User's Manual



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Introduction

NOTE: WABCO TOOLBOX[™] Software is used for diagnosing the Meritor WABCO Hydraulic ABS (HABS) and Hydraulic Power Brakes (HPB) systems on the Ford F650/F750 medium duty trucks. This user manual has been modified from its original version to reflect the usage of WABCO TOOLBOX[™] on the Ford IDS system.

Meritor WABCO TOOLBOX[™] Software provides diagnostic capabilities for Meritor WABCO tractor and trailer pneumatic ABS, hydraulic ABS, the electronic leveling module (ELM) for both tractor and trailer and Electronically Controlled Air Suspensions (ECAS) for buses. The program provides four basic functions:

- Displays both constant (e.g., ECU number) and changing (e.g., RPMs) information from the system under test.
- Displays both active and stored system faults, as well as the appropriate repair instructions.
- Provides a link to service information testing procedures, etc. (ABS and HABS only)
- Activates system components to verify system integrity, correct component operation and installation wiring.

NOTE: For complete Meritor WABCO maintenance information, refer to the appropriate maintenance manual which is listed in this manual at the beginning of each product section. For copies of Meritor WABCO service literature, contact the ArvinMeritor Customer Service Center at 800-535-5560 or visit our website: meritorwabco.com

Starting TOOLBOX[™] Software

- 1. Attach the IC3COM or IC4COM cable to the IDS PC serial port.
- 2. Attach the diagnostic cable (Deutsch) to the vehicle.



- 3. From the IDS Desktop click on the MDTruck Launchpad to access the MDTruck diagnostic software.
- 4. From the Launchpad click on the "Wabco" button then the "Launch Wabco" button to start the TOOLBOX[™] Software.

	A REAL PROPERTY AND	-				
Master Diagnostics	Wabco	NETS	Cable Diagnostics	Frequently Asked Questions		
	Medium Dut	v Truck Software Vention: 12.0.0	/Cable Guide			
LCE						
Humania Brakes						
Auto Trans						
Engen Dispession		Master Diagnostics w				
ECM/OM Programming		- Use NETS with the IC4COM cable				
F650/750						
ENGINES, BORRES		Nabco Diagnostica v				
Engine Diagnostics - 6 DL Exwestiske						
ECMION Programming - 6.0L Powerstroke						
*Be sure to select the	proper cable within	each application				
	Master Disgnessies LCE Instands Dokes Add Imes Expert Carpostics ECMCM Programmes Office Testoritos Economics Econom	Master Dispension Wakes LSE Medium Dur Instands Endes - 0441 Engen Congenities - 0441 CMM - 0441 GM - 0441 Staff Lands - 0441 Staff Lands <td>Masser Disposition Wakeo NETS Medium Doru Track Schwarz Versien: 12.01 </td> <td>Master Disgnostice Wakes NETS Cable Diagnostics Medium Data Tucker Local Expendiographics </td>	Masser Disposition Wakeo NETS Medium Doru Track Schwarz Versien: 12.01	Master Disgnostice Wakes NETS Cable Diagnostics Medium Data Tucker Local Expendiographics		

Main Menu



At the *Main Menu* you may select a shortcut icon to:



Exit TOOLBOX™



Go to Hydraulic ABS (HABS) diagnostics OR Go to Hydraulic Power Brake (HPB) diagnostics

System Setup

Select System Setup from the Main Menu.



Language

Select *Language* from the *System Setup* menu. The default is English. To change the default to French or Spanish (ABS only):

- 1. Select the appropriate language.
- 2. Click OK to accept the selection.

Select Language	×
Spanish	OK Cancel

Select ECU

Select ECU from the System Setup menu, then select *Hydraulic ABS* or select the Hydraulic ABS (*HABS*) icon from the main menu.



Meritor WABCO PC Diagnostics						
elp						
HABS .	ELM T	E				
Tractor ABS	Ctrl+A	照 종 종				
Trailer ABS	Ctrl+T					
Hydraulic ABS	Ctrl+H					
Tractor ELM	Ctrl+E					
Trailer ELM	Ctrl+L					
Bus ECAS	Ctrl+B					
Roll Call	Ctrl+R					
	CO PC Diagnosti elp Tractor ABS Trailer ABS Hydraulic ABS Tractor ELM Trailer ELM Bus ECAS Roll Call	CO PC Diagnostics elp Tractor ABS Ctrl+A Trailer ABS Ctrl+A Trailer ABS Ctrl+T Hydraulic ABS Ctrl+H Tractor ELM Ctrl+E Trailer ELM Ctrl+E Bus ECAS Ctrl+B Roll Call Ctrl+R				

COM Port

From the *System Setup* pull down menu, select *COM Port* to display the *Device Settings* menu. Current settings will be shown.

IC4COM CABLE SETTINGS	IC3COM CABLE SETTINGS
Device Settings	Device Settings
Current Settings: Vendor: IC4 Interface Device Protocol: J1708 Device: COM1 Port IK Cancel	Current Settings: Vendor: C3 ICOM Protocol: J1708 Device: IC3S32,COM1 Cancel

Vendor

Click on the down arrow for a list of *vendor* choices. Select the appropriate vendor.

Protocol

Click on the down arrow for the *protocol* choices.

Device

Click on the down arrow for the *device* choices. Select the device and port to which the data cable is connected.

Click OK to accept the selections and close the **Device Settings** window.

Help



Select the *Help* icon for help in using Meritor WABCO TOOLBOXTM Software. Help is accessible from all TOOLBOXTM pages. Search by title (*contents*) or type in a specific topic (*search for help on*).

System Information

Select **System Information** and follow the screen prompts to print a report of system hardware: operating system version, drivers, etc. Run this report whenever you contact the ArvinMeritor Customer Service Center.



Update Application

(Versions 5.0 and Higher)

WABCO TOOLBOX[™] Software should always be installed from the IDS DVD or from the Ford PTS or Motorcraft websites. This will ensure that the version installed has been validated on the F650/F750 medium duty trucks.

About

Select **About** from the pull down menu for information about Meritor WABCO TOOLBOX[™] Software, including the version number. You may need this information if you call the ArvinMeritor Customer Service Center.



Hydraulic ABS

_) ⊶●	

NOTE: TOOLBOX[™] Software must be connected to the vehicle and the vehicle ignition must be ON in order to display information.

HYDRAULIC ABS MENUS AND TOOLBARS

Select *Hydraulic ABS* from the *TOOLBOX[™] Main Menu*. TOOLBOX[™] will recognize the HABS or Hydraulic Power Brake (HPB) ECU and display the appropriate screen. If you are working with HPB, refer to the HPB section of this manual.

Main Menu

🚈 Meritor WABCO Hy	draulic ABS			
Tractor <u>E</u> CU <u>D</u> isplay <u>C</u>	omponent Tests End	of <u>L</u> ine <u>H</u> elp		
	<u>به</u> 🛃	Y		
ECU Information		Wheel Senso	n —	
ECU Type	HABS (12V)		RPM	MPH
Part Number	4461090090	Front Left	9	1.1
Manufacture Date	48/01	Front Right	9	1.1
Serial Number	00013135	Rear Left	9	1.1
Software Rev.	HABS	Rear Right	9	1.1
Faults Fee Existing None Stored F Relay				
Controller Informat	ion Statu	\$	Voltages	•
Project #	Version # ABS La	amp On	Battery	11.18
Channel 8	10 ABS B	rake Off	Ignition	11.10
Safety 5	7 ABS R	etarder Error	Ignidon	J11.18
			1/21/03	9:05 AM

The *Main Menu* provides icons and pull down menu task selections. It also provides information about the current status of Meritor WABCO HABS.

ECU information is read once from the ECU and does not change. All other information (e.g., wheel sensors, voltages and fault information) is read and updated continuously.

NOTE: Double click on Yes in the Existing or Stored Faults fields of the **HABS** *Main Menu* to bring up the Fault Information screen. Service Information may also be observed from this screen.

From the *Main Menu*, you can select *Restart*, *Exit* or *Help*.

Restart Exit Help

🔤 Meritor WABCO Hydraulic ABS		
Tractor ECU Display Component Tests	End of Line Help	
	쑀	

Tractor ECU

Select Tractor ECU from the HABS Main Menu. A pull down menu will appear.

📺 Meritor 🗑	/AB(CO F	lyc
Tractor ECU	Disp	olay	<u>C</u>
<u>L</u> anguage	;		1
<u>R</u> estart		BAB	ullin
E <u>x</u> it		tion	
	ormo	uon	
ECH Tune			

Language Restart

Refer to page 7 of this manual for information about using the Language selection.

Select *Restart* to refresh (update) ECU information.

Exit

Select *Exit* to exit HABS and return to the TOOLBOX[™] *Main Menu*.

Display

Select **Display** from the **HABS Main Menu**. A pull down menu will appear.



WABCO Hydraulic AB

Faults

Select Faults to display the Fault Information screen.

NOTE: The *Fault Information* Screen is also accessible from the *HABS Main Menu*.

🚊 Fault I	nformation							X
Faults:								
NUM	FAULT N/	AME		TYPE	SID	FMI		
	1 Right Rea	r Sensor - Incor	rect data	ACTIV	′E [4	2	
n i		_	_	_	_	_	_	
Repair	Instruction	s:						
Sensor	measurement	not correct. Ch	eck for brok	en wire, short	to power,	or short to	ground.	
								V
	data	Clear Faulte		Print				
<u> </u>	uale			Lunk		Įave –	<u> </u>	<u>o</u> n

The *Fault Information* screen contains a description of each fault, including the type of fault (Active or Stored), SID and FMI number. Repair instructions for the fault appear at the bottom of the screen.

For detailed repair instructions, click on the fault to display a troubleshooting information sheet. **Bookmark** and **Thumbnail** tabs at the side of the troubleshooting information sheet provide additional information. A sample troubleshooting information sheet appears in the Appendix. This screen also provides a link to the appropriate system schematic.

- Bookmarks Complete listing of ABS fault codes by SID/FMI. Click to display.
- Thumbnails Click individual pages to display.

Faults that occur after the screen is displayed will not appear until a screen update is requested. Use the **Update** button at the bottom of the screen to refresh the fault information table and display a new list of faults.

After making any required repairs, use the *Clear Faults* button to clear the fault. Clear each fault as it is repaired.

Use the **Save** or **Print** button to save or print the fault information data. Select **Exit** to close this screen.

Component Tests

Select *Component Tests* from the *HABS Main Menu*. A pull down menu will appear.

CO H	lydraulic ABS	
olay	Component Tests	End of Line <u>F</u>
	<u>V</u> alves <u>A</u> ctuate Output Reset <u>M</u> emoriz	is ed
uon	HABS (12V) 4461090090	Front L

Valves

Select Valves to display the Valve Activation screen.



The *Valve Activation* screen lets you activate the four valves, the pump and the retarder relay. In addition to checking for correct activation, this screen provides an easy way to make sure the valves are wired correctly — and that wiring is not reversed.

Click on the valve, pump or retarder relay you wish to test, then click on the **Send** button to actuate the component. Component activation status appears in the **status box** field. Use the **Close** button to close this screen.

Actuate Outputs

Select Actuate Outputs to display the Actuate Miscellaneous Output screen.

🔚 Actuate Miscellaneous O	utput	×
Output Selection		
 Front Left Inlet 	Front Right Inlet	
C Front Left Outlet	C Front Right Outlet	
 Rear Left Inlet Rear Left Outlet 	C Rear Right Inlet C Rear Right Outlet	
C Pump Relay	C Retarder Output	
C ABS Lamp On	C ABS Lamp Off	
	C Valve Relay Off	
Status		1
Send	<u>C</u> lose	

This screen provides a check of the ABS indicator lamp. In addition, it provides a way to check either inlet or outlet activity of the valves, pump or retarder relay.

Click on the component you wish to test, then click on the **Send** button to actuate the component. Component activation status appears in the **status box** field. Use the **Close** button to close this screen.

Reset Memorized

Select Reset Memorized to display the Learned Component screen.

Component
🔽 Relay

Relay is an automatic default and cannot be de-selected. It indicates the ECU has memorized the installed retarder relay. Once the ECU has seen a retarder, it expects to see it every time the vehicle is powered up.

Because there are times when an ECU is moved to another vehicle — or during diagnostic testing — you may want the ECU to disregard this learned component. Use the **Reset Memorized** command for this purpose.

End of Line

NOTE: Before connecting the vehicle to the computer, bleed the circuit and master cylinder. Follow the standard bleed procedures used by your facility, or use the procedures listed in the F650/F750 Workshop Manual.

Failure to bleed the system whenever any hydraulic system fitting is loosened or disconnected will allow air to remain in the system. This will prevent the hydraulic pressure in the brake system from rising enough to apply the brakes correctly. This will cause the stopping distance to increase and can result in serious personal injury.

Correctly discard hydraulic brake fluid that is removed from the brake system. Hydraulic brake fluid that is removed can be contaminated and can cause damage, loss of braking and serious personal injury.

Use only the type of hydraulic brake fluid specified by the equipment manufacturer. Do not use or mix different types of hydraulic brake fluid. The wrong hydraulic brake fluid will damage the rubber parts of the brake caliper and can cause damage, loss of braking and serious personal injury.

Do not let the brake master cylinder fluid get below the minimum level during the bleeding operation. Keep the master cylinder reservoir filled with new DOT-approved brake fluid, as specified by the original equipment manufacturer. Failure to keep the brake reservoir level above minimum could result in more air entering system, making it impossible to effectively bleed the system.

NOTE: Use DOT 3 or DOT 4 hydraulic brake fluid. Refer to the vehicle specifications to determine which fluid to use.

Hydraulic brake fluid is a caustic substance. Contact with hydraulic brake fluid can cause skin irritation. Do not let hydraulic brake fluid touch any painted surfaces, as it will remove the paint. Hydraulic brake fluid may also damage certain non-metal surfaces. Do not let fluid get on brake pads, shoes, rotors or disks.

- 1. Apply the parking brake and block the tires. Turn the ignition off.
- 2. Perform brake bleed procedure for wet module, bleeding the circuit and master cylinder if required, prior to connecting laptop to truck.
- 3. Connect the IDS laptop to the vehicle using the 9 pin (Deutsch) diagnostic connector in the cab of the truck.
- 4. Launch Meritor WABCO TOOLBOX[™] Diagnostic Software.
- 5. From the *Main Menu* select the HABS icon.
- 6. Select *End of Line* from the *HABS Main Menu*.

7. Select *Bleed Procedure* from the *End of Line Menu*.



8. Choose axle to bleed from the select axle screen.

Terret Hydr	raulic Bleed F	Procedure	×
/	Axle To Bleed	1	
	Front	C Rear	
Г			
ſ	<u>0</u> K	Sto <u>p</u> <u>C</u> lose	
š			

9. Follow on-screen prompts.

Hydraulic Bleed Procedure	×
Axle To Bleed	
Bleed Procedure X	
Turn engine off and ignition on. Push on brake pedal with maximum force and hold. Press OK when ready	
<u>D</u> K Stop <u>C</u> lose	

Click OK to continue.

Hydraulic Bleed Pr	ocedure		×
Axle To Bleed			
Front	C Re	ear	
Bleeding front axle	***		
	Sto <u>p</u>	<u>C</u> lose	

Click OK to continue.

R Hydraulic	Bleed Pro	ocedure			×
Axle T	o Bleed -				
۲	Front	0	Rear		
	Release	Brake		×	
Bleeding	Release	brake and hit	OK when	ready -	-
		OK	Cancel		
4 <u>0</u>	(Stop		<u>C</u> lose	

- 10. Repeat procedure two additional times on this axle. This should eliminate all of the air in the chamber.
- 11. Perform manual bleed on this axle.
- 12. Repeat Steps 8-11 for the other axle.
- 13. Test drive the vehicle after bleeding the brakes.
 - If a firm brake pedal resistance is felt and the brake pedal pushes back when you perform an ABS stop, the system bleed procedure is complete.
 - If there is no firm pedal resistance, check the brake system for defects (leaks, etc.) and make the necessary repairs, then repeat the bleed procedure.

Hydraulic Power Brake (HPB)



NOTE: TOOLBOX[™] Software must be connected to the vehicle and the vehicle ignition must be ON in order to display information.

HYDRAULIC POWER BRAKE MENUS AND TOOLBARS

Select *Hydraulic ABS* from the *TOOLBOX[™] Main Menu*. TOOLBOX[™] will sense the type of ECU being used and will display the *HPB Main Menu*.

Main Menu

Meritor WABCO HPB				_1013
ractor ECU Display Component	Tests Parameters EOL	Help		
	登 (1) [1] [1]····	1 to 1	5 **]	
ECU Information	Wh	ieel Sensor		
ECU Type	HPB (12V)		RPM	MPH
Part Number	4460460012 Left	Front	< 9)
Manufacture Date	05/03/2004 Righ	nt Front	< 9)
Serial Number	00003020 Left	2nd	< 9)
Software Rev.	HEAA0012 Righ	nt 2nd	< 9)
Faults Yes Existing None S	tored Earned Com	ponent Relay	Road Speed	nph)
Control Status	Switches		Voltages	
ADC Dates	ATC		Battery	11.40
		ION	Ignition	11.11
ABS Hetarder IN/A	FOOT Brake	10#	Lamps	
ATC Brake Off	Parking Brake	Centered	ABS ATC	Brake
ATC Engine Off	Brake Fluid	ΟΚ	100 100	Off
PB Travel Switch Relea	rsed Pressure (psi Front Axle	1920	Rear Axle	1836
	A	TC Enabled	4/10/2006	10:24 AM
			,	1006100

This screen provides icons and pull down menu task selections. It also provides information about the current status of Meritor WABCO HPB.

ECU information is read once from the ECU and does not change. All other information (e.g., wheel sensors, voltages and fault information) is read and updated continuously.

From the Main Menu you can select *Restart*, *Exit* or *Help*.

Restart Exit Help



Tractor ECU

Select *Tractor ECU* from the *HPB Main Menu*. A pull down menu will appear.



Language

Refer to page 7 of this manual for information about using the Language selection.

Restart

Select *Restart* to refresh (update) ECU information.

Exit

Select *Exit* to exit HPB and return to the TOOLBOX[™] *Main Menu*.

Display

Select *Display* from the *HPB Main Menu*. A pull down menu will appear.



Faults

Select *Faults* to display the *Fault Information* screen.

NOTE: The *Fault Information* screen is also accessible from the *HPB Main Menu*.

NUM	FAULT NAME	TYPE	TIMES	SID	£М	ļ
1	Riche Rear Sensor - Open	ADTINE	1	শ		j
2	Lait kight Sonsor - Open	ACTIVE	1	1		
3	Loft Real Sensor - Open	ACTIVE	1	3		
- 4	Right Front Sensor - Open	ACTIVE	1	Z		
5	J1959 Communication - Message time-cul	ACTIVE	1	249		
6	Brake Press, Sensor Rear - Sharled to 12V	ACTIVE	1	62		ļ
< 1	j- · - · · · · · · · · · ·				>	
lepai Ipen Senso	ir Instructions: circul is detected. Check sensor wijing and cornect rill necessay.	ors for intermitte	nt contact	Replace		0.000

The *Fault Information* screen contains a description of each fault, including the type of fault (Active or Stored), SID and FMI number. Repair instructions for the fault appear at the bottom of the screen.

Faults that occur after the screen is displayed will not appear until a screen update is requested. Use the *Update* button at the bottom of the screen to refresh the fault information table and display a new list of faults.

After making any required repairs, use the *Clear Faults* button to clear the fault. Clear each fault as it is repaired.

Use the **Save** or **Print** button to save or print the fault information data. Select **Exit** to close this section.

Wheel Speed

Select Wheel Speed to display the Wheel Speed screen.



Use the *Wheel Speed* screen to verify that sensors are connected at each wheel. Speed at a sensed wheel (FL, FR, RL, RR) indicates sensors are installed, but does not verify correct sensor installation.

Counters

Select Counters to display the Counters screen.

1
_
ritz

The **Counters** screen provides an overview of HPB component performance (pump hours, brake events, etc.) as well as general vehicle activity such as ignition cycles. Occurrences displayed on this screen accumulate until the Clear button is selected.

Component Tests

Select *Component Tests* from the *HPB Main Menu*. A pull down menu will appear.



Valves

Select Valves to display the Valve Activation test screen.

🕱 Valve Activation	\mathbf{X}				
Valve Selection					
€ LeftFront	C Right Front				
C Leit 2nd Avle	C Right 2nd Avle				
C AI	ABS Valves				
Status					
Send	Close				

The Valve Activation test screen lets you activate the HPB valves and verify correct brake line installation.

Click on the valve you wish to test, then click the **send** button to actuate the component. Component activation status appears in the **Status** box field. Select **Close** to exit this screen.

Lamps

Select *Lamps* to display the *Lamp Test* screen.

🗮 Lamp Test	•	
ABS	ATC	Brake
Test ABS Lamp	Test ATC Lamp	Test Brake Lamp
	Close	

As each lamp is tested, check the actual lamp to verify correct operation. Select *Close* to exit this screen.

Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving. Support the vehicle with safety stands. Do not work under a vehicle supported only by jacks. Jacks can slip and fall over. Serious personal injury and damage to components can result.

Relay

Select Relay to display the Activate Relay test screen.

🇮 Activate Relay	X
Relay	
Turn Retarder Relay On	
Close	

This screen allows you to turn the Retarder Relay on or off. This is helpful in verifying correct operation, installation and wiring of the unit under test. Select *Close* to exit this screen.

Engine Data Link

Select Engine Data Link to display the *Data Link* test screen.

. Data Link		
-Select Destinat	ion —	
@ Engine	C Re	tarder
Send	Stop	Close
Send	Stop	Liose

This screen allows you to send a "limit engine torque" command to the engine or a "disable retarder" command to the retarder.

Select the data link destination (engine or retarder), then select **Send** to test. Use the **Stop** button to end testing. Select **Close** to exit this screen.

Disable ATC

Select Disable ATC to send a command to the ECU to disable automatic traction control. ATC will remain disabled until the enable command is sent, or until the vehicle ignition is cycled. ATC must be disabled for ATC testing.

Enable ATC

Select Enable ATC to send a command to the ECU to enable automatic traction control. This is the normal state of the ECU.

NOTE: The status bar on the *HPB Main Menu* reflects the current ATC status (enabled, disabled or not available).

Meritor WABCO HD	3				001		
actor DCU Deplay Cos	oponent Testa	Help					
* Q 🖄 i	Th 摹		P- / 10	^ <u>™</u> ₩			
ECU Information ECU Trop	Large II 2		Wheel Sensor	RPN	ирн		
Part Number	884906	9962	Left Front	< 9	0		
Manufacture Date	11/19/2	002	Right Florit	< 9	0		
Serial Number	0000010	51	Left 2nd	< 9	0		
SolMare Nev.	HEADO	ns	Right 2nd	K 9	0		
Fault: Yes Existing (%)	ve Stored	Learn □ R	ed Component starder Rolag	Road Speed	i (nph)		
Control Status		Switch	he3	Voltages			
ABS Brake	Evo	ATC	14/4	Ignition	10.55		
ABS Retarder	14/4	Fool Br	ake [011	cl ann	11111		
ATC Brake	NA	Parking	Badon (14,04	485 AT	C Brake		
All L Engine PR Turus Suitets	00	Erak.u P	and IOK	0n 0	n [On		
	1448	For	une (pol) # Aula 2739	R and Acde	2751		
			ATC Enabled	8/12/2003	851 AN		

Miscellaneous Outputs

Select Miscellaneous Outputs to display the Activate Miscellaneous Outputs test screen.

NOTE: Use TOOLBOX[™] to test the following components: Retarder Relay, Brake Light Relay, Supply Valve, Cut-Off Valve, ABS Lamp, Traction Lamp, Brake Warning, Pump Front, Pump Rear, Buzzer.

				+ +	+ +	+ + +		+ +	****	****		+	****	+ +						
Outpu	t Selectio	m																		
C ABS Lamp C ATC Lamp				C Buzzer C Supply Valve C Cut-Off Valve C Parking Brake Failure Lamp																
 Brake Warning Lamp Pump Front 																				
C Pump Rear			C Brake Light Relay																	
	+ + + + + +	+ + + +	+ + +	· + · + ·	+ +	+ + +	++++	+ +	+1 +1	+ +	+ + +	+	+1 +1 +1 +1	+ +	1 +1		+1 +1	+ +	H 11	
Status	1	+ + +	• • • • • •	+ +	* * * *	• • • •		+ + + +	+ + + + + + + + + + + + + + + + + + +	* *	+ + + +	+++++++++++++++++++++++++++++++++++++++		+ +	+	+		+	(+) +)	Design of the local data
	+ + + + + +	+ + + +	+ + +	(±:±	± ±	+- +- +	·:+::+	±1.1	±1. ±1	±::±:	±(:±	:±1	±1:±1	+ +	-1 :±1	±	toto	÷	H: ±1	
	Sei	nd	+ + + + + + + + + + + + + + + + + + + +	+ + + + + +	* *	+ + + + + + + + + + + + + + + + + + +		<u>C</u>	losi	8			• · · • · • · • • ·	+ + +	+			+ + +	+++++++++++++++++++++++++++++++++++++++	
		+*****	+ + +	+ +		+ + +		++++	+(:+()	+0+0	+17	+	****	+ +				+ +	+++++++++++++++++++++++++++++++++++++++	

This screen provides a check of several HPB components, as well as a way to check either inlet or outlet activity of the valves, pump or retarder relay.

Highlight the component you wish to test, then select the **Send** button to actuate the component. Component activation status appears in the **Status Box** field. Select **Close** to exit this screen.

Actuate Parking Brake

Select Actuate Parking Brake to display the Parking Brake test screen.

🖹 Parking Brake	
Parking Brake – © Release © Apply	
<u>S</u> end	

Select *Release* or *Apply*, then select *Send* to test the parking brake. Select *Close* to exit this screen.

Reset Memorized

(For Systems Equipped with a Retarder Relay)

Select Reset Memorized to display the Learned Component screen.

Component 🔽 Relay

Relay is an automatic default and cannot be de-selected. It indicates the ECU has memorized the installed retarder relay. Once the ECU has seen a retarder, it expects to see it every time the vehicle is powered up.

Parameters

Select *Parameters* from the *HPB Main Menu*. A pull down menu will appear.



Select **Read Parameters** or **Write Parameters**. The **Parameters** screen will appear.



Read Parameters Write Parameters

Please contact the ArvinMeritor Customer Service Center at 800-535-5560 for information about using these screens.

End of Line

Select End of Line from the HPB Main Menu. A pull down menu will appear.



Drain Reservoir

This option sends a command to drain the HCU reservoir. For information about using this option, please contact the ArvinMeritor Customer Service Center at 800-535-5560.

Deplete Accumulators

Before selecting *Deplete Accumulators* from the *HPB Main Menu*, make sure the accumulators are fully charged, approximately 2100 psi (144.79 bar). Review the *Pressure* field of the *HPB Main Menu* to verify pressure.



Select **Deplete Accumulators** from the pull down menu. A status message screen will appear. When the system pressure has been depleted from both the front and rear accumulators, the message screen will indicate the procedure has been completed.

(Depleting Accumulators)

Menitor WAUCO HPD	/ 1			
	Drain Reserve	oir ulators	1	
ECU Information ECU Type	HPB (12	2V)	Wheel Sensor	RPM
Part Number	4460460	0012	Left Front	< 9
Manufacture Date	01/28/20	005	Right Front	< 9
Serial Number	10007	Drain Accumulat	ors X	< 9
Software Rev.	HEA	Status Depleting Rea Depleting From	Accumulator ********	< 9
			Close	

(Complete)

































