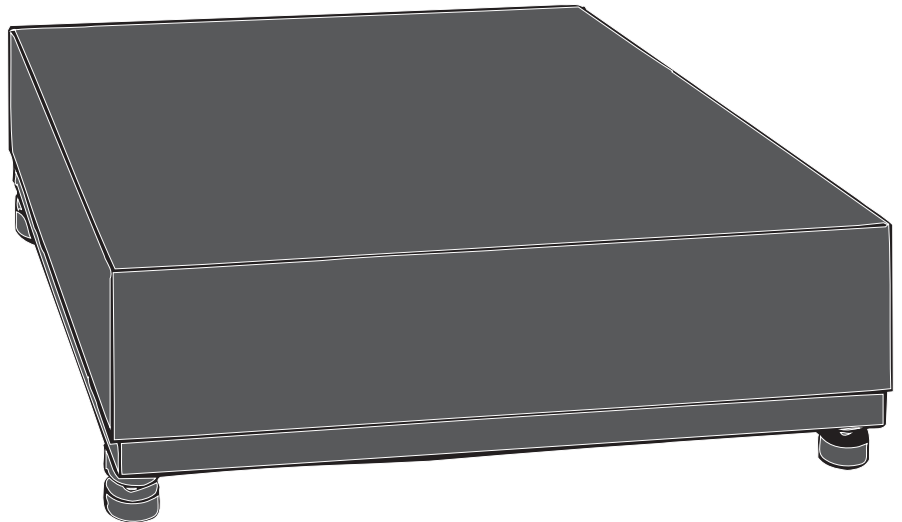




Series 7 Bench Scales

12794

Model 70-4070 (17" x 22")



50058-2

Amendment Record

Series 7 Bench Scales
Model 70-4070 (17" x 22")
50058 / SJ 4276-A

Manufactured by Fairbanks Scales Inc.
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DISCLAIMER

Every effort has been made to provide complete and accurate information in this manual. However, although this manual may include a specifically identified warranty notice for the product, Fairbanks Scales makes no representations or warranties with respect to the contents of this manual, and reserves the right to make changes to this manual without notice when and as improvements are made to the product.

SECTION 1: INTRODUCTION & DESCRIPTION

A. Introduction:

The 12794 platform is a load receiver designed for bench applications.

B. Description:

The 12794 platform is equipped with adjustable overload stops, neoprene shock absorbers, and adjustable neoprene feet. Measuring 17" x 22", the platform utilizes a beam-type strain gauge load cell to convert the applied force to an electronic signal for measurement by the Instrument.

C. Platform Specifications

<u>Model</u>	<u>Size</u>	<u>Maximum Capacity and Division Size</u>
12794 (70-4070)	17" x 22"	200 lb x 0.1 lb

Commercial acceptance for this product is 2000 divisions as listed above. Other non-commercial capacities and division sizes may be used, dependent upon the weighing instrument used.

D. Materials

The scale is constructed of carbon steel and is not designed to be used in wet or corrosive environments. The platform cover is removable to allow cleaning and inspection access.

E. Operating Requirements:

The following conditions are required for proper operation of this platform.

1. Grounding:

The instrument used should be grounded to a point having no more than 3 ohms resistance to true ground. The platform is grounded to the instrument via an outer shield in the load cell cable.

2. Operating Environment:

a. Temperature

Operating temperature range is 10° C to 40° C. Maximum rate of temperature change is 10° C/hour. Change in excess of this may affect weighing accuracy.

b. Humidity

10% to 95% non-condensing

c. Platform Installation

Platforms must be installed on a firm surface within 1° of level. Adjustable feet are features to aid in acquiring a level condition and to prevent platform "rocking".

SECTION 2: INSTALLATION

A. Site Selection:

The mounting surface should be firm and level

The platform should be located as far away as possible from heavy, low frequency vibrations

The load cell cable to the instrument must be protected

B. Installation:

Platform should be level and setting solidly on its feet before any adjustments are made

The platform is shipped assembled and can be bench or table-mounted.

C. Electrical Interface:

The interface connections between the platform and the instrument is via the 9-foot interface cable supplied on the platform which has a phone-type plug attached. If the instrument to be used does not have a phone-type connector then the plug must be removed. Cut the plug off, strip the cable leads, tin each lead, and make the connections to the instrument per the following table:

<u>Color</u>	<u>Description</u>
Black	(+) Excitation
Red	(-) Excitation
Green	(+) Signal
Yellow	(-) Signal
Blue	Not Used
Shield	Ground

D. Platform Leveling and Foot Adjustment:

The platform is equipped with adjustable feet to allow for variations in height and level.

- Remove the platform cover and observe the bubble-level indicator
- To adjust the feet, first loosen the locking nut at each foot and either screw or unscrew the feet in order to achieve the required level, observing the bubble centered in the level indicator
- The platform should rest solidly on its supporting surface without rocking
- Tighten the foot locking nuts after adjustments are complete

SECTION 3: CALIBRATION

A. Equipment:

The following equipment is required for calibration:

1. The weighing instrument to be used with the platform, rough-spanned to the installation, or
2. Test weights equivalent to at least 90% of the platform capacity in at least 25% and 50% capacity divisions (i.e. 200 lb. platform, weights equivalent to 50; 100; 150; and 200 lbs.)

B. Instrument Calibration:

The instrument must be calibrated to within ± 1 scale division. Refer to the appropriate instrument Service Manual for calibrating instructions; the following procedures are generalized.

1. With the instrument properly connected and the weighing system warmed up as required, apply and remove a test load equal to approximately 100% of capacity a few times.
2. Then apply a test load equal to 100% of capacity. If the instrument displays the correct weight within ± 1 scale division, perform shift tests, and or corner tests as prescribed by local weights and measures.
3. Adjust the instrument calibration until the the correct weight is displayed.
4. When the instrument repeatedly reads within ± 1 scale division of the applied weight the instrument is properly calibrated to this platform.

C. Platform Testing:

This platform is designed so that no covering is required. The platform should be checked (tested) using he following procedure:

1. Rezero the instrument if necessary.
2. Apply $\frac{1}{4}$ capacity test load to the center of the platform and record this reading.
3. Apply the $\frac{1}{4}$ capacity load to each corner in succession and note the instrument readings. If the readings vary from the reading recorded in Step 2 by more than ± 1 scale division then do the following:
 - Check overload stops.
 - Check for binds or foreign material under the scale.
 - Check the tightness of load cell mounting hardware.

If the problem and/or errors persist, replace the load cell.

D. Platform Overload Stops:

NOTE: Overload stops have been set at the factory, but their adjustment should be verified at installation.

Six overload stop bolts are located on the lower base frame. Their function is to protect the load cell from damage under an impact or overload condition. Refer to Figure 3-1 and adjust the overload stop bolts as follows:

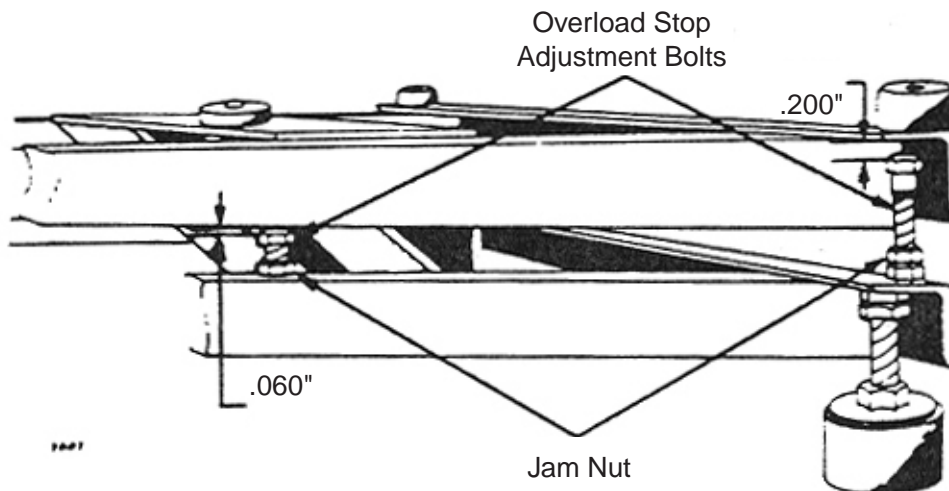


Figure 3-1: Overhead stop bolts

- Remove the platform cover from the platform
- Using a feeler gauge adjust the gap between the corner overload stop for .200"
- Adjust the gap at the center overload stops for a gap of .050"
- Tighten the locking nut at each adjustment making sure that the gap settings do not change

SECTION 4: MAINTENANCE

A. Overview and Restrictions:

General cleaning and surface maintenance may be performed by operating personnel. Service troubleshooting, adjustments, and repairs should only be performed by a qualified, Fairbanks trained service technician.

B. Platform Maintenance:

The overload stops should be examined and readjusted by a competent Scale Mechanic at six-month intervals according to instructions in Section 3. The spaces around the load cell frame and overload stops, etc. should be kept clean and clear of debris that could interfere with correct operation. Under no circumstances should any part of the platform be lubricated. At timely intervals, any nuts and studs securing the Platform to a bench or table should be checked and tightened if necessary.

C. General Troubleshooting:

The following troubleshooting guide is designed to isolate and identify the probable cause of any operating problems. Where Instrument service is recommended refer to the appropriate instrument service manual.

Locate your symptom, check the causes (easiest listed first) then remedies. Repair as needed being sure to verify that unit is fully operational after any repairs.

<u>Symptom</u>	<u>Cause</u>	<u>Remedy</u>
No weight display	load cell connection faulty	Check cable connection at instrument and platform
Erratic Weights	Debris between load cell and mounting surface	Clean
	Debris between overload stops and platform frame	Clean
	Excessive vibration	Remove source of vibration or move scale base
	Load not fully on platform	Position load completely on platform
	Overload stop out of adjustment	Check and adjust overload stops
	Platform not level within : $\pm 1.0^\circ$	Adjust the feet to level the platform
	Instrument faulty	Refer to appropriate Service Manual
Incorrect weights	Instrument out of calibration	Refer to appropriate Service Manual
	Instrument not at zero	Zero the instrument
	Overload stops out of adjustment	Check and adjust overload stops

D. Platform Assembly Troubleshooting:

Other than severe structural damage or incorrect setting of the overload stops, platform problems may usually be traced to the load cell or cabling. Proceed as follows:

1. Disconnect the cable leads from the instrument and use an ohm meter to measure impedances as follows:

<u>Test Points</u>	<u>Reading (ohms)</u>
Black to Red	350 + 5 - 40
Green to Yellow	350 ± 5
Any connections shield	infinity

2. If the impedances are all correct the load cell circuit is not shorted or broken.
3. If the impedances are not correct, the problem may be in the cable or the load cell. If a cable extension is used, disconnect it and test the load cell cable directly. Replace the load cell if it proves faulty.

E. Load Cell Replacement:

If the Load Cell needs replacing, the following procedure is to be followed:

- Remove power to the instrument
- Remove the platform cover.
- Remove the four allen screws securing the Top Frame Assembly to the load cell and set the assembly aside.
- Remove the load cell cable clamp from the Base Assembly.
- Turn the Base Assembly over and remove the four allen screws securing the load cell to the base.
- Install new load cell reversing the above procedure. Torque load cell mounting screws to 140 inch-lbs maximum.

CAUTION:

When replacing load cell be sure that the cable does not contact the top frame assembly as errors may result.

SECTION 5: ILLUSTRATED PARTS LIST

A. Parts List

<u>Item</u>	<u>Part #</u>	<u>Ref#</u>	<u>Description</u>
1	12794	4-54460-1	Scale Top Assembly Model 70-4070 (17" x 22")
2	12791	4-54455-1	Platform Weldment Assembly
3	12793	4-54458-1	Base Weldment Assembly
4	12877	3-54723-1	Load Cell Assembly 200 lb.
5	12788	3-54452-1	Platform Cover
6	11039	6A12056	Bullseye Level
7	12409	1-52807-1	Bumper Pad
8	12166	2-47438-1	Foot Assembly
9	10903	6P6025	Screw, Mach PH Phil 8 - 32 x .50
10	10312	6P1732	Washer, Plain #8
11	10115	6P414	Nut Hex Jam .375 -16
12	10457	6P2730	Screw, Cap Hex Hd .312 - 18 x 1.25
13	10114	6P410	Nut. Hex Jam .312 - 18
14	10456	6P2729	Screw, Cap Hex Hd .312 - 18 x 1.00
15	11263	2-24521-3	Clip, Cable
16	10901	6P6023	Screw. Mach PH Phil 8 - 32 x .312
17	N/A	6A6566-10	Screw, Cap Socket Hd .312 - 18 x .75
18	13132	1-55295-1	Clip, Ground

Exploded view: Model 70-4070

