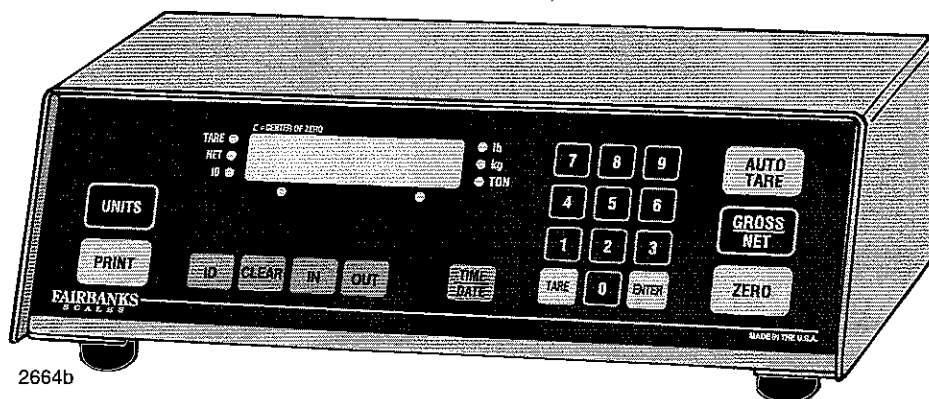


OPERATING MANUAL

Fairbanks® Scales

9201 "DATASOURCE" INDICATOR
Model 90-9201-3



2664b

BULLETIN 50141 / SJ4561 / Issue #3

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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

1.1 Introduction

The following sections explain the specifications, operating controls, indicators, and operating instructions for the Fairbanks 90-9200 Series Indicators. Programming of the instrument at the time of installation is necessary. These instructions assume that all of the equipment is properly installed and calibrated.

Read and understand this manual before power is applied to the instrument. A thorough understanding of all capabilities and procedures is essential for correct installation and operation of this equipment.

A. Modification

Absolutely no physical, electrical, or program modifications are to be made to this equipment. Electrical connections, other than those specified, may not be made and no physical alterations (mounting holes, etc.) are allowed. Alterations or modifications to the instrument may void any and all warranties.

B. Customer, Operator Responsibilities

It is the customer, operators' responsibility to maintain the equipment in good condition and operating order. This includes protecting the equipment from accidental or malicious damage. Failure to do some may void any and all warranties.

Other than the procedures authorized in this manual, no service, repair, or adjustment to the equipment may be made or performed by untrained personnel.

1.2 Instrument Location

The Instrument should be positioned away from direct sunlight which would make the display difficult to read.

1.3 Safety

As is the case with any material handling equipment, certain safety precautions should be observed during operation:

1. Never load the platform beyond its rated capacity. Refer to the rating on the serial number plate if in doubt.
2. Ensure that any structure which supports the platform is capable of withstanding the weight of the platform plus its rated capacity load.

3. Do not load the platform if there is any evidence of damage to the platform or supporting structure.
 4. Use safety chains or other suitable restraining devices if there is any possibility of the load shifting, falling, or rolling from its position on the load receiver.
 5. Do not leave the platform unattended when it is loaded.
-

SECTION 2: SPECIFICATIONS

2.1 Introduction

The 90-9201 instruments are simple to operate, Class III and IIIA, digital indicators that can be used in many applications. The indicators can be connected to a wide variety of platforms, up to a maximum of 500,000 pounds/kilograms. The indicator enclosure is of stainless steel construction for durability and lasting beauty. The indicator features output interface for both computers and printers.

2.2 Technical Specifications, All Indicators

1. Capacity
10,000 lb/kg by .001, minimum
500,000 lb/kg by 50, maximum
2. Division Size: Service programmable for 0.0005, 0.001, 0.002, 0.005, 0.01, 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50
3. Resolution:
10,000 divisions, commercial
20,000 divisions, non-commercial
4. Display:
six, 0.5 inch light emitting diode
5. Display Update Rate:
Programmable 0.4, 0.8, 1.2, or 1.6 seconds
6. Indicators
TARE, NET, ID, lb, kg, TON, center-of-zero
7. OVER and UNDER capacity warnings
8. Auto-Zero Tracking, Service Programmable:
disabled, 0.5d, 1.0d, or 3.0d
9. Service Programmable Units
lb, kg, lb/kg, tons
10. Zero Range, Service Programmable:
2% or 100% of capacity
11. Motion Band, Service Programmable:
0.5d, 1.0d, 2.0d, or 3.0d
12. Instrument Size:
11" long x 6" wide x 3.5" high
13. Mounting:
Desktop

14. Load Cells:
Up to eight, 350 ohm cells
Up to 16, 750 ohm cells
Load Cell Excitation: 15 volts

15. Input Specifications

- a. For single 350 ohm load cell
maximum signal input: 2.4 mV/V
maximum deadload: 1.1 mV/V
- b. For four 350 ohm load cells
maximum signal input: 1.5 mV/V
maximum deadload: .5mV/V

16. Sensitivity: 1.0 μ V/Division

Power Requirements

120/240 volt AC, \pm 10%, 50/60 cycle

Environmental Specifications

1. Operating Temperature:
- 10° to + 40° Celsius
2. Operating Humidity:
Non-condensing, not suitable for wash-down conditions
3. Storage Temperature:
- 20° to + 60° Celsius

2.3 Accessories

90-9201-3 Balance and Load Cell Diagnostic Box

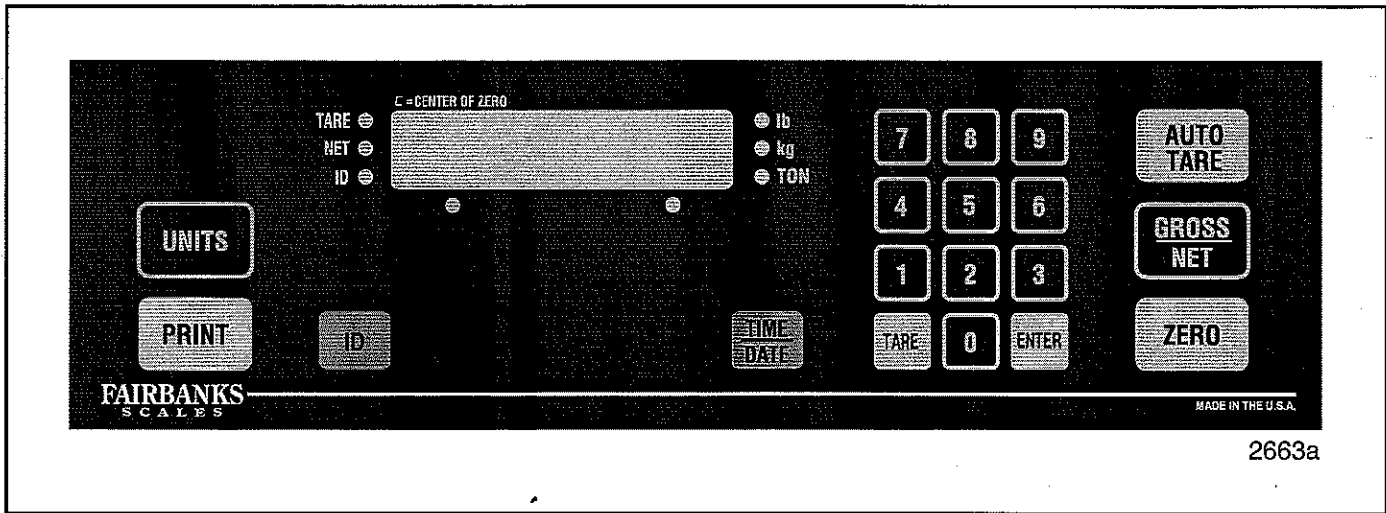


FIGURE 3-1: 90-9201-2 AND H90-9201-2 FRONT PANEL

SECTION 3: DESCRIPTIONS

3.1 Front Panel Keys

UNITS

Selects the units to be displayed, lb, kg, or tons

PRINT

When pressed, sends data to a printer and a computer.

ID

Used when entering an ID number.

**TIME
DATE**

Used when entering the time and date into the scale memory, or used to reset the ticket number.

TARE

Recalls the tare value presently in the scale's memory.

**AUTO
TARE**

When pressed, enters the value of the weight on the platform into the scale's memory as a tare weight.

**GROSS
NET**

Toggles the scale between the GROSS and NET modes.

ZERO

Zeros the scale. If there is weight on the platform, sets the weight to zero and turns ON the center-of-zero indicator.

0 through **9**

Used to enter numeric data from the front panel.

ENTER

Used to enter data into the scale's memory.

3.2 Indicators

Center of Zero

Indicates that the scale is set to zero.

TARE

Indicates the displayed number is a TARE weight.

NET

Indicates the displayed number is a NET weight.

ID

Indicates the displayed number is an ID number.

lb

Indicates the weight displayed is in pounds.

kg

Indicates the weight displayed is in kilograms.

TON

Indicates the weight displayed is in tons.

3.3 Back of the Instrument, All Models

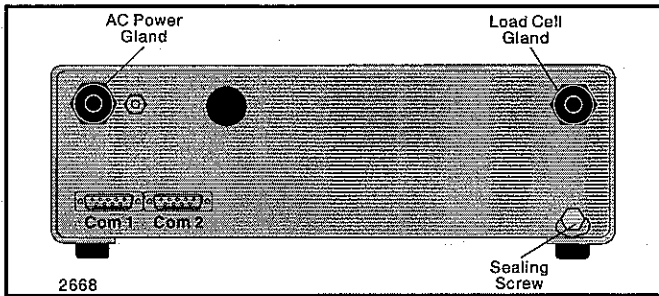


FIGURE 3-2: BACK OF 90-9201-2

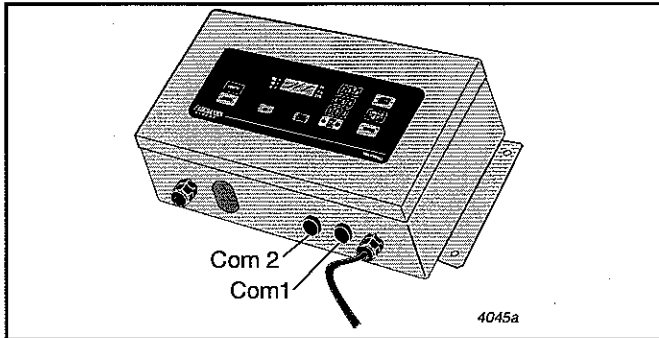


FIGURE 3-3: BOTTOM OF H90-9201-2

Load Cell Gland

Used to bring the load cell cable into the instrument.

AC Power Gland

Used to bring the AC power cable into the instrument.

COM 1

Computer output, used to connect to a computer terminal, RS 232.

COM 2

Printer output, used to connect to a printer, RS 232.

3.4 Typical System Connections

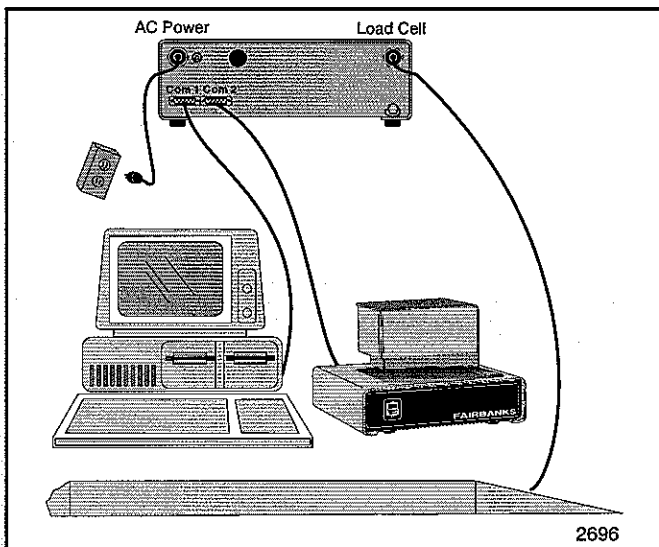


FIGURE 3-4: TYPICAL SYSTEM CONNECTIONS

3.5 Load Cell Connections

The load cell cable enters the indicator through the water tight gland on the back right corner. The cable **MUST** be installed with a ferrite bead on the cable. To install the cable:

1. Remove the outer insulation from about 6 inches of cable.

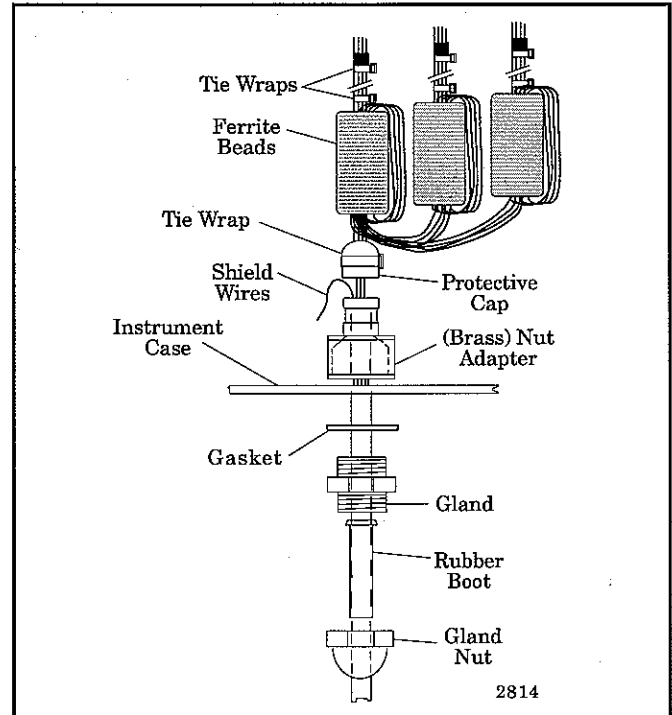


FIGURE 3-5: INSTALLATION OF LOAD CELL CABLE

2. Bring the dressed section of the cable through the water tight gland and tighten the outer gland nut.

NOTE

Three ferrite beads for the load cell cable are provided: one bead for + and - excitation, one for + and - signal and one for the sense leads, if used.

3. Bring each pair of load cell wires through the center hole of the ferrite bead twice. Bring the wires through the hole, over the outside of the bead, and through the hole a second time.

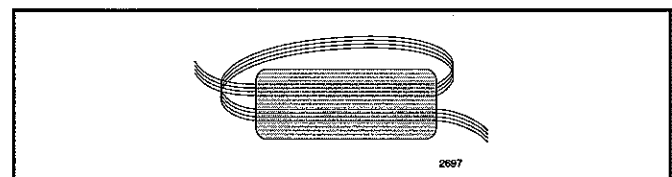


FIGURE 3-6: FERRITE BEAD

4. Dress the ends of each of the wires and connect them to TB1 as follows:

- 1 – Excitation
- 2 + Excitation
- 3 + Sense
- 4 – Sense
- 5 Not Used
- 6 Not Used
- 7 + Signal
- 8 – Signal

5. **Connect shields to brass nut on back of instrument.**

If sense leads are used:

1. Connect + Sense Lead to TB1-3.
2. Connect – Sense Lead to TB1-4.
3. Cut jumpers JP1 and JP2 on the main PC Board.

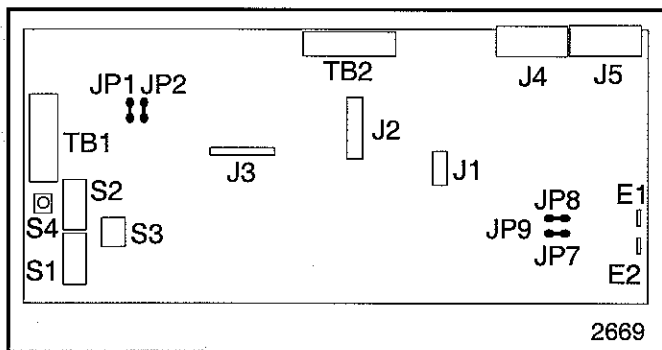


FIGURE 3-7: JUMPERS

3.6 230 Volt Power Supply Option

To change the scale from 115 volt operation to 230 volt operation:

1. Turn off AC power.
2. On the main PC Board, cut the links at JP7 and JP8.

CAUTION
Cut the links as close to the JP7 and JP8 legends as possible.

3. Bend the cut ends of the links back and reconnect across JP9.

CAUTION
Improper connection at JP9 can cause total failure of the instrument.

4. Solder the wires together across JP9.

3.7 Sealing the Scale

If the scale is to be used in a commercial application, it must be “placed in service” in accordance with the rules and regulations of the local weights and measures jurisdiction. Commercial applications are the buying and selling of products by weight, weighing for a charge, or using weight as the basis to charge for a service.

Once a scale has been calibrated and “placed in service” by a technician, it must be sealed with the proper sealing devices and reported to the appropriate weights and measures authority.

If the scale seal is broken or missing, the scale is no longer accepted as proper for commercial application.

For assistance in placing the scale in Service, contact the nearest Fairbanks Service Center.

To seal the instrument:

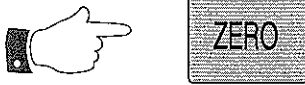
1. Locate the sealing bolt lower left corner, on the rear of the instrument.
2. Place the sealing wire through the hole in the bolt head and through the hole in the bottom of the instrument case, just below the bolt.
3. Bring the wire through the lead seal and crimp to secure the sealing wire.

SECTION 4: OPERATION

4.1 General Weighing

To start a weighing operation:

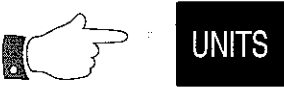
1.

Press the Zero Key. 



The display will show 

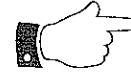
2.*

Press the Units Key until the desired units indicator is lighted. 

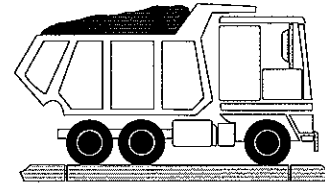
* The units can only be changed if lb/kg was selected in the programming step P0. Otherwise, the units key is disabled.

4.2 Gross Weighing

Press the Gross/Net Key until the NET indicator is OFF.



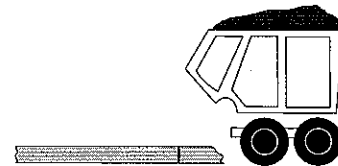
Drive the loaded truck onto the platform and stop.



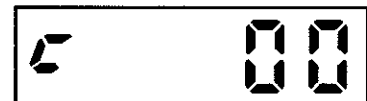
The display will show the GROSS weight.



Drive the truck completely off the scale.



The display will show



If it does not, press the Zero Key.



Repeat the operation.

4.3 Tare Weighing Using The Keypad

Press the Tare Key.



The display will show the last tare value entered into memory and the TARE indicator will come ON.



Enter the new tare value on the keypad.



As an example, 1-1-0-0-0



The display will show the new tare value.



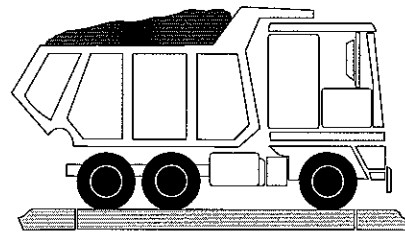
Press the Enter Key.



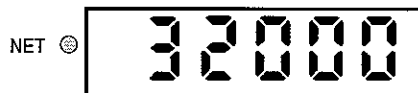
The display will show



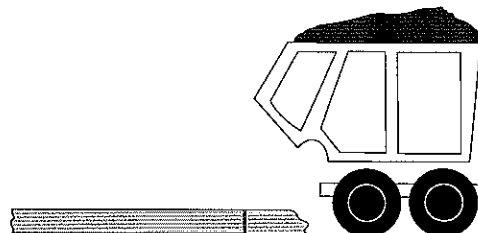
Drive the loaded truck onto the platform and stop.



The display will show the Net Weight and the Net Indicator will turn ON.



Drive the truck completely off the scale.



The display will show the last tare value entered into memory and the TARE indicator will come ON.



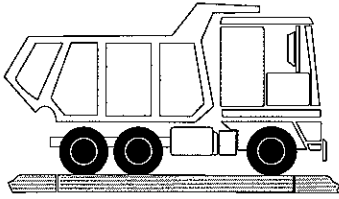
Repeat the operation.

4.4 Auto Tare Weighing

Press the Gross/Net Key until the NET indicator is OFF.



Drive the empty truck onto the platform and stop.



The display will show the TARE weight.



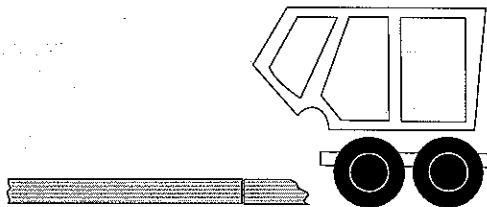
Press the Auto Tare Key.



The Net Indicator comes ON and the display shows



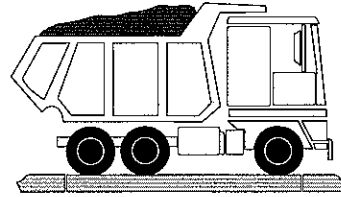
Drive the truck completely off the scale.



The display will show



Drive the loaded truck onto the platform, and stop.



The display will show the NET weight.



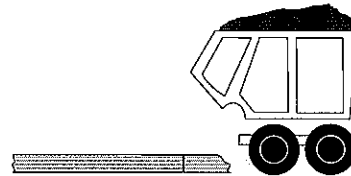
Press the Gross/Net Key until the NET indicator is OFF.



The display will show the GROSS weight.



Drive the truck completely off the scale.




Repeat the operation.



4.5 IN/OUT Weighing


A. Introduction

In/Out weighing allows an inbound truck to be weighed and a ticket printed. When the truck is weighed again, outbound, the inbound data is recalled and the ticket is overprinted with the outbound information in a Gross, Tare, Net format.

B. Operation

1. Zero the scale by pressing the  key.
2. Place a blank ticket in the ticket printer.
3. Drive the INBOUND truck onto the scale.
4. The operator MAY want to use a truck ID number to identify the truck. This is not necessary for the IN/OUT weighing, since the inbound recall is based on a loop number, automatically assigned during the inbound transaction.

If an ID number is used, press the  key. Enter the ID number through the keypad, and press the  key.

5. With the truck on the scale, press the  key. The printer will print an inbound ticket.


ID	250
LOOP #	2
INBOUND	8000 lb
01-01-93	03:04AM

INBOUND TICKET

The ticket will contain: ID, Loop number, inbound weight, date, and time.

6. The truck leaves the scale.


7. When the truck returns, outbound, place the IN-BOUND ticket back in the ticket printer. With the truck

on the scale, press the  key.

8. The display will flash the word "LOOP" and then show a zero. Enter the loop number that was assigned during the inbound weighing, and press the

 key.

9. The scale will switch to the NET weigh mode. Press

the  and the outbound, GROSS, TARE, NET ticket will be printed. The ticket printer will add the outbound time and date, ticket number, the gross weight, the tare weight, the net weight, the loop number and the ID number to the ticket.

TICKET	45
ID	250
LOOP #	2
INBOUND	8000 lb
01-01-93	03:04AM
01-01-93	03:06AM
LOOP #	2
20,300 lb	GR
8,000 lb	TA
12,300 lb	NT

OUTBOUND TICKET

NOTE







The larger of the IN/OUT weights will be printed as the GROSS weight and the lesser will be printed as the TARE weight. The NET weight is the difference between the two weights.

4.6 Stored Tares

There are two ways to store tares in memory, using the Auto Tare feature or entering a tare value through the keypad. When a ticket is printed, if the tare value was a stored value, an "*" will be placed beside the number.


A. Auto Tare

An auto tare is a weight value, entered into the scales memory, based on the weight on the platform, when the AUTO TARE key is pressed. This tare will be used in the GROSS, TARE, NET calculation for the outbound ticket. To enter an AUTO TARE:


1. Zero the scale by pressing the  key.
2. Drive the truck onto the scale and press the  key. The display will show "0", the NET indicator will turn ON.
3. Press the  key and an inbound ticket will be printed. The stored tare weight value will be assigned to the inbound ticket loop number and the weight value will be stored in the scale memory.
4. When the truck drives onto the scale, OUTBOUND, press the  key. Enter the loop number assigned on the inbound ticket and press the  key. The NET indicator will turn ON. Press the  key and an outbound ticket will be printed, showing GROSS, NET, TARE.


B. Keypad Tare





A keypad tare is a weight value, entered through the keypad and stored in the scale memory. This tare will be used in the GROSS, TARE, NET calculation for the outbound ticket. To enter a keypad tare:

- 1a. With the no weight on the scale, enter the tare weight value to be used through the keypad and press the  key.

or

- 1b. With a truck on the platform, enter the tare weight value through the keypad and press the  key.

2. In either case, the scale will be in Net mode. As the tare weight value is entered, the TARE indicator will turn ON. When the  key is pressed, the TARE indicator will turn OFF and the NET indicator will turn ON. The display will show the difference between the actual weight on the scale and the value entered through the keypad.

3. Press the  key and the inbound ticket will be printed, with the value entered through the keypad shown as a stored tare. The entered tare value is assigned to the loop number automatically.
4. When the truck drives onto the scale, OUTBOUND, press the  key. Enter the loop number assigned on the inbound ticket and press the  key. The NET indicator will turn ON. Press the  key and an outbound ticket will be printed, showing GROSS, NET, TARE.

NOTE

When a keypad tare is entered, a tare register number is assigned to the tare and the data is entered into memory. The data remains in memory until it is cleared from memory by the operator. The tare can be used over and over in transactions by recalling the assigned ID number.

4.7 Clearing Stored Data

A. Printing Stored Tares and Incomplete Transactions

A complete transaction consists of a first weight or tare, and a second weight. The first weight is called the Inbound weight.

A list of stored tares and incomplete transactions, in the indicators memory, may be printed. This list is useful if stored tares or incomplete transactions need to be cleared from memory. To print the list:

1. Place a piece of paper in the ticket printer.

2. Press the  key.

3. Press the  key.

4. The ticket printer will print a list of all the stored tares and incomplete transactions. The stored tares will be labelled "TARE" and the incomplete transactions will be labelled "INBOUND". The list will appear as follows:

2	ID	146	INBOUND	12000	lb
1	ID	2334	INBOUND	18000	lb
0		71			
1	ID	126	TARE	20000	lb
7					
2	ID	3	INBOUND	15960	lb
5					
3	ID	1412	TARE	22000	lb
7					

Column 1 = Loop Number

Column 2 = ID Legend

Column 3 = ID Number


Column 4 = Type of Incomplete Transaction


Column 5 = Weight


Column 6 = Units

B. Clearing Stored Tares

From time to time it will be necessary to delete the stored tares. To delete a stored tare:


1. Press the  key. The display will request a loop number.


2. Enter the loop number for the tare to be deleted through the keypad. Press the  key.


3. The NET indicator will come ON. Press the  key. The tare associated with the loop number entered will be deleted from the scale's memory.

C. Clearing Stored Inbound Weights (Incomplete Transactions)

Occasionally, it may be necessary to clear an incomplete IN/OUT transaction. An incomplete transaction is one when the inbound ticket was printed, but no outbound ticket was printed. To clear the stored inbound weight:

1. Press the  key. The display will request a loop number.

2. Enter the loop number for the incomplete transaction through the keypad, and press the  key.

3. The NET indicator will come ON. Press the  key and the transaction will be cleared.

SECTION 5: FRONT PANEL PROGRAMMING, TIME, DATE & TICKET NUMBER

Several parameters are programmed from the front panel. These parameters include the time, date, ticket number and printer output formats.

5.1 To Set TIME

Press the TIME/DATE Key.



The display will show



(TIME)



Then the display will show



where HH.MM is the time in hours and minutes. The “_” will be an “A” or a “P”.



Enter the correct time through the keypad.



Press the Time/Date Key to toggle “A”M or “P”M.



Press the Enter Key.



5.2 To Set DATE

The display will show



(DATE)



Then the display will show



where the MMDDYY is the month, day and year.



Enter the correct date through the keypad.




Press the Enter Key.




5.3 To Reset the Ticket Number


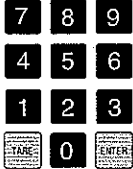
The ticket number can be reset to any number, up to six digits.

The display will show 
(TICKET NUMBER)





Then the display will show 

where the xxxx is the current ticket number.

Enter any number up to six digits through the keypad.  



Press the Enter Key.  



The instrument will now return to the Weigh Mode. The number entered will be the ticket number on the next ticket printed.

SECTION 6: FRONT PANEL PROGRAMMING

6.1 Format Printer Output, GROSS/NET Mode



A. Introduction

The ticket lay-out can be controlled through Front Panel Programming. A two digit number is entered to indicate the distance from the top of the ticket where the printed data will appear. A second two digit number is entered to indicate the distance from the right edge of the ticket where the first letter of the item will appear.

Default Ticket Format

There are two default ticket formats that can be used. One format is for the Fairbanks 50-3925 Ticket Printer and the other is for the Fairbanks 50-3930 Ticket Printer. Both formats are designed for use with the ticket form Cat. 083620. To select the correct format for the ticket printer to be used:

1. Enter the front panel programming mode and go to step F9.
2. At step F9, select "0000" for printer 50-3925 or "0001" for printer 50-3930.

3. Press the  key to store step F9. Then press the  key. The correct default format for the selected printer will be loaded.

WEIGHED ON A FAIRBANKS SCALE

CERTIFIED SCALE _____

CUSTOMER'S NAME _____

ADDRESS _____

COMMODITY _____

CARRIER _____

LOOP # 7 ID 0

INBOUND 14942 lb

INBOUND DATE 1-08-93 TIME 11:02 AM

OUTBOUND DATE TIME

DRIVER ON _____ OFF _____

SHIPPER _____

WEIGHER _____

FAIRBANKS SCALE CAT. 083620

2715d

INBOUND TICKET

WEIGHED ON A FAIRBANKS SCALE

CERTIFIED SCALE _____

CUSTOMER'S NAME _____

ADDRESS _____

COMMODITY _____

CARRIER _____

LOOP # 7 ID 0

INBOUND 14942 lb

INBOUND DATE 1-08-93 TIME 11:02 AM

OUTBOUND DATE 1-08-93 TIME 11:30 AM

LOOP # 7 ID 0

14943 lb GR

2300 lb TA

12643 lb NT

DRIVER ON _____ OFF _____

SHIPPER _____

WEIGHER _____

FAIRBANKS SCALE CAT. 083620

2715e


OUTBOUND, GROSS/TARE/NET

Default Location Printout

The current locations of the various items on both the Inbound and Outbound tickets may be printed out.

1. To print out the location of the items on the Inbound ticket:

a. Press the  key.


b. Press the  key.


c. Press the  key.

d. A printout showing the step number followed by a 4-digit location number will be produced.

2. To print out the location of the items on the Outbound ticket:

a. Press the  key.

b. Press the  key.

c. Press the  key.

d. A printout showing the step number followed by a 4-digit location number will be produced.

Default Settings, Inbound

Each item to be printed on the ticket has been given a default location. The ticket can be customized by changing the default location of the item. The character location defaults are:

50-3925 Ticket Printer			
Program Step	Item	Down	Over
F0	Print Size	00	01
F1	ID Number	28	10
F2	Loop Number	28	30
F3	Time	34	08
F4	Date	34	22
F5	Inbound Weight	30	30

50-3930 Ticket Printer			
Program Step	Item	Down	Over
F0	Print Size	00	01
F1	ID Number	21	14
F2	Loop Number	21	30
F3	Time	25	14
F4	Date	25	28
F5	Inbound Weight	23	30

The first two digits are the location of the line in inches and tenths and the second two digits are the location of first character in inches and tenths from the right edge. For example, 1620, the first character will be 1.6 inches down from the "top" of the ticket and 2.0 inches in from the "right" edge.

Since the default is non-inverted print, the ticket will be placed in the printer with the tear-off strip as the top edge. Thus, the default measurements are made from the tear-off edge and from the bottom edge of the ticket.

Other Printer Defaults:

"F0", Print Size, default 0001 = Non-Inverted Print, Large Size (see Note 4 on page 19)

Default Settings, Outbound

Each item to be printed on the ticket has been given a default location. The ticket can be customized by changing the default location of the item. The character location defaults are:

50-3925 Ticket Printer			
Program Step	Item	Down	Over
F0	Print Size	00	01
F1	ID Number	39	10
F2	Loop Number	39	30
F3	Time	36	08
F4	Date	36	22
F5	Ticket Number	15	20
F6	Gross Weight	42	30
F7	Tare Weight	44	30
F8	Net Weight	46	30
F9	Printer	00	00
10	Remote Display Legends	00	00

50-3930 Ticket Printer			
Program Step	Item	Down	Over
F0	Print Size	00	01
F1	ID Number	28	14
F2	Loop Number	28	30
F3	Time	26	14
F4	Date	26	28
F5	Ticket Number	13	24
F6	Gross Weight	30	30
F7	Tare Weight	31	30
F8	Net Weight	32	30
F9	Printer	00	01
10	Remote Display Legends	00	00

Other Printer Defaults:

"F0", Print Size, default 0001 = Non-Inverted Print, Large Size

"F9", Printer Type, default 0000 = 50-3925 or 0001 = 50-3930

"10", Legend and Remote Display, default 0000 = Print Legend, No Remote Display

B. Customizing Tickets

Tickets may be customized to meet the specific needs of a Customer.

To change locations of ALL of the lines of print on the ticket, change the right side stop, and/or the front/back stop. Changing the side stop will move all of the lines of print to the left. This stop can be changed up to about 1 inch. The front/back stop will move the print higher or lower on the ticket. This stop will move things up to about 1 inch.

To change the location of individual items on the ticket, the item location must be changed in the printer program. Each change is made in tenths of inches. It is suggested that incremental changes be made to the default setting,

rather than entering actual measurements derived from a ticket.

Getting Started

Press the TIME/DATE Key.



The display will show the current time.



Press the Enter Key twice.



The display will show the current ticket number.



Press the IN Key to format the Inbound portion of the Ticket.



OR

Press the Print Key to format the Outbound portion of the Ticket.



NOTES

1. Steps "F1" through "F4" are used on both the Inbound and Outbound Ticket.
2. Step "F5" is used on both the Inbound and Outbound Ticket, but has a different meaning in each case.
3. Steps "F6" through "10" are used on the Outbound Ticket only.
4. Step "F0", Print Format and Print Size, is selectable only when formatting the Outbound Ticket.

1. Print Format and Print Size

The display will show **F00x0x**

"F0" is the first format step, the first "0x" is the code for print and the second "0x" is the code for print size.



Enter your choice through the keypad from the list below.



- 0000 non-invert print, normal size
- 0100 inverted print, normal size
- 0001 non-invert print, large size
- 0101 inverted print, large size



If non-invert print is selected, the ticket is placed in the printer top edge first and the 1620 location is 1.6 inches down from the top and 2.0 inches to the left of the right margin.

If invert print is selected, the ticket is placed in the printer bottom edge first and the 1620 location is 1.6 inches down from the bottom and 2.0 inches in from the right edge. The data on the ticket will be printed in reverse order.

Press the Enter Key.



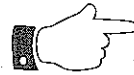
2. ID Number Location

The display will show **F1xxx**

where the first "xx" is the distance from the top edge of the ticket where the ID number will be printed, and the second "xx" is the distance from the right edge of the ticket.



Press the Enter Key.



OR

Enter the new choice through the keypad.



Press the Enter Key.



3. Loop Number Location

The display will show

F2 X X X X

where the first "xx" is the distance from the top edge of the ticket where the Loop number will be printed, and the second "xx" is the distance from the right edge of the ticket.



Press the Enter Key.



OR

Enter the new choice through the keypad.



Press the Enter Key.



4. Time Location

The display will show

F3 X X X X

where the first "xx" is the distance from the top edge of the ticket where the time will be printed, and the second "xx" is the distance from the right edge of the ticket.

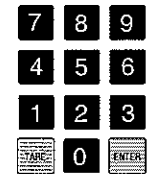


Press the Enter Key.



OR

Enter the new choice through the keypad.



Press the Enter Key.



5. Date Location

The display will show

F4 X X X X

where the first "xx" is the distance from the top edge of the ticket where the date will be printed, and the second "xx" is the distance from the right edge of the ticket.



Press the Enter Key.



OR

Enter the new choice through the keypad.



Press the Enter Key.



6. Inbound Weight Location, Inbound Ticket Number Location, Outbound

The display will show

F5 X X X X

where the first "xx" is the distance from the top edge of the ticket where the item will be printed, and the second "xx" is the distance from the right edge of the ticket.



Press the Enter Key.



OR

Enter the new choice through the keypad.



Press the Enter Key.



7. Gross Weight Location, Outbound

The display will show

F6 X X X X

where the first "xx" is the distance from the top edge of the ticket where the Gross Weight Parameter will be printed, and the second "xx" is the distance from the right edge of the ticket.



Press the Enter Key.



OR

Enter the new choice through the keypad.



Press the Enter Key.



8. Tare Weight Location, Outbound

The display will show

F7 X X X X

where the first "xx" is the distance from the top edge of the ticket where the Tare Weight Parameter will be printed, and the second "xx" is the distance from the right edge of the ticket.



Press the Enter Key.



OR

Enter the new choice through the keypad.



Press the Enter Key.




9. Net Weight Location, Outbound



The display will show **F8XXXX**

where the first "xx" is the distance from the top edge of the ticket where the Net Weight Parameter will be printed, and the second "xx" is the distance from the right edge of the ticket.



Press the Enter Key. 

OR

Enter the new choice through the keypad.  



Press the Enter Key. 





10. Printer Type

The display will show **F9XXXX**


where xxxx is the printer.



Enter your choice through the keypad from the list below.  

0000 for 50-3925 Printer
0001 for 50-3930 Printer



Press the Enter Key. 



11. Legend and Remote Display

The display will show

! 0 X X X X

where the first "xx" is the print legends, and the second "xx" is the remote display.



Enter your choice through the keypad from the list below.



0000 Prints the legends GR,TA, and NT, display on demand

0001 Prints the legends GR,TA, and NT, continuous display

0100 Do not print the legends, display on demand

0101 Do not print the legend, continuous display



Press the Enter Key.



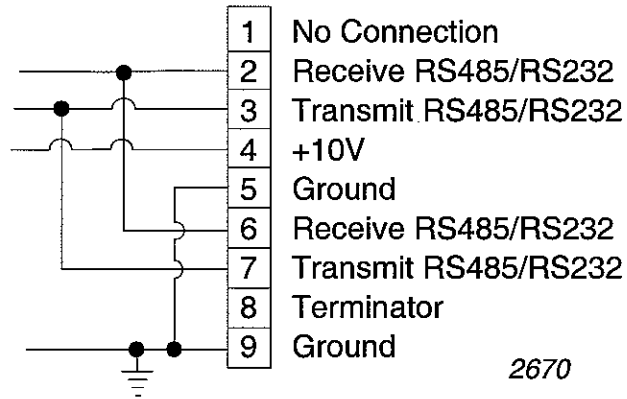
The indicator returns to the Weigh Mode.

APPENDIX I: 9201 OUTPUT PORTS

Com 2

9	Tx+ Current Loop
1	Tx- Current Loop
3	Tx Data RS-232
8	Clear to Send
5	Ground

Com 1



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APPENDIX II: 90-9201 COMPUTER OUTPUT

A. Interface Connections

The following table defines the pin numbers and the signals for the COM1 output connector on the Instrument.

Instrument Connector COM1 Pin	Signal	Connects To Computer or Auxiliary Device
3	Transmit Data Output	Receive Data Input
2	Receive Data Input	Transmit Data Output
5	Signal Ground	Signal Ground

NOTES

1. *Connections on Computer or Auxiliary Device may vary in sense or signal pin numbers.*
2. *All output drivers and receivers operate at RS232 signal levels.*

B. Character Frame

Characters are transmitted in an ASCII format at the selected Baud Rate. The receiver must be capable of $\pm 2.5\%$ Baud Rate to allow for line losses and frequency skew.

The character frame is programmed with a Character Length, Type Parity, and number of Stop Bits. The following is an example of using programming and the resulting character frame output.

Example:

*7 Bit Character Length
ODD Parity
Two Stop Bits*

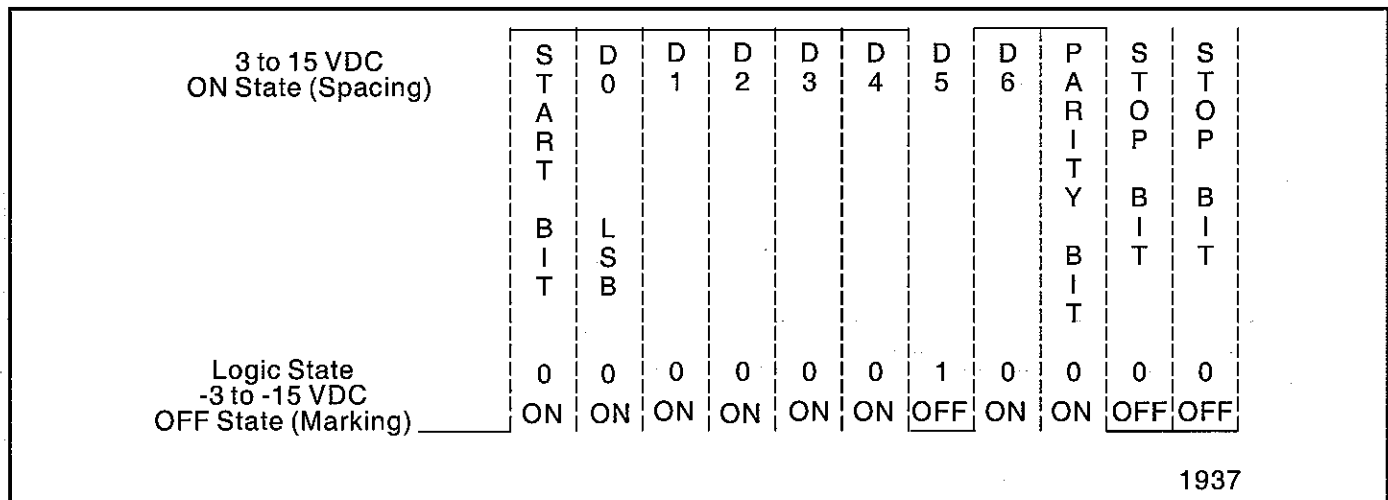


FIGURE 1: CHARACTER FRAME

2. Output Format for Demand and Auto Modes (Current Software)

Character Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
String 1															
Gross Weight (GR)	SP/-	Z	Z	Z	Z	Z	Z	SP	l/k/t	b/g/h	SP	G	R	CR	LF
Notes:	1,2,3,10,13,15														
String 2															
Tare (TA)	SP	Z	Z	Z	Z	Z	Z	SP/*	l/k/t	b/g/h	SP	T	A	CR	LF
Notes:	1,2,4,9,10,13,15														
String 3															
Net Weight (NT)	SP/-	Z	Z	Z	Z	Z	Z	SP	l/k/t	b/g/h	SP	N	T	CR	LF
Notes:	1,2,3,9,10,13,15														
String 4															
Ticket Number	SP/#	Z	Z	Z	Z	Z	Z	Z	Z	CR	LF				
Notes:	1, 7, 10, 13														
Character Number	1	2	3	4	5	6	7								
String 5															
	CR	LF													
Character Number	1	2	3	4	5	6	7	8	9	10					
String 6															
Time	Hour	Hour	:	Minute	Minute	P/A	M	CR	LF						
Notes:	5, 10, 13														
	Tens	Units		Tens	Units										
String 7															
Date	Month/Day	Month/Day	-	Day/Month	Day/Month	-	Year	Year	CR	LF					
Notes:	6, 10, 13														
	Tens	Units		Tens	Units		Tens	Units							
Character Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
String 8															
Identity Number	I	D	SP	Z	Z	Z	Z	Z	Z	Z	CR	LF			
Notes:	1, 13, 14														
String 9															
	L	O	O	P	SP	#	Z	Z	Z	Z	Z	Z	CR	LF	
String 10															
	SP	Z	Z	Z	Z	Z	Z	SP	l/k/t	b/g/h	SP	I	N	CR	LF
String 11															
End of Text Command	ET	CS													
Notes:	17, 18														

FIGURE 6: OUTPUT STRINGS (CURRENT SOFTWARE)

NOTES

1. Characters denoted by "Z" are characters 0-9. Leading zeroes are replaced with spaces (SP) except as noted. One weight data character can be a decimal point depending on the division size programmed.
2. Lower case "l" and "b" for Avoirdupois (English) Units, "k" and "g" for Metric Units or "t" and "n" for Tons.
3. First character will be a space (SP), HEX 20, if weight is positive or a minus (-), HEX 2D, if weight is negative.
4. Tares entered at the Instrument keypad are denoted by an asterisk (*) in the 8th character.
5. AM/PM legends are not transmitted if Military Time is selected. Characters CR and LF are shifted two character spaces to the left replacing AM or PM legends.
6. MM-DD-YY or DD-MM-YY are transmitted depending on program selection.

7. Transmission to computer will occur if the computer senses a carriage return.
8. Number sign (#), HEX 23, precedes the Most significant Digit (MSD) and all characters to the left will be SP.
9. Net weight and Tare strings consist of carriage return (CR) and line feed (LF) if transmission occurs in Gross weighing mode.
10. Characters that have an "/" in their location denotes that one or the other character shown will be transmitted.
11. CR and LF only will be transmitted if string is not enabled.
12. Trailing characters will be spaces (SP).
13. String will transmit CR LF during inbound operations using IN key.
14. Message is terminated by an END-OF-TRANSMISSION (ET) character, Hex 04.
15. A Check Sum (CS) character will be the last character transmitted if selected. The check sum is the last eight bits of the binary sum of all characters transmitted excluding the parity bit and up to the check sum character.

3. Continuous Modes Only

The output transmitted during the Continuous Mode of operation will be **one** of the following:

- a. Continuous Mode - No Decimal Point or Check Sum

Character Number						
1	2	3	4	5,6,7,8,9,10	11,12,13,14,15,16	17
SX	Status Word A	Status Word B	Status Word C	Displayed Weight	Tare Value	CR

- b. Continuous Mode - Check Sum and No Decimal Point

Character Number							
1	2	3	4	5,6,7,8,9,10	11,12,13,14,15,16	17	18
SX	Status Word A	Status Word B	Status Word C	Displayed Weight	Tare Value	CR	Check Sum

- c. Continuous Mode - Decimal Point and No Check Sum

Character Number						
1	2	3	4	5,6,7,8,9	10,11,12,13,14	15
SX	Status Word A	Status Word B	Status Word C	Displayed Weight	Tare Value	CR

- d. Continuous Mode - Decimal Point and Check Sum

Character Number							
1	2	3	4	5,6,7,8,9	10,11,12,13,14	15	16
SX	Status Word A	Status Word B	Status Word C	Displayed Weight	Tare Value	CR	Check Sum

The following three tables define the value of Status Word A, B, and C:

Status Word A								
Bit #	Decimal Point or Zero Location							
	x00	x0	x	x.x	.xx	x.xxx	x.xxxx	x.xxxxx
0	0	1	0	1	0	1	0	1
1	0	0	1	1	0	0	1	1
2	0	0	0	0	1	1	1	1
	Count by 1		Increment Size Count by 2		Count by 5			
3	1		0		1			
4	0		1		1			
5	Always Logic 1							
6	Always Logic 0							
7	Parity Bit							

Status Word B		
Bit #	Description	
0	Gross = 0	Net = 1
1	Positive = 0	Negative = 1
2	In Range = 0	Overcapacity = 1
3	No Motion = 0	Motion = 1
4	lb = 0	kg = 1
5	Always Logic 1	
6	Normal = 0	Power Up = 1
7	Parity Bit	

Status Word C		
Bit #	Description	
0	Always Logic 0	
1	Always Logic 0	
2	Always Logic 0	
3	Normal = 0	Print Switch Pushed = 1
4	Always Logic 0	
5	Always Logic 1	
6	Normal = 0	Keyboard Tare = 1
7	Parity Bit	

APPENDIX III: QUICK REFERENCE CHARTS

Front Panel Programming

Chart 1	
Program Step	Description
TIME	Hours and Minutes
DATE	Month, Day, Year
TICKET NUMBER	Reset Ticket Number

Format Printer Outputs, GROSS/NET Mode

Chart 2		
Program Step	Code	Description
F0	0000	non-invert print, normal size
	0100	inverted print, normal size
	0001	non-invert print, large size
	0101	inverted print, large size
F1		ID Number
F2		Loop Number
F3		Time
F4		Date
F5		Inbound Weight, Inbound Ticket Number, Outbound
F6		Gross Weight
F7		Tare Weight
F8		Net Weight
F9	0000	50-3925 Printer
	0001	50-3930 Printer
10		Legend and Remote Display
	0000	Print GR, TA and NT Legends, Display on Demand
	0001	Print GR, TA and NT Legends, Continuous Display
	0100	Do Not Print GR, TA and NT Legends, Display on Demand
	0101	Do Not Print GR, TA and NT Legends, Continuous Display

APPENDIX IV: INTERFACE TO PRINTERS & REMOTE DISPLAYS

A Interface Section: Printers

1. 50-3925 - Document Printer:

The following provides the switch settings for the 3925 Ticket printer. Use the printer manual in conjunction with this table. The cable Accessory #1254 is required to interface this to the 9201.

Function	Switch Block Located On Bottom of Printer Switch #:								
	1	2	3	4	5	6	7	8	9
2400 BPS	OFF	ON	ON						
4 Lines Per Inch				ON					
Line Space Setting					ON				
Print Line and Line Feed						OFF			
Normal Print Mode							ON		
Polarity of Busy (Low)								OFF	
Top of Form Busy									ON

These settings reflect printer setup using the Fairbanks Catalog 083620 Ticket. They are the settings used if the default mode is selected in the 9201.

2. 50-3930 - Document Printer:

Settings

The dip switches are located on the bottom of the printer. For use with the 90-9201, set the switches as follows:

Switch	Position	Description
1	ON	International Character Set
2	ON	
3	ON	
4	OFF	Bit Length (7 bit = ON, 8 bit = OFF)
5	OFF	Parity Check (ON = Enabled, OFF = Disabled)
6	ON	Parity (even = ON, odd = OFF)
7	OFF	Baud Rate
8	ON	
9	OFF	
10	OFF	Not Used, Always OFF

Cable Connections, Accessory 331 Cable

90-9201 (COM 2)	50-3930
DB 9 Pin Female	DB 25 Pin Male
3 Tx	3 Rx
8 CTS	20 DTR
5 GND	7 GND

B. Interface Section: Remote Displays

1. Fairbanks Model 1405 Remote Display

Order Accessory Kit #1256 Connector Kit.
Order Accessory Cable #1160 (by the foot).

Wire the cable as follows:

COM 2	
9201, DB9 Connector	1405 Terminal
Pin 1	2
Pin 9	1

At the remote display terminal connect black to terminal 2 and connect red to terminal 1. Depending on the weight display required refer to 1405 Manual to set S1 switches.

2. Fairbanks Model 1415 Remote Display

NOTE: The 1415 "Remote Print" and "Zero" keys will not operate with the 9201/9210. Place two switch covers (1-58776-1) on these keys.

Order Accessory Kit #1256 Connector Kit.
Order Accessory Cable #1160 (by the foot).

Wire the cable as follows:

COM 2	
9201, DB9 Connector	1415 Terminal
Pin 1	2
Pin 9	3
Pin 5	1