

BMW KDS Wheel Alignment System

WinAlign Program Version 8.0



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1. Getting Started

1.1 Introduction

This manual provides information and operation instructions required to operate the BMW Computerized Wheel Alignment System.

“References”







This manual assumes that you are already familiar with the basics of wheel alignment. *Italics* are used to refer to specific parts of this manual that provide additional information or explanation. For example, *refer to “Recall Specifications.”* These references should be read for additional information to the instructions being presented.





These BMW Operation Instructions are a supplement to the standard WinAlign Operation Manual, Form 3850T, supplied with this equipment.

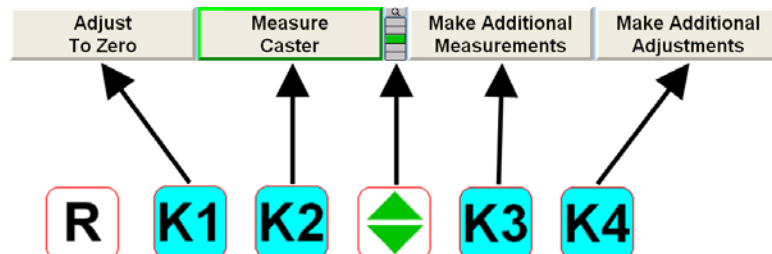
1.2 Operating the Console

Using “Softkeys”



The softkeys, located on the keyboard, provide operator control of the program. These keys are identified as:

	K1 key
	K2 key
	K3 key
	K4 key
	Menu shift key
	Reset key

The four menu labels that appear at the bottom of each screen are referred to as the softkey labels. These labels indicate the action that the program will take when the corresponding , , , or  key is pressed.




The vertically stacked squares between the **K2** and **K3** softkeys indicate how many levels of menu labels are available. Six levels of menus are possible. The highlighted box indicates the menu level that is currently displayed.

Pressing the menu shift softkey, , changes the menu level. When this key is pressed, the menu labels will change to the next level “down.” If the last menu level is currently displayed, the next step will be to the first menu level. To go to the next menu level “up,” press **Shift** and .





Pressing **Shift** and F6 will enlarge the current softkey menu level. The softkey associated with the label is shown on the left side of the labels and the menu level is indicated on the right side of the labels. Pressing F6 again will cause the menu to return to the normal softkey setting.

Pressing F6, or pressing and holding with a pointing device on the menu level indicator, will cause all of the menus available to appear. The dark green color, displayed behind the entire row of softkeys, indicates the active menu level. Pressing F6 again will cause the menu to return to the normal softkey setting.

Throughout this manual, the statement Press “nnnnnn” indicates the label of the softkey to press. If the required label is not on the current menu,  must be pressed to change menu levels until the desired label is displayed.

Some softkey labels have a green border as depicted around the K4 softkey shown on the previous page. Generally, the softkey with the green border (usually **K4**) is the appropriate key to press to continue with the procedure being performed.

Using the Handheld Infrared Wireless Remote Control

The remote control provides operation of the WinAlign program from a distance by duplicating the five softkeys. The remote control has six softkeys: **K1**, **K2**, **K3**, **K4**, , and a zoom key . Pressing  will enlarge the current softkey menu level and is equal to pressing **Shift** and  on the main keyboard.

To use the remote control, point the front end of the transmitter toward the front of the wheel aligner console and press the appropriate softkey.

NOTE: The remote control transmitter is a “line-of-sight” device and will not transmit signals through solid objects.
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Resetting the Program

The wheel alignment program may be reset at any time during the measurement process by pressing the “**R**” key, located at the upper left-hand corner of the keyboard. A confirmation screen will appear to verify that the “Reset” button was pressed intentionally.

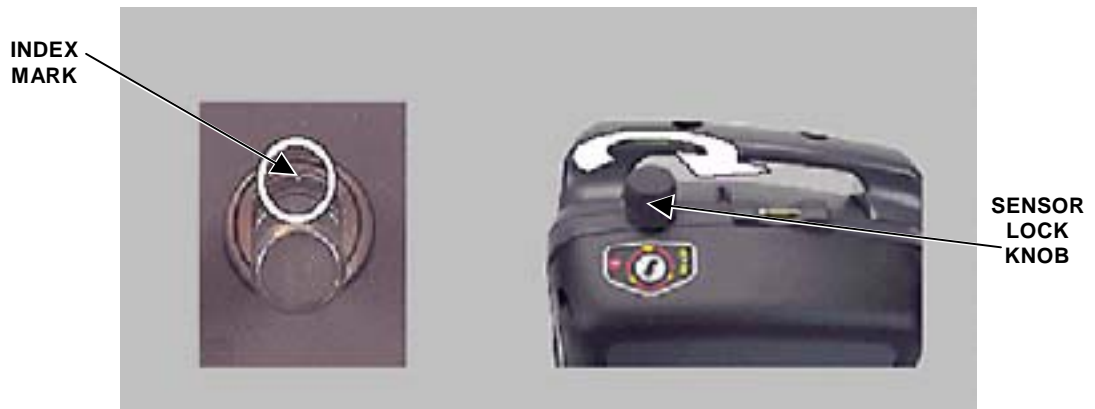
When this screen appears, press “YES” to reset the program or “NO” if the program should not be reset.

When the aligner is reset, the information collected for the measurements in progress will be erased and the display will return to the “BMW Logo” screen.

1.3 Sensor Setup

Indexing

Before mounting the sensors on the BMW special adapters, rotate the index mark on the sensor shaft to the 12 o'clock position with the sensor held vertical and lock it in place using the sensor lock knob. Do not loosen the sensor lock knobs. When instructed to level the sensors, do so only by loosening the locking lever or lock knob on the adapter, not the lock knob on the sensor.



Leveling and Locking Sensors

When instructed to level and lock sensors during the BMW software program, the method in which the sensors are leveled and locked when the sensors are mounted to brackets or when mounted to BMW special adapters is different than the method used when mounting sensors to universal adapters. For sensors mounted to the BMW special adapters, the sensors are secured at the "level" position by tightening the lock knob on the bracket or wheel adaptor, rather than the lock knob on the sensor. Verify that the index mark of the sensor shaft is at the 12:00 o'clock position.

2. Measurement and Adjustment Procedure

2.1 Introduction

Turning Power On

Turn the system “ON” by pressing the power switch located on the back of the console where the AC power cord is connected to the cabinet.

BMW Logo Screen

The selection process starts at the BMW logo screen. There are two possible selections on the first level of keys that are displayed on this screen:

K1 - Exit Aligner

K4 - Begin Alignment



If multiple account keys are available other softkey selections will appear.

Exit Aligner

Press “Exit Aligner” before turning the power off to shutdown the system.

2.2 Measurements

Press “Begin Alignment” to begin the wheel alignment measurement process. The “Edit Work Order” screen will appear. This screen shows the basic work order information.

Enter the information. Dark shaded fields must be filled in to continue. When all information is entered select “OK.”

Work Management
Edit Work Order

VIN: Work Order: R000238
Mileage: License:
First Reg.: Technician:
Chassis No.: Code No.:
First Name: Last Name:
Company: Street:
City: State:
ZIP: Home Tel.:
Work Tel.: Customer number: 141

Tire Pressure
Tire Tread Depth
Factory Tires:

	Left Front	Right Front	Left Rear	Right Rear
Tire Pressure	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Tire Tread Depth	<input type="text"/> mm	<input type="text"/> mm	<input type="text"/> mm	<input type="text"/> mm
Factory Tires:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Edit work order, then press "OK".

Cancel Recall Specifications List Work Orders OK

Edit Tire Information

Use the keyboard to enter the appropriate data into the “Edit Tire Information” screen. This information will appear on the printout summary. This data entry process is optional.

Press “OK” to continue.

	Left Front	Right Front	Left Rear	Right Rear
Tire Pressure	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Tire Tread Depth	<input type="text"/> mm	<input type="text"/> mm	<input type="text"/> mm	<input type="text"/> mm
Factory Tires:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Factory tires will have a star design imprinted on the tire. Tires with this symbol are original factory equipment.

Recall Specifications

Select the desired model from the Factory BMW Specification database.

Work Management
Recall Specifications

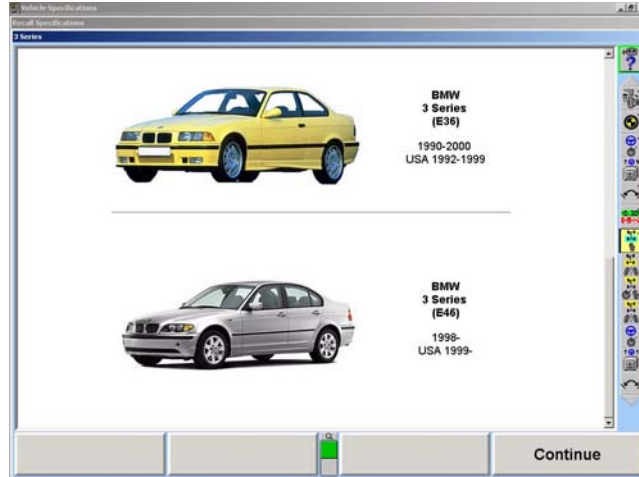
Specification Database
Factory BMW 103.0.0.1 Copyright (c) 2003 Hunter Engineering

- BMW
 - 3 Series - E21 (1975 - 9/83)
 - 3 Series - E30 (9/82 - 1994)
 - 3 Series - E36 (9/90 - 2000)
 - Z3 - E36 (1996 - 2002)
 - 3 Series - E46 (1998 -)**
 - Z4 - E85 (2002 -)
 - 5 Series - E12 (1972 - 9/81)
 - 5 Series - E28 (9/81 - 1/88)
 - 5 Series - E34 (1/88 - 1997)
 - 5 Series - E39 (1996 - 2003)
 - 5 Series - E60/E61 (2002 -)
 - X5 - E53 (1999 -)
 - 6 Series - E24 (9/79 - 5/90)
 - 7 Series - E23 (9/79 - 9/86)

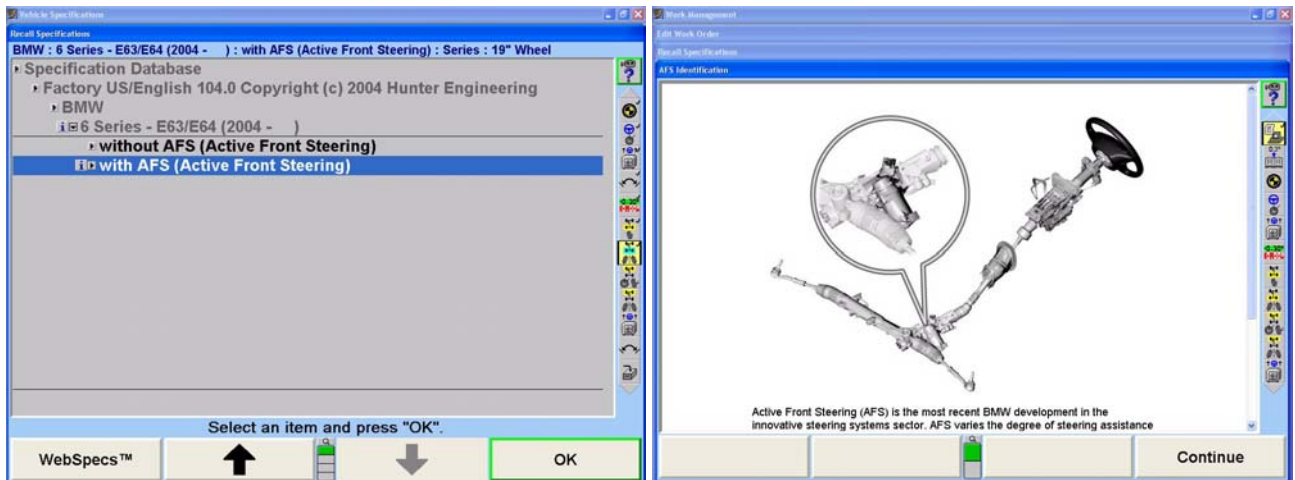
Select an item and press "OK".

WebSpecs™ ↑ ↓ OK

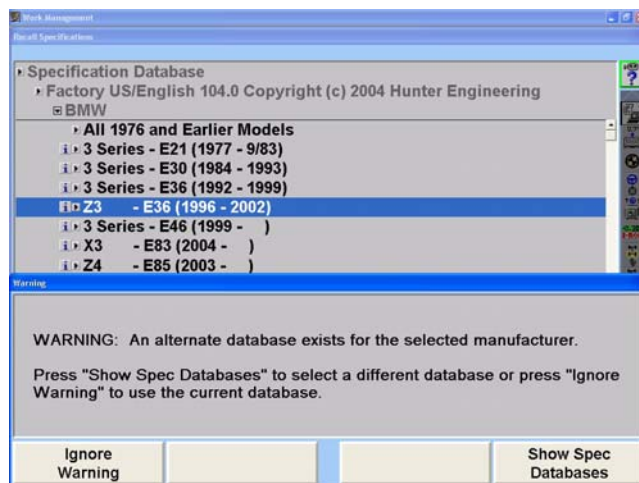
It is crucial to select the exact vehicle with the exact options, such as wheel diameter, sport suspension, etc. For help identifying vehicles, specific body styles, and codes, select the **i** (info) icon.



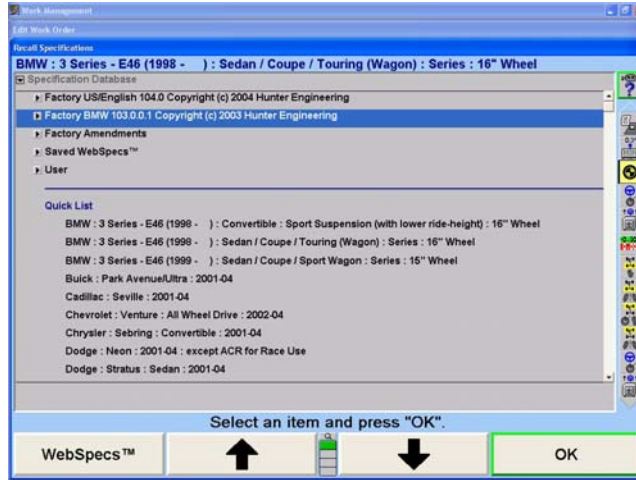
This icon will display all vehicles that fall under this type and illustrate the years of manufacture, and the body style differences. In some cases another **i** will appear, indicating more info is available.



NOTE: If you recall BMW specifications from a database other than the "Factory BMW" database, the following warning message will appear.

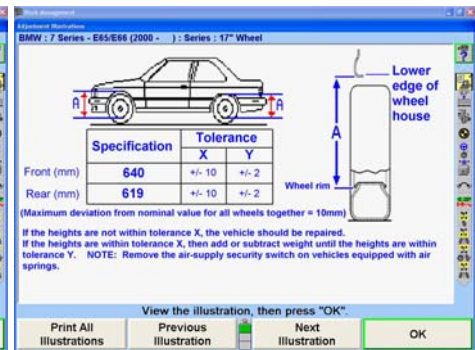
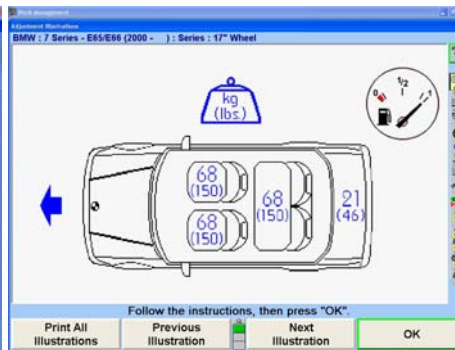
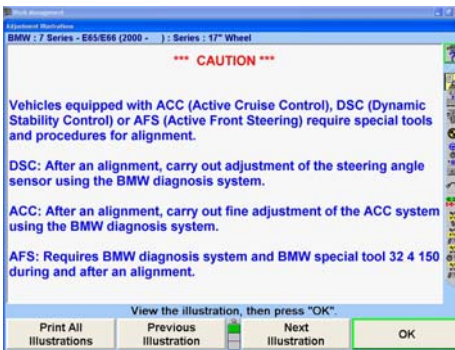


Press “Show Spec Databases” and a list of installed specification databases will appear. Select the “Factory BMW” database, press “OK,” and then select the model.



Pre-Alignment Conditions

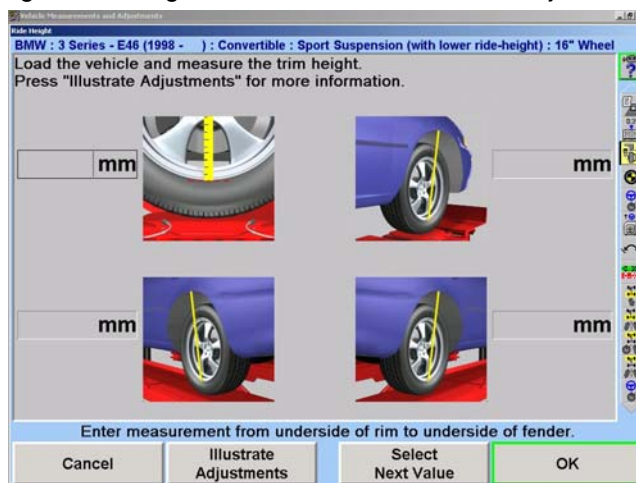
Prior to performing any measurements or adjustments the BMW Alignment Procedure may require the vehicle to meet certain criteria. Complete the requirements according to the on-screen notes. These illustrations will be vehicle-specific, examples are shown below.



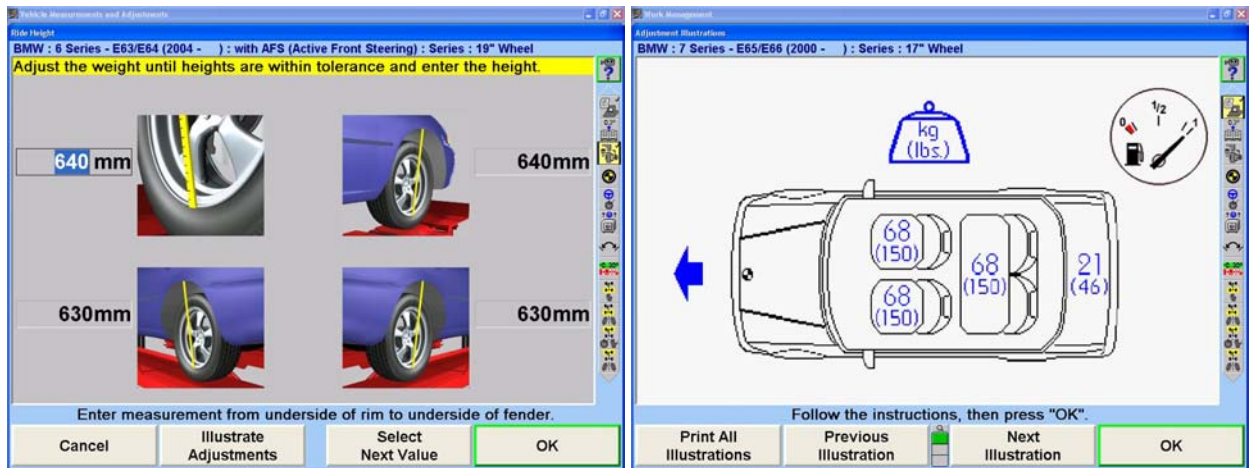
Ride Height Measurement

Proper ride height is essential to accurate alignment measurements and adjustments. Follow the on-screen notes as stated above for proper vehicle loading.

The ride height measurement screen appears with basic animations on how to measure ride height. Enter the values next to the corresponding wheel position. For help in measuring and loading the vehicle select “Illustrate Adjustments.”



Depending on the values entered, the vehicle may require additional load positioning. Select "Illustrate Adjustments" to view proper vehicle loading.



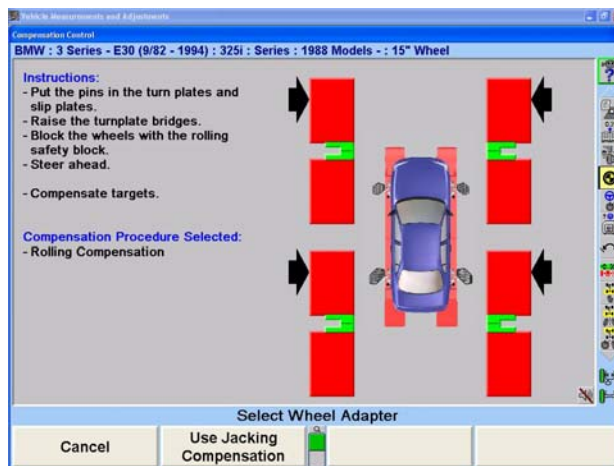
Compensation Control

Select the appropriate type of wheel adaptor before proceeding. The operator must choose a wheel adapter type before proceeding with the alignment. The special adaptor is illustrated.



Use Universal Adapters

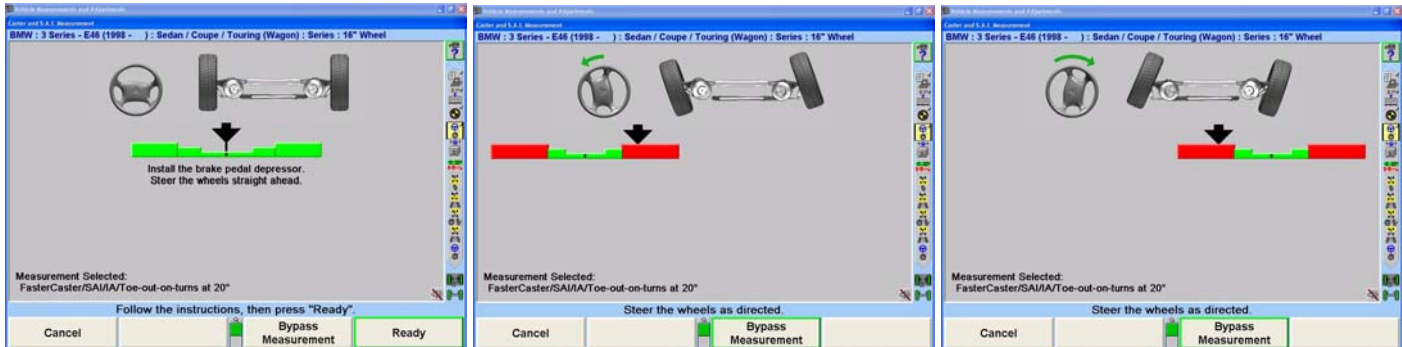
If the universal adapter is selected, then instructions pertaining to this adapter are provided. The compensation option is displayed along with the vehicle plan view showing the status of the sensors. Wheel run-out compensation must be performed when using universal adapters. Press "Continue" to proceed with the measurement process.



Caster and S.A.I. Measurement

The caster measurement sequence for the BMW system is set to measure FasterCaster/SAI/IA/Toe-out-on-turns at 20 degrees.

Follow the instructions given on the screen. The program will wait until all sensors are stable before automatically moving to the next screen. This is necessary because all live “Before” measurements for the sensors are saved at this time.

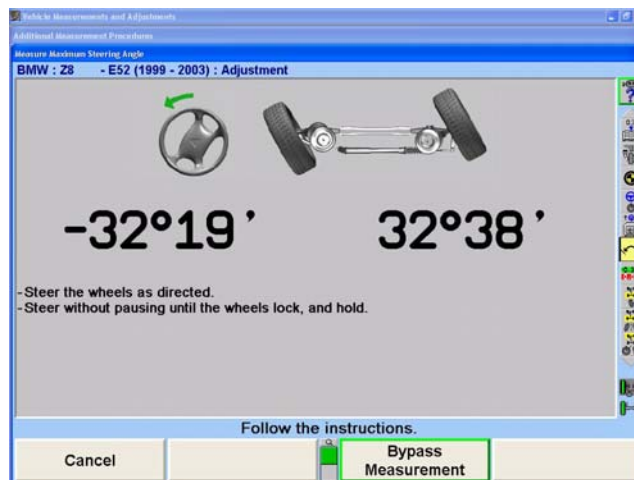


Steer the wheels as directed by the bar graphs.

If any sensor is not level during the final steer ahead, a warning will appear at the end of the procedure and the steering sequence must be repeated.

“Before” Measure Maximum Steering Angle

If maximum steer angle specification data has been recalled from the database, then the program will automatically display the “Measure Maximum Steering Angle” screen. If maximum steer angle specification data has not been recalled from the database, then the program will automatically bypass this procedure. Follow the instructions and then steer the wheels as directed.



Alignment Measurements Printout

After all the required measurements have been taken, the measurements screen will appear.

Select "Print" to print the exact screen as shown. Select "Continue" to proceed with the alignment adjustments.

The left screenshot shows a table of alignment measurements. The right screenshot shows a 'Spring Test' summary table.

Design Position	mm	Target	615+/-2	615+/-2	600+/-2	600+/-2
Spring Test	mm	Actual	615	615	600	600
Design Position	mm	Target	615+/-2	615+/-2	600+/-2	600+/-2
Tire Air Pressure	bar/psi/kPa	Actual	615	615	600	600
Tire Tread Depth	mm	Actual				
Tire Marking	Star	Yes/No				

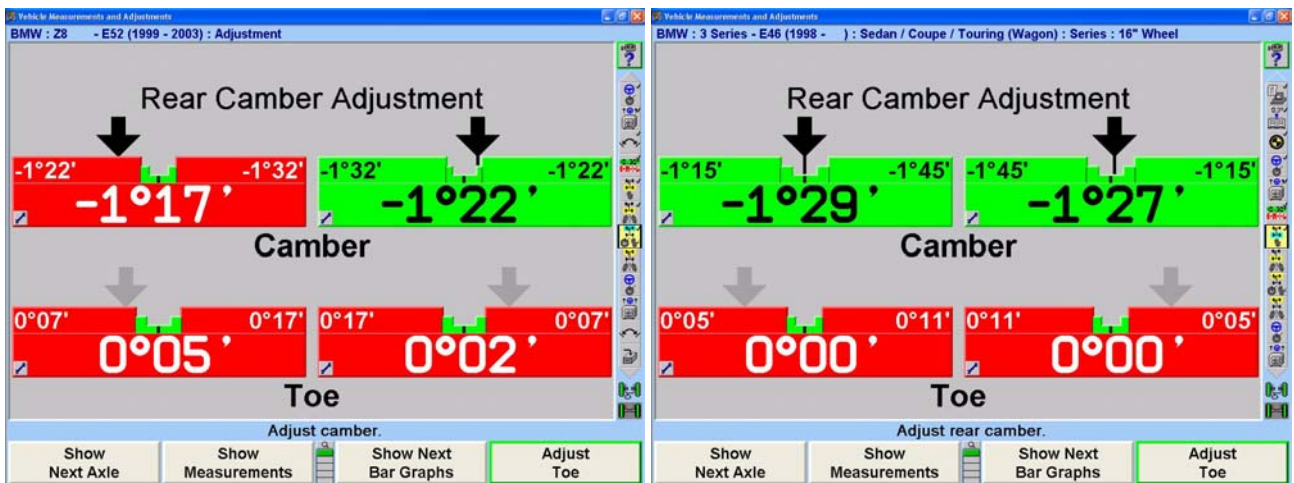
Dimension [degree, min]	Before Measurement	Target Data	Max. difference	After Measurement	
Rear Axle	Camber	left	-0°15'	-1°30'	+0°20'// -0°20'
		right	-0°15'	-1°30'	+0°20'// -0°20'
	Toe	left	0°00'	0°06'	+0°05'// -0°05'
		right	0°00'	0°06'	+0°05'// -0°05'
	Geom. driving axis		total	0°00'	+0°12'// -0°12'
	Front Axle	Camber	left	0°30'	-0°30'
right			0°30'	-0°30'	+0°20'// -0°20'
Toe		left	0°10'	0°04'	+0°05'// -0°05'
		right	0°10'	0°04'	+0°05'// -0°05'
Geom. driving axis		total	0°00'	+0°10'// -0°10'	
Track differential angle		left	0°00'	0°00'	+0°12'// -0°12'
Track differential angle		right	0°00'	0°00'	+0°12'// -0°12'
Max steering lock on curve inside wheel		left	27°41'	33°36'	
Max steering lock on curve inside wheel		right	29°36'	33°36'	
Caster	left	7°39'	7°39'	+0°30'// -0°30'	
	right	7°39'	7°39'	+0°30'// -0°30'	
SAI	left	0°00'	0°00'	+0°15'// -0°15'	
	right	0°00'	0°00'	+0°15'// -0°15'	
Sethback		total	0°00'	0°00'	

On the print preview screen scroll up or down, zoom in or out to see all the alignment data. Numbers shown in red are out of specifications, number in green are within acceptable limits.

2.3 Adjustments

Adjust Rear Camber

Adjustments may be made to rear camber at this screen. The arrows for rear toe are grayed-out indicating camber is being adjusted, although the measurement is still live.



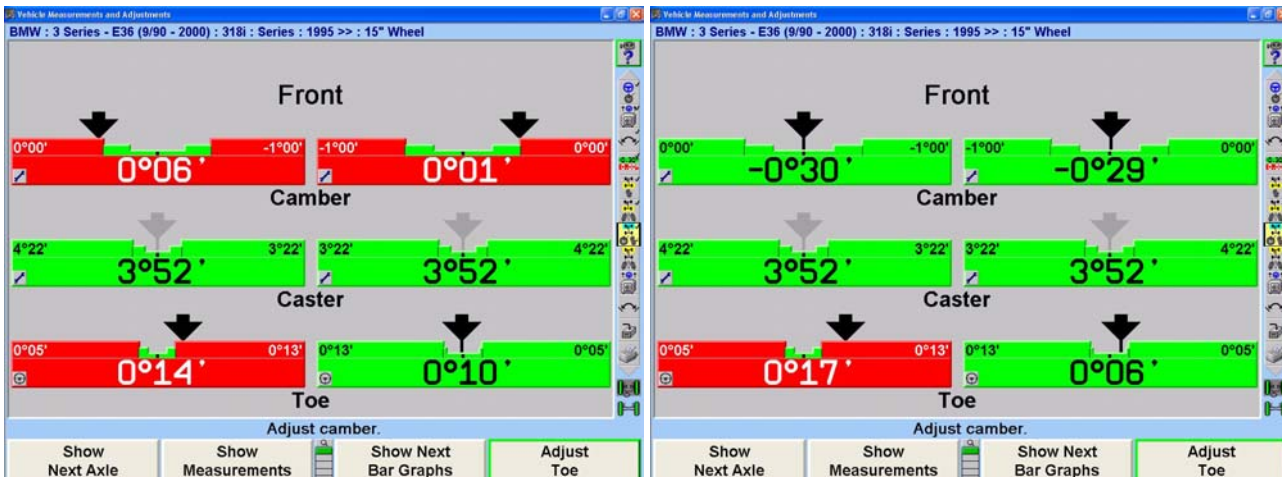
Adjust Rear Toe

After camber has been successfully adjusted, select "Adjust Toe," to switch to the Adjust Rear Toe screen. While toe is being adjusted, arrows on the camber bar graphs will be grayed-out.



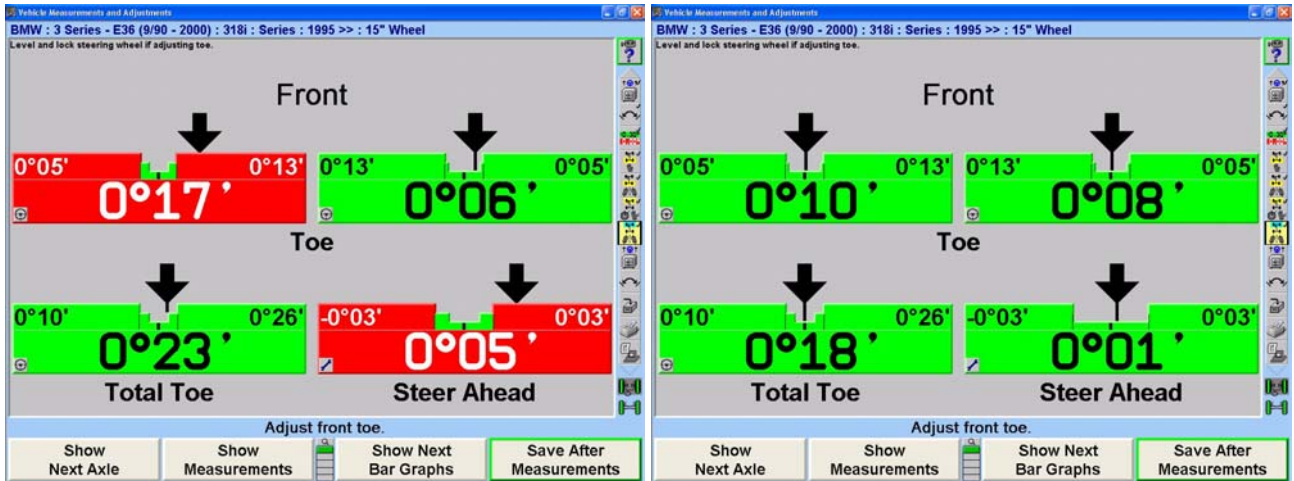
Adjust Front Camber and Caster

Adjustments may be made to front camber and caster at this screen. Do not re-level the front sensors before adjusting camber or caster.

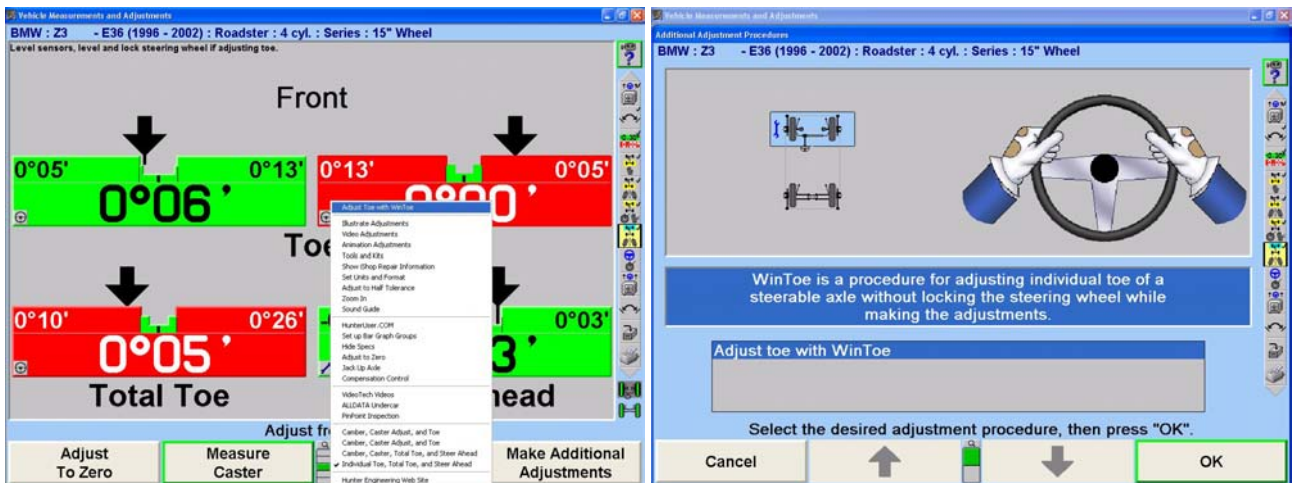


Adjust Front Toe

Front toe adjustments zoom in on the Toe bar graphs and also include Total Toe, and Steer Ahead graphs. Adjust the toe as necessary and select "Save After Measurements."

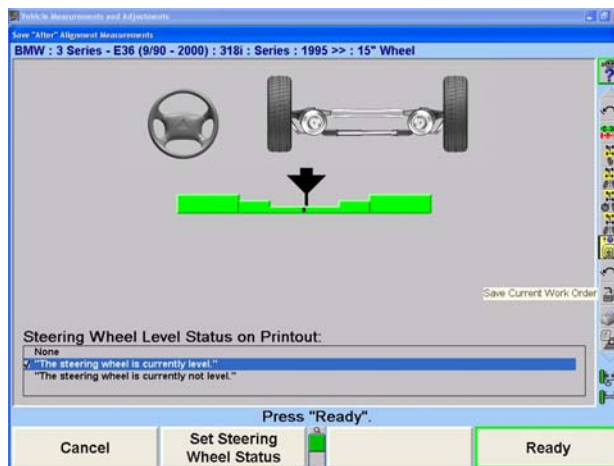


The WinToe® toe adjustment feature is available from the drop-down menu on the bar graphs, or by selecting "Make Additional Adjustments."



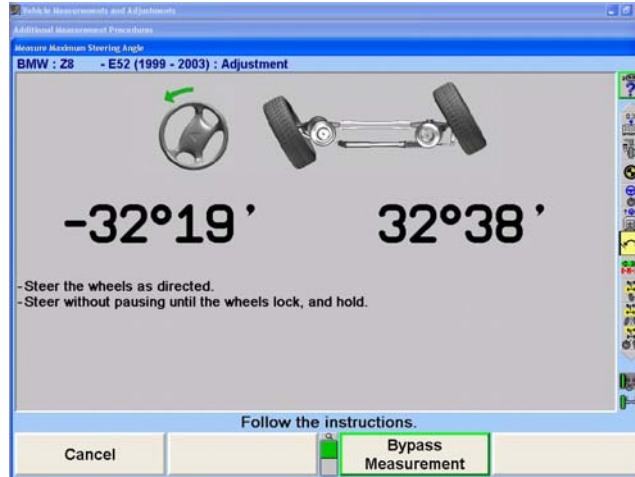
Saving "After" Measurements

Select the steering wheel status after making the adjustments. A note will be added to the printout the position the steering wheel was in before and after the alignment adjustments were made. After the status has been set, select "Ready" to continue with the procedure.



Measure Maximum Steer Angle (Re-measure)

If maximum steer angle specification data has been recalled from the database, then the program will automatically display the “Measure Maximum Steering Angle” screen. If maximum steer angle specification data has not been recalled from the database, then the program will automatically bypass this procedure. Follow the instructions and then steer the wheels as directed. The final maximum steer measurement is made at this screen.



Final Measurements Overview

Measurements that have been saved as “After” measurements are shown here. This detailed page illustrates all the measurements and adjustments required, plus any customer and vehicle information entered on the work order. Notice at the bottom of the screen the notes regarding steering wheel position.

Dimension [degree, mm]	Before Measurements	Target Data	Max. difference	After Measurement
Front Axle				
Camber	left: -2°12'	-1°40'	+0°15/0°15'	-1°39'
	right: -2°19'	-1°40'	+0°15/0°15'	-1°41'
Toe	left: 0°00'	0°12'	+0°03/0°03'	0°12'
	right: 0°00'	0°12'	+0°03/0°03'	0°12'
Geom. steering axis	total: 0°00'	0°24'	+0°08/0°08'	0°24'
	left: 0°30'	-0°30'	+0°30/0°30'	-0°30'
	right: 0°30'	-0°30'	+0°30/0°30'	-0°29'
Rear Axle				
Camber	left: 0°19'	0°09'	+0°32/0°04'	0°19'
	right: 0°19'	0°09'	+0°32/0°04'	0°19'
Toe	left: 0°19'	0°09'	+0°32/0°04'	0°19'
	right: 0°19'	0°09'	+0°32/0°04'	0°19'
Track differential angle	left: 0°00'	-1°34'	+0°30/0°30'	0°00'
	right: 0°00'	-1°34'	+0°30/0°30'	0°00'
Max steering lock on curves inside wheel	left: 32°19'	36°00'		32°19'
	right: 31°12'	36°00'		31°22'
Caster	left: 3°52'	3°52'	+0°30/0°30'	3°52'
	right: 3°52'	3°52'	+0°30/0°30'	3°52'
SAI	left: 0°00'			1°00'
	right: 0°00'			0°58'
Steerback	total: 0°00'	0°00'	+0°15/0°15'	0°00'

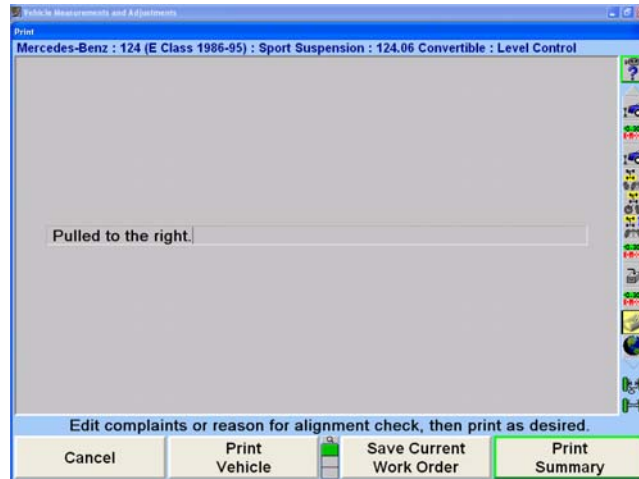
The steering wheel was turned before the alignment.
The steering wheel is currently level.

Save Current Work Order

Press “Save Current Work Order” to store all data pertaining to this job.

Print Alignment

Press "Print" to generate an alignment summary using the BMW printout format.



BMW-Kinematics Diagnosis System Printout

		BMW - Kinematics Diagnosis System				
		<u>Software:</u>	Aug 9 2004			
		<u>Spec:</u>	{94} 103.0.0.1			
		<u>Serial number:</u>				
		<u>Service date:</u>	17.8.04			
<u>Date/Time</u>	17.8.04	13:55				
<u>Vehicle</u>	BMW : 3 Series - E36 (9/90 - 2000) : 318i ; Series : 1995 >> : 15" Wheel					
<u>Customer number:</u>	142	<u>Chassis number:</u>	E36			
<u>Code number:</u>	318i	<u>Odometer reading:</u>	124987			
<u>Customer:</u>	Rubble, Betty	<u>First Reg.:</u>				
<u>License:</u>	BLU-BMW	<u>Mechanic:</u>	Steve			
	<u>Dimension</u>	<u>Kind</u>	<u>Front left</u>	<u>Front right</u>	<u>Rear left</u>	<u>Rear right</u>
<u>Spring Test</u>	mm	Target	576+/-10	576+/-10	518+/-10	518+/-10
		Actual	576	576	518	518
<u>Design Position</u>	mm	Target	576+/-2	576+/-2	518+/-2	518+/-2
		Actual	576	576	518	518
<u>Tire Air Pressure</u>	bar/psi/kPa	Actual	32,0	32,0	32,0	32,0
<u>Tire Tread Depth</u>	mm	Actual	14,0	14,0	14,0	14,0
<u>Tire Marking</u>	Star	Yes/No	No	No	No	No
<u>Dimension [degree, min]</u>			<u>Before Measurement</u>	<u>Target Data</u>	<u>Max. difference</u>	<u>After Measurement</u>
Rear Axle	Camber	left	-0°15'	-1°40'	+0°15'//-0°15'	-1°39'
		right	-0°15'	-1°40'		-1°41'
	Toe	left	0°00'	0°12'	+0°03'//-0°03'	0°12'
		right	0°00'	0°12'		0°12'
		total	0°00'	0°24'	+0°06'//-0°06'	0°24'
Geom. driving axis	total	0°00'	0°00'	+0°03'//-0°03'	0°00'	
Front Axle	Camber	left	0°30'	-0°30'	+0°30'//-0°30'	-0°30'
		right	0°30'	-0°30'		-0°29'
	Toe	left	0°10'	0°09'	+0°04'//-0°04'	0°10'
		right	0°10'	0°09'		0°10'
		total	0°19'	0°18'	+0°08'//-0°08'	0°18'
	Track differential angle	left	0°00'	-1°34'	+0°30'//-0°30'	0°00'
		right	0°00'	-1°34'		0°00'
	Max steering lock on curve inside wheel	left	32°19'	36°00'		32°18'
		right	31°12'	36°00'		31°22'
	Caster	left	3°52'	3°52'	+0°30'//-0°30'	3°52'
		right	3°52'	3°52'		3°52'
	SAI	left	0°00'			1°00'
		right	0°00'			0°59'
Setback	total	0°00'	0°00'	+0°15'//-0°15'	0°00'	

The steering wheel was level before the alignment.
The steering wheel is currently level.

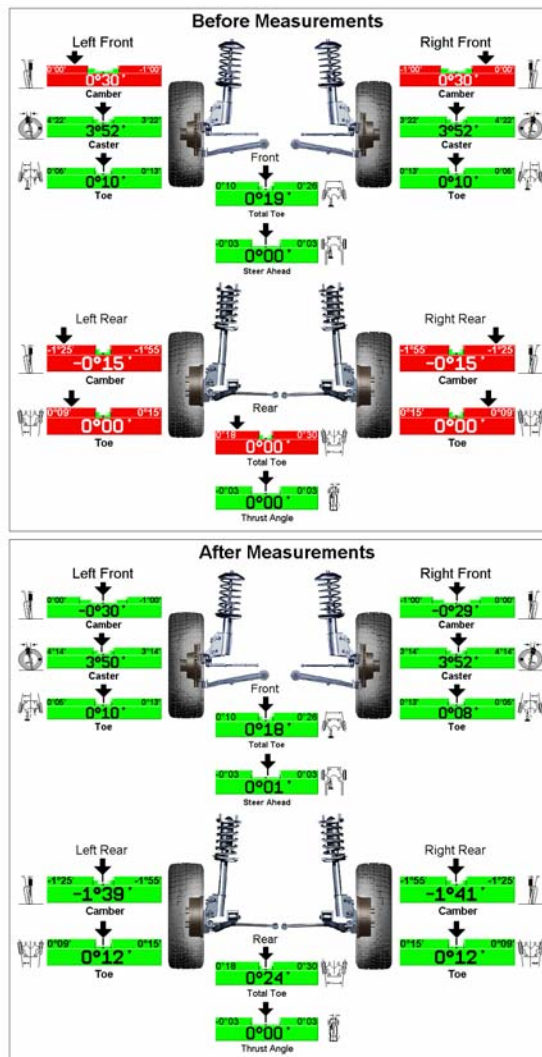
Print Vehicle Printout

Select "Print Vehicle" to print specific measurements shown in the WinAlign® format. The following example shows both "before" and "after" results.

Work Order ID R000246
Customer Number 142
Name Rubble, Betty
Address 2 Limestone
11111 Bedrock
Telephone 555-4444
Work Phone 555-3333
Vehicle (VIN) 9np8739995yn998qy8
License BLU-BMW
Technician Steve
Mileage 124987
User Field1: E36
User Field2: 318i
Time Printed 17.8.04 14:01



BMW : 3 Series - E36 (9/90 - 2000) : 318i : Series : 1995 >> : 15" Wheel



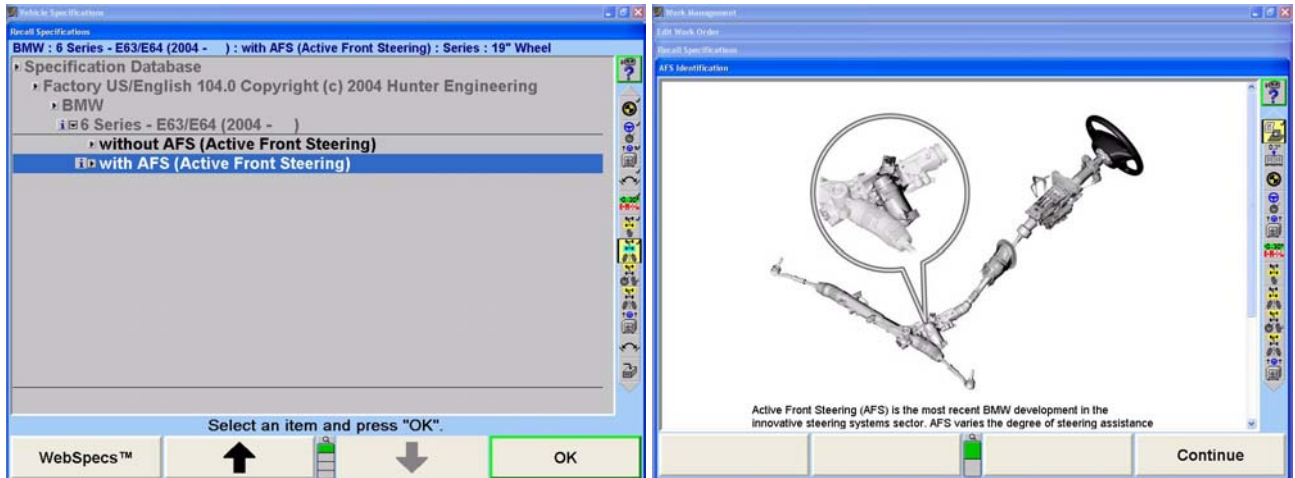
- The steering wheel was level before the alignment.
- The steering wheel is currently level.

Conclude the alignment process by selecting the "Reset" softkey.

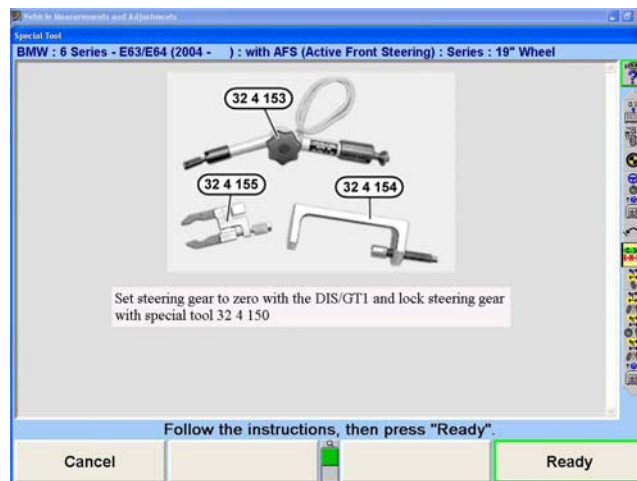
2.4 Additional Adjustments

Vehicles with ACC (Active Cruise Control), AFS (Active Front Steering), and DSC (Dynamic Stability Control) may require additional measurements, adjustments, and/or special tools to make the adjustments.

During Recall Specifications the info icon will appear next to vehicles requiring special procedures. Click on the icon to display a detailed illustration or description. The following example is AFS.

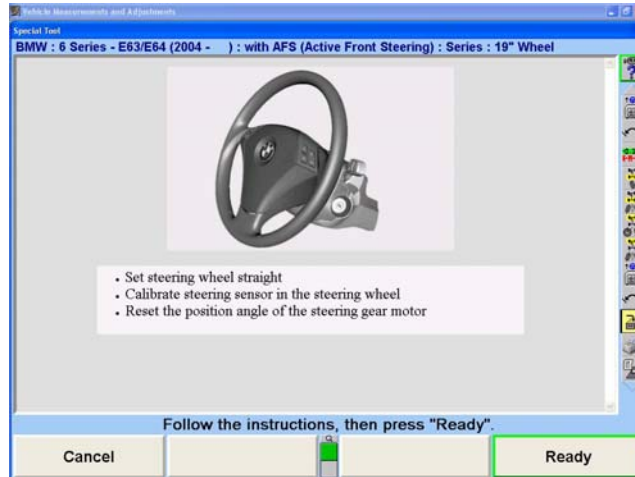


The tool is shown on the screen. Click the link for "Installation Instructions" to see detailed information on the tool. Select "Print" to printout these special instructions.



Proceed with the alignment process. The alignment procedure will inform the technician when the tool should be removed.

If further instructions are required, such as resetting the steering gear, these instructions will also be displayed at the appropriate point in the procedure.

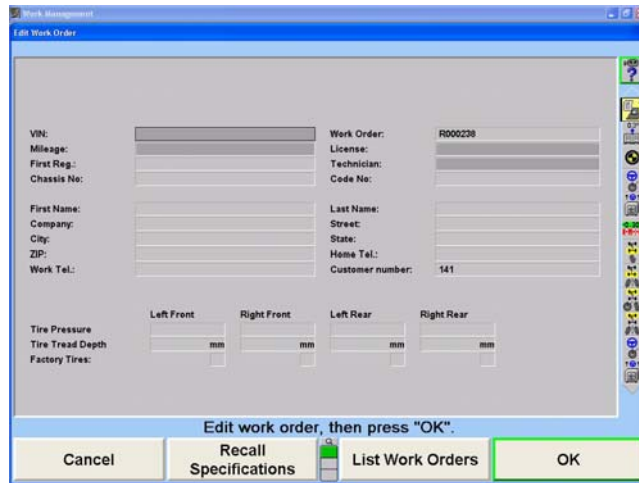


Final measurements will display after all special procedures are completed.

3. Work Management

3.1 Work Management

Work Management provides a database for storing work orders, customer identification, vehicle identification, and alignment results.



Work Management provides methods to store and recall customer and vehicle identification. This identification is referenced by work order numbers. Customer identification includes the following:

First Name:	<input type="text"/>	Last Name:	<input type="text"/>
Company:	<input type="text"/>	Street:	<input type="text"/>
City:	<input type="text"/>	State:	<input type="text"/>
ZIP:	<input type="text"/>	Home Tel.:	<input type="text"/>
Work Tel.:	<input type="text"/>	Customer number:	<input type="text"/>

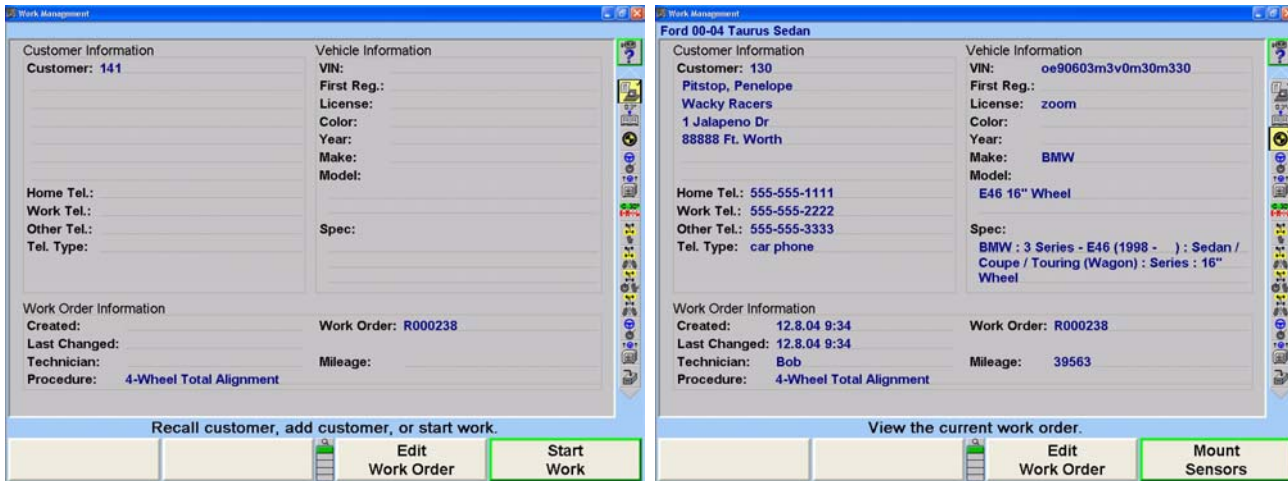
Vehicle identification includes the following:

VIN:	<input type="text"/>	Work Order:	R000001
Mileage:	<input type="text"/>	License:	<input type="text"/>
First Reg.:	<input type="text"/>	Technician:	<input type="text"/>
Chassis No.:	<input type="text"/>	Code No.:	<input type="text"/>

The Work Management screen also contains tire pressure, tread depth, and whether or not the tires are factory equipment.

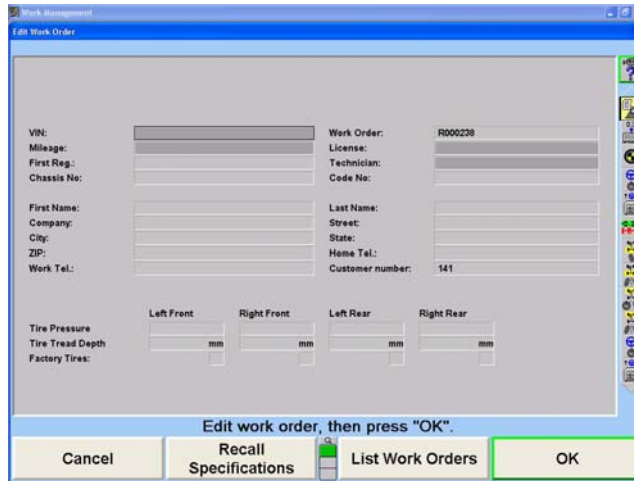
	Left Front	Right Front	Left Rear	Right Rear
Tire Pressure	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Tire Tread Depth	<input type="text"/> mm	<input type="text"/> mm	<input type="text"/> mm	<input type="text"/> mm
Factory Tires:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The "Work Management" screen shows a summary of the work order. The following screens show a blank work order, and a work order in progress.



Entering Customer Identification

Customer information is entered on the "Edit Work Order" screen.



The cursor indicates the position where a letter or number will appear.

Enter the required information by using the keyboard.

Press **Enter** or **Tab** to advance to the next field. Press **Shift** and **Tab** to back up to the previous field. The mouse may also be used to move between fields.

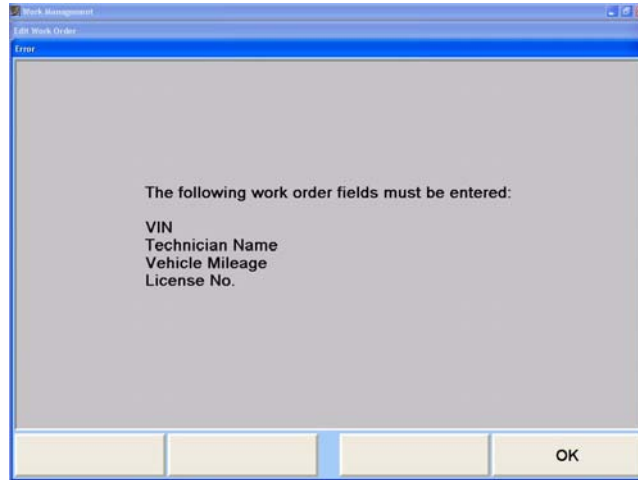
Press the **Backspace** key to delete the last character entered.

Press the right or left cursor arrow key to move the cursor.

Press **Del** to remove the character to the right of the cursor.

To insert a character in the middle of a word, move the cursor to the character before the position and press the character to be inserted.

If “OK” is pressed before the necessary information is entered, the following error will appear.



Saving Current Work Order

Press “Work Management” on any primary screen to display the “Work Management” primary screen.

Press “Save Current Work Order.” The work order with its associated customer and vehicle identification will be stored on the hard drive.

The “Save Current Work Order” softkey will also appear at the end of the alignment measurement procedure and on the “Print” screen.

NOTE: If the current work order customer/vehicle identification was not recalled from the database, new customer/vehicle identification is created and attached to the current work order. If the current work order customer/vehicle identification was recalled from the database, any customer/vehicle identification changes (for example a new address or phone number) would replace the original customer/vehicle identification. Any work orders attached to the original customer/vehicle identification will show the updated information.

Switching Between Reference and Current Work Orders

All primary screens that can utilize the reference work order have a softkey that toggles between “Show Ref. Work Order” and “Show Current Work Order.”

When the current work order is active, pressing “Show Ref. Work Order” will make the reference work order active.

NOTE: When the reference work order is active, the background screen color changes. A number of softkeys will be disabled (grayed out) since the reference work order cannot be modified. Prompts and reminders will indicate the reference work order is active and cannot be modified.

When the reference work order is active, pressing “Show Current Work Order” will make the current work order active.

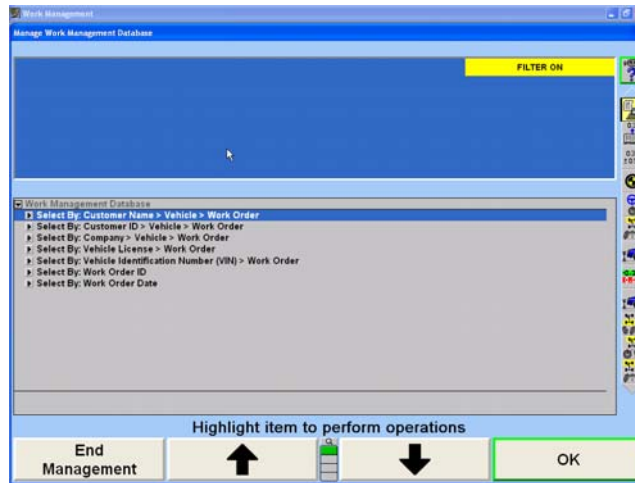
This toggling softkey allows switching between the current and reference work order.

Managing the Customer Database

The “Manage Database” soft key allows data to be added, changed, or deleted from the database without affecting the current work order. The data can also be displayed in charts, filtered, and used to generate mailing labels and form letters.

Filtering Data

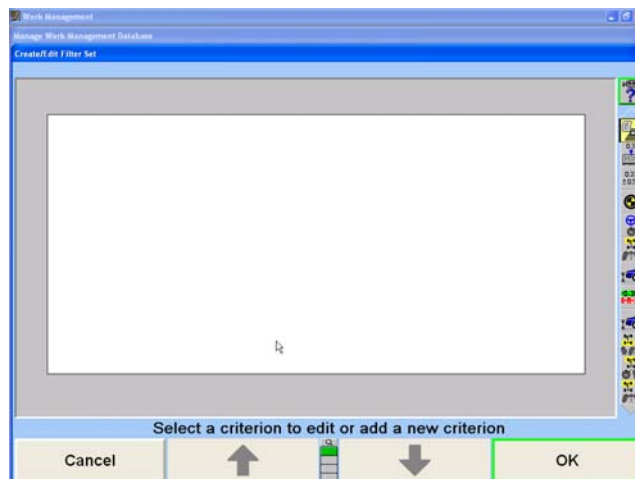
Filtering is a method of instructing the database to display only certain customers, vehicles, and work orders. A filter will reduce the amount of data in the database you view. For example, to view only those customers whose last names begin with the letter “B,” create a filter to select customers whose last names begin with the letter “B.” Once a filter is selected, all subsequent actions taken in “Manage Database” will use that filter to choose records from the database (creating reports or form letters). When a filter is being used, a yellow box with the words “FILTER ON” will appear in the upper right hand corner.



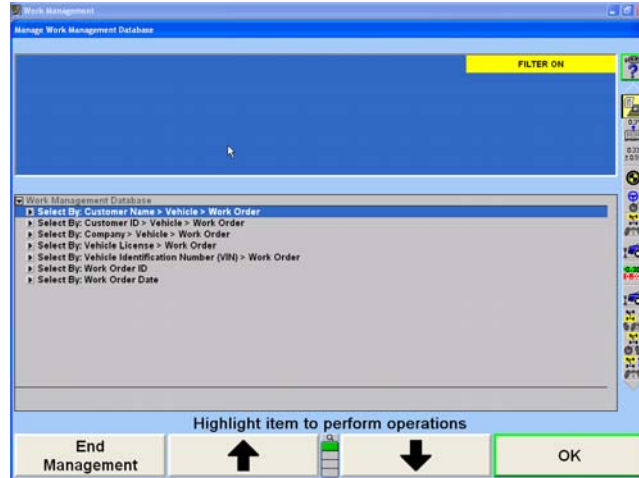
To deselect a filter, press “Cancel Filter” on the “Manage Work Management Database” screen.



To filter data, press “Manage Database” on the “Work Management” primary screen. The “Manage Work Management Database” screen will appear.

Press “Edit Filter.” The “Create/Edit Filter Set” screen will appear.



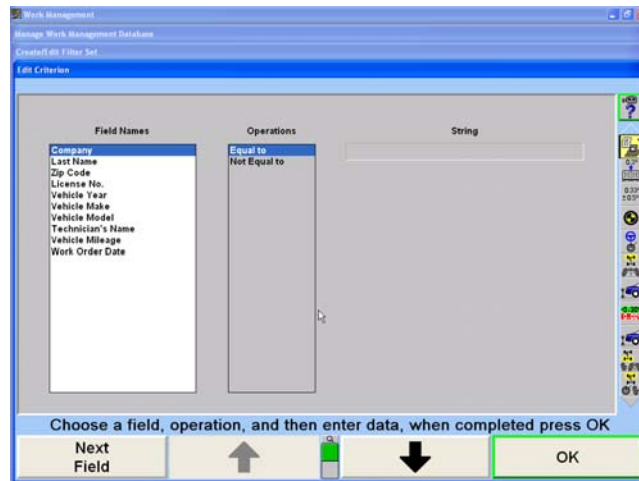
Create or recall a filter, then press “OK” on the “Create/Edit Filter Set” screen. The “Manage Work Management Database” screen, with a yellow box stating the filter is on, will appear in the upper right hand corner, as shown below.





Press  or  to highlight the desired method of recalling the information, then press “OK.” The screen will display a list of customers sorted by name or company, vehicle license numbers, work order identifications, or work order dates that meet the criteria specified in the filter.



Creating a Filter

Press “Add Criteria.” The “Edit Criteria” popup screen will appear with the cursor in the “Field Names” box.



Press  or  to highlight the desired field name.

Press “Next Field” to move the cursor to the “Operation” box.

Press  or  to highlight the desired operation.

Press “Next Field” to move the cursor to “String” or “Date” box.

Enter the text string or date, and then press “OK.” The “Create/Edit Filter Set” popup screen will appear with the criteria in the criteria box.

If additional criteria are needed, then repeat the above procedure.



To store a filter:

Press “Store Filter.” A screen will appear.



Enter the name of the filter, and then press “OK.” The filter will be stored on the hard drive.

Recalling a Filter



Press “Recall Filter.” A screen will appear listing the stored filters.

Press  or  to highlight the desired filter, then press “OK.” The “Create/Edit Filter Set” screen will appear with the criteria in the criteria box.



Editing Criteria

Press  or  to highlight the desired criteria.

Press “Edit Criteria.” The “Edit Criteria” screen will appear with the cursor in the “Field Names” box.

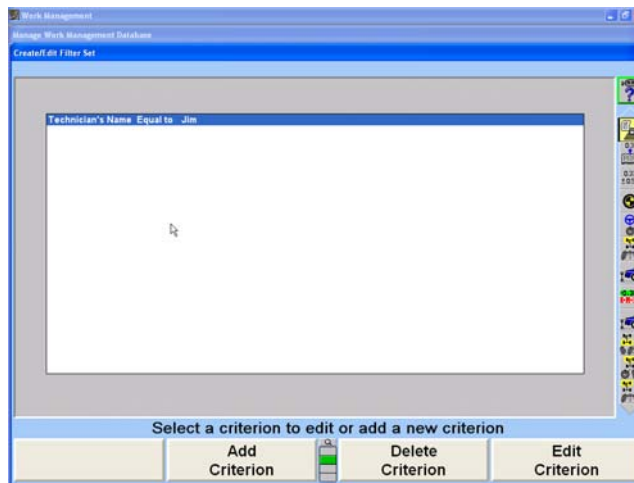
Press  or  to highlight the desired field name.

Press “Next Field” to move the cursor to the “Operation” box.

Press  or  to highlight the desired operation.

Press “Next Field” to move the cursor to “String” or “Date” box.

Enter the text string or date, and then press “OK.” The “Create/Edit Filter Set” screen will appear with the criteria in the criteria box.



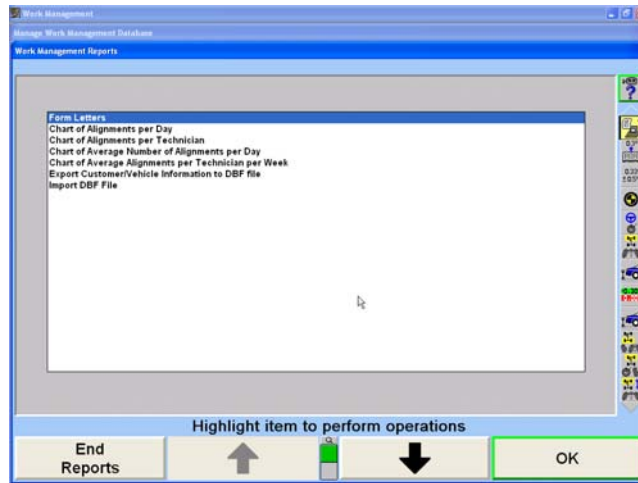
Creating Form Letters

Work Management provides a word processing function so that letters can be easily created and sent to your customers.

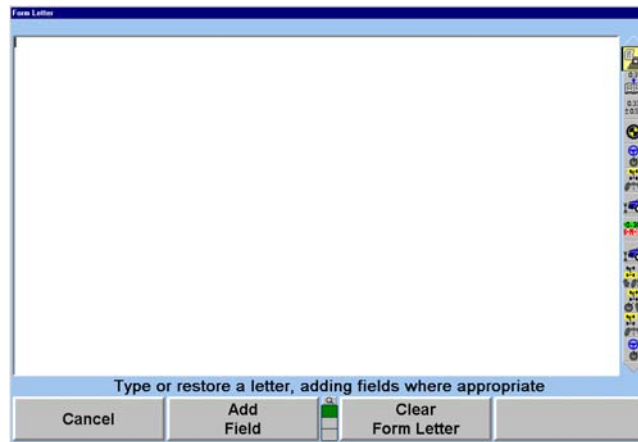
NOTE: Running Form Letters on the entire database without a filter will produce a letter for every customer in the database. If the database is large, this could take a lot of time and paper.

To create a form letter, press “Manage Database” on the “Work Management” primary screen. The “Manage Work Management Database” screen will appear.

Press "Make Reports." The "Work Management Reports" popup screen will appear.



Press "OK." The "Form Letter" popup screen will appear, as shown below. A new letter can be created or a letter may be recalled.





To create a new letter:

Type the letter from the keyboard.

NOTE: The text will automatically wrap in the box. Do not use the enter key to move text to the next line. Forced returns will make the layout of the printed letter incorrect. Press the enter key only when starting a new paragraph.

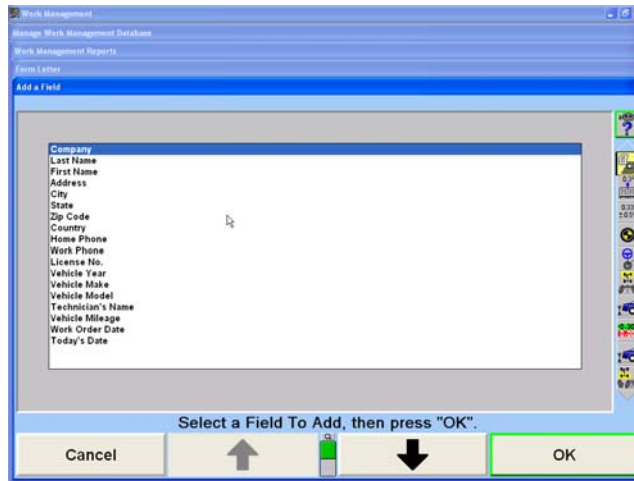
To recall a stored letter:



Press "Recall Form Letter." A screen will appear listing the stored form letters.

Press  or  to highlight the desired form letter, then press "OK." The "Form Letter" screen will appear with the letter in the box.


To add a field, move the cursor to the position where the field is to be added.

Press "Add Field." The "Add a Field" screen will appear listing field names.





Press  or  to highlight the desired field, then press "OK." The "Form Letter" screen will appear with the additional field. Repeat this procedure to add more fields.


To delete a field:

Position the cursor directly in front of the field, and then press .

OR

Position the cursor in the field name and press  or .

OR

Position the cursor directly behind the field, and then press .

To see how the letter will appear when printed, press "Print Sample." An example of the letter will print.

To store a form letter:

Press "Store Letter." A popup screen will appear. Enter the name of the letter, and then press "OK." The letter will be stored on the hard drive.

Printing Form Letters

Press "Print Reports." A letter for the selected customers will be printed.

<p>NOTE: Running Form Letters on the entire database without a filter will produce a letter for every customer in the database. If the database is large, this could take a lot of time and paper.</p>

Press "Set up Printer" to open the Print Manager and set up the printer.

Press "OK" to return "Work Management Reports" screen.

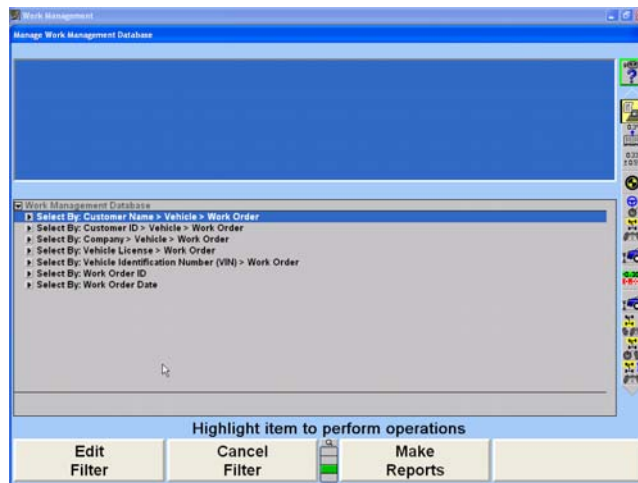
Press "End Reports" to return to the "Manage Work Management Database" screen.

Press "End Manage" to return to the "Work Management" primary screen.

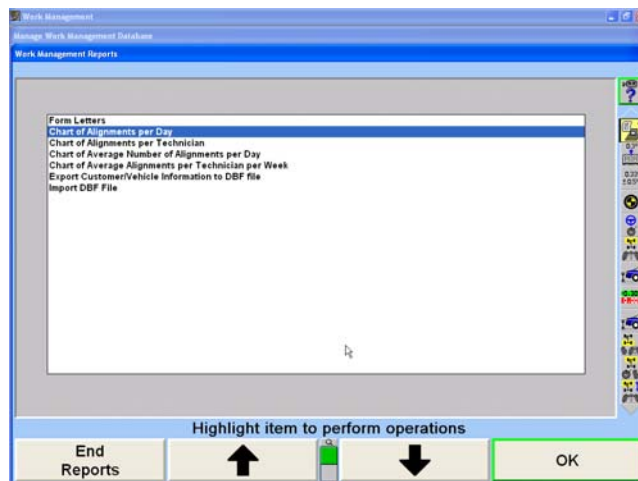
Charting Alignments



The number of alignments performed can be calculated and illustrated in a chart for a quick analysis.

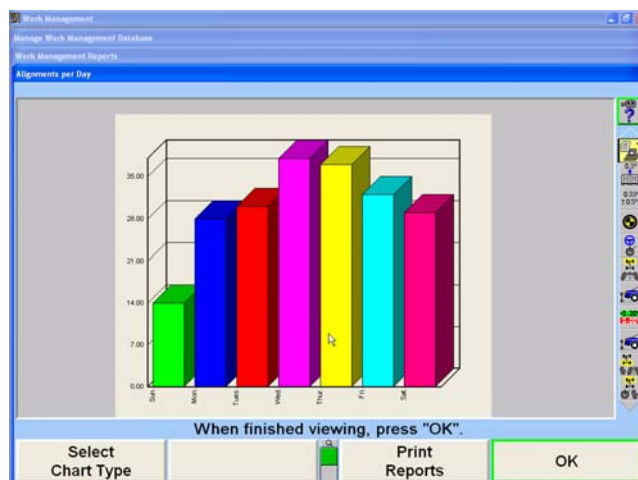
Press “Manage Database” on the “Work Management” primary screen. The “Manage Work Management Database” screen will appear.



Press “Make Reports.” The “Work Management Reports” popup screen will appear.



Press  or  to highlight the desired chart. A screen will appear stating the computer is gathering the data. After a few seconds a screen with the chart will appear.



Press "Switch Chart Type" to view additional types of charts.

Press "OK" to return to the "Work Management Reports" screen.

Press "End Reports" to return to the "Manage Work Management Database" screen.

Press "End Manage" to return to the "Work Management" primary screen.

Exporting Customer Database Files

Press "Manage Database" on the "Work Management" primary screen. The "Manage Work Management Database" screen will appear.

Press "Make Reports." The "Work Management Reports" screen will appear.

Press  or  to highlight "Export Customer/Vehicle Information to DBF file." A screen will appear stating the files are being converted. After a few seconds, a screen will appear stating the exported database is stored at C:\ALIGNER\EXPORT\CUSTVEH.DBF.

Press "OK" to return "Work Management Reports" screen.

Press "End Reports" to return to the "Manage Work Management Database" screen.

Press "End Manage" to return to the "Work Management" primary screen.

Importing DBF Files

To import a DBF file into the Work Management database, the data fields **MUST** be in the exact order and length specified below:

Field Name	Field Length in Characters
"COMPANY"	80 characters long
"LASTNAME"	40 characters long
"FIRSTNAME"	40 characters long
"STREET"	80 characters long
"CITY"	40 characters long
"STATE"	40 characters long
"ZIPCODE"	12 characters long
"HOMEPHONE"	20 characters long
"WORKPHONE"	20 characters long
"VIN"	20 characters long
"LICENSE"	20 characters long
"COLOR"	20 characters long
"YEAR"	6 characters long
"MAKE"	40 characters long
"MODEL"	80 characters long

The import database file should be named "IMPORT.DBF" and placed in the folder: C:\HEPROGS\ALIGNER\IMPORT\
(so it would look like: "C:\HEPROGS\ALIGNER\IMPORT\IMPORT.DBF").

If the import file is not set up correctly, the data will not be imported in to the Work Management database.