; or
 - (c) the scale has been used for transporting patients or any other unauthorized usage.
9. No employee or agent of the seller has any authority to add to, subtract from or change any portion of this warranty and the seller's obligation is limited strictly to these terms as written and defined by the seller.
10. This warranty is the sole warranty of the seller and any other warranties expressed, implied in fact, are hereby specifically excluded.