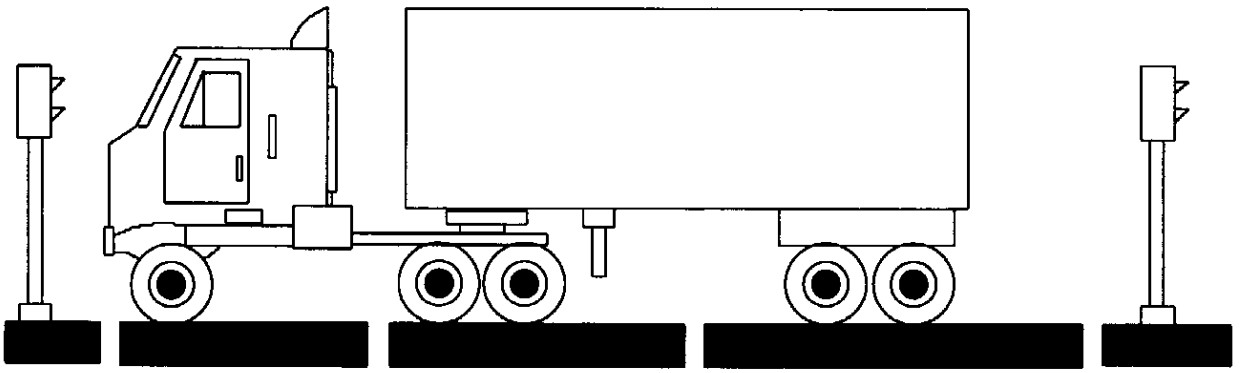
METTLER TOLEDO

TSM - 847D

KT665032MRJ

8146 TRUCKSTOP CONTROLLER

TECHNICAL MANUAL



SEP 1995

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TSM847 PROGRAM ARCHIVE HISTORY

DESCRIPTION:

THERE ARE SOME MAJOR CHANGES MADE TO THE STANDARD 8146 CODE TO ACCOMMODATE ALL OF THE CHANGES REQUIRED FOR THIS CUSTOM SYSTEM. THE FOLLOWING OPTIONS HAVE BEEN PERMANENTLY REMOVED FROM THE UNIT; BARCODE/SETPOINT/HOST. THE FOLLOWING OPTIONS HAVE BEEN ADDED TO THIS SYSTEM; AUDIT TRAIL, TICKET NUMBER OUTPUT AND BATTERY BACKED-UP CLOCK.

CREATED: 09/14/92
BY : SSF
(RENAMED TSM596M)

Revision:

A	ADDED THREE MORE 16 A/N CHARACTER DESCRIPTION LINES FOR PRINTING ON TICKETS.
B	REMOVED AUDIT TRAIL PRINTER OPTION AND ADDED CERTIFIED TICKET PRINTER OPTION.
C	ADDED COMMON FIELD MODE FOR CERTIFIED PRINTER.
D	MADE BACKDOOR PASSWORD WORK AT ALL TIMES.

MODIFIED 8146 DIGITAL INDICATOR
TRUCK PLAZA CONTROLLER MANUAL

8146 CUSTOM SOFTWARE DESCRIPTION OF OPERATION

The 8146 scale instrument has been custom modified to perform specific weighing functions for the Truck Plaza truck scales to allow the operator easy access to weight information needed to perform accurate weight transactions. The Truck Plaza Controller will perform AUTOMATIC and SEMI-AUTOMATIC truck weight transactions, along with a special mode to weigh standard semi's DOUBLE/TRIPLE trailers and moving vans. All transactions will print a customer configured ticket and accumulate the number of transactions and dollars collected. The system runs a hidden internal counter to keep track of all trucks that have stopped on the scale, for verification of funds collected. The system is capable of controlling optional traffic lights for truck sequencing, truck on scale alarm, and remote inputs for WEIGH and RE-WEIGH pushbuttons.

8146 CUSTOM OPTIONS

The truck plaza controller has special options available to enhance it's operation. The following is a list of options and their functions:

$	TRAFFIC I/O BOX	Provides Automatic Manual traffic light operation, remote weigh and re-weigh pushbuttons, and truck on scale alarm output.
$	AUDIT TRAIL PRINTER PORT	Provides an audit trail output of all transactions across the scale. See Appendix VII.
$	BATTERY PROTECTED CLOCK & CALENDAR	Provides accurate time and date maintenance even during power loss.
$	CONSECUTIVE NUMBER	Provides an output for a remote display or a printer to inform the driver of the "TICKET NUMBER" for their weigh ticket.

TRUCK PLAZA MODE OVERVIEW

STANDARD SEMI

SEMI-AUTOMATIC MODE:

When the scale is empty, the traffic lights will be Green, indicating that the system is ready for the next truck. When a truck pulls on the scale, the steering axle scale goes over the "THRESHOLD VALUE" (Setup Parameter), the traffic lights will turn Red. At this time the operator should press the WEIGH KEY (or Optional WEIGH Pushbutton) if this truck is being weighed for the first time, or the RE-WEIGH KEY (or Optional RE-WEIGH Pushbutton) if this truck has been weighed previously and is now being re-weighed. When either of these buttons is pushed, a ticket will be printed which may include the individual axle weights and the total truck weight. After the ticket prints, the exit light turns Green. When the truck exits the scale the entrance light turns Green, and the system is ready for a new truck.

AUTOMATIC MODE:

When the scale is empty, the traffic lights will be Green, indicating that the system is ready for the next truck. When a truck pulls on the scale, and the steering axle scale goes over the "THRESHOLD VALUE" (Setup Parameter), the traffic lights will turn Red. When the scales indicate no motion, the ticket will be printed, and the exit light will be turned Green while the entrance light remains Red. When all scales drop below the "Threshold Value", the entrance light will turn Green and the cycle can start again. If the system should get out of sequence (this might happen when a truck pulls onto the scales before the previous truck has cleared the scales), the system can be "RESET" by pushing the "R" key.

ID MODE:

The ID Mode of operation provides the operator the ability to Store the Total Weight of a truck for WEIGH-IN and Recall the stored weight for RE-WEIGH. The Gross-Tare-Net can then be printed out on the ticket. Up to 100 in-process trucks can be stored in the "SEMI-AUTO", "DOUBLE" and "TRIPLE" modes. An "IN-PROCESS TRUCK REPORT" is also maintained while in the ID Mode.

DOUBLE MODE: (5 AXLES TYPICAL)

In the Semi-Auto mode the operator may enter the Double Mode of weighment by pressing the corresponding key. The traffic light control will be a manual function, operated via a selector switch by the operator. The operator instructs the driver to position the tractor on scale platform 1 and 2. (Steering & Drive)

The operator can select in scale platform #1 by pressing the <1> key followed by <ENTER>. (Platform Showing 3000) (Steering Axle) the main display shows [DBL1 3000 LB].

The operator can select in scale platform #2 by pressing the <2> key followed by <ENTER>. (Platform Showing 5000) (Drive Axle). The main display shows [DBL 2 8000 LB] sum of platforms 1 & 2.

The operator instructs the driver to move the truck up, to position the first trailer axle on scale platform #1, the pup axle on scale platform #2 and the second trailer axle on scale platform #3.

(FIRST TRAILER AXLE)

The operator can select in scale platform #1 by pressing the <1> (Platform Showing 5000 LB). The main display shows [DBL 1 13000 LB} sum of platforms 1-2 & 1.

(PUP OR STEERING AXLE)

The operator can select in scale platform #2 by pressing the <2> key followed by <ENTER>. (Platform Showing 4000 LB). The main display shows [DBL2 17000 LB] sum of platforms 1-2-1-2.

(2ND TRAILER AXLE)

The operator can select in scale platform #3 by pressing the <3> key followed by <ENTER>. (Platform Showing 5000 LB. The main display shows [DBL 3 22000 LB] sum of platforms 1-2-1-2-3.

The operator can then print the weighment by pressing the <Weigh> key or print a re-weighment using the <Re-Weigh> key.

NOTE: A maximum of eleven axles can be summed at one time.

TRIPLE MODE: (7 AXLES TYPICAL)

In the semi-auto mode the operator may enter Triple Mode of weighment by pressing the corresponding key. The traffic light control will be a manual function, operated via a selector switch by the operator. The operator instructs the driver to position the tractor on platforms 1 & 2. (Steering & Drive).

(STEERING AXLE)

The operator can select in scale platform #1 by pressing the <1> key followed by <ENTER>. (Platform Showing 3000). The main display will show [TRI 1 3000 LB].

(DRIVE AXLE)

The operator can select in scale platform #2 by pressing the <2> key followed by <ENTER>. (Platform Showing 5000). The main display will show [TRI 2 8000 LB] i.e. sum of platforms 1 & 2.

The operator instructs the driver to move the truck up to position the first trailer axle on scale platform #1 and the 2nd trailer steering axle (PUP) on scale platform #2.

(1ST TRAILER AXLE)

The operator can select in scale platform #1 by pressing the <1> key followed by <ENTER>. (Platform Showing 5000). The main display shows [TRI 1 13000 LB] the sum of platforms 1-2-1.

(2ND TRAILER STEERING AXLE)

The operator can then select in scale platform #2 by pressing the <2> key followed by <ENTER>. (Platform Showing 6000 LB). The main display will show [TRI 2 19000 LB] the sum of platforms 1-2-1-2.

The operator then instructs the driver to pull up and positioning the 2nd trailer axle on platform #1, the 3rd trailer steering axle on platform #2, and the 3rd trailer axle on platform #3.

The operator proceeds as in earlier steps by pressing <1> enter, <2> enter and <3> enter, to enter the platform weights into the system.

Next the operator presses either <WEIGHT> or <RE-WEIGH> to print the ticket. The 7 axles plus total, keyboard I.D.>, time/date, etc., will print.

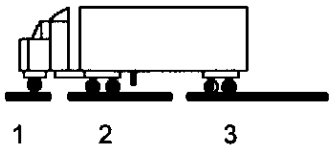
A maximum of eleven axle(s) weights can be accumulated and printed.

TRUCK PLAZA SEMI AUTO MODE (WEIGH)

I. STANDARD: ONE WEIGHMENT REQUIRED

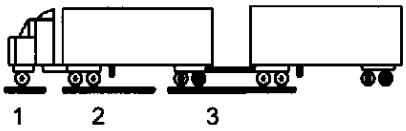
NOTES: PRESS <ZERO> KEY BEFORE TRUCK BOARDS SCALE IF REQUIRED.

1) PRESS <BASIC ID>
2) KEY IN TRUCK ID
3) PRESS <ENTER>
4) PRESS <WEIGH>, (PRINT TICKET) READY FOR NEXT TRUCK.

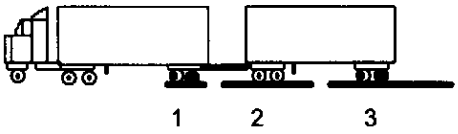


II. DOUBLE: TWO WEIGHMENTS REQUIRED

1) PRESS <BASIC ID>
2) KEY IN TRUCK ID
3) PRESS <ENTER>
4) PRESS <DBL>
5) PRESS: 1, <ENTER>, 2, <ENTER>
6) SIGNAL DRIVER TO POSITION #2
7) PRESS: 1, <ENTER>, 2, <ENTER>, 3, <ENTER>
8) PRESS <WEIGH>, (PRINT TICKET) READY FOR NEXT TRUCK.



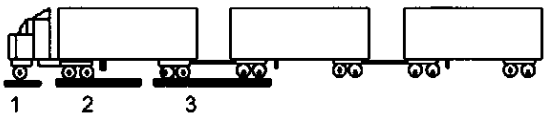
POSITION #1



POSITION #2

III. TRIPLES: THREE WEIGHMENTS REQUIRED

1) PRESS <BASIC ID>
2) KEY IN TRUCK ID
3) PRESS <ENTER>
4) PRESS <TRI>
5) PRESS: 1, <ENTER>, 2, <ENTER>
6) SIGNAL DRIVER TO POSITION #2
7) PRESS: 1, <ENTER>, 2, <ENTER>
8) SIGNAL DRIVER TO POSITION #3
9) PRESS: 1, <ENTER>, 2, <ENTER>, 3, <ENTER>
10) PRESS <WEIGH> (PRINT TICKET) READY FOR NEXT TRUCK.



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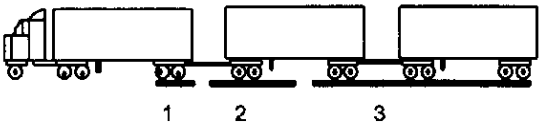
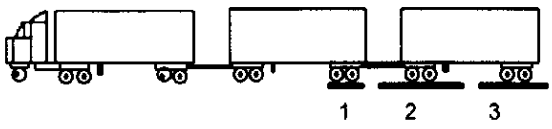


POSITION #2



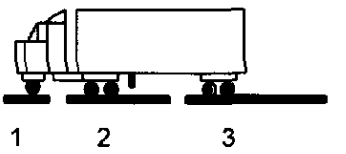
POSITION #3

TRUCK PLAZA SEMI AUTO MODE (RE-WEIGH)

I. STANDARD: ONE WEIGHMENT REQUIRED

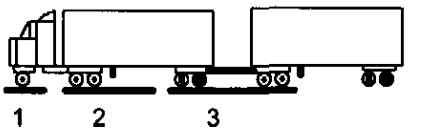
NOTES: PRESS <ZERO> KEY BEFORE TRUCK BOARDS SCALE IF REQUIRED.

1) PRESS <BASIC ID>
2) KEY IN TRUCK ID
3) PRESS <ENTER>
4) PRESS <RE-WEIGH>, (PRINT TICKET)
READY FOR NEXT TRUCK.

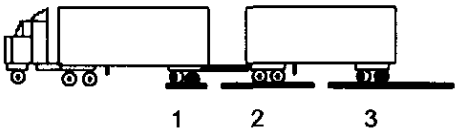


II. DOUBLE: TWO WEIGHMENTS REQUIRED

1) PRESS <BASIC ID>
2) KEY IN TRUCK ID
3) PRESS <ENTER>
4) PRESS <DBL>
5) PRESS: 1, <ENTER>, 2, <ENTER>
6) SIGNAL DRIVER TO POSITION #2
7) PRESS: 1, <ENTER>, 2, <ENTER>, 3, <ENTER>
8) PRESS <RE-WEIGH>, (PRINT TICKET)
READY FOR NEXT TRUCK.



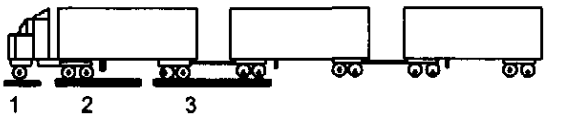
POSITION #1



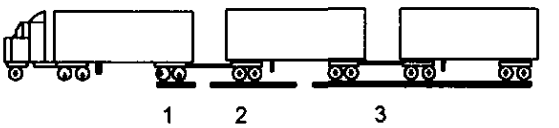
POSITION #2

III. TRIPLES: THREE WEIGHMENTS REQUIRED

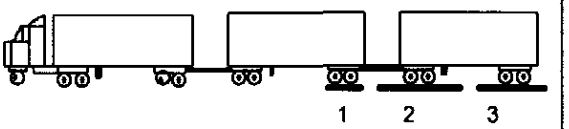
1) PRESS <BASIC ID>
2) KEY IN TRUCK ID
3) PRESS <ENTER>
4) PRESS <TRI>
5) PRESS: 1, <ENTER>, 2, <ENTER>
6) SIGNAL DRIVER TO POSITION #2
7) PRESS: 1, <ENTER>, 2, <ENTER>
8) SIGNAL DRIVER TO POSITION #3
9) PRESS: 1, <ENTER>, 2, <ENTER>, 3, <ENTER>
10) PRESS <RE-WEIGH> (PRINT TICKET)
READY FOR NEXT TRUCK.



POSITION #1



POSITION #2



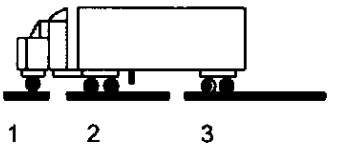
POSITION #3

TRUCK PLAZA ID MODE (WEIGH)

I. STANDARD: ONE WEIGHMENT

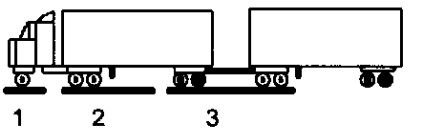
NOTES: PRESS <ZERO> KEY BEFORE TRUCK BOARDS SCALE IF REQUIRED.

1) PRESS <I>
2) KEY IN TRUCK ID
3) PRESS <GROSS/NET> IF THE TRUCK IS FULL <TARE> IF TRUCK IS EMPTY. (PRINT READY FOR NEXT TRUCK.

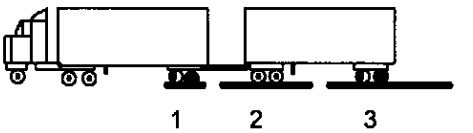


II. DOUBLE: TWO WEIGHMENTS

1) PRESS <I>
2) KEY IN TRUCK ID
3) PRESS <DBL>
4) PRESS. 1, <ENTER>, 2, <ENTER>
5) SIGNAL DRIVER TO POSITION
6) PRESS: 1, <ENTER>, 2, <ENTER>, 3, <ENTER>
7) PRESS <GROSS/NET> IF THE TRUCK IS FULL <TARE> IF TRUCK IS EMPTY. (PRINT READY FOR NEXT TRUCK.



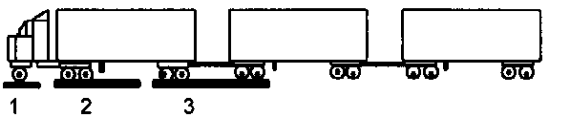
POSITION #1



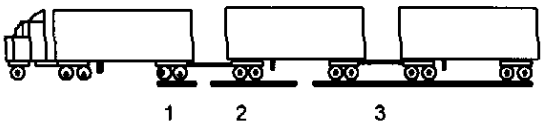
POSITION #2

III. TRIPLES: THREE WEIGHMENTS REQUIRED

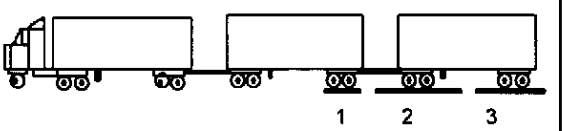
1) PRESS <I>
2) KEY IN TRUCK ID
3) PRESS <TRI>
4) PRESS: 1, <ENTER>, 2, <ENTER>
5) SIGNAL DRIVER TO POSITION #2
6) PRESS: 1, <ENTER>, 2, <ENTER>
7) SIGNAL DRIVER TO POSITION #3
8) PRESS: 1, <ENTER>, 2, <ENTER>, 3, <ENTER>
9) PRESS <GROSS/NET> IF THE TRUCK IS FULL OR <TARE> IF TRUCK IS EMPTY. (PRINT TICKET) READY FOR NEXT



POSITION #1



POSITION #2



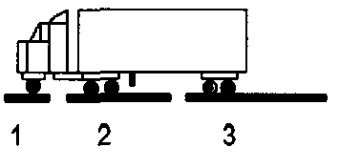
POSITION #3

TRUCK PLAZA ID MODE (RE-WEIGH)

I. STANDARD: ONE WEIGHMENT REQUIRED

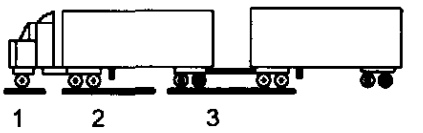
NOTES: PRESS <ZERO> KEY BEFORE
TRUCK BOARDS SCALE IF REQUIRED.

1) PRESS <I>
2) KEY IN TRUCK ID
3) PRESS <RE-WEIGH>, (PRINT TICKET)
READY FOR NEXT TRUCK.

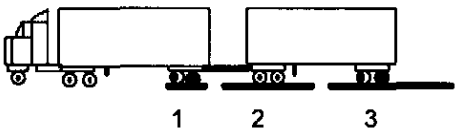


II. DOUBLE: TWO WEIGHMENTS REQUIRED

1) PRESS <I>
2) KEY IN TRUCK ID
3) PRESS <DBL>
4) PRESS: 1, <ENTER>, 2, <ENTER>
5) SIGNAL DRIVER TO POSITION #2
6) PRESS: 1, <ENTER>, 2, <ENTER>, 3, <ENTER>
7) PRESS <RE-WEIGH>, (PRINT TICKET)
READY FOR NEXT TRUCK.



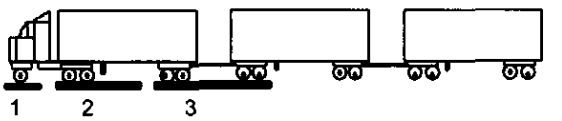
POSITION #1



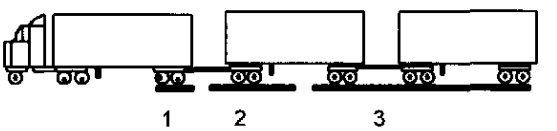
POSITION #2

III. TRIPLES: THREE WEIGHMENTS REQUIRED

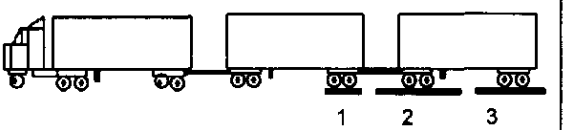
1) PRESS <I>
2) KEY IN TRUCK ID
3) PRESS <TRI>
4) PRESS: 1, <ENTER>, 2, <ENTER>
5) SIGNAL DRIVER TO POSITION #2
6) PRESS: 1, <ENTER>, 2, <ENTER>
7) SIGNAL DRIVER TO POSITION #3
8) PRESS: 1, <ENTER>, 2, <ENTER>, 3, <ENTER>
9) PRESS <RE-WEIGH> (PRINT TICKET)
READY FOR NEXT TRUCK.



POSITION #1



POSITION #2



POSITION #3

CUSTOM SETUPS INDICATOR

For proper initial system configuration the scale technician should remove the CPU106 Battery Jumper "W4" to allow the ram to clear prior to powering the system up.

The custom will require certain parameter setup as defined below.

NOTE: The host, barcode, and setpoint options have been permanently removed from this custom software.

8146 SCALE SETUP

The scale technician should follow the Technical Manual for proper scale calibration and parameter setup. However, the custom software requires the following 8146 parameter setups:

PARAMETER	SETTING	DESCRIPTION	
F3.3	1	lb/kg switching	(All scales) Analog
82	1	lb/kg switching	(All scales) Digitol
F5.1	300	baud	8855 Printer
	1200	baud	8806
	4800	baud	8842
	4800	baud	IBM PRO PRINTER
	4800	baud	LA75 PRINTER
	4800	baud	8843
F5.7	1	demand mode	
F5.8	Per Appendix I & VI		

POWER UP SEQUENCE

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

1 Upon power up the system will execute a self test and display the system hardware configuration.

2 [RAM Error]
This prompt will be displayed if there is a problem with program memory. The operator should not continue from this point without having the unit serviced. If it is necessary to continue, press <ENTER>. The unit will proceed to the next self test.

NOTE: If a RAM error was detected, the unit may act unpredictably.

3 [ROM Error]
This prompt will be displayed if there is a problem with the program memory. The operator should not continue from this point without having the unit serviced. If it is necessary to continue, press <ENTER>. The unit will proceed to the next self test.

NOTE: If a ROM error was detected, the unit may act unpredictably.

4 [.-12345678901234]
The above pattern of characters will rotate through all 16 characters of the display in order to test the display. When the test is complete, the system will advance to Statement #5 if a RAM memory loss is detected, or to Statement #9 if RAM memory is OK.

5 [Battery Failed -]
This message will be displayed if the battery backed RAM has become corrupted. Note that in this case, some or all of the data may be bad. After a 2 second delay, the system will advance to the next step.

6 [Clear all RAM?]
Press <1> to clear RAM memory, or <0> to try proceeding without resetting memory.

WARNING: The unit may behave unpredictably if RAM is not cleared.

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

7 [0=40 : 1-80 COL]
This message will be displayed if the unit was powered up and the ram was cleared by the technician. The technician is being asked to select the ticket printer width, they will be connecting to the system. Press a <0> or a <1> key for proper selection, If <1> key pressed skip step #8.

i.e. 8855 = 40 column @ 8842 = 80 column.

8 [0=8806 ; 1=OTHER]
This message is displayed if the technician selected the 40 column printer above, the technicians only selects the 8806 option (Press <0>) if they are connecting one to the system. The 8806 option loads a printer driver that may not work with other 40 column printers.

9 [Enhanced Kbd]
This message will be displayed for one second and advance to the next step.

9A [Scales X]
This message will be displayed to indicate the number of scales configured for this unit. The number of scales can range from 1 to 4. The system will advance to the next step after 1 second.

9B [Consec Port]
This message will be displayed if the unit contains the hardware for consecutive number output option. The system will advance to the next step after 1 second.

9C [Audit Port]
This message will be displayed if the unit contains the hardware for an audit port options. The system will advance to the next step after 1 second.

9D [Remote I/O]
This message will be displayed if the unit contains a remote print or traffic light option. The system will advance to the next step after 1 second.

9E [TSM847*]
This message will show the current version of the program running in your system. This message will advance to the next step after 1 second.

9F [MM/DD/YY - HH:MM]
This message will show the current stored time and date in the system. (See SETUP for editing of Time and Date). The system will advance to step 20 after 2 seconds.

FUNCTION SELECT MENU

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

15 [Select Function]
Press the "F" key followed by the desired numeric key to select one of the following modes. The numeric key must be pressed within 3 seconds or the "F" key input will be cancelled. If the "F" key is not pressed within 5 seconds the program will exit the select function mode.

<SELECT MODE> returns the program to Statement number 21.

	FUNCTION	**MODE**
16	F,1	PROCESS TRUCKS MODE The program will advance to Statement #21-31.
17	F,2	CUSTOM SETUP MODE. The program will advance to Statement #60-89.
18	F,3	PRINT SUMMARY MODE. The program will advance to Statement #90-96.
18A	F,4	STANDARD 8146 MODE. The program will advance to Statement #200.
19	F,5	IN-PROCESS TRUCK REPORT MODE The program will advance to Statement #100

PROCESS TRUCKS MODE "SEMI-AUTOMATIC"

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

20 [Lb/Kg Switch Dis]
This message will only appear if one or more of the scales is set for Lb/Kg switching disabled (F3.3 set to 0). The process trucks mode will not work with this setup. Press any key to return the system to Select Function Statement #15). Then go to 8146 mode, and change the scale setups so that all of the scales have Lb/Kg switching enabled (F3.3 should be set to 1). If all the scales are setup with Lb/Kg switching enabled, the system will advance to Statement #21 for semi-automatic mode, or to Statement #30 for automatic mode.

21 [Semi XXXXXXX YY]
XXXXXXX is the sum of all the scale indications. If the scales are in net mode, the sum will be in net mode. If the scales are in gross mode, the sum will be in gross mode. YY is either lb for pounds or kg for kilograms. The sum units are set up in function 2 (setup). This information will be displayed constantly while in the semi-automatic process trucks mode.

Press <WEIGH> (or the optional WEIGH pushbutton) to weigh a truck and produce a ticket.

Press <Re-Weigh> (or the optional Re-Weigh pushbutton) to weigh a truck and produce a ticket for a truck that has been weighed before and is now being reweighed.

Press <P> to reprint the last ticket printed (if enabled).

Press <MOV> to weigh a moving van and produce the special moving van ticket.

Press <I> to enter the Truck ID for the "ID MODE" of operation. This is used to store truck weights for weigh-in and to recall stored truck weights for re-weigh. To process a truck in the "ID MODE" without storing it, enter a blank Truck ID. This function is active for the "SEMI-AUTO","DOUBLE" and "TRIPLE" modes. (Refer to pages 2--5 for the sequence of operation).

Press <T> to set the system clock. The program will proceed to Statement #87.

PROGRAM STATEMENT	APPLICATION	[bracketed data = operator prompts] <angled bracket = keyboard inputs>

22 [ReWgh XXXXXXX YY]
This display will appear if the Re-Weigh key is pushed (or the optional Re-Weigh pushbutton). The configured ticket will print at this time. XXXXXXX is the sum of all scale indications and YY is the units for the sum. The system will return to Statement #21 as soon as the ticket is done printing.

Press <R> to reset the 8146 if a problem develops.

Press <A> to enter the automatic mode if it is enabled. The system will advance to Statement #30.

Press <DOUBLE> to enter the DOUBLE transaction mode.
Press <TRIPLE> to enter the TRIPLE transaction mode.
Press <SETUP> to access the standard and custom 8146 setup parameters.
(Note cal switch must be on to access the standard setup parameters)

Press <REPORT> to access the custom 8146 report feature.

Press <TARE> to tare all scales (if enabled).

Press <ZERO to zero all scales (the scales must be in range and may not have motion in order for the zero to work).

Press <CLEAR TARE> to clear tare on all scales.

Press <GROSS/NET> to switch to gross mode if already in net mode, or to switch to net mode if currently in gross mode (the scales will switch to net mode only if tare is enabled in setup).

Press <SELECT MODE> to return the system to Statement #15 (select function.

23 Press <BASIC ID> to enter the basic ID.
[XXXXXXXXXXXXXXX]
The sixteen character Basic ID can be keyed in followed by <ENTER>, or just press <ENTER> if the ID is correct. The system will return to Statement #21.

24 Press <EDIT> to enter the three description fields.
[XXXXXXXXXXXXXXX]
The first description field can be keyed in followed by <ENTER>, or just press <ENTER> if the data is correct. The system will advance to the next statement.

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

25 [XXXXXXXXXXXXXXXX]
The second description field can be keyed in followed by <ENTER>, or just press <ENTER> if the data is correct. The system will advance to the next statement.

26 [XXXXXXXXXXXXXXXX]
The third description field can be keyed in now followed by <ENTER>, or just press <ENTER> if the data is correct. The system will return to Statement #21.

PROCESS TRUCKS MODE "AUTOMATIC"

PROGRAM STATEMENT	APPLICATION	[bracketed data = operator prompts] <angled bracket = keyboard inputs>

30 [Auto XXXXXXX YY]
XXXXXXX is the sum of all the scale indications. If the scales are in net mode, the sum will be in net mode. If the scales are in gross mode, the sum will be in gross mode. YY is either lb for pounds or kg for kilograms. The sum units are set up in function 2 (setup). This information will be displayed continuously while in the automatic process trucks mode.

Press <RE-WEIGH> (or the optional Re-Weigh pushbutton) if the next truck to enter the scales is to be re-weighed. The system will advance to Statement #31.

Press <R> to reset the 8146 if the system gets out of sequence. This can happen any time a truck drives on the scales before the previous truck has completely cleared the scales.

Press <S> to enter the Semi-Automatic mode if it is enabled. The system will return to Statement #21.

Press <TARE> to tare all scales (if enabled).

Press <ZERO> to zero all scales (the scales must be in range and may not have motion in order for the zero to work).

Press <CLEAR TARE> to clear tare on all scales.

Press <GROSS NET> to switch to gross mode if already in net mode, or to switch to net mode if currently in gross mode (the scales will switch to net mode only if tare is enabled in setup).

Press <SELECT MODE> to return the system to Statement #15 (select function).

Press <BASIC ID> to enter the basic ID.
[XXXXXXXXXXXXXXXX]
The sixteen character basic ID can be keyed in now followed by <ENTER>, or just press <ENTER> if the ID is correct. The system will return to Statement #30 if the Re-Weigh key has not been pushed, or to Statement #31 if the Re-Weigh key has been pushed.

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

Press <EDIT> to enter the three description fields.
[XXXXXXXXXXXXXXXX]
The first description field can be keyed in now followed by <ENTER>, or just press <ENTER> if the data is correct.
[XXXXXXXXXXXXXXXX]
The second description field can be keyed in now followed by <ENTER>, or just press <ENTER> if the data is correct.
[XXXXXXXXXXXXXXXX]
The third description field can be keyed in now followed by <ENTER>, or just press <ENTER> if the data is correct.
The system will return to Statement #30 if the Re-Weigh key has not been pushed, or to Statement #31 if the Re-Weigh has been pushed.

31 [ReWgh XXXXXXX YY]
This display will appear if the Re-Weigh key is pushed (or the optional Re-Weigh pushbutton). The next truck that is weighed will be a Re-Weigh transaction. To get out of this mode without weighing a truck, press <R> and the system will return to Statement #30. XXXXXXX is the sum of all scale indications and YY is the units for the sum. The system will return to Statement #30 as soon as the next truck is weighed and the ticket is done printing.

CUSTOM SETUP MODE

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

60 [SETUP?]
Press <Y>, <1>, or <ENTER> to advance the system to the next statement. Any other key will return the system to Statement #15.

61 [PASSWORD?_____]
Enter the master password to advance to the next step. The "*" character will be displayed for each key pushed instead of the actual password for greater security.

Press <ENTER> after entering the last character Of the password. If the password was entered correctly, the system will advance to Statement #63. Otherwise, the system will advance to Statement #62.

62 [INVALID PASSWORD]
This message will be displayed for 3 seconds. The system will return to process truck mode.

63 [NEW PASSWORD?]
To enter a new password, press <Y> or <1>. The system will advance to Statement #64. Press any other key to advance to Statement #65.

64 [MASTER PASS ?]
Press <Y> or <1> to advance to step 64A and enter a new password. Press <N> or <0> to advance to step 64B.

64A [PASSWORD:_____]
Key in the new master password followed by <ENTER>.

64B [REPORT PASS?]
Press <Y> or <1> to advance to step 64C and enter new password.
Or <0> to advance to step 65.

64C [PASSWORD:_____]
Key in the new report password followed by <ENTER>.

65 [SUM UNITS LBS? X]
Press <Y> or <1> if the sum units should be pounds.
Press <N> or <0> if the sum units should be kilograms.
Press <ENTER> to accept the choice.

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

66 [ALLOW REWEIGH]
Press <Y> or <1> if reweigh mode is allowed.
Press <N> or <0> if reweigh mode is not allowed.
Press <ENTER> to accept the choice.

67 [ALLOW DOUBLE ? X]
Press <Y> or <1> if double mode is allowed.
Press <N> or <0> if double mode is not allowed.
Press <ENTER> to accept the choice.

68 [ALLOW TRIPLE? X]
Press <Y> or <1> if Triple Mode is allowed.
Press <N> or <0> if Triple Mode is not allowed.
Press <ENTER> to accept the choice.

69 [ALLOW MOVING ? X]
Press <Y> or <1> if Moving Van is allowed.
Press <N> or <0> if Moving Van is not allowed.
Press <ENTER> to accept the choice.

70 [ALLOW AUTO X ?]
Press <Y> or <1> if Automatic Mode is allowed.
Press <N> or <0> if Automatic Mode is not allowed.
Press <ENTER> to accept the choice.

71 [ALLOW SEMI-AUTO X ?]
Press <Y> or <1> if Semi-Automatic is allowed.
Press <N> or <0> if Semi-Automatic is not allowed.
Press <ENTER> to accept the choice.

71A [ALLOW IN-PROCESS ?X]
Press <Y> or <1> to enable the "ID MODE of operation.
Press <N> or <0> if disable the "ID MODE" of operation.
Press <ENTER> to accept the choice.

72 [ALLOW REPRINT X ?]
Press <Y> or <1> if Reprint is allowed.
Press <N> or <0> if Reprint is not allowed.
Press <ENTER> to accept the choice.

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts] <angled bracket = keyboard inputs>

73 [WEIGH FEE XX.XX]
Enter the weigh fee followed by <ENTER> or just press <ENTER> to keep the old weigh fee. The system will advance to the next statement.

74 [REWGH FEE XX.XX]
Enter the re-weigh fee followed by <ENTER> or just press <ENTER> to keep the old re-weigh fee. The system will advance to the next statement.

75 [DOUBLE FEE XX.XX]
Enter the weigh fee followed by <ENTER> or just press <ENTER> to keep the old weigh fee. The system will advance to the next statement.

76 [DBL RWG FEE XX.XX]
Enter the re-weigh fee followed by <ENTER> or just press <ENTER> to keep the old re-weigh fee. The system will advance to the next statement.

77 [TRIPLE FEE XX.XX]
Enter the weigh fee followed by <ENTER> or just press <ENTER> to keep the old weigh fee. The system will advance to the next statement.

78 [TRI RWG FEE XX.XX]
Enter the re-weigh fee followed by <ENTER> or just press <ENTER> to keep the old re-weigh fee. The system will advance to the next statement.

79 [MOV FEE XX.XX]
Enter the weigh fee followed by <ENTER> or just press <ENTER> to keep the old weigh fee. The system will advance to the next statement.

80 [THRESHOLD XXXXXX]
Threshold is the value that the system is used to determine whether or not there is a truck on the scales. When the steering axle scale is above the threshold value, the system thinks there is a truck on the scales. Enter the threshold value followed by <ENTER> or just press <ENTER> to keep the old threshold value. A value of 1000 lbs. is a good starting value. The system will advance to the next statement.

81 [ALARM TIMER XX] (SECS) (Optional)
The alarm timer is the time duration (seconds) that the alarm will be on once threshold is exceeded.

81A [AUTO DLY TIMER: XX] (SECS)
The auto delay timer is the time duration (seconds) that the unit will monitor the scale during auto mode before printing the ticket.

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

82 [RESET CONSEC # ?]
Press <Y> or <1> key and the Consec # is reset to a "1". Press any other key and advance to the next step.

82A [CONSEC TMR:XX] (SECS)
(Note: This prompt will appear only if the consec output option is installed and the output is configured for a remote display).

The Consec TMR is the time duration that the remote display will display the ticket number after the ticket is printed.

83 [EXPAND: NNNNNN]
The EXPAND prompt is looking for the hex bytes that command the printer to perform double wide printing. The operator will select one of the codes below or will enter their own from the printer.

PRINTER	**CODE**
8840	1E000000
8842	1B573100
8843	1B573100
8855	0E000000
IBM PRO PRINTER	1B573100
LA50 PRINTER	1B5B3577
LA75 PRINTER	1B5B3577
8806 PRINTER	0F0E0F0E

84 [NORMAL: NNNNNN]
The NORMAL prompt is looking for the hex bytes that command the printer to perform standard printing. The operator will select one of the codes below or will enter their own from the printer manual.

PRINTER	**CODE**
8840	1F000000
8842	1B573000
8843	1B573000
8855	0F000000
IBM PRO PRINTER	1B573000
LA50 PRINTER	1B5B3077
LA75 PRINTER	1B5B3077
806 PRINTER	0F0F0F0F

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

84A [PRINT BAUD? XXXX]
Press <1> to accept the displayed printer baud rate.
Press <0> to select other baud rates.

85 [EDIT TICKET]
Press <Y> or <1> to edit ticket format press any other key to skip over ticket format.

85A [CLEAR TICKET ?] (CLEAR FORMAT BUFFER)
Press 1 to clear out the existing ticket format.
Press 0 to leave the existing ticket format

85B [FIELD NO. ? XX] (TICKET FIELD NUMBER)
This prompt is asking you to enter a field number. This number is an arbitrary reference number from 1 to 70, assigned by the programmer for ease of future editing.

If all ticket formatting is complete, press the "ENTER" key when the Field No.? prompt is being displayed. At this time, the procedure will skip to the "Trailing LF's" prompt.

85C [DELETE FIELD?] (DELETE FIELD NUMBER)
This prompt is only displayed when a field number is entered which already exists. Press 1 to delete this field number and its existing data. Press 0 to leave this field number as is, and allow modifications to this existing data.

85D [LINE NUMBER? XX] (PRINTING LINE NUMBER)
Enter the line number (1-99) of the ticket on which you want the selected data printed.

85E [COLUMN NUMBER? XX] (STARTING COLUMN NUMBER)
Enter the column number where you want the selected data to start printing.

85F [DATA CODE? XX] (DATA CODE SELECTION)
This prompt is asking you to enter the data code assigned to the actual data you want printed. Refer to APPENDIX VI for the complete list of possible data codes.

85G [TICKET TYPE? X] (SELECTS TICKET FORMAT)
This prompt is asking the operator to select the type of ticket format the data code selected above will print on. The selection below shows options available.

1. Standard Tickets
2. Triple (TRI)/Double (DBL) Tickets
3. All Tickets
4. Moving Van (MOV) Tickets Only
5. ID Mode weigh (Semi-Auto, Double and Triple)
6. ID Mode re-weigh (Semi-Auto, Double and Triple)

PROGRAM STATEMENT	APPLICATION	[bracketed data = operator prompts] <angled bracket = keyboard inputs>

85H [EXPAND PRINT? X] (EXPANDED PRINT ENABLE)
Press 1 to have this data field printed in the expanded mode, if the printer is capable of doing so. A special code is added to the beginning of the data field transmission and a special code to the end. At this time the display will return to the Field No.? prompt.

Press 0 to have this data field printed in the normal printing mode for the printer used. At this time the display will return to the Field N.? prompt.

86 [PRINT TICKET TAB?]
Press <Y> or <1> to print stored ticket table.
Press any other key to skip printing.

87 [SET CLOCK ?]
Press <Y> or <1> to set the time and date.
Press any other key to exit setup and return to process trucks.

88 [TIME HH:MM:SS ?]
Operators keys in the current time followed by <ENTER>.

89 [DATE MM/DD/YY ?]
Operators keys in the current date followed by <ENTER>.

The system returns to the process truck mode.

SUMMARY REPORT

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

90 [SUMMARY REPORT?]
Press <Y>, <1>, or <ENTER> to advance to the next statement.
Press <N> or <0> to return to Statement #21.

91 [PASSWORD? _____]
Enter the password to advance to the next step. The "*" character will be displayed for each key pushed instead of the actual password for greater security.

Press <ENTER> after entering the last character of the password. If the password was entered correctly, the system will advance to Statement #93. Otherwise, the system will advance to Statement #92.

92 [INVALID PASSWORD]
This message will be displayed for 3 seconds. The system will return to Statement #21.

93 [NEW PASSWORD?]
To enter a new password, press <Y> or <1>. The system will advance to Statement #94. Press any other key to advance to Statement #94A.

94 [PASSWORD? XXXXXX]
Enter the new password followed by <ENTER>, or just press <ENTER> to keep the old password. The system will advance to the next statement.

94A If the Report Password was entered the standard "Summary Report" will be processed. The program will proceed to Statement #95. If the Master Password was entered the user can select the Standard or Master "Summary Report" to process. The program will proceed to Statement #94B.

94B [MASTER REPORT?]
Press <Y> or <1> to process the "Master Summary Report". The program will advance to Statement #95. Press <N> or <0> to process the "Standard Summary Report". The program will advance to Statement #95.

95 [. . . PRINTING]
This will be displayed until the report has been printed. If this message stays on and the report does not print, check to make sure that the printer is turned on, has paper, is on-line, and the data cable is securely plugged in at both ends. If the message is still displayed, turn the printer off and back on. When the report has printed, the system will advance to the next statement.

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

96 [CLEAR TOTALS?]
Press <Y> or <1> to clear the totals (they will be set back to zero). Press any other key to keep the totals. The system will return to Statement #21.

IN-PROCESS TRUCK REPORT MODE

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

100 [PRT TRUCK REPT?]
Press <Y> to print the "In-Process Truck Report".
Press <1> to print the "In-Process Truck Report".
Press <N> to exit to Statement #21.
Press <0> to exit to Statement #21.

110 [PASSWORD? ******]
Enter the Master Password or Report password and press <ENTER>. The program will then proceed to Statement #120.

If an invalid password is entered the prompt [INVALID PASSWORD] will be displayed and the program will exit to Statement #21.

120 [...PRINTING]
The "In-Process Truck Report" is printed out and the program proceeds to the next statement.

130 [CLR TRUCK TABLE?]
Press <Y> or <1> to clear the "In-Process Truck Report".
Press <N> or <0> to proceed to Statement #160.

140 [ARE YOU SURE?]
Press <Y> or <1> to clear the "In-Process Truck Report".
Press <N> or <0> to return to Statement #130.

150 [TABLE CLEARED!]
The "In-Process Truck Report" is cleared and the program then exits to Statement #21.

160 [CLEAR TRUCK ID?]
Press <Y> or <1> to clear the Truck ID.
Press <N> or <0> to exit to Statement #21.

170 [ID? XXXXXXXXX]
Enter the Truck ID to clear and press the <ENTER> key. The program will proceed to the next statement. (Press <REPORT> to exit to Statement #21.)

180 [ARE YOU SURE?]
Press <Y> or <1> to clear the Truck ID.
Press <N> or <0> to return to Statement #170.

PROGRAM STATEMENT **APPLICATION** [bracketed data = operator prompts]
<angled bracket = keyboard inputs>

190 [ID CLEARED!]
The Truck ID is cleared and the program then returns to Statement #170.

200 [8146 MODE Y/N?]
Press <Y> or <1> to access the 8146 mode.
Press <N> or <0> to return to the setup menu.

APPENDIX I CALIBRATION SETUP PRINTER/OPTION CONFIGURATION

The scale technician will use this mode to calibrate to the scale and established the one time setup parameters. Refer to Appendix VI.

[F5.0 PRINTER ?]
To access the printer port parameters press <1>.
To skip the printer port parameters press <0>.

[F5.1 BAUD XXXX]
To select the displayed baud rate press <1>.
To select other baud rate press <0>.

[F5.2 CHKSUM? X]
To include a checksum character in the data transmission press <1>.
To select no checksum in the data transmission press <0>.

[F5.4 NEG PRI? X]
To disable the selection and printing of a platform that is below zero press the <0> key.
To enable the selection and printing of a platform that is below zero press the ,1> key.

NOTE: F5.3, F5.5, F5.6 are not important in the operation of the custom 8146 Truck Plaza Controller.

[F5.7 DEMAND ? 1]
Always set to a "1".

[F5.8 CONF TICKET?]
To select the Ticket Format routine press the <1> key. To ship the Ticket Format routine press the <0> key.

[CLEAR TICKET?]
To clear the existing ticket press the <1> key.
To leave the ticket file alone press the <0> key.

[FIELD NO. ? XX]
This prompt is asking you to enter a field number. This number is an arbitrary reference number, from 1 to 70 chosen by the operator setting up the ticket format.

If all ticket formatting is complete, press the <ENTER> key when the Field No.? prompt is being displayed. At this time, the procedure will ship to the "Leading LF's" prompt.

[DELETE FIELD?]

This prompt is displayed when a field number entered already exists in memory. To delete the field number already stored press the <1> key. To leave the field number unchanged press the <2> key.

[LINE NUMBER? XX]

The operator enters the line number (1-99) of the ticket that they wish to print the selected data on.

[COLUMN NUMBER? XX]

The operator enters the column number (1-80) of the ticket that they wish to print the selected data in.

[DATA CODE ? XX]

This prompt allows the operator to enter the Data Code assigned to the actual data they want to print. Refer to Appendix III for the complete list of Data Codes available.

[TICKET TYPE ? X]

This prompt allows the operator to select six different ticket formats to print form. The formats are selected by entering a 1, 2, 3, 4, 5 or 6 at the prompt.

1. Standard weighment printout
2. Double/Triple weighment printout
3. All printouts
4. Moving Van weighment printout
5. ID Mode Weigh (Semi-Auto, Double and Triple)
6. ID Mode Re-Weigh (Semi-Auto, Double and Triple)

[EXPAND PRINT ? X]

This prompt allows the selected Data Code to be printed in Expanded Print Font.

To select the Expanded Model print font press <1>.
To select the Standard print font press <0>.

[LEADING LFS XX]

This prompt allows the ticket to be advanced, the entered number of lines before printing the formatted ticket.

[TRAILING LFS XX]

This prompt allows the ticket to advance the entered number of lines after the formatted ticket is printed.

NOTES: Fields F6.0-F6.1 are fixed for the custom 8146 application and are handled in the custom setup routine. Fields F7.0-F7.6 have been removed from this custom 8146 application.

[F8.0 CONSEC OUT?]

This prompt allows access to the Consecutive Output option port.
To access this setup press the <1> key.
To skip this section press the <0> key.

NOTES: Fields F8.1-F8.7 have been removed from the system completely.

[F8.8 BAUD XXXX]

To select the baud rate shown press the <1> key.
To select the other baud rates press the <0> key.

[F8.9 PARITY E]

To select the Parity shown press the <1> key.
To select other Parity options press the <0> key.

[F8.10 STOP BITS 1]

To select the number of Stop Bits shown press the <1> key.
To select other Stop Bit options press the <0> key.

[F8.11 ENBL OUT ?]

To enable the Consecutive Output press the <1> key.
To disable the Consecutive Output press the <0> key.

[F8.12 0=D 1=P : X]

To select the printer output for the Consecutive Number press the <1> key.
To select the Remote Display output for the Consecutive Number press the <0> key.

[F9.0 CONF CERT]

This prompt gains access to the certified ticket printer Option setup.
To access this setup press the <1> key.
To skip this section press the <0> key.

[F9.1 CERT ENA ?]

To enable the Audit Port Output press the <1> key.
To disable the Audit Port Output press the <0> key.

[F9.2 BAUD XXXX]

To select the baud rate shown press the <1> key.
To select other baud rates press the <0> key.

[F9.3 DATA BITS 7]

To select the number of Data Bits shown press the <1> key.
To select other Data Bit options press the <0> key.

[F9.4 PARITY E]

To select the Parity shown press the <1> key.
To select other Parity options press the <0> key.

[F9.5 STOP BITS 1]

To select the number of Stop Bits shown press the <1> key.
To select other Stop Bit options press the <0> key.

APPENDIX II DIGITOL CALIBRATION

CALIBRATION PROCEDURE FOR T-LAN SINGLE AND MULTIPLE CELL DIGITAL LOAD CELLS SYSTEMS

This procedure describes the setup and calibrations for digital load cell(s) which are interfaced to the 8146 via a T-LAN network.

ACCESS LOAD CELL TYPE SELECTION GROUP 00

[00]
With the display prompt ar [- -], enter 00 followed by pressing the "ENTER" key to select GROUP 00 setup parameters. The display will increment to parameter 01.

Press "1" to select the T-LAN network configuration.

NOTE(S): If this parameter is being changed from 0 to 1, the indicator must be powered down then back up after group 00 parameters have been set before continuing with calibration. This will initialize the DWP44 card and the CPU properly for the type of operation selected.

[02] LOAD CELL OPERATION
This parameter selects whether the load cells are to operate independently or on sectional pairs. The independent mode is intended for applications such as tank or hopper scales where there are an odd number of load cells connected, or floor scales where corner adjustments will be made. The sectional pair mode is intended for applications such as floor and truck scales where section adjustments are made. For the load cells to operate in the sectional pair mode, an even number od load cells must be used.

0 - Independent cell operation
1 - Sectional pair operation

[03] NUMBER OF LOAD CELLS
Enter the number of load cells to be addresses for the scale being calibrated. (i.e., If calibrating scale 1, enter the number of load cells in scale 1). If independent cell operation was selected then only numbers from 1 to 16 will be accepted. If sectional pair operation was selected, then only even numbers form 2 to 24 will be accepted.

[04] LOAD CELL ADDRESS ASSIGNMENT
This parameter is used to access the auto addressing procedure. The auto addressing procedure is used at initial installation to assign individual addresses to each load cell. If a load cell is being replaced, or a load cell is being added to or removed from a scale, use the procedure outlined in parameter group 90.

0 - Skip to parameter 05
1 - Proceed with auto addressing of load cells

NOTES: When addressing the second scale of a DWP44 card that has two scales connected, parameter [05 1], the DWP44 card starts the addressing at address 25 minus the number of load cells in scale 2. This forces the last address to be 24, allowing modifications to scale 1 without having to re-assign addresses to scale 2.

EXAMPLE: If scale 2 has 8 cells subtract 8 from 25. This gives a starting address of 17 for the first cell of scale 2.

If addressing scale 1, disconnect the interface cable to scale 2 from the auxiliary power supply. Leaving the cable connected without proper termination will cause communications interference with scale 1. If addressing scale 2, the interface cable to scale 1 does not need to be disconnected if scale 1 has been addressed already.

For the auto addressing procedure to work properly, all of the load cells must have an address of 240 (factory setting). For scales operating in the sectional pair mode, addressing must be arranged with odd addresses on one side, and even addresses on the other side as shown below.

1	3	5	7	9	11
2	4	6	8	10	12

A) When the auto addressing procedure is selected, the power to the load cells is turned off, the display will show [04 XX], where XX is the address to be assigned to the load cell. Connect the load cell to be addressed then press the "ENTER" key. Power to the load cells will be turned back on and the address will be sent to the load cell. Power to the load cells will then be turned off.

B) Connect the next load cell to be addressed, then repeat step A.

If the auto addressing is successful, the display will keep advancing to the next address. When the last load cell has been addressed, the display will advance to parameter [05] if addressing scale 1 or return to the [- -] prompt, if addressing scale 2.

If a communications error occurs during the attempt to auto address, an [E8 XX] error code will be displayed. If a communications error occurs, check the following:

1) Make sure address XX is the address of the load cell the operator was addressing. If not, the ENTER key may have been pressed more than once. The DWP44 card may have successfully addressed the load cell, then proceeded to address the next load cell. Press the "CLEAR" key to acknowledge the error. The display will return to the [04 XX] prompt. Connect the load cell to be addressed, then proceed to step A.

2) The load cell may not be set to the factory address of 240. If this is the case, press the "ZERO" key until you are back to the [- -] prompt. Then proceed to group 90 to manually re-address the load cells.

3) There could be a wiring problem between the pit power supply and the load cell.

4) The load cell being addressed may be bad.

5) If no communications are successful to any of the load cells, the auxiliary power supply or the pit supply may be bad. Also check for wiring problems. Refer to the trouble shooting section for more details.

[05] SECOND SCALE PRESENT

This parameter selects whether or not the DWP44 card is to be configured for one scale or two. If calibrating scale 2, this parameter will be skipped.

0 = No Second Scale on this DWP44 Card
1 = Second Scale Present

NOTE: If this parameter is changed, the indicator must be powered down then back up after group 00 parameters have been set before continuing with calibration so the DWP44 card and the 8146 CPU get initialized properly for the type of operation selected.

ACCESS CALIBRATION SEQUENCE GROUP 10

[10]

With the display prompt at [- -], enter "10" followed by pressing the "ENTER" key to select GROUP 10 calibration parameters. Parameters 11 - 19 will be prompted in sequence.

[11] CALIBRATE IN LB/KG

Enter the units in which the scale is to be calibrated in.

0 - To calibrate in kg.
1 - To calibrate on lb.

[12] RESERVED FOR FUTURE USE

[13] RESERVED FOR FUTURE USE

[14] ENTER FULL SCALE CAPACITY

The display will show the currently entered full scale capacity. If the capacity is correct, press the "ENTER" key. If the displayed capacity is not correct for your application, enter the desired full scale capacity followed by the " ENTER" key.

[15] ENTER INCREMENT SIZE

The display will show the currently entered increment size. If the increment size is correct, press the "ENTER" key. If the increment size is not correct, press the "0" key. The display will display zeros. Continue pressing the "0" key until the decimal point is in the correct position or until the correct number of fixed zero are displayed. Now press

the "1", "2" or "5" key to select the proper increment size. This entry will replace the "_" character on the display.

[16] RESERVED FOR FUTURE USE

[17] RESERVED FOR FUTURE USE

[18] SHIFT COMPENSATION (Multiple load cells only)

NOTE: This step must be performed before step [19] calibration can be completed on initial start-up. Press "0" to return to [- -] prompt, or press "1" to proceed.

- The display will show [E SCL]. Empty the scale and press the "ENTER" key.

- The display will count down from [16 CAL] to [01 CAL].

- The display will show [CELL XX] if independent cell was selected in step 02 or [SEC XX] if sectional pairs was selected in step 02.

- Place the test load as near to the cell or center of the section as possible then press the "ENTER" key.

- The display will count down from [16 CAL] to [01 CAL].

- The display will then prompt for the next cell or sectional pair to be adjusted. Move the test load as required following the above steps until all cells or sections are complete. The display will then proceed to the [19] prompt.

[19] ZERO AND SPAN CALIBRATION
Press "0" to return to [- -] prompt, or press "1" to proceed.

The display will show [E SCL]. Empty the scale and press the "ENTER" key. The display will count down from [16 CAL] to [01 CAL].

The display will show [ADD LD]. Press the "ENTER" key. The display will blank. Place test weight on the scale and enter this value using the keyboard followed by the "ENTER" key. The display will count down from [16 CAL] to [01 CAL].

The display will show [E SCL] or [CAL D], depending on the scale build and the amount of initial. If the display shows [E SCL], remove the test weights and then press the "ENTER" key. The display will count down from [16 CAL] to [01 CAL].

When calibration is completed,the display will show [CAL D] for two seconds indicating the zero and span calibration has been successfully completed. The display will then return to the [- -] prompt.

The remainder of the setup parameters may be directly addressed by entering their two digit code. However, by entering the group number first, the unit will automatically increment through some or all of the parameters in that group.

ACCESS FILTERING AND ZERO MAINTENANCE GROUP 20

[20]

With the display prompt at [- -] enter "20" followed by pressing the "ENTER" key to select GROUP 20 filtering and zero maintenance group parameters. Parameters 21-28 will be prompted in sequence.

[21] ZERO ADJUST

This parameter allows for changing the calibrated zero of the scale without affecting the span calibration.

Press "1" to enter current gross weight value as the new calibrated zero value. Once a group or parameter number has been entered, no weight readings are taken. Therefore, make sure that the weight is removed from the platform while the display is at the [- -] prompt, then enter Parameter 21 to set zero.

[22] SPAN ADJUST

This parameter allows for changing the span calibration without affecting the zero calibration.

Press "0" to return to the [- -] prompt or press "1" to proceed with the Span Adjust. Once a group or parameter number has been entered, no weight readings are taken. Therefore, make sure that the test weight is on the scale while the display is at the [- -] prompt. After pressing "1", the display will blank except for a decimal point (if applicable). Enter the desired weight value followed by the "ENTER" key. The entered value must be divisible by the increment size.

[23] AUTO ZERO CAPTURE AT POWER UP

This parameter selects the auto zero capture range. If no auto zero maintenance is required, it may be disabled.

0 - To disable AZM
1 - +/- 0.5d AZM
2 - +/- 1.0d AZM
3 - +/- 3.0d AZM

[24] AUTO ZERO CAPTURE AT POWER UP

This parameter selects the auto zero capture range at power up. If the scale reading is within the selected range upon power up, the scale will automatically be zeroed. If no auto zero capture is required, it may be disabled.

0 - No auto zero capture
1 - Enable 2% auto zero capture range
2 - Enable 20% auto zero capture range

NOTE: At power up the WEIGHT DISPLAY will show [-EEE] (below zero) or [EEE] (above zero) until zero is captured. This feature can be disabled by setting parameter 24 to "0" and cycling power (also see parameter 32). If the signal coming from the scale connected is not out of the indicators display range a weight value will now be shown on the WEIGHT DISPLAY.

[25] PUSHBUTTON ZERO RANGE

This parameter selects the capture range of the pushbutton zero. If the weight reading is within the selected range when the zero pushbutton is pressed, the scale will be zeroed. If required, the zero pushbutton may be disabled.

0 - Disable zero pushbutton
1 - +/- 02% of scale capacity
2 - +/- 20% of zero capacity

[26] MOTION DETECTION

This parameter selects the motion detection threshold. The motion detect threshold determines the maximum number of display increments that the weight reading may change before a motion condition is registered. If required, the motion detector may be disabled.

0 = 0.0d (disable motion detections)
1 = 0.5d
2 = 1.0d
3 = 2.0d
4 = 3.0d

[27] FILTER SELECTION

This parameter for filtering is made available to filter vibration or motion inherent to the area (or application) the scale is being used in. The ideal result being a stable (non-fluctuating) display. The heavier the filtering used the slower the Weight Display will update. The selections should be sampled at installation, starting with selection 0, no filtering, until the required display stability is achieved.

0 = No Filtering
1 = Lightest Filtering
2 = |
3 = |
4 = |
5 = Heaviest Filtering

[28] OVERLOAD BLANKING

This parameter selects the over capacity blanking point. Enter the weight value at which the unit is to indicate over capacity. This value may be greater than the scale capacity.

[30]

With the display prompt at [- -], enter "30" followed by pressing the "ENTER" key to select GROUP 30 Tare Group parameters. Parameters 31 - 35 will be prompted in sequence.

[31] TARE ENABLE

This parameter selectively enables auto tare or auto tare and keyboard tare. If required, tare entry may be inhabited.

0 - Tare entry inhibited
1 - Auto tare entry enabled
2 - Auto tare and keyboard tare enabled.

[32] TARE INTERLOCK

This parameter enables or disables the tare interlock feature. When enabled, the weight indication must be at true zero before tare may be removed. Previous tare must be cleared before a new tare may be entered. Upon power-up, the display will show [E E E] until zero has been captured (also see parameter 23). If this feature is disabled, a tare value may be entered or cleared at any weight indication. Multiple tare will be accepted. Upon power-up, the weight will be displayed.

0 - Tare interlock disabled
1 - Tare interlock enabled

[33] RESERVED FOR FUTURE USE

[34] AUTOCLEAR TARE

This parameter enables or disables the autoclear tare feature. When enabled the tare value will automatically be cleared when the weight returns to zero after settling to a no motion condition at a weight greater than 10 increments. If disabled, the tare must be manually cleared by using the Clear key.

0 = Auto Clear Tare Disabled
1 = Auto Clear Tare Enabled

[35] GROSS/NET SWITCHING

This parameter enables or disables Gross/Net switching. When disabled, the Gross/Net key is inoperative. When enabled, the indicator may be switched between the net and the gross mode.

0 - Gross/Net switching disabled
1 - Gross/Net switching enabled

ACCESS POWER UP AND UNITS SWITCHING GROUP 80

[80]

With the display prompt at [- -], enter "80" followed by pressing the "ENTER" key to select GROUP 80 Power up and units switching group parameters. Parameters 81 - 83 will be prompted in sequence.

[81] ANALOG VERIFY

This parameter enables or disables the analog verification features. If enabled, analog verification is automatically performed approximately once every 4 hours by injecting a signal at the LDC that generates an output value equal to and compared to a predetermined value loaded during calibration. If the test reading is not within the allowable tolerance, and E6 error will be displayed and the indicator will be inoperative until corrective action is taken. The analog verify tolerance is +/- 2d for builds greater than 2000d.

0 = Disable analog verification
1 = Enable analog verification

[82] LB/KG SWITCHING

This parameter enables or disable lb/kg switching. If enabled, lb/kg switching is allowed. If disabled, lb/kg switching will be inhibited.

0 - Lb/kg switching inhibited
1 - Lb/kg switching enabled

[83] LB/KG POWER UP

This parameter selects whether the indicator powers up in the lb or kg mode.

0 - Power up in kg
1 - Power up in lb

ACCESS LOAD CELL REPLACEMENT GROUP 90

[90]

With the display prompt at [- -], enter "90" followed by pressing the enter key to select GROUP 90 calibration parameters. Parameters 91–93 will be prompted in sequence. All other parameters in this group must be accessed individually.

[91]

This parameter allows you to re-address or manually address a load cell. This procedures may be required if replacing a load cell in an existing scale, or if the auto addressing procedure fails due to a load cell not having the factory address of 240.

0 - To skip to parameter 92
1 - Access re-addressing procedure

A) The display will show [LC OFF] indicating that power to the load cells has been turned off. Disconnect <u>all</u> of the load cells from the pit power supply except for the load cell to be re-addressed.

B) Enter the desired address followed by the "ENTER" key. Entering an address of 00 will set the load cells address to the factory setting of 240.

C) If the re-addressing is successful, the display will show [LC OFF] indicating that the power supplies to the load cells have been turned off. Re-connect the other load cells, then press the RETURN key. Power to the load cells will be turned back on.

If a communications error occurs during the attempt to re-address the load cell, the [E8 XX] error code will be displayed. Pressing the "CLEAR" key will return to the [– –] prompt. Refer tot he troubleshooting section for more details.

[92] REPLACING A LOAD CELL

This parameter allows for the replacement of a band load cell with a new one. For this procedure to work, the load cell being installed must have the factory set address of 240. The DWP44 card will look for a response from each of the load cells it is set up to address to determine which load cell is missing. It will then look for the new load cell by addressing load cell address 240. The missing address will be given to the new load cell. The new cell or section that the new cell was placed in must not be shift adjusted via parameter 93, or by performing a complete calibration procedure. The scale must also be re-zoned a re-spanned.

0 - To skip to parameter 93
1 - To proceed with load cell replacement

A) The display will show [LC OFF] indicating that power to the load cells has been turned off. Disconnect the load cell being replaced and connect the new one on.

B) Press the "ENTER" key. Power to the load cells will be turned on and the DWP44 will automatically identify the missing load cell, then re-assign that address to the new load cell.

If this procedure doesn't work, the load cell may need to be re-addressed to the factory address of 240 as detailed in parameter 91.

[93] SHIFT ADJUSTMENT OF A CELL OR SECTION

This parameter allows for shift adjustment of a single load cell or section without having to perform the shift adjustment for the entire scale.

0 - To return to [- -] prompt
1 - To proceed with manual shift adjustment

A) The display will show [CELL] if operating in the independent mode, or [SEC] if operating in the sectional pair mode. Enter the cell or section to be adjusted followed by the "ENTER" key.

B) The display will show [E SCL]. Remove the weight from the scale then press the "ENTER" key. The display will count will count down from [16 CAL] to [01 CAL].

C) The display will show [LOAD XX] where XX is the cell or section number. Place the test load on the scale as close to the cell or center of the section as possible then press the "ENTER" key. The display will count down from [16 CAL] to [01 CAL].

D) The display will show [LOAD XX]. Place the shift load over the second cell or sectional pair to set a reference by moving the test load as close to the cell or center of the section as possible then press the "ENTER" key. The display will count down from [16 CAL] to [01 CAL].

E) The display will show [E SCL]. Remove the weight from the scale then press the "ENTER" key. The display will count down from [16 CAL] to [01 CAL].

F) The display will return to the [- -] prompt.

[94] SET SHIFT CONSTANTS TO 1

This parameter allows you to temporarily set all of the shift constants to 1. This allows you to see what the weight readings from individual cell or sections are without any compensation. When this parameter is set to 1, the shift constants will be set to 1 only until the unit is powered down. Once powered down then back up, the stored shift constants will be used. This parameter is automatically set to 0 upon entry into calibration (parameter 19).

0 - Use shift constants calculated during calibration
1 - Set shift constants to 1 until power down or until re-entry into calibration mode.

[95] EXPANDED DISPLAY MODE

This parameter selects whether the weight will be displayed in normal calibrated increments or in minor increments.

0 - Display weight in calibrated increments
1 - Display weight in minor increments

[96] MANUAL SHIFT ADJUST

This parameter allows for manual shift adjustment of individual load cells or sections. This parameter differs from parameter 93 in that this procedure allows you to adjust the cell or section to a specific weight value. When performing the manual shift adjustment, the weight will be displayed in an expanded mode to provide for finer adjustment to the shift constant.

0 - To return to [- -] prompt
1 - To proceed with manual shift adjustment

A) Put the test load over the cell or section to be adjusted.

B) The display will show the weight in an expanded mode. Record this number as it will be entered for [LOAD B] later in this procedure. Press the "ENTER" key.

C) The display will show [CELL] or [SEC], depending on how parameter 02 has been set (independent cell or sectional pair operation). Key in the number of the cell or section to be adjusted and then press the "ENTER" key.

D) The display will show [LOAD A] for approximately one second and then go blank. Key in the weight value of the test load, then press the "ENTER" key.

E) The display will show [LOAD B] for approximately one second and then go blank. Key in the number recorded in step B, then press the "ENTER" key.

F) The display will now show the adjusted expanded weight value. If the number shown was higher or lower than the desired weight, it will be necessary to make another pass at the adjustment. Press the "ENTER" key to return to the [CELL] or [SEC] prompt, step C.

If the number shown represents the correct weight, press the "CLEAR" key to advance to the [SA] prompt. Pressing the "1" key will save the new shift constants. Pressing the "0" key will leave the shift constants unchanged. If the number shown is incorrect, another pass at the adjustment will be necessary. see the below listed example for details.

NOTE: Entering a "1" in response to the [SA] prompt will erase the original shift constants and store the new shift constants. The scale MUST be re-calibrated using parameter 19.

EXAMPLE: The following example illustrates parameter 96 being used to adjust a two section truck scale platform that has a 40 LB shift error between sections. section one being the lighter section, and using a 10,000 LB test load.

A) Insure a good Zero and then place the 10,000 LB test load as close to the center of section one as possible. Enable parameter 96 [96 1].

B) The display will show the weight in an expanded mode. For example [9962]. Record this number and then press the "ENTER" key.

C) The display will show (SEC j. Key in the number "1" for section one.

D) The display will show (LOAD A j for approximately one second and then go blank. Key in "10,000" for the test load weight value, and then press the "ENTER" key.

E) The display will show (LOAD b j for approximately one second and then go blank. Key in the number recorded in step B, "9962" and then press the "ENTER" key.

F) The display will now show the adjusted expanded weight. For this example let us say that this value is [9988]. Since section one is still weighing light, another pass at the adjustment will be necessary.

Pressing the "ENTER" key will return the display to the [SEC] prompt. Key in a "1" for section one, and then press the "ENTER" key. On this pass a higher value must be entered for [LOAD A] Key in "10010", for example, and press the "ENTER" key. Since [LOAD B] was entered previously it is not necessary to enter it again, simply press the "ENTER" key after the [LOAD B] prompt is displayed. This time let us say that the displayed weight value is correct, [10,000]. Press the "CLEAR" key to advance to the [SA] prompt. Press the "1" key to save the new shift constant.

Several iterations may be required to attain the desired Light value. Remember that re-calibration must be performed whenever the shift constants are changed.

If an error is made while making an entry for [LOAD A] or [LOAD B], pressing the "CLEAR" key will clear the display, [LOAD B], pressing the "CLEAR" key will clear the display, to allow re-entry of data. To return to the previous prompt press the "ZERO" key. Pressing the "CLEAR" key while at the expanded weight display will advance to the [SA] prompt.

[97] DISPLAY AND ENTRY OF SPAN, ZERO AND SHIFT CONSTANTS

This parameter allows the operator to view or alter the values stored for span, zero and shift constant for each load cell or section.

0 - To return to [- -] prompt
1 - To proceed with display of these values

A) The display will show [97a] for 1/2 second, then display the current span value. Press the "ENTER" key to retain the current value or enter a new value followed by pressing the "ENTER" key.

B) The display will show [97b] for 1/2 second, the display the current zero value or enter a new value followed by pressing the "ENTER" key.

C) The display will show [CELL XX] or [SEC XX] for 1/2 second, then display the current shift constant for cell or section XX. Press the "ENTER" key to retain the current value or enter a new value followed by the "ENTER" key.

D) Press the "ENTER" key to display the next cell or section values. If the last cell or section was just displayed, the display will show [SA]. If you want to save the new values permanently, press the "1" key. The original values will be replaced by the new ones. If you want to return to the original values, press the "0" key. The display will return to the [- -] prompt.

[99] DISPLAY LOAD CELL OUTPUT

This parameter allows the operator to see the raw count output from each load cell. This value does not directly correspond to the displayed weight.

A) The display will show [99]. Enter the address of the load cell that you want to view followed by the "ENTER" key. The raw counts for the load cell will be displayed.

B) Press the "ENTER" key. The display will show the address of the next load cell for 2 seconds, then display the raw counts for it, or press the "CLEAR" key to return to the [- -] prompt.

C) Step B will be repeated for all cells. Press the "CLEAR" key to return to the [- -] prompt.

ERROR CODE MESSAGES

[E1] — Program Memory Error.
Fatal Error, Non-Recoverable.

[E2] — Internal RAM Memory Error.
Fatal Error, Non-Recoverable.

[E3] — EErom Memory Error.
Occurrence at power up can be recovered going into Calibration. If it does not recover there is a problem with EEPROM's.

[E4] — External RAM Memory Error.
Fatal Error, Non-Recoverable.

[E5] — EErom belongs to the opposite scale number.
Can recover by setting the EErom in the right position or entering and leaving setup.

For error codes E6, E8-E10, E11, and E13 "XX" indicates the DLC no.

[E6] — Analog Verification Error.
Fatal Error, Non-Recoverable.

[E7] — Digital Load Cell format error (default T1 in use).
Automatically Recoverable.

[E8] — No Digital Load Cell Data Error.
Automatically recoverable, pressing the "CLEAR" key while this error is displayed will cycle load cell power.

[E9] — Digital Load Cell Out of Range error.
Automatically recoverable.

[E10] — Digital Load Cell RAM Memory error.
Automatically recoverable.

[E11] — Digital Load Cell ROM Memory error.
Automatically recoverable.

[E13] — Digital Load Cell Novram error.
Automatically recoverable.

[E14] — The calibration switch is in wrong position.

[E16] — Math overflow error.
Press "ENTER" key to display the alpha-numeric value. Record the values. Press "CLEAR" key to reset the scale. Contact Toledo Scale Service since this indicates a shift adjust or calibration error.

[E21] — Illegal Scale Capacity value.
Press "CLEAR" key and enter proper calibration constants.

[E26] — Illegal Increment value.
Press "CLEAR" key and re-enter value.

[E27] — Illegal overcapacity value selected.
Press "CLEAR" key and re-enter value.

[E32] — Insufficient Calibration Weight.
Press "CLEAR" key and enter legal load cell capacity value.

[E34] — Calibration Weight Too Large.
Press "CLEAR" key and use calibration weight less than 105% of scale capacity.

[E35] — Illegal Test Weight Build entry.
Press "CLEAR" key and use a test weight that matches the scale increment value.

[E36] — DLC cannot accept new parameters, because too little of load cell capacity is being used.
Press "CLEAR" key to restart whole calibration procedure.

[E37] — Number of cell nodes checksum error.
Insert "CAL" jumper and press "CLEAR" key. Recalibration is required.

[E E E] — Scale not zeroed error. Tare interlock and/or auto zero on power-up is enabled and weight is greater than zero.
Press "ZERO" key to zero scale or turn off tare interlock.

[-E E E] — Scale not zeroed error. Tare interlock and/or auto zero on power-up is enabled and weight is less than zero.
Press "ZERO" key to zero scale or turn off tare interlock.

TROUBLESHOOTING THE DWP44

TEST POINTS FOR SINGLE DLC CHANNELS A & B

DESK UNIT	WALL UNIT	DESIGNATION
1	A	Received Data A
2	B	Key
3	C	N.C.
4	D	Received Data B
5	E	+18 VDC
6	F	Transmit Data B
7	G	Ground
8	H	Transmit Data A
9	J	N.C.

The tolerance for the 18 volt supply is +1/-.8 VDC.
AC ripple should not exceed 30 millivolts.

TEST POINTS FOR MULTIPLE (T-LAN) NETWORKS

NOTE(S): To check power supply voltages, the 8146 must be in the weight display mode so that power to the load cells is turned on.

DWP-44 J2 (10-PIN CONNECTOR)	8146 9-PIN SUB-D CONNECTOR WEIGHT 1 THROUGH 4	AUX P/S INDICATOR A & B	DESIGNATION
1			
2			
3	2 (desk) B (wall)	2	Ground
4			
5	4 (desk) D (wall)	4	Com "B"
6	1 (desk) A (wall)	1	Com "A"
7			
8			
9	5 (desk) E (wall)	5	+24VDC
10 (key)	3 (desk) (key) C (wall)	3 (key)	Key

AUX. POWER SUPPLY PS1, PS2, PS3, PS4	DESIGNATION
1	Com A
2	Ground
3	Key
4	Com B
5	+24 VDC
6	Ground
7	Ground
8	+24 VDC
9	+24 VDC

The tolerance for the 24 VDC supply is +16 volts to 30 VDC.
AC ripple should not exceed 30 millivolts.

PIT POWER SUPPLY J1, J2, J3, J4, J5, J7, J8	DESIGNATION
1	Comm A
2	Comm A
3	+18 VDC
4	+8 VDC
5	Ground
6	Chassis Ground

APPENDIX III ANALOG CALIBRATION

PROGRAMMING PROCEDURE

This section of the manual describes the programming of the indicators' operating modes and features as well as the self-calibrating procedure.

The procedure consists of two major sections which deal with the overall setup and calibration of the indicator. Each major section contains a description of the setup and calibration procedure. Section 5.1 details the procedure for the analog type units and Section 5.2 details the procedure for the digital type units.

All question prompts and their current status, which affect the overall operation of the indicator, are displayed on the 16-character alphanumeric display. Questions which deal with the operation of a specific scale will be displayed on the associated scale's weight display.

Five front panel keys are used throughout this procedure. The keys' names and their functions are as follow:

Key Name	Description
SETUP	This key is used to enter into the setup procedure. It is also used to exit this procedure at any point in the procedure except during calibration.
ZERO	This key is used to back up to the previous question.
ENTER	This is used to accept the currently displayed answer to the question prompt.
1	This key is used as a "YES" response to the question prompt and will enable the displayed function.
0	This key is used as a "NO" response to the question prompt and will disable the displayed function. It is also used to increment to the next possible selection if the question consists of several possible choices.

To ENTER INTO THE SETUP PROCEDURE YOU MUST FIRST TURN "ON" THE SETUP LOCKOUT SWITCH(ES) — (SWITCH 2) LOCATED ON THE SCALE CHARNEL PCB(S) OR THE DWP44 PCB(s). If there are two PCB's installed in your unit, both switches must be turned "ON" to access the setup prompt. The ON position is when the switch.handle is toward the J4 connector. (Switch 2 is the slide switch.)

The following chart can be used as a quick reference for programming descriptions. Also listed is the recommended selection for each step as a beginning point of initial setup. Verify each selection to be certain that it is correct for actual usage.

ANALOG SETUP AND CALIBRATION PROCEDURE (For use with analog type load cells)

8146 PROGRAM FUNCTIONS

Step		Description	Initial Setup
		SETUP/CALIBRATE SCALES	
F2.0		TARE FUNCTIONS	
	F2.1	Tare Active	0
	F2.2	Tare Interlock	O
	F2.3	Auto Clear Tare	0
	F2.4	Tare Display Active	0
F3.0		POWER -DP FUNCTIONS	
	F3.1	Power-up Time	- 0
	F3.2	Power-up Pounds	1
	F3.3	lb/kg Switching	1
	F3.4	Expand Mode	0
	F3.5	Span Adjust	0
F4.0		AVERAGING, ZERO, AND AZM FUNCTIONS	
	F4.1	Auto Zero Maintenance	1
	F4.2	Expanded Zero Capture	0
	F4.3	Pushbutton Zero	1
	F4.4	Zero Capture Range	2
	F4.5	Notion Sensitivity	07
	F4.6	Motion Detection	03
	F4.7	Digital Filtering	1
	F4.8	Analog Verification	0

CAL ACCESS CALIBRATION

DISPLAYED PROMPTS	DESCRIPTION
[Setup Scale X]	SETUP/CALIBRATION SCALES?

This is the first prompt after entering the setup procedure and is displayed on the alphanumeric display. If you want to setup, calibrate or make any changes which deal with any one of the four possible scales connected, simply enter that scale's number (1-4) and the routine will advance to F2.O. All prompts which deal with the selected scale will be displayed on that scale's weight display. If you do not want to enter into this routine, enter an 0 and the procedure will skip to FS.O.

NOTE(S): This prompt will remain on the display throughout this routine. At the end of each scale's setup, the weight display will return to normal. At this time the unit is asking for the next scale number or a 0 to continue. The' routines that deal with each scale are: F2.0, F3.0, F4.0, and CAL.

[F2.0] ACCESS TARE FUNCTIONS? Press:

1 — To enter into the setup of all tare functions.
0 — To skip the tare setup. The procedure will advance to step Γ3.0.

[F2.1 ?] TARE ACTIVE. Press:

1 — To enable both the hand entered and auto tare function.
0 — To disable the tare function.

[F2.2 ?] TARE INTERLOCK. Press:

1 — The indication must be at true zero before tare can be removed. (True Zero i.e., actually zero minus the tare value.) Previous tare must be cleared before a second tare may be entered. This also disables a weight display on power up. The display will flash EEE until zero is captured.
0 — The tare value may be cleared or changed at any weight indication. Multiple tare will be accepted. The indication will power up with a.non-flashing weight display.

[F2.3 ?] AUTO CLEAR TARE. Press:

1	—	The tare value will automatically clear when the indication returns to zero after settling to a no-motion condition at a weight greater than ID increments.
0	—	Tare must be cleared manually by using the Clear key.

[F2.4 ?] TARE DISPLAY ACTIVE. Press:

1	—	The tare value will be displayed on the lower weight display. This is only usable when the 8146 is configured as a dual display unit.
0	—	The tare value will not be displayed.

[F3.0] ACCESS POWER UP AND lb/kg SELECTION? Press:

1	—	To enter into the setup of the power up and lb/kg selection.
0	—	To skip these setup selections. The procedure will advance to Step F4.0.

[F3.1 ?] POWER UP TIMER (Approx. 30 seconds). Press:

1	—	The weight display(s) will remain blank and the legend indicators will blink until the time-cut period has elapsed.
0	—	The weight display(s) will illuminate as soon as power is applied.

[F3.2 ?] POWER-UP POUNDS. Press:

1	—	The 8146 will power up in the lb mode.
0	—	The 8146 will power up in the kg mode.

[F3.3 ?] lb/kg SWITCHING. Press:

1	—	To enable the switching between the lb and kg modes via the keyboard.
0	—	To disable lb/kg switching. The unit will operate in the selected power up mode.

[F3.4 ?] EXPAND MODE. Press:

1 — The weight display will be expanded (showing minor increments).

0 — The weight display will not be expanded (showing major increments).

NOTE(S): The 8146 should not be left in the expand mode for Weighing. This mode is for installation evaluation and troubleshooting only. The Print, AZM, and Zero keys are disabled in this made.

[F3.5] SPAN ADJUST. Press:

1 — To enter into the span adjust. The standard calibration must #e completed to provide a reference point before attempting to use this step. Refer to Paragraph D of this Section for a detailed description of span adjustable.

0 — A "0" will be displayed on the right of the display and the span adjust mode will not be accessed.

[F4.0] ACCESS SCALE PARAMETER SELECTIONS. Press:

1 — To enter into the setup of toe scale parameter selections.

0 — To skip the scale parameter selections. The procedure will advance to step CAL.

[F4.1 ?] AUTO ZERO MAINTENANCE.

This selection allows for different AZN band and rate selections. The band size is the maximum amount of increments which can be adjusted for, and the rate is the amount of adjustment per cycle. Press:

1	—	To select the currently displayed selection. Refer to the AZM Range Chart for possible selections.
0	—	The display will update to the next selectable range.

AZM RANGE

ViewPoint Table Name: Table 6 Column Name: Column 1 Column Header: AZM Selection Column Name: Column 2 Column Header: AZM Range
0 AZM Disabled
1 ± 0.5 increment with a 0.1 rate
2 ± 1.0 increment with a 0.2 rate
3 ± 3.0 increments with a 0.4 rate

[F4.2 ?] EXPANDED AZM CAPTURE RANGE. Press:

1	—	To increase the AZM range from f2% up to f10% of the scale capacity.
O	—	The AZM range will not be increased.

[F4.3 ?] PUSHBUTTON ZERO. Press:

1	—	To enable the front panel Zero pushbutton.
0	—	To disable the front panel Zero pushbutton.

[F4.4 ?] PUSHBUTTON ZERO CAPTURE RANGE

This prompt is requesting the percent of the scale capacity that can be captured by using the Zero pushbutton. This entry is selectable from 2 to 20% of scale capacity.

[F4.5 07] MOTION SENSITIVITY SELECTION

The detection of notion disables printing, tare and pushbutton zeroing. Steps F4.5 and F4.6 program the sensitivity of motion detection. Changes in weight greater than F4.5 (minor increments over the time required to perform F4.6 (A/D cycles) are detected as motion. The "in motion" signal is provided as a status bit in the output data when the continuous output mode is selected.

Sensitivity of motion is the amount of change in weight allowed before motion is detected.

The sensitivity can be programmed in a range from 0.1 to 3 major increments in steps of 0.1 increment.

To determine what number to enter in this step, use the following procedure. Valid selections are 0* through 30 with 07 recommended as a beginning value.

* Determine the number of increments (or part of an increment) that the sensitivity should be. For example, 0.5, 1 or 0.7 increment. Multiply this number by 10. Example: If the number selected is 0.7, multiply this by 10 to get 7. This result (7) is the number to be entered for step F4.5.

NOTE(S): If a value of "0" is entered there will be no motion detection and prompt F4.6 will be skipped.

[F4.6 03] MOTION DETECTION RANGE

This step programs the number of A/D cycles over which the 8146 will monitor weight changes. The changes in weight must be less than the value programmed in step F4.5 to obtain a "no motion" signal. Numeric values between 1 and 30 A/D cycles are selectable with a beginning value of 3 recommended. If only one digit is entered, the "ENTER" key must be pressed to proceed to step F4.7.

NOTE(S):

1. The update rate of the 8146 (A/D cycles per second) is dependent upon the number of full scale increments and the amount of initial weight. It varies from approximately 11 (at 1,000 total increments) to 4 (at 50,000 total increments).

2. The smaller this number is, the greater the probability will be for detecting "no motion" since it checks for motion over shorter length of time.

[F4.7 1] DIGITAL FILTER SELECTION

This allows selection of different quantities of A/D cycles to be filtered before a display update. The higher the number, the slower the update. Press:

1	—	To select the currently displayed filtering rate. Refer to the Filter Rate Chart for possible selections.
0	—	The display will update to the next selectable filtering rate. Refer to the Filter Rate Chart (on the next page) for possible selections.

ViewPoint Table Name: Table 1
Column Name: Column 1
Column Header: Filter Selection
Column Name: Column 2
Column Header: Filtering Rate

0
NON

1
LIGHT

2
MEDIUM

3
HEAVY

4
VERY HEAVY

[F4.8 ?] ANALOG VERIFICATION. Press:

1	—	To enable analog verification.
0	—	To disable analog verification.

[CAL] ACCESS CALIBRATION MODE? Press:

1	—	To enter the calibration mode.
0	—	To skip the calibration mode. (The procedure will return to the Setup Scale prompt.)

NOTE(S): Error codes that may be displayed during calibration are described in the troubleshooting section of this manual.

[C1] FULL SCALE CAPACITY
[XXXXXX]

This display is showing you the programmed scale capacity. If this capacity is correct, press the "ENTER" Key.

If the displayed capacity is not correct for your scale, enter the desire scale capacity and press the "ENTER" Key.

[C2] INCREMENT SIZE
[XXXXXX]

At this time the unit is asking you to enter the displayed increment size.

If the displayed increment size is not correct for your scale, enter the desired size and press the "ENTER" key. This entry must include the decimal point or trailing zero if required. Maximum increment size is 500.

[C3 X] LINEARITY CORRECTION. Press:

1 — To select the two-stage linearity correction.
0 — To disable the two-stage linearity correction.

NOTE(S): This step will normally not be required.If after calibration, the indication appears to be nonlinear, this step may be used to correct this. The use of this step requires that test weights of 60% of the scale's capacity be available for calibration.

[SC] CALIBRATION SHORT CUT

This allows bypassing the actual test weight calibration by entering in previously calculated initial and span values. These values are determined AFTER the actual test weight calibration has been completed. To obtain these values, answer YES to the PRINT SETUP prompt at the end of the setup procedure. The initial and span values needed will be included in the printout of the setup parameters. Press:

1 — If the short cut initial and span values are to be used for calibration. The standard test weight calibration will be bypassed.
0 — If the initial and span values are not to be used, the 8146 will proceed with the standard test weight calibration procedure.

NOTE(S): At this time the calibration sequence will follow one of the four possible procedures. The procedure this sequence takes depends on how you answered the "Linearity Correction" and "Calibration Short Cut" prompts. Use the following chart to determine which procedure you should follow.

ViewPoint Table Name: Table 2

Column Name: Column 1
Column Header: Linearity Correction

Column Name: Column 2
Column Header: Calibration Shortcut

Column Name: Column 3
Column Header: Follow

NO
NO
Procedure A

YES
NO
Procedure B

NO
YES
Procedure C

YES
YES
Procedure D

PROCEDURE A: Normal Calibration without linearity correction.

[EP SCL]	EMPTY SCALE	Remove all weight from the scale platform. Press the "ENTER" key to continue.
[15 CAL]	TIME OUT	The display will count down from 15 to 0 while initial is being set.
[ADD LD]	ADD LOAD	Place the selected test weights on the scale platform. This should be at least 50% of the scale's capacity. Press the "ENTER" key to continue.
[XXXXXXXX]	TEST WEIGHT	The value of the test weights used must be entered. Fractional or decimal values are not acceptable — only whole numbers. Press the "ENTER" key to continue.
[15 CAL]	TIME OUT	The display will count down from 15 to 0 while span is being set.
[EP SCL]	EMPTY SCALE	Remove all weight from the scale platform. Press the "ENTER" key to continue.
[15 CAL]	TIME OUT	The display will count down from 15 to 0 while initial is being reset.
[CAL A]	CALIBRATION	This display will appear after calibration is complete and will be COMPLETE display for approximately three seconds. At the end of this time the display will show S TILE for approximately two seconds. The weight display will then return to normal.

PROCEDURE B: Normal Calibration with linearity correction.

[EP SCL]	EMPTY SCALE	Remove all weight from the scale platform. Press the "ENTER" key to continue.
[15 CAL]	TIME OUT	The display will count down from 15 to 0 while initial is being set.
[ADD A]	ADD HIGH	Place the selected test weights on the platform. This WEIGHT MUST be greater than 60%, but less than 100% of scale capacity. Press the "ENTER" key to continue.
[XXXXXXXX]	TEST WEIGHT	The value of the test weights must be entered. Fractional or decimal weights are not acceptable — only whole numbers. Press the "ENTER" key to continue.
[15 CAL]	TIME OUT	The display will count down from 15 to 0 while high span is being set.
[ADD B]	ADD LOW	Place the selected test weights on the platform. This WEIGHT MUST be greater than 30%, but less than 50% of scale capacity. Press the "ENTER" key to continue.
[XXXXXXXX]	TEST WEIGHT	The value of the test weights must be entered. Fractional or decimal weights are not acceptable — only whole numbers. Press the "ENTER" key to continue.
[15 CAL]	TIME OUT	The display will count down from 15 to 0 while low span is being set.
[EP SCL]	EMPTY SCALE	Remove all weight from the scale platform. Press the "ENTER" key to continue.
[15 CAL]	TIME OUT	The display will count down from 15 to 0 while initial is being reset.
[CAL A]	CALIBRATION	This display will appear after calibration is complete and will be displayed for approximately three seconds. At the end of this time the display will show S FILE for approximately two seconds. The weight display will then return to normal.

PROCEDURE C: Shortcut Calibration without linearity correction.

[0]	"T0" ENTRY Enter the time value obtained for "T0".	
[0]	"T1" ENTRY Enter the time value obtained for "T1".	
[FS A]	FINE SPAN-HIGH	Enter the value obtained for the high order of the fine span adjustment.
[FS B]	FINE SPAN-LOW	Enter the value obtained for the low order of the fine span adjustment.
[FO A]	FINE ZERO-HIGH	Enter the value obtained for the high order of the fine zero adjustment.
[FO B]	FINE ZERO-LOW	Enter the value obtained for the low order of the fine zero adjustment.
[CAL A]	CALIBRATION	This display will appear after calibration is complete. COMPLETE and will be displayed for approximately three seconds. At the end of this time the display will show S FILE for approximately two seconds. The weight display will then return to normal.
[0]	"T0" ENTRY Enter the time value obtained for "T0".	
[1]	"T1" ENTRY Enter the time value obtained for "T1".	
[FS A]	FINE SPAN-HIGH	Enter the value obtained for the high order of the fine span adjustment.
[FS B]	FINE SPAN-LOW	Enter the value obtained for the low order of the fine span adjustment.
[FO A]	FINE ZERO-HIGH	Enter the value obtained for the high order of the fine zero adjustment.
[FO B]	FINE ZERO-LOW	Enter the value obtained for the low order of the fine zero adjustment.

[LF ?]	LINEARITY DIRECTION	This prompt is asking you in which direction the linearity factor should be. Enter the value obtained from the printout. 1A negative linearity factor. 0A positive linearity factor.
[LF A]	LINEARITY FACTOR-HIGH	Enter the value obtained for the high order of the linearity factor.
[LF B]	LINEARITY FACTOR-LOW	Enter the value obtained for the low order of the linearity factor.
[SP A]	SPAN FACTOR -HIGH	Enter the value obtained for the high order of the span factor
[SP B]	SPAN FACTOR -LOW	Enter the value obtained for the low order of the span factor.
[CAL A]	CALIBRATION	This display will appear after calibration is completed. COMPLETE and will be displayed for approximately three seconds. At the end of this time the display will show S FILE for approximately two seconds. The weight display will then return to normal.

APPENDIX IV SPECIAL FUNCTION KEY DEFINITIONS

The following keys have special significance:

<Basic ID:>
This key will allow the operator to enter a 16 character field that can be printed on the ticket. It can be entered at any time in the semi-auto mode except while printing. It can be entered in automatic between the time that the ticket prints, and the next truck starts onto the scale. Note that the traffic lights will not charge and no ticket will print while the basic ID is being entered.

<Edit:>
This key will allow the operator to enter three 16 character fields that can be printed on the ticket (description lines 1, 2, and 3). The edit function works the same as the Basic ID function.

<Zero:>
The zero key will zero all scales when the process trucks mode. The scales will only zero if they are within the range setup for scale zero, and there is no motion on the scale.

<Select Mode:>
This key is used for function select. Pushing this key when not actually weighing a truck will allow the operator to access report and setup modes if he knows the password. It also allows access to the 8146 mode.

<Weigh:>
This key is not used in th automatic mode. In semi-auto mode, pressing this key will cause a ticket to be generated.

<Re-Weigh:>
Pressing the key in the semi-automatic mode will cause a re-weigh transaction ticket to print. Pressing the key in the automatic mode will let the system know that the next truck to drive on the scale is to be re-weighed.

<R:>
Pressing the "R" key will cause the system to reset as described above in the automatic mode (if enabled in setup).

<A:>
If in the semi-auto mode, pressing the "A" key will cause the system to enter the automatic mode (if enabled in setup).

<P:>
Pressing the "P" key will cause the system to reprint the last ticket printed (if enabled in setup).

<I:>
Pressing the "I" key while in the process trucks mode will allow the operator to process trucks in the "ID WEIGH/RE-WEIGH" mode.

<T:>
Pressing the "T" key will allow system clock setup.

<S:>
If in the automatic mode, pressing the "S" key will cause the system to enter the semi-auto mode.

<F:>
After pressing the select mode to get the "Select Function" prompt, the "F" key should be pressed followed by "1" to process more trucks, "2" to modify setup parameters, "3" to print a summary report, "4" to enter 8146 mode or "5" to enter in-process report mode. The number key must be pushed within 3 seconds of pushing the "F" key, or the number will be ignored.

<DBL:>
If in the semi-auto mode, pressing the "DBL" key will cause the system to enter the Double transaction mode (if enabled).

<TRI:>
If in the semi-auto mode, pressing "TRP" key will cause the system to enter the Triple transactio mode (if enabled).

<MOV:>
If in the semi-auto mode, pressing the "MOV" key will cause the system to print a Moving Van transaction (if enabled).

The truck system requires additional keys for full operation please relabel the keys as follows:

SETPOINT ->	DBL
TEST ->	TRI
ID ->	MOV
PRINT ->	WEIGH
LB/KG ->	RE-WEIGH
SUM ->	SELECT MODE

NOTE: A maximum of 11 axles can be summed at one time in the Double or Triple Mode.

APPENDIX V CUSTOM TICKET FORMAT

The ticket format must be selected in the ticket site file setup. The operator will have to program in both the Semi/Auto and Triple format into the same site file. The field called ticket types will specify if the data selected is to be printed on the Semi/Auto transaction, the Double/Triple transaction or both. The operator will designate the data output selection using the following types.

TICKET	TYPE FORMAT
1	Semi/Auto Format
2	Triple/Double Format
3	All ticket formats except Moving Van
4	Moving Van formats
5	ID Mode Weigh (Semi-Auto) SEE NOTE
6	ID Mode Re-Weigh (Semi-Auto) SEE NOTE
7	ID Mode Weigh (Double and Triple) SEE NOTE
8	ID Mode Re-Weigh (Double and Triple) SEE NOTE
9	ID Mode common fields SEE NOTE

NOTE: ALL ID MODE TICKETS WILL BE PRINTED ON THE CERTIFIED TICKET PRINTER!

SAMPLE TICKET (STANDARD SEMI OR AUTO)

Time	Date			
01:40 PM	05 21 87		CN	000000014

BASIC ID STRING
DESCRIPTION LN 1
DESCRIPTION LN 2
DESCRIPTION LN 3

Axles 1 2 3	13880 lb	14020 lb	12500 lb
Total	50400 lb	Standard	$5.00 Fee

SAMPLE TICKET (DOUBLE)

Time	Date		
01:40 PM	05 21 87	CN	000000014

BASIC ID STRING
DESCRIPTION LN 1
DESCRIPTION LN 2
DESCRIPTION LN 3

Axles 1 2 3 4 5	13880 lb	14020 lb	12500 lb
	10000 lb	20000 lb	
Total	70000 lb	Double Standard	$5.00 Fee

TICKET FORMAT FOR SAMPLE TICKET

FIELD	LINE	COLUMN	CODE	TICKET TYPE	EXPAND	
1	2	1	6	3	0	"Time"
2	2	11	7	3	0	"Date"
3	4	1	35	3	0	HH:MM:SS
4	4	11	36	3	0	MM/DD/YY
5	4	31	16	3	0	"CN"
6	4	40	38	3	0	Consecutive #
7	6	1	28	3	0	Desc line 1
8	6	31	37	3	0	Basic ID

FIELD	LINE	COLUMN	CODE	TICKET TYPE	EXPAND	
9	8	1	29	3	0	Desc line 2
10	10	1	30	3	0	Desc line 3
11	12	1	31	3	0	Axle Mesg
12	12	19	43	1	0	Scale 1 Gross
13	12	28	34	3	0	Scale units
14	12	31	44	1	0	Scale 2 Gross
15	12	40	34	3	0	Scale units
16	12	43	45	1	0	Scale 3 Gross

FIELD	LINE	COLUMN	CODE	TICKET TYPE	EXPAND	
17	12	52	34	3	0	Scale units
18	12	19	55	2	0	Axle 1 wgt
19	12	31	56	2	0	Axle 2 wgt
20	12	43	57	2	0	Axle 3 wgt
21	12	55	58	2	0	Axle 4 wgt
22	12	67	59	2	0	Axle 5 wgt
23	12	19	55	2	0	Axle 6 wgt
24	12	31	56	2	0	Axle 7 wgt
25	12	43	57	2	0	Axle 8 wgt
26	12	55	58	2	0	Axle 9 wgt
27	12	67	59	2	0	Axle 10 wgt
28	12	43	57	2	0	Axle 11 wgt
29	12	77	34	2	0	Scale units
30	14	1	8	3	0	"Total"
31	14	12	47	1	0	Sum of Gross wgts
32	14	12	40	2	0	Sum of axles or net wgts
33	14	22	34	3	0	Scale units
34	14	31	54	2	0	"Triple"
35	14	39	32	3	0	"Standard" or "Re-Weigh"
36	14	45	17	3	0	"$"
37	14	46	33	3	0	XX.XX fee amount
38	14	55	42	3	0	"Fee"

APPENDIX VI CUSTOM TICKET FORMAT TABLE

DATA CODE CHART FOR USER CONFIGURABLE TICKET

DATA CODE #	DESCRIPTION	DATA FIELD TYPE	FIELD LENGTH IN CHARACTERS
01	One Null Character	Constant	1
02	lb	Constant	2
03	kg	Constant	2
04	Axle #1	Constant	7
05	Axle #2	Constant	7
06	Time	Constant	4
07	Date	Constant	4
08	Total	Constant	5
09	Axle #3	Constant	7
10	Axle #4	Constant	7
11	Weight	Constant	6
12	Gross	Constant	5
13	Axle #5	Constant	7
14	Axle #6	Constant	7
15	ID	Constant	2
16	CN	Constant	2
17	$	Constant	1
18	Axle #7	Constant	7
19	Axle #8	Constant	7
20	Axle #9	Constant	7
21	Axle #10	Constant	8
22	Axle #11	Constant	8
23	Axle #10 WGT	Variable	8

DATA CODE CHART FOR USER CONFIGURABLE TICKET

DATA CODE #	DESCRIPTION	DATA FIELD TYPE	FIELD LENGTH IN CHARACTERS
24	Axle #11 WGT	Variable	1
25	Moving Van	Constant	10
26	Spare	——	——
27	Spare	——	——
28	Description Line 1	Variable	16
29	Description Line 2	Variable	16
30	Description Line 3	Variable	16
31	Axles 1 2 3 4 (** Note 1)	Variable	20
32	Fee/Re-Weigh Text (** Note 2)	Variable	8
33	Fee Amount (** Note 3)	Variable	7
34	Sum Units ("lb" or "kg")	Variable	2
35	Time	Variable	8
36	Date	Variable	8
37	Basic ID	Variable	16
38	Consecutive Number	Variable	9
39	Selected Scale units	Variable	2
40	Net Sum of Scales (Sum Units)	Variable	7
41	Re-Weigh	Constant	8
42	Fee	Constant	3
43	Scale 1 Gross (Sum Units)	Variable	8
44	Scale 2 Gross (Sum Units)	Variable	8
45	Scale 3 Gross (Sum Units)	Variable	8
46	Scale 4 Gross (Sum Units)	Variable	8

DATA CODE CHART FOR USER CONFIGURABLE TICKET

DATA CODE #	DESCRIPTION	DATA FIELD TYPE	FIELD LENGTH IN CHARACTERS
47	Gross Sum of Scales (Sum Units)	Variable	7
48	Scale 1 Net (Sum Units)	Variable	8
49	Scale 2 Net (Sum Units)	Variable	8
50	Scale 3 Net (Sum Units)	Variable	8
51	Scale 4 Net (Sum Units)	Variable	8
52	Triple	Variable	6
53	Double	Variable	6
54	"Triple" or "Double" (***Note 4)	Variable	6
55	Axle 1 WGT	Variable	8
56	Axle 2 WGT	Variable	8
57	Axle 3 WGT	Variable	8
58	Axle 4 WGT	Variable	8
59	Axle 5 WGT	Variable	8
60	Axle 6 WGT	Variable	8
61	Axle 7 WGT	Variable	8
62	Axle 8 WGT	Variable	8
63	Axle 9 WGT	Variable	8
64	"Duplicate" or " "	Variable	9
65	Gross Weight In ID Mode	Variable	7
66	Tare Weight In ID Mode	Variable	7
67	Net Weight In ID Mode	Variable	7
68	In-Process Truck ID	Variable	9
69	Tare	Constant	4
70	Net	Constant	3

DATA CODE CHART FOR USER CONFIGURABLE TICKET

DATA CODE #	DESCRIPTION	DATA FIELD TYPE	FIELD LENGTH IN CHARACTERS
71	Weights Shown Above	Constant	19
72	Are Not Certifiable	Constant	19
73	Certified Weight	Constant	16
74	"Gross" or "Tare " (***Note 5)	Variable	5
75	Only	Constant	4
76	Time in HHMMSS Format	Variable	6
77	"GROSS ONLY" OR TARE AND UNITS	Variable	11
78	"TARE ONLY" OR GROSS AND UNITS	Variable	11
79	Description Line 4	Variable	16
80	Description Line 5	Variable	16
81	Description Line 6	Variable	16

NOTE 1: This message automatically configures for the correct number of scales in the system or correct number of axles summed.

NOTE 2: This message automatically configures as "Standard" if this is not a re-weigh transaction, and configures as "Re-Weigh" if this is a re-weight transaction.

NOTE 3: This message automatically configures as the weigh fee if this is not a re-weigh transaction, and configures as the re-weigh fee if this is a re-weigh transaction.

NOTE 4: This message automatically configures as "Triple" if it is a Triple transaction.

NOTE 5: Data Code 77 will print "GROSS ONLY" or the Tare Weight and units in the "ID Weigh" Mode. Data Code 78 will print "TARE ONLY" or Gross Weight and units in the "ID Weigh" Mode.

APPENDIX VII AUDIT TRAIL PRINTOUT

11/22/8914:36 N STANDARD 6000 @ 5:00
11/22/8914:36 N STANDARD 6000 @ 5:00
11/22/8914:36 N RE-WEIGH 6000 @ 4:50
11/22/8914:36 N STANDARD 6000 @ 5:00
11/22/8914:37 D STANDARD 6000 @ 5:75
11/22/8914:37 D RE-WEIGH 6000 @ 5:25
11/22/8914:37 T STANDARD 6000 @ 6:50
11/22/8914:37 T RE-WEIGH 6000 @ 5:75
11/22/8914:38 M 6000 @ 2:50
11/22/8914:38 NO TICKET PRINTED

N — NORMAL
D — DOUBLE
T — TRIPLE
M — MOVING VAN
NO TICKET PRINTED = BLIND COUNT INCREMENT

APPENDIX VIII SAMPLE IN-PROCESS TRUCK REPORT

In-Process Truck Report

09:01 10/10/91

Truck ID Weight

111111111 43020 lb
ABCDEFGHI 112800 lb
999999999 267000 lb

* End of Report*

APPENDIX IX PARTS LIST

Recommended Spare Parts

It is recommended that spare parts be kept in stock in order to keep equipment downtime to a minimum. It is also recommended that a parts catalog be on hand so that items may be properly identified for correct and prompt delivery. The Parts Catalog number is PC 008146100. All items are available through your local Authorized Toledo Scale Service Representative.

Part Number	Description
KT665032LRJ	CPU PCB w/TSM847 Software
(*) 124654 00A	Fuse, 1.5 Amp, Slo Blo
(*) 128126 00A	Keyboard Assembly
(*) 125270 00A	Dot Matrix Display PCB
(*) 125252 00A	Dual Weight Display PCB
(*) 125262 00A	Dual Serial Converter PCB
(*) 125268 00A	Power Supply PCB
(*) 120731 00A	Scale Channel PCB**
(*) 123018 00A	Analog PCB**
(*) 125258 00A	Motherboard PCB
(*) 125502 00A	Serial I/O PCB**
(*) 130165 00A	Scale DWP (DigiTOL®) PCB**

* Part numbers by have a revision level.
** Optional boards as required by system configuration.

CABLES AND MATING CONNECTORS

To remove wall mount cables, press in toward enclosure and twist counter-clockwise.

PRINTER INTERCONNECT CABLES

PRINTER	8146	LENGTH	PART NUMBER	SALES NUMBER
8804	DESK	6′	A115544 00A	0900-1036-0000
		20′	A115545 00A	0900-1037-0000
&				
8806	WALL	6′	A115574 00A	0900-0188-0000
		20′	A115575 00A	0900-0189-0000
8840	DESK	6′	A128220 00A	0900-0214-0000
8842				
&				0900-0215-0000
8843	WALL	20′	A128221 00A	
8860	WALL	20′	130163 00A	0100-0250-0000
8855	DESK	6′	B119722 00A	0900-0197-0000
	WALL	20′	A122579 00A	0900-0187-0000

* Adaptor plug included with the 8804 and 8860 must be used.
** Contact Fast Factory for ordering information.

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(90174800A)