

INSTRUCTION MANUAL

TA-1253

Forney “Test Pilot” Digital Indicator

MN-TA-1253.24.1

WWW.FORNEYONLINE.COM

CONTENTS

Support & Contact Information 3

Warranty 4

Safety Warnings 10

Installation Procedure..... 11

Hardware 12

Operation..... 16

Calibration..... 27

Quick Guide to Running a Test 31

Special Display Modes..... 33

Specifications 34

Menu Tree 37

Default Specimen Parameters..... 40

SUPPORT & CONTACT INFORMATION

Support Ticket:

The fastest way to get technical help is through our support ticketing system. Click this link to complete the form and our support team will get you answers ASAP:

<https://forneyonline.com/customer-service/>

General Phone Support:

We still believe in service defined by a helpful voice at the other end of the phone. Our technical team is available for unlimited general product support inquiries on all the equipment we manufacture. Reach us via phone or email: Monday – Friday 8:00 AM to 5:00 PM Eastern

Phone: 724-346-7400 | Toll-Free: 800-367-6397

We offer unlimited Remote Technical Support for all Forney Testing Machines during the two-year warranty period. Please have your machine model and serial number available. After that period, we continue to offer General Phone Support, but Remote Technical Support invoices at \$150 per occurrence.

For ForneyVault® subscribers, post warranty remote technical support fees are waived for the life of your subscription.

Explore Our Knowledge Base:

Browse our knowledge base for informative articles to help you use, maintain, and troubleshoot Forney testing machines: <https://knowledge.forneyonline.com/>

WARRANTY POLICY

SALES TERMS AND CONDITIONS

1. **Definitions:** As used in these Terms and Conditions, "Machinery" means any equipment, material, product, motor, article or item quoted or sold by or through Forney and/or listed on any document attached hereto or prepared in connection herewith. "Forney" means Forney, its affiliates and any entity for whom Forney acts as agent in connection with the sale of Machinery. "Purchaser" means all persons and entities acquiring Machinery from or through Forney.
2. **Offer and Acceptance:** These Terms and Conditions constitute an offer to sell Machinery and/or services which may be accepted only in accordance with these Terms and Conditions and without modification, addition, deletion or alteration. In the event that any correspondence, form documents (e.g., purchase order or acknowledgment forms) or sale terms submitted by or on behalf of Purchaser contain terms in addition to or different from those set forth herein, those additional or different terms are hereby rejected. Forney's willingness to contract with Purchaser is expressly conditioned on Purchaser's acceptance of the terms set forth below, which shall be deemed to constitute a counter-offer to any conflicting terms submitted by Purchaser.
3. **Duration of Offer:** Any quotations or offers extended by Forney are subject to immediate acceptance and prior sale. Forney reserves the right to withdraw, change or alter any quotation or offer submitted by it at any time prior to written acceptance.
4. **Delivery and Delay:** The shipping date or dates that may be set forth in any correspondence or document from Forney are approximate only and Forney shall not be liable for failure to deliver, delay in delivery or any other hindrance of performance occasioned by causes beyond Forney's control including, without limitation, strikes, labor shortages, labor stoppages, lockouts or other labor troubles, material shortages, fires, riots, floods, embargoes, war or other outbreak of hostilities, acts of God, inability to obtain shipping space, machinery breakdown, delays of carriers or suppliers, governmental acts and regulations and actions by Purchaser. In the event of such delay or hindrance, Forney shall be entitled to an extension of time commensurate with the delay or hindrance. Unless expressly agreed to the contrary by Forney in writing, all sales of Machinery by Forney are made "as is, where is" and shipped F.O.B. point of shipment; all risks of loss or damage in transit shall be borne exclusively by Purchaser; and all deliveries of Machinery to a common carrier or licensed trucker shall constitute delivery to Purchaser. Unless expressly agreed to the contrary by Forney in writing, Purchaser shall be solely and exclusively responsible for all costs and risks of loss or damage associated with the loading, shipment, transport, unloading, assembly and installation of all Machinery acquired from Forney. FORNEY SHALL NOT BE LIABLE FOR ANY DAMAGES ATTRIBUTABLE TO DELAYED SHIPMENT OR LATE DELIVERY INCLUDING, WITHOUT LIMITATION, INDIRECT, SPECIAL, INCIDENTAL OR

CONSEQUENTIAL DAMAGES RELATING THERETO.

5. **Cancellation by Purchaser:** Upon cancellation by Purchaser of all or any part of a Purchase Order or other commitment to purchase from Forney, liquidated damages shall be payable by Purchaser as follows: Full cost to Forney of (i) all amounts expended or committed by Forney to acquire the Machinery ordered by Purchaser and to assemble the Machinery for shipment; (ii) all work in process relating to Purchaser's order; (iii) all equipment costs incurred by Forney in connection with Purchaser's order, including commitments made for the use of such equipment; (iv) all engineering, travel and rental costs incurred as a result of Purchaser's order; and (v) an amount equal to 30% of the aggregate of (i), (ii), (iii) and (iv) above for administrative overhead.
6. **Transportation and Insurance Charges:** Except as may be specifically agreed to in writing by Forney, Forney shall not be responsible for freight, transportation, insurance, shipping, storage, handling, demurrage or similar charges. If such charges are by the terms of any quotation or offer extended by Forney included in the price of the Machinery, any increase in the applicable rates which becomes effective after the date of Forney's quotation or order shall be to the account of Purchaser.
7. **Taxes and Permits:** All sales, excise, gross receipts, value added or similar taxes, whether presently in force or hereafter enacted, shall be deemed extra charges and Purchaser agrees to pay the same at applicable rates. All licenses and permits, whether federal, state, local or those of a foreign government shall be obtained by Purchaser at Purchaser's expense. Purchaser shall be solely and exclusively responsible for all trade tariffs, import/export permits, charges and taxes, customs duties, stamp duties, registration fees, clearances and other consents arising from or connected with the purchase of any Machinery being acquired from Forney.
8. **Spare Parts:** Spare parts are not included in any quotation or offer of Forney unless expressly provided for in writing. At the request of Purchaser, spare parts shall be quoted separately, if available to Forney.
9. **Installment Delivery:** Forney reserves the right to deliver the Machinery in installments. Delay in the delivery of any installment shall not relieve Purchaser of its obligation to accept remaining deliveries of Machinery.
10. **Change Orders:** In the event that Purchaser desires to alter any Purchase Order previously submitted, Purchaser shall submit to Forney a written change order which shall become effective only upon written acceptance by an authorized officer of Forney.
11. **Modifications:** No modifications to these Terms and Conditions shall be effective unless agreed to in writing by an authorized officer of Forney. Any attempt to modify these Terms and Conditions by an instrument or form not executed by an authorized officer of Forney shall be ineffective.

12. **Governing Law:** The transaction between Forney and Purchaser contemplated by any quotation or Purchase Order shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania. All matters dealt with by any quotation or Purchase Order to which Forney is a party shall be governed by the Uniform Commercial Code, as in force in the Commonwealth of Pennsylvania on the effective date of the acceptance of the quotation or Purchase Order by Purchaser. In no event shall provisions of the United Nations Convention on Contracts for the International Sale of Goods apply to or govern the provisions of any agreement involving the sale of Machinery by Forney.
13. **Terms of Payment:** Unless Forney has specifically agreed to the contrary in writing, fifty (50) percent of the purchase price shall be paid by Purchaser immediately after Purchaser's acceptance of Forney's quotation or offer; and the remaining fifty (50) percent must be received by Forney prior to shipment of the Machinery. In the event that payment is not received when due, an interest charge of 1-1/2% per month will be charged on the overdue amount.
14. **Return Privilege:** Subject to the following provisions of this paragraph 14, any Machinery that is purchased from Forney's inventory "as is, where is" may be returned freight prepaid within 15 days of initial receipt for a refund of the purchase price if (i) the Machinery fails to conform to Forney's description in a respect material to its operation, and (ii) Forney has been informed in advance of the alleged nonconformity and has authorized the return in writing. Subject to paragraph 16 below, if applicable, the foregoing shall be the sole and exclusive remedy with respect to any issue or claim arising from any Machinery sold by Forney and shall not apply if the Machinery has been (i) damaged by Purchaser or subjected to misapplication, neglect or abnormal conditions of operation, (ii) damaged in transit, or (iii) sold directly from auctions, private users' plants, or any other sale or trade other than from Forney's stock. All returns shall be subject to a twenty-five percent (25%) restocking charge.
15. **Compliance with Safety Regulations:** In the event Forney performs installation or engineering services at the facility of Purchaser, Purchaser shall be solely and exclusively responsible for ensuring that working conditions at Purchaser's facility comply with all applicable federal, state and local safety rules and regulations, including but not limited to those promulgated under the Occupational Safety and Health Act of 1970 (collectively, the "Safety Regulations"). Purchaser shall be liable for all fines and penalties of whatsoever kind or nature in the event that said working conditions do not comply with such Safety Regulations. It is the duty of Purchaser to inspect all Machinery purchased from Forney, to provide proper safety devices to safeguard the operators from harm and to ensure compliance with all applicable Safety Regulations. Forney makes no representations or warranties that any Machinery sold by it complies with the Safety Regulations and specifically disclaims any liabilities arising from noncompliance.
16. **Forney F, FHS and LT Series Testing Machines Limited Warranty:** With respect to Testing

Machines that have been manufactured by Forney only, and not with respect to any other Machinery quoted or sold by Forney or its affiliates, Forney warrants to Purchaser that for a period of two (2) years from the date of shipment, the Machinery will be substantially free of defects in materials and workmanship. In the event such Machinery is found to have a material defect in materials or workmanship, Forney shall remedy said defect by exercising one of the following three options, the choice of which shall be exclusively that of Forney. The options are: (a) Return of the Machinery to Forney for a refund of the purchase price paid by Purchaser; (b) Return of the Machinery to Forney for rebuilding by Forney, provided that Forney will rebuild the Machinery during regular working hours and will not be responsible for overtime or special rates; or (c) Replacement of the Machinery or components. Forney shall not be responsible for paying overtime or special rates to rebuild the Machinery. In the event that the option initially selected by Forney is not effective in remedying the defect, Forney retains the right to select either or both of the remaining options. Purchaser's damages for any breach by Forney of its obligations to remedy defects pursuant to this Paragraph 16 shall not exceed the cost of such remedial effort.

17. **Other Forney Manufactured Items Limited Warranty:** With respect to other items that have been manufactured by Forney only, and not with respect to any other Machinery quoted or sold by Forney or its affiliates, Forney warrants to Purchaser that for a period of (90) days from the date of shipment, the Machinery will be substantially free of defects in materials and workmanship. In the event such Machinery is found to have a material defect in materials or workmanship, Forney shall remedy said defect by exercising one of the following three options, the choice of which shall be exclusively that of Forney. The options are: (a) Return of the Machinery to Forney for a refund of the purchase price paid by Purchaser; (b) Return of the Machinery to Forney for rebuilding by Forney, provided that Forney will rebuild the Machinery during regular working hours and will not be responsible for overtime or special rates; or (c) Replacement of the Machinery. Forney shall not be responsible for paying overtime or special rates to rebuild the Machinery. In the event that the option initially selected by Forney is not effective in remedying the defect, Forney retains the right to select either or both of the remaining options. Purchaser's damages for any breach by Forney of its obligations to remedy defects pursuant to this Paragraph 17 shall not exceed the cost of such remedial effort.

18. **Items not manufactured by Forney Limited Warranty:** With respect to items that have not been manufactured by Forney, and not with respect to any other Machinery quoted or sold by Forney or its affiliates, Forney will pass on to the customer the benefit of any warranty Forney received from the original equipment manufacturer.

- a. In order to obligate Forney under this Limited Warranty, Purchaser must notify Forney in writing within ten (10) days of the appearance of the defect, provide full details concerning the defect, and discontinue use of the Machinery. Upon receipt of this information, Forney will provide service instructions or shipping instructions. If shipping instructions are provided by Forney, Purchaser shall send the Machinery in accordance with those instructions and with freight charges prepaid by Purchaser.

If Forney determines that repairs are warranted under the terms of this Limited Warranty because of defects, Forney will provide repair services at its place of business and the cost of such repair services and return freight charges will be paid by Forney; provided, however, that Forney may instead refund the purchase price in lieu of making such repairs. If Forney determines that the alleged defects are not covered by this Limited Warranty, the cost of its repair services and return freight charges will be paid by Purchaser. This Limited Warranty shall not apply if the Machinery has been assembled, installed, used, altered or handled in a manner contrary to any written instructions provided with the Machinery or if the Machinery has otherwise been subjected to misuse, neglect or abnormal conditions of operation.

19. **Machine Safety and Indemnification:** By accepting a quotation or "Offer to Sell" from Forney, Purchaser acknowledges and agrees that Forney has made no representations or warranties concerning the safety of the Machinery being sold, either on its own behalf or for anyone possessing an interest in the Machinery. Purchaser further acknowledges and agrees that Machinery sold by Forney may not include necessary safety equipment to permit safe operation or to comply with local, state, Federal, industry and/or other applicable Safety Standards or requirements. Before placing the Machinery in use, Purchaser agrees to utilize such safety equipment and give operators such instructions and/or warnings as may be necessary to permit safe operation and to comply with all local, state, federal, industry and/or other applicable Safety Standards, requirements and regulations. Purchaser further agrees to indemnify and hold Forney harmless from and against any and all claims and liabilities which may be incurred by Forney, including any and all costs and attorney fees, based in whole or in part on the failure to comply with applicable Safety Standards and/or the failure to provide safety equipment, instructions and/or warnings necessary to operate the Machinery safely.
20. **Warranties and Remedies Exclusive; Further Warranties and Remedies Disclaimed:** EXCEPT FOR THE LIMITED WARRANTY PROVIDED PURSUANT TO PARAGRAPH 16 THROUGH 19 ABOVE, FORNEY MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, WRITTEN OR ORAL, WITH RESPECT TO THE CONDITION, PERFORMANCE OR SHIPMENT OF ANY MACHINERY SOLD BY IT OR ANY COMPONENTS THEREOF, WHETHER OR NOT THE MACHINERY OR COMPONENTS HAVE BEEN REBUILT, ENGINEERED OR DESIGNED IN WHOLE OR IN PART BY FORNEY OR ANY AFFILIATE OF FORNEY. FORNEY SPECIFICALLY DISCLAIMS, AND PURCHASER HEREBY WAIVES, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. It is specifically understood and agreed that except to the extent provided in paragraph 16 through 19 above, Forney shall have no liability, whether claimed in contract, equity, tort (including negligence) or otherwise, for or resulting from defaults in workmanship or materials or failure of performance of any Machinery sold by it.
21. **Limitation of Liability:** Forney shall not be liable for any special, incidental, indirect or consequential damages, or for any equivalent proximate damages, arising out of or connected with any Machinery sold or services provided by it, regardless of whether any

such liability shall be claimed in contract, equity, tort (including negligence) or otherwise. By way of example of the foregoing limitation of liability, but without limiting in any manner its scope or application, Forney shall not be liable for all or any part of any of the following, no matter how claimed, computed or characterized:

- a. Loss of profits or revenue, loss of return on investment, cost of capital, loss of operating time or production, loss or reduction of use or value of any facilities or replacement products, or increased costs of operation or maintenance; (b) damages incurred in the unloading, assembly or installation of the Machinery; (c) damages relating to the operation of the Machinery or to any products manufactured in whole or in part with the use of the Machinery; or (d) interruption of business. The limitation of liability contained in this Paragraph 21 shall be effective without regard to Forney's performance or failure or delay of performance under any other terms and conditions, including those contained in Paragraph 16 through 19 hereof.
22. **Indemnification:** In consideration of Forney's agreeing to sell items of Machinery to Purchaser and/or to provide services to Purchaser, and intending to be legally bound hereby, Purchaser covenants and agrees to indemnify and hold Forney and its affiliates harmless from and against any and all claims, demands, actions, causes of action, damages, costs and expenses, including attorney's fees, which arise directly or indirectly from Forney's sale of Machinery and/or services to Purchaser. Without limitation as to the foregoing, Purchaser's indemnity shall encompass and include any and all incidental, special, direct, indirect and consequential damages incurred by it including, without limitation, lost profits, damage to reputation, injury to persons (including death) and damage to property.
23. **Dispute Resolution and Venue:** The sole and exclusive means of resolving any dispute which may arise from Forney's sale of Machinery and/or services to Purchaser shall be the submission of such dispute to arbitration under the auspices of the American Arbitration Association in Pittsburgh, Pennsylvania.

WARNINGS / CAUTIONS

ONLY QUALIFIED PERSONNEL MAY OPERATE EQUIPMENT TAKING NOTE OF THE FOLLOWING

MOVING PARTS CAN CRUSH AND CUT – Keep hands clear of moving parts while operating machinery!

WEAR SAFETY GLASSES WHILE OPERATING EQUIPMENT – Always wear safety glasses while operating machinery!



INSTALLATION

Inspection

Upon receiving shipment of your new machine, before uncrating or unpacking, inspect the crates/boxes for signs of freight/handling damage.

If container shows visible signs of damage, please note damage to freight carrier at time of delivery. If severe damage to package or machine is discovered during delivery, refuse delivery due to freight damage.

Uncrating

- To properly uncrate your new Forney Testing Machine, follow these steps:
- Remove metal straps around crate/box with suitable cutters (shears) if banded.
- Remove top of box/crate.
- Remove wooden braces on the top and sides of the machine if braced.
- If crated, remove the sides of the crate, if boxed, remove the entire box.
- If accessories are included, unband/unbrace and remove accessories.
- Cut all remaining bands, remove all wooden braces on pallet.
- Machine can now be removed from pallet.
- Locate the packing list and check parts and units against the packing list to make sure the shipment is complete.

Installation

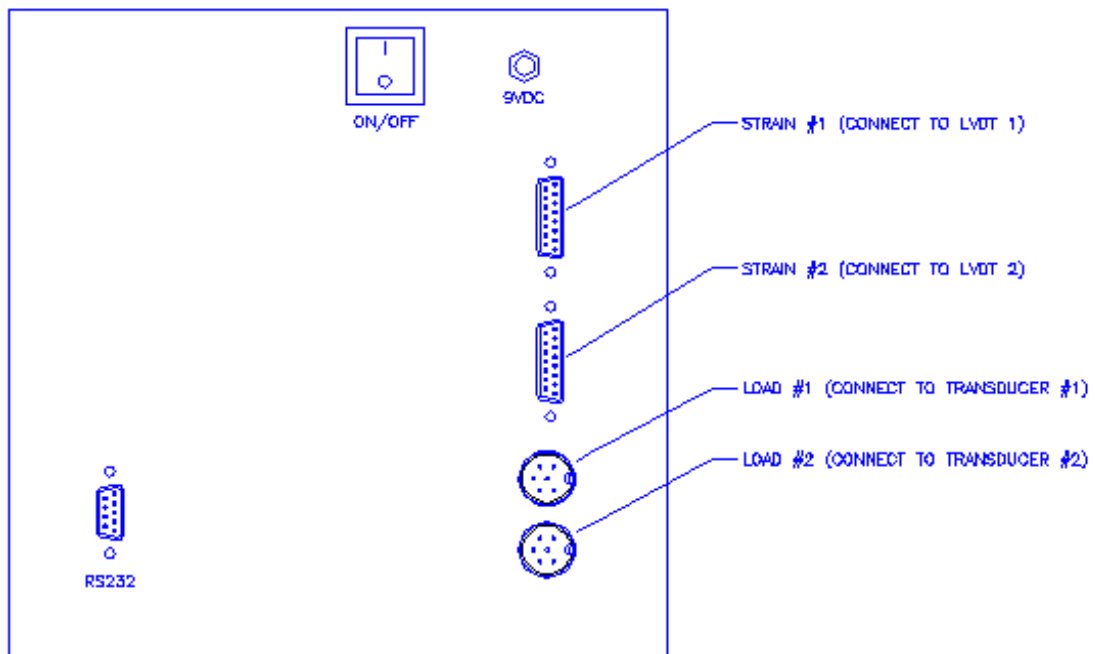
- Mount the TEST PILOT unit to bracket with two mounting knobs.
- Set the ON/OFF switch to the OFF position.
- Connect the AC adapter to the unit.
- Connect the AC power cord to the AC adapter, and then plug it into AC power.

Hardware

Rear Panel

- **ON/OFF Switch**
- **9V DC Input Jack**
 - Connect the +9VDC supplied with your TEST PILOT.
- **Force Connectors.**
 - Two strain gage-type force/pressure connectors, LOAD1 and LOAD2 are located on the back of the unit. Connect the Frame1 transducer to LOAD1, and then connect the Frame2 transducer to LOAD2.
- **Displacement Connectors.**
 - Two displacement connectors, Strain 1 and Strain 2, are located on the back of the unit. Strain 1 is the primary channel and is used for all tests requiring strain measurement Strain 2 is used only for transverse strain measurement of Poisson's Ratio in compression.
- **RS232 Port**
 - Allows the transfer of test data for individual test, and stored test results to be transferred to a computer.
 - A standard 9-pin serial cable and a communication software package such as HyperTerminal, which is usually supplied with Microsoft® Windows is required. A 100 ft. long serial cable is available from Forney, Item number TA-1247-09. Serial port settings are 38.4Kbaud, No parity, 8 data bits and one stop bit (N-8-1); no hardware handshaking

TEST PILOT REAR PANEL



Front Panel

- **LED Indicators**
 - **FRAME1** - Indicates that Frame1 is selected.
 - **FRAME2** - Indicates that Frame2 is selected.
 - **COMPR** - Indicates that a compressive test has been selected from the RUN menu.
 - **TENSN** - Indicates that a tensile test has been selected from the RUN menu.
 - **RATE** - Indicates that the rate of change for selected quantity, force or stress is being displayed.
 - **PEAK** - Indicates that a peak quantity such as Force or stress is currently being displayed.
- **Menu Keys**
 -  **Menu key.** Access and advance through menu options.
 -  **Enter key.** Select a menu option or complete a numeric entry.
 -  **Up Arrow key.** Scrolls up through a menu list.
 -  **Down Arrow key.** Scrolls down through a menu list.
- **Numeric Keys**

Numeric keys include digits 0-9, '.' (decimal point) and '-' (minus sign). Nine keys are assigned alternate functions that allow quick access to commonly used functions.

Alternate key functions are described in the table below.

0
ZERO

Zero a Force or Strain channel. *Note: only the channel currently being displayed is zeroed.*

1
SPEC #

View or edit the specimen ID number.

3
UTIL

Enter or exit the 'UTILITIES' menu

<u>4</u> STRAIN	Toggle the display between Strain plus Force, Strain1 or Strain2. Advances through these displays on each key press. This key is ignored if strain channels are inactive.
<u>5</u> STORE	Store test results in non-volatile memory. This key is ignored if a test has already been stored.
<u>7</u> FORCE	Toggle the display between Force and Force rate. This key is ignored when peak Force is displayed. After initializing a test the Force display will include the rate deviation Bar Graph on the left side of the display.
<u>8</u> STRESS	Toggle the display between stress and stress rate with rate deviation Bar Graph. This key is ignored when peak stress is displayed.
<u>9</u> PEAK	If Force is displayed, toggle between Force and peak Force. If stress is displayed, toggle between Stress and Peak Stress.
<u>--</u> NEW	Starts a new test. Initializes the data logger, then pauses until the applied force exceeds 0.25% of full scale and causes the Bar Graph to be displayed on the Force Display.

Operation

Power Up

When switched on, the TEST PILOT briefly displays the model number and software version followed by the date. The six LED mode indicators also flash briefly. It then restores the test frame and settings from the most recent setup. The active test frame and test direction is shown by the mode indicators and force is displayed. TEST PILOT is now in “live” display mode.

In general, the steps to set up a test are:

- Choose a test frame and set preferences from the UTILITIES menu
- Enter the RUN + menu
- Choose a category- compression, flexure, or tension
- Choose a test, based on specimen shape
- Edit test Id and specimen information (optional)
- Press New key

When repeated tests are run of the same specimen type and size, and Auto-Store is turned on, pressing the “New” key is all that is necessary to start another test.

The Main Menu

All menu options can be accessed through the main menu. Press the  key to enter the main menu. RUN + is displayed. Press  repeatedly (“scroll”) to advance through the menu options. When the end of the list is reached the menu is exited and the “live” display mode returns.

Options from the main menu are:

- RUN +
- DOWNLOAD
- UTILITIES +

RUN + Menu.

Test type, specimen parameters and the test ID numbers are accessed from the RUN + menu.

From live mode, press  to enter the RUN + menu. Note the “+” sign, it is an indicator that this menu will present you with another set of options-- in this case the test categories.

Press  repeatedly to scroll through a list of test categories, then press  to make your selection. If you scroll past EXIT the list repeats. The categories are:

FRAME 1

COMPRESSION +
FLEXURE +
TENSION +
EXIT

FRAME 2

COMPRESSION +
FLEXURE +
EXIT

After choosing a category you will be presented with a list of tests. Press  to scroll through this list, then press  to make your selection. This list is dependent on Frame1 or Frame2, and the category selected. If you scroll past EXIT the list repeats.

After selecting a test, the EDIT TEST ID is displayed. You are presented with a final list of options.

Your options are:

- EDIT TEST ID
- EDIT SPECIMEN +
- EXIT

Press  to scroll through the list, then press  to make your selection. If you scroll past EXIT the list repeats.

To edit the test ID, select EDIT TEST ID and press . The current test ID number is displayed. Press  to clear the old value. Enter a new number, then press . The test ID may be any non-zero integer up to six digits in length (the minus sign and decimal point is ignored).

NOTE: If you press  twice without entering a new value the current value is restored.

Editing the test ID from this menu is optional. If AUTO-ID is turned on then editing is not required. (see AUTO-ID in the UTILITIES menu). Or, you may also press key#1 (spec #) from the “live” display mode.

Scroll to EDIT SPECIMEN and press  to edit specimen parameters. Press  to scroll through the list, then press  to select a parameter. The old value is cleared. Enter a new value and press .

Press  to scroll to the next parameter or scroll to EXIT and press  to exit out of this menu.

NOTE: If you press  twice without entering a new value the current value is restored.

About specimen parameters. Each Test type stores its own set of specimen parameters such as dimensions, weight and age. This information must be entered only once, unless parameters have changed. All subsequent tests will use these stored parameters.

Download Menu

- Raw data is logged for every test and may be transferred to a computer via the RS232 serial port. Raw data is only available up to the start of a new test or until the TEST PILOT is switched off.
- Downloading data will require a standard 9-pin serial cable and a communication software package such as HyperTerminal, which is usually supplied with Microsoft® Windows.

- Follow to the point where the Hyper Terminal screen is displayed on your PC. Hyper Terminal is now ready to receive data from the Test Pilot.
- Press  and Run + will appear on the TEST PILOT Screen, press  again, Download will appear on the TEST PILOT Screen, press , and Start – Yes will appear on the TEST PILOT Screen.
- Press  again to start the download process. TEST PILOT returns to live display mode when the download is complete.

Note: TEST PILOT stores up to 18,000 points per test. One of four sample rates may be selected from the UTILITIES menu.

Note: The Hyper Terminal screen on the PC is full of data – if the screen is blank, the download was unsuccessful.

- From the Hyper Terminal pull-downs, click transfer – select capture text – from the drop-down menu click stop.
- At this point, the Hyper Terminal window can be closed or minimized.

UTILITIES Menu

The UTILITIES + menu provides access to the following TEST PILOT settings:

- TEST FRAME
- UNITS
- AUTO-ID
- AUTO-SAVE
- CORR.
- DATE
- TIME
- RESOLUTION +
- SAMPLES/SEC
- SELECT LVDT1
- FILES +
- CALIBRATION +
- ENG/ESP
- EXIT

You can access the UTILITIES menu by pressing the **3/UTIL** key, or from the main menu

Press the  key to scroll through menu options, then press  to make your selection. To exit the UTILITIES menu you can press **3/UTIL** from any of the menu options or scroll to EXIT and press .

UTILITIES - TEST FRAME

Selects test frame 1 or 2. To select a test frame press , then  or . Then press  to return to the utility menu. Press  to advance through the utility menu, or **3/UTIL** to exit and return to “live” mode.

UTILITIES – UNITS

Selects the units - in/lbf/psi, mm/kN/MPa, or mm/Kgf/Kgc. To select a units press , then  or . Then press  to return to the utility menu. Press  to advance through the utility menu, or **3/UTIL** to exit and return to “live” mode.

UTILITIES – AUTO-ID

Automatically increments the specimen Id number of each test when set to ON. To set the Auto-ID press , then  (on) or  (off). Then press  to return to the utility menu. Press  to advance through the utilities menu, or **3/UTIL** to exit and return to “live” mode.

UTILITIES – AUTO-SAVE

Automatically stores test results in non-volatile memory at the end of each test when set to ON. To set Auto-Save press , then  (on) or  (off). Then press  to return to the utilities menu. Press  to advance through the utilities menu, or **3/UTIL** to exit and return to “live” mode.

UTILITIES – CORR.

The correlation factor is a specimen parameter for certain cylindrical specimens per ASTM C39/C 39M. This factor is included in the Peak Stress calculation when Corr. is set to ON. To set Corr. press , then  (on) or  (off). Then press  to return to the utilities menu. Press  to advance through the utilities menu, or **3/UTIL** to exit and return to “live” mode.

UTILITIES – DATE

Set the clock date. To enter the date press , then enter the date with the numeric keys. The format is mm-dd-yy. Do NOT press  again! This will clear the date and you will have to re-enter it. Press  to advance through the utilities menu, or **3/UTIL** to exit and return to “live” mode.

UTILITIES – TIME

Set the clock time. To enter the time press  , then enter the time with the numeric keys. The format is hh:mm:ss. Do NOT press  again! This will clear the time and you will

UTILITIES – RESOLUTION +

This option allows you to adjust the display resolution of each load and strain transducer by a factor of 1, 5 or 10. This may be desirable in certain situations when less resolution is easier to read. Resolution takes into account load or strain full scale capacity and the “units” setting in the UTILITIES menu. Internal resolution is greater than +/-200,000 counts and is not affected by this setting.

To adjust display resolution press  . Press  to scroll through the transducer options, then press  to make your selection. For LVDT1 +, press  a second time and then make your selection.

Press  and  to choose a resolution, then press  to return to the transducer options menu. You must select EXIT from the transducer options menu to return to the RESOLUTION + menu. Then press  to advance through the utilities menu, or  to exit and return to “live” mode.

UTILITIES – SAMPLE/SEC

This menu allows you to select one of four data sample rates – 10, 20, 30 or 60 samples per second. Slower data rates have proportionally lower frequency response (more filtering) and increased data logging time. Faster rates respond more quickly to dynamic signals and more accurately capture peaks. The fastest setting is recommended for most applications, but if noise is causing a problem, the lowest sample rate and the largest resolution number will make the read out more steady.

To select a sample rate press , and  or . Then press  to return to the utilities menu. Press  to advance through the utilities menu, or **3/UTIL** to exit and return to “live” mode.

Note: When the live force display is unstable, choose a low sample rate and the highest possible resolution as shown in paragraph 5.2.7, to stabilize the display. The AC electrical power feeding the testing machine may also cause display instability. The AC electrical power should be observed using an AC voltmeter while the machine is in operation to observe the electrical power stability.

UTILITIES – SELECT LVDT1 +

TEST PILOT stores up to four calibrations (that is, accommodates four LVDTs) for the Strain 1 input. This menu allows you to select which device you have physically attached to the Strain 1 input. Each LVDT1 calibration is identified by a suffix 'a', 'b', 'c' or 'd' , and the device gage length for that calibration. *Note: by convention, a gage length of 0.000000 indicates no calibration exists for that LVDT.*

To select LVDT1 press  , and  or  . Then press  to make your selection of 'a', 'b', 'c' or 'd' and return to the menu. Press  to advance through the utilities menu, or  to exit and return to "live" mode.

Note: LVDT1 is automatically used for all tests that require a strain channel. LVDT2 is used only for the Poisson's Ratio of concrete in compression test, which requires the use of both channels-- LVDT1 to measure longitudinal compression and LVDT2 to measure transverse strain.

UTILITIES – FILES +

TEST PILOT can store up to 500 test results in non-volatile memory. Test results may be transferred to a computer via the RS232 serial port.

Use the FILES + menu to download or erase all stored test results. The FILES + menu have four options:

- SEND TO FILE
- SEND TO PRINTER
- ERASE ALL +
- EXIT

To access the FILES + menu press  . Press  to advance through menu options, then  to make your selection.

If SEND TO

Transfer begins immediately. Upon completion TEST PILOT returns to the FILES + menu.

If SEND TO PRINTER

Before you select this option double check that the printer is properly installed, hardware connections tight and extra hardware in place. Hardware installation sequence is as follows:

- a) TA-1253 Test Pilot Digital
- b) TA-1268-22 Null modem adapter
- c) TA-1268-21 Cable, model connect converter to adapter
- d) TA-1268-20 Converter serial - parallel
- e) TA-1268-04 Epson printer

Converter Serial/Parallel Dipswitch Settings

DIP SWITCH POSITION							
1	2	3	4	5	6	7	8
ON	OFF	ON	OFF	OFF	OFF	OFF	OFF

Press **3/UTIL**, and then press 10 times  to advance through menu options to reach FILE + (n) where n is the number of tests on memory, it should be greater than zero.

 **SEND TO FILE** – [to download the information to a computer]

 **SEND TO PRINTER** – [to send the information to an Epson printer, check the printer is ready and paper is loaded]

 **SENDING...**

When the print report is done depress LF/FF once, detach the page or pages and then depress LOAD/EJECT once to prepare the paper for next job.

If ERASE ALL + is selected a prompt 'Erase All? No' is displayed, where 'No' is the default option. To abandon this action press  or . To clear all stored tests press  to change the option from 'No' to 'Yes', then press  or . This process may take a few seconds.

When the operation is complete the message 'Done. Press key' is displayed. Press  or  to return to the FILES + menu. Press  to advance through the utilities menu, or **3/UTIL** to exit and return to "live" mode.

Calibration

Calibration +

Use this menu to calibrate transducers. Calibration may be done in any of the available units systems. Calibration supports piece-wise linearization of 2 to 5 points (zero plus 1 to 4 additional points) The CALIBRATION + menu has five options:

- LOAD1
- LOAD2
- LVDT1 +
- LVDT2
- EXIT

To access the CALIBRATION+ menu press . Press  to advance through menu options, then  to make your selection. *Note: If you selected LVDT1 then press  to advance through the LVDT1 menu, then  to make your selection.*

Calibrations are password protected. At the 'Passwrđ' prompt, Enter the password (call Forney tech support for the password), then press . If you enter an incorrect password TEST PILOT returns to the CALIBRATION menu.

WARNING: Entering the calibration function without the proper calibration equipment, procedures and training will corrupt the existing calibration rendering the TEST PILOT out of calibration and not capable of meeting ASTM testing requirements.

Calibration Procedure

1. After selecting a device and entering a password proceed as follows.
2. At the prompt "Cap FS". Press , enter the capacity (full scale range) of the device in Lbf, kN or Kg as indicated, then press  again. Press  to advance to the next step.
3. At the prompt "Points(2-5)?". Press , then press  and  to scroll to the desired number of calibration points. Press  to make your selection. Press  to advance to the next step.
4. At the prompt "At Zero- #1?" start the hydraulic pump and raise the proving device leaving 1/8" to 1/16" (1-2 mm) gap. Press  to measure and store electrical zero for the first calibration point. The display will automatically advance.
5. At the prompt "Value?" press  accept the default value of 0.00000. This is the applied force associated with electrical zero stored in the previous step.
6. At the prompt "At Point2?" apply load to the proving device to obtain the first calibration force, then press . The display will automatically advance.

7. At the prompt "Value?" press , enter the applied force obtained on the proving device, then press  again. *Note: if you need to re-enter this value just press  again and repeat this step.* Press  to advance to the next step.
8. Repeat steps 6 to 7 until you have entered all calibration points.
9. At the prompt "Done. Save? Yes", press  to store the calibration, or press  and change your option to "No", then press  to abandon the calibration and restore the previous one. TEST PILOT returns to the CALIBRATION + menu.
10. Press  to advance to the next transducer or to EXIT, then press . Press  to advance through the utilities menu, or 3/UTIL to exit and return to "live" mode.

LVDT Calibration Procedure

1. After selecting a device and entering a password proceed as follows.
2. At the prompt "Gage L" press , enter the gage length, then press  again. *Note: if you need to re-enter the gage length just press  again and repeat this step.* Press  to advance to the next step.
3. At the prompt "Cap FS". Press , enter the capacity (full scale/travel) of the displacement device in inches or mm as indicated, then press  again. Press  to advance to the next step.
4. At the prompt "Points(2-5)?". Press , then press  and  to scroll to the desired number of calibration points. Press  to make your selection. Press  to advance to the next step.
5. At the prompt "At Zero- #1?", configure your displacement device to its zero mechanical position (on the mechanical calibration equipment). Press 

measure and store electrical zero for the first calibration point. The display will automatically advance.

6. At the prompt "Value?", press  to accept the default value of 0.00000. This is the mechanical extension associated with electrical zero stored in the previous step.
7. At the prompt "At Point2?" adjust your calibration equipment to the desired extension, then press . The display will automatically advance.
8. At the prompt "Value?" press , enter the extension value (i.e. .005"), then press  again. *Note: if you need to re-enter this value just press  again and repeat this step.* Press  to advance to the next step.
9. Repeat steps 6 to 7 until you have entered all calibration points.
10. At the prompt "Done. Save? Yes", press  to store the calibration, or press  and change your option to "No", then press  to abandon the calibration and restore the previous one. TEST PILOT returns to the CALIBRATION + menu.
11. Press  to advance to the next transducer or to EXIT, then press . Press  to advance through the utilities menu, or 3/UTIL to exit and return to "live" mode.

Quick Guide to Running a Test

1. Select a test frame and set user preferences in the UTILITIES menu or press [3/UTIL] key & use Enter-Up-Down keys to select & press [3/UTIL] key to exit Utility Menu.
2. Select a test type from the RUN + menu. In this case, enter: COMPRESSION, CYLINDER, then enter the specimen data under the EDIT SPECIMEN menu.
3. *Load your specimen into the test frame. (Zeroing is optional since this is automatically done at the start of each test when the New key is pressed).
4. *Turn on the pump. Move the piston so the specimen is within 1/16" of contact with the upper platen. *Press the NEW key to initiate the start of a test.
5. If Auto-ID is turned off, or the specimen ID is 0 you will be prompted to enter a specimen ID. Press , enter the ID, then press  again. Press  to continue. Note: You cannot proceed unless you enter a non-zero ID number. The display flashes an "Initializing..." message briefly, then it returns to the live display mode.
6. *Proceed with applying a load to the specimen per ASTM C39. Full Advance to 10,000 Lb load and adjust the Metered Advance for 1000 Lb/sec or 35 psi/sec. When the load exceeds 0.25% of capacity, data logging and break detection automatically engage.
7. *Continue loading the specimen until break is detected (load decreases to 50% of peak). After specimen break, move the valve to Retract position and turn off the pump.

8. If Auto-Save is set to off, a message “Save Test? Yes” is displayed. Press  to store the results, or  then  to proceed without saving. After making your selection the Peak Load indicator lights, and peak load is displayed.
9. Note: you may store results at any time up to the start of a new test or until the TEST PILOT is switched off. To store test results at a later time Press 5/STORE.
10. Press 9/Peak to return to the live display mode.
11. *If Auto-Save is set to on, results (peak stress) are automatically calculated and stored, the Peak Load indicator lights, and peak load is displayed. Press Enter to save the test results & display peak load. Press 9/Peak to return to the live display mode.

To Test Additional Specimens of the Same Type and size:

If testing specimens of the same type and size, with AUTO-ID and AUTO-SAVE on, the only steps required from above are: shown with * and underlined - 3, 4, 6, 7 & 11.

Special Display Modes (Rate Deviation Bar Graph)

Stress Rate With Rate Deviation Bar Graph (8/STRESS Key)

The “stress rate with rate deviation bar graph” mode always displays a 1- to 3-character rate deviation Bar Graph to indicate the relative amount that the measured stress rate deviates from a target rate. To set the target rate (sometimes referred to as “pace”) scroll to the Rate parameter, in the EDIT SPECIMEN menu and enter the desired rate. A default target rate is present for all tests but can be changed by the operator.

The bar graph appears in the left-most three characters of the display and its format is as follows:

+++	more than 25% faster than target
++	10% to 25% faster than target
+	5% to 10% faster than target
###	within +/-5% of target, (3 # signs indicate this is within +/- 5% of the target rate)
-	5% to 10% slower than target
--	10% to 25% slower than target
---	more than 25% slower than target

Force with Rate Deviation Bar Graph (7/FORCE Key)

The Force display mode (once the Initialization/New key has been pressed) uses the same 1- to 3- character rate deviation Bar Graph as the Stress rate display. The 1- to 3-characters indicate the same rate variation as is shown above in paragraph Bar Graph is not displayed when in Peak function (peak light turned on).

Specifications

Specifications Listing

Part Number	TA-1253
Load Channels	
No. of channels	2
Input type	+/- 2mV/V to +/-4mV/V , 350 to1000 Ohm, Full Bridge
Display Range (Lbf)	+9,999,950 / -999,950
Accuracy	+/- .5% of reading from 1% of Full Scale to Full Scale
Linear Correction	5 (0 + 4) points
Resolution, A/D Counts	200,000 (note 1)
Display Resolution Selectivity	1 – 5 – 10 Least digit; User selectable
Strain Channels	
No. of channels	2
No. of Calibration Curves	LVDT1 - 4; LVDT2 - 1
Input type	+/-2V to +/-2.8V Full Scale DC-DC LVDT, 70mA max
Display Range (inches)	+0.000001 to +10000.0; -0.00001 to -10000.0
Accuracy	+/- .5% of reading from 10% of Full Scale to Full Scale
Linear Correction	5 (0 + 4) points
Resolution, A/D Counts/ inches	200,000 or 0.000001 inches
Display Resolution Selectivity	1 – 5 – 10 Least digit; User selectable
Load Units, Load Units	Always displayed
Load Units, Lb	Yes
Load Units, Kn	Yes
Load Units, Kg	Yes
Load Rate Units, Load Rate Units	Toggle for Display
Load Rate Units, Kg/sec	Yes
Load Rate Units, Lb/sec	Yes
Load Rate Units, Kn/sec	Yes
Stress Units, Stress Units	Toggle for Display
Stress Units, psi (Lb/in ²)	Yes
Stress Units, kPa (kN/m ²)	Yes
Stress Units, Ksc (Kg/cm ²)	Yes
Stress Rate Units, Stress Rate Units	Toggle for Display
Stress Rate Units, psi/sec	Yes
Stress Rate Units, kPa/sec	Yes
Stress Rate Units, Kg/cm ² /sec	Yes
Display Peak Load	Yes

<i>Display Peak Stress</i>	Yes
<i>Auto Store</i>	Yes (optional)
<i>Tests Stored in Memory</i>	500
<i>Specimen I.D.</i>	Yes, 6-digit numeric
<i>Auto-Increment Specimen I.D.</i>	Yes (optional)
Specimen Types, Selectable	Yes
<i>Specimen Type, Cylinder</i>	Yes
<i>Specimen Type, Cube</i>	Yes
<i>Specimen Type, Beam (center point)</i>	Yes
<i>Specimen Type, Beam (3rd point)</i>	Yes
<i>Specimen Type, Rebar</i>	Yes
<i>Specimen Type, Cross-sectional Area</i>	Yes
<i>Sample Break/Peak Sensitivity</i>	Preset to 50% of Peak Load
<i>Auto Data Log Start Sensitivity</i>	0.25% of Channel Capacity
Data Options	
<i>Send stored tests (RS232)</i>	Yes
<i>Display Date/Time</i>	Yes
<i>Date/Time Stamp Tests</i>	Yes
<i>Tension</i>	Yes (note 2)
<i>Correction Factor (ASTM C39)</i>	Yes
<i>Negative Load Display</i>	Yes
<i>Capacity Range</i>	7 Digits
<i>Calibration Units</i>	All Available
<i>Languages</i>	English + Spanish
<i>Function Indicator Lights</i>	Yes- 6 indicators
<i>Password Protection</i>	Yes
<i>Water/dust Resistant Case</i>	Yes
<i>Simple Operation/Calibration</i>	Yes
<i>Easy Channel Selection</i>	Yes
<i>Software Upgrade Capable</i>	Yes – Factory only
<i>Numeric Keypad Calibration</i>	Yes
<i>Power Requirements</i>	100-240 VAC, 47/63Hz (9VDC @ 2.0Amps)
<i>Battery Life</i>	5 years typical
<i>Battery Type</i>	BR-2032 Lithium

Notes:

1. Internal resolution is always at least +/-200,000 A/D counts. Display resolution least digit is channel capacity and user resolution setting dependent.
2. Tensile tests are limited to Frame 1 only.

Specifications for Pin Connections

1. FORCE Channels – LOAD1 & LOAD2 as viewed on the back of the Test Pilot at the 5 pin female DIN connectors;
 - a. Pin at 3:00 o'clock ----- shield / ground
 - b. Pin at 6:00 o'clock (#1) – RED (+) EXCITATION
 - c. Pin at 7:30 o'clock (#4) – WHT (-) SIGNAL
 - d. Pin at 9:00 o'clock (#2) – GRN (+) SIGNAL
 - e. Pin at 12:00 o'clock (#3) – BLK (-) EXCITATION
2. STRAIN Channels – LVDT1 & LVDT2 as viewed on the back of the Test Pilot at the DB15 female sub-miniature connector;
 - a. Pin 1 – GRN (-) SIGNAL INPUT
 - b. Pin 2 – WHT (+) SIGNAL INPUT
 - c. Pin 5 – SHIELD & BLK (-) EXCITATION or GROUND
 - d. Pin 9 – RED (+) EXCITATION [+5 vdc]

Menu Tree

➤ RUN+	➤ COMPRESSION+ ➤ CUBE+ ➤ CYLINDER+ ➤ COMPRESSOMETER+ (Frame1 only) ➤ POISSON STRAIN+ (Frame1 only) ➤ COMPRESS OTHER+ (Frame1 only)	➤ EDIT TEST ID ➤ 654321 ➤ EDIT SPECIMEN+ ➤ SideA ➤ SideB ➤ SideC ➤ Wt. ➤ Age ➤ Rate ➤ Exit ➤ Dia. ➤ Len. ➤ Corr. ➤ Wt. ➤ Age ➤ Rate ➤ Exit ➤ Dia. ➤ Height ➤ R(L) ➤ Wt. ➤ Age ➤ Rate ➤ Exit ➤ Dia. ➤ Height ➤ R(L) ➤ R(T) longitudinal ➤ R(T) transverse ➤ Wt. ➤ Age ➤ Rate ➤ Exit ➤ Area ➤ Wt. ➤ Age ➤ Rate ➤ Exit ➤ Span ➤ Width ➤ Depth
--	---	--

	➤ BEAM 3RD-POINT+		➤ Wt. ➤ Age ➤ Rate ➤ Exit ➤ Span ➤ Width ➤ Depth ➤ Wt. ➤ Age ➤ Rate ➤ Exit ➤ Bar Size ➤ Length ➤ Rate ➤ Exit ➤ Area ➤ Length ➤ Rate ➤ Exit
	➤ TENSION+ ➤ REABAR+ (Frame1 only) ➤ TENSION OTHER+ (Frame1 only)		
			➤ EXIT
➤ DOWNLOAD	1. Start	➤ Yes ➤ No	
➤ UTILITIES+	➤ TEST FRAME	➤ TEST FRAME1 ➤ TEST FRAME2	
	➤ UNITS	➤ in,lbf,psi ➤ mm,kN,MPa ➤ mm,Kgf,Kgc	
	➤ AUTO-ID	➤ On ➤ Off	
	➤ AUTO SAVE	➤ On ➤ Off	
	➤ CORR.	➤ On ➤ Off	
	➤ DATE	➤ 01/01/05	
	➤ TIME	➤ 08:45:00	
	➤ RESOLUTION+	➤ LOAD1 ➤ LOAD2 ➤ LVDT1+ ➤ LVDT1a ➤ LVDT1b ➤ LVDT1c	➤ 5, 10 or 50 (determined by capacity)

	➤ LVDT1d ➤ Exit	➤ 1 (0.000001) ➤ 5 (0.00005) ➤ 10 (0.00001) ➤ Exit
	➤ LVDT2 ➤ EXIT	
➤ SAMPLES/SEC	➤ 10 ➤ 20 ➤ 30 ➤ 60	
➤ SELECT LVDT1+	➤ LVDT1a ➤ LVDT1b ➤ LVDT1c ➤ LVDT1d	
➤ FILES+	➤ DOWNLOAD ALL ➤ ERASE ALL ➤ EXIT	
➤ CALIBRATION+	➤ LOAD1 ➤ LOAD2 ➤ LVDT1+ ➤ LVDT1a ➤ LVDT1b ➤ LVDT1c ➤ LVDT1d ➤ LVDT2 ➤ EXIT	➤ Gage Lg. (LVDT only) ➤ Capacity: ➤ Points(2-5)? ➤ At zero- #1? ➤ Value? ➤ At Point 2? ➤ Value? ➤ At Point 3,4? ➤ Value? ➤ Save? ➤ Yes ➤ No
➤ ENG/ESP	➤ English ➤ Espanol	
➤ EXIT		

Default Specimen Parameters By Test Type

SPECIMEN PARAMETERS - FRAME 1

CATAGORY	TEST TYPE			
COMPRESSION	CUBE REPORT ABBREVIATION	CCUBE		
		SideA	2	in
		SideB	2	in
		SideC	2	in
		Wt	0.6	lb
		Age	28	days
		Rate	75.0	psi/s
COMPRESSION	CYLINDER REPORT ABBREVIATION	CCYL		
		Dia	6	in
		Len	12	in
		Corr.	1	
		Wt	28.9	lb
		Age	28	days
		Rate	35.0	psi/s
COMPRESSION	COMPRESSOMETER REPORT ABBREVIATION	CMPR		
		Dia	6	in
		Height	12	in
		R(L)	0.514	in
		Wt	28.9	lb
		Age	28	days
		Rate	35.0	psi/s
COMPRESSION	POISSON'S RATIO REPORT ABBREVIATION	POIS		
		Dia	6	in
		Height	12	in
		R(L)	0.514	in
		R(T)	0.5	in
		Wt	28.9	lb
		Age	28	days
COMPRESSION	COMPRESSION - OTHER REPORT ABBREVIATION	OTHC		
		Area	125	in^2
		Wt	45	lb
		Age	28	days
		Rate	35.0	psi/s
FLEXURE	BEAM CENTER-POINT REPORT ABBREVIATION	FBEAMC		
		Span	18	in
		Width	6	in
		Depth	6	in
		Wt	56.97	lb
		Age	28	days

		Rate	2.50	psi/s
FLEXURE	BEAM 3-POINT REPORT ABBREVIATION	FBEAM3		
		Span	18	in
		Width	6	in
		Depth	6	in
		Wt	56.97	lb
		Age	28	days
		Rate	2.50	psi/s
TENSILE	REBAR REPORT ABBREVIATION	REBAR		
		Bar Size	3[10]	
		Len	24	in
		Rate	35.0	psi/s
TENSILE	TENSILE - OTHER REPORT ABBREVIATION	OTHRT		
		Area	1	in^2
		Len	24	in
		Rate	35.0	psi/s

SPECIMEN PARAMETERS - FRAME 2

CATAGORY	TEST TYPE			
COMPRESSION	CUBE REPORT ABBREVIATION	CCUBE2		
		SideA	2	in
		SideB	2	in
		SideC	2	in
		Wt	0.6	lb
		Age	28	days
		Rate	35.0	psi/s
COMPRESSION	CYLINDER REPORT ABBREVIATION	CCYL2		
		Dia	6	in
		Len	12	in
		Corr.	1	
		Wt	28.9	lb
		Age	28	days
		Rate	35.0	psi/s
COMPRESSION	COMPRESSION - OTHER REPORT ABBREVIATION	OTHC2		
		Area	125	in^2
		Wt	45	lb
		Age	28	days
		Rate	35.0	psi/s
FLEXURE	BEAM CENTER-POINT REPORT ABBREVIATION	FBEAMC2		
		Span	18	in
		Width	6	in
		Depth	6	in

		Wt	56.97	lb
		Age	28	days
		Rate	2.50	psi/s
FLEXURE	BEAM 3-POINT			
	REPORT ABBREVIATION	FBEAM32		
		Span	18	in
		Width	6	in
		Depth	6	in
		Wt	56.97	lb
		Age	28	days
		Rate	2.50	psi/s

NOTES: