





Automated Control and Entry Service Manual

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Revision Control

Revision D
Revision C
Revision B
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Important Notices

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Title: ACE (Automated Control and Entry) System—Body Service Manual

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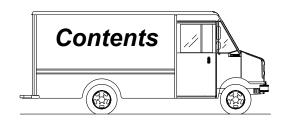
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Customer Service

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CustSvc@Utilimaster.com www.utilimaster.com

Introduction

This manual includes operation, service, and maintenance procedures for the remote entry ACE (Automated Control and Entry) System in Utilimaster vehicles. It contains drawings and procedures to aid in servicing the vehicle. This manual covers only those assemblies manufactured by or installed by Utilimaster® Corporation. Items such as chassis and drive train components or certain interior furnishings are covered by separate manufacturer-supplied information. This system allows a variety of functions and features. Not all of the features may be included or available on your vehicle. Use these instructions only as they apply to your truck



NOTE: This service information is generic. Details in illustrations and procedures may differ from the ACE System in your vehicle. Use this information as a guideline where it applies.

All information, specifications, and illustrations contained in this manual are based on the latest product information available at the time of publication. Utilimaster reserves the right to amend the information in this document at any time without prior notice.

VIN, Body Serial Number, and Work Order Numbers

VIN

The 17-digit chassis Vehicle Identification Number (VIN) is the legal identifier for this vehicle and is the number recorded in the license plate registration. The VIN appears on a small label on or beside the dash on the driver's side. You can read the VIN if you look through the quarter-panel window. (Figure LA–05 and LA–06). The number is also recorded on the Federal Certification Label (Figure LA–15) and on the Freightliner Incomplete Vehicle Component Information label on the shelf above the windshield.

NOTE: This service information is generic. Details in illustrations and procedures may differ from those in your vehicle. Because Utilimaster manufactures many customized vehicle bodies, this manual cannot list and illustrate every possible part in every vehicle. Nevertheless, the most common body options are described here. Use this information as a guideline where it applies.



LA-05 Vehicle Identification Number on Dash



LA-06 Vehicle Identification Number on Cowl

Body Serial Number

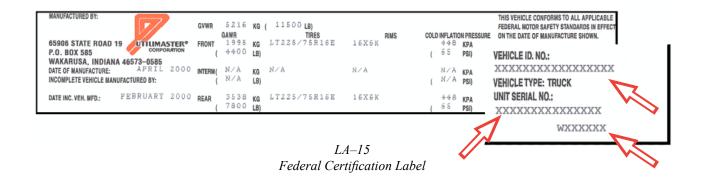
The 15-digit Utilimaster Body (or Unit) Serial Number is recorded on the Federal Certification Label. This label is a plastic decal (about 11" long and 2" high) that contains a variety of manufacturing information (including the VIN). This label is found between the quarter window and door. (See Illustrations LA–10 and LA–15).

Work Order Numbers

A 7-digit Work Order Number appears below the Unit Serial Number on the Federal Certification Label. (Figure LA–15.)



LA–10 Federal Certification Label on Door Post



Part Numbers

This manual lists some parts and kit numbers that can be ordered directly from the Utilimaster Customer Service Department. For more comprehensive illustrations and parts lists, see the Utilimaster Body Parts Manual.

Some parts or procedures may be dependent on which side of the vehicle they are located. (Figure LA–20). Right Hand (RH) or Left Hand (LH) is based upon the position of the driver while facing forward.

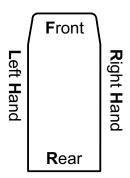


Illustration LA-20 Vehicle Orientation

Safety Considerations

Notes, Cautions, and Warnings

NOTES, CAUTIONS, and WARNINGS each have a specific purpose.

- NOTES give you additional information that will help you to complete the procedure.
- CAUTIONS warn you against making an error that could damage the vehicle.
- WARNINGS remind you to be careful when there is a risk of personal injury.

Below are some basic WARNINGS that you should heed when you work on the vehicle's body. They are not all inclusive, however, and common sense must be used when servicing vehicles.



When you see this symbol, read this statement first! This alert highlights information that may reduce your risk of personal injury or vehicle damage.



CAUTION: To avoid colliding with another vehicle or obstacle, be sure you always have sufficient overhead and side clearance. Take extra care when backing up.

- Always wear safety glasses and wear other proper protective equipment (gloves, steel-toed shoes, face shields, knee pads, hearing protection) as appropriate to the process.
- Use safety stands and/or wheel blocks whenever you are underneath the vehicle.
- Put the transmission in Park and set the parking brake before working on the vehicle.
- Be sure that the ignition switch is Off unless otherwise required by the procedure.
- Operate engines only in well-ventilated areas.
- Keep yourself and your clothing away from the radiator fan, belts, and any moving parts when the engine is running.

- Keep hands and other objects clear of the radiator fan blades. The electric fan can start at any time even though the ignition is Off. Disconnect the fan when working under the hood.
- Avoid contact with hot metal parts, such as the radiator or exhaust system.
- Always remove rings, watches, hanging jewelry, and loose clothing before working on a vehicle. Tie long hair securely behind your head.
- Become familiar with all warning labels.
- Use only tools that are in good condition, and use them only in the appropriate manner.

Operation

Overview of Components

This section describes the different components making up the Utilimaster ACE System.

NOTE: This service information is generic. Details in illustrations and procedures may differ from the system in your vehicle. Use this information as a guideline where it applies.

Actuator (Door Latch/Lock)

The door Actuator (Figure AE–10) is an automatic locking catch that unlocks the door on command using an electronic solenoid. It also has a manually operated lock release lever that allows exiting the vehicle at any time.

Opening any door with the release button or manual lock release lever will NOT disarm the alarm.

Replacement part number for the LH side and bulkhead door 08610834.

Replacement part number for the RH side door 08610835.

Replacement part number for rear roll-up door 08610836.

Maximum current consumption 7 amps. Normal current consumption 5.5 amps.

Alarm (Siren)

The alarm, siren, horn, or other audio signalling device (need photo) is used with vehicles with alarm option. It also serves as an indicator during the programming process.

The alarm can be silenced three ways.

- Press any button on the transmitter (Figure AE–12).
- Install the programming Jumper. (Figure AE–12). See Changing Jumper Section
- Turn on the ignition using the factory key and holding the programming button down for five seconds (Figure AE–70).



AE-10 Actuator (Door Latch/Lock Mechanism)



AE-12 Transmitter Unit (Key Fob)

NOTE: If the alarm is silenced, it can sound again if a new alarm condition occurs.

NOTE: The alarm will continue to sound for three minutes if the system does NOT identify a transponder and will repeat upon new alarm conditions up to five times before disabling itself.

IMPORTANT: If the vehicle is left with any exterior door ajar, the system will NOT arm that particular zone

Normal current consumption is 1.8 AMPS at 110dB. Replacement part number is 16514201.

ARMED and DISARMED Modes

Vehicles with the alarm system can be switched from the alarm Off (DISARMED) Mode and the alarm On (ARMED) mode.

Armed Mode can vary per zone. In Disarmed Mode the vehicle is completely deactivated and will not sound an alarm for any reason.

Dash Module

The Dash Module (Figure AE–25) is the multifunctional control center mounted on or near the dash board for the vehicles equipped with the auto-start option. The four buttons are used as follows.

ENGINE STOP Stops the vehicle engine or takes it out of Accessory Mode.

ENGINE START Starts the vehicle engine or sets the system in accessory mode. It is illuminated green when the vehicle can be started or flashes when one or more doors are left open and the ignition has been activated.

DRIVER Unlocks the driver's door.

PASSENGER Unlocks the passenger's door.

The Dash Module also has two LED indicator lights used as system status indicators.

See the ACE with Ignition Programming Section.

Put the vehicle in Accessory Mode by pressing the START button for less than half of a second. The alarms will NOT arm in Accessory Mode.

IMPORTANT: Remember to press the STOP button to exit Accessory Mode before exiting the vehicle. If the vehicle is left in Accessory Mode, the system will NOT arm itself.

Replacement part number is 16514200.

Dome Light

The dome light will turn on when a door is unlocked and will stay on for ten seconds. It will stay on as long as sixty seconds with a door open or ten seconds after the door is closed.

The dome light in an armed vehicle will flash with the sounding alarm.

Door Override Button (Interior Door Release)

The Door Override Buttons (Figures AE–20 and AE–30) are located near the door and/or on the Dash Module. Pressing the button will electronically unlock only the door it is designated for.



AE–15 Main Module



AE–20
Door Override Button
(Interior Door Release)



AE–25 Dash Module



AE–30 Cab Door Release Buttons

Emergency Entrance and Exit

In the event of a lost transmitter or a dead (truck) battery, the vehicle may be entered with a key via the rear door.

Each door dead bolt can be manually opened from the interior.

Fuses at the Main Module

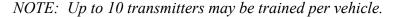
Remove the four screws to the Main Module cover (Figure AE–15) for access to the door lock fuses. The LED indicators are numbered and coincide with the labeled fuses.

Ignition Module

See Dash Module.

Jumpers

The Jumper (Figure AE–35) is used to program the Main Module and may or may not be sent in the vehicle upon delivery. It is the key to programming Transmitters to the vehicle and should be kept in a secured location when not specifically programming the system. The Main Module will recognize up to 10 Jumper Codes.



Replacement Jumper part numbers are,

Transportation with red cap 16514205

Station specific (uniquely coded) with black cap 16514206

Key Fob

See Transmitter.

Keys

Ignition Keys

Vehicle ignition keys are supplied by the chassis manufacturer.

On the ACE System with Ignition, the Ignition/Accessory LED will illuminate when the ignition is ON. It will also illuminate if the ignition key is ON.

If the vehicle is started with the ignition key, it must also be used to turn off the engine. If the vehicle is started with the START button on the Dash Module, it has to be stopped by pressing the STOP button on the Dash Module.

ABLOY® Keys

ABLOY "squarecut" keys (Figure KY–10) are supplied by Transport Security.

IMPORTANT: Record the key number stamped on the key for each truck. For security reasons they are usually not stamped on the lock cylinder, and you must have this number to obtain replacement keys.



AE–35 Jumper

To maintain security control, you should contact the lock company directly for replacements. In case of unit damage, please reuse the lock assemblies whenever possible.

Transport Security, Inc. 508 Industrial Blvd. Waconia, MN 55387 Phone: 612-442-5625 Fax: 800-328-3442

Main Module

The Main Module (Figure AE–15) is the central computer "brain" of the ACE System. It is often enclosed within the vehicle shelf above the windshield on the right-hand side and contains the programming functions for Jumpers and Transmitters.



KY-10 ABLOY Keys

Input voltage is 9–15 VDC and has an operating range of 30 feet. Standby current is 10mA.

Replacement part number for Main Module with Ignition start 16514199.

Replacement part number for Main Module w/NO Ignition start 16514224.

Motion Detector

The motion detection device (need photo) is only on vehicles with the motion alarm option. It will activate thirty seconds after the bulkhead and rear doors are closed and the engine is turned off.

There is a thirty to sixty second delay in activating the motion sensor to minimize false alarms. If it continues to detect motion within the delay periods, the alarm will NOT activate.

Properly opening the bulkhead door, rear doors, or starting the engine will disable the motion detector.

Replacement part number is 16514208.

Transmitter (Key Fob)

The Transmitter or Key Fob (Figure AE–12) is the hand held control device for unlocking the vehicle doors. It normally has four buttons but may vary. On the four-button configuration, press each button once to unlock the each door as follows,

- #1 Driver's door
- #2 Passenger door
- #3 Bulkhead door
- #4 Rear door

When a door is unlocked, it will remain unlocked for only five seconds before locking again.

Any door can be opened in any sequence and in any mode.

Replacement battery is 23AP or 23-279 (12V Alkaline).

Replacement part number is 16514225.

Zones

On vehicles equipped with the alarm option, the vehicle is separated into three zones (Cab, Cargo, and Perimeter) that can be ARMED and UNARMED independently

Cab Zone

The Cab Zone is comprised of the cab doors and bulkhead door.

Cargo Zone

The Cargo Zone is comprised of the bulkhead door and rear doors.

Perimeter Zone

The Perimeter Zone is comprised of the cab doors and rear door(s) when the bulkhead door is left open.

NOTE: See also the More Information Section for additional resources from Utilimaster on the ACE System, other parts and wiring manuals.

NOTE: This service information is generic. Details in illustrations and procedures may differ from those in your vehicle. Because Utilimaster manufactures many customized vehicle bodies, this manual cannot list and illustrate every possible part in every vehicle. Nevertheless, the most common body options are described here. Use this information as a guideline where it applies.

ACE System Operation

Overview

The ACE *Door* System refers to a fully functional vehicle securing system, but doesn't NOT include a Dash Module for starting and stopping the vehicle's engine. The Door System may or may not include the audible alarm option.

NOTE: A vehicle will only respond to a Transmitter (Figure AE-50) that is specifically programmed to the vehicle. See the Programming Section

ACE Door (Only) System

NOTE: The information in this guide is generic. Details in the illustrations and procedures may differ from those in your vehicle. Use this information as a guideline where applicable.

Entering the Vehicle

Use a transmitter to open the vehicle doors as follows,

- Button #1 unlocks the cab driver side door.
- Button #2 unlocks the cab passenger side door.
- Button #3 unlocks the cargo bulkhead door is so equipped.
- Button #4 unlocks the rear cargo door.

Upon activation, the lock remains open for 5 seconds. If you do not open the door within that time, it will lock automatically.

NOTE: A lock protection feature limits each lock to no more than 3 activations per minute. If the system times out, wait 1 minute before unlocking the door again.

NOTE: Entering the vehicle without a transmitter will cause the alarm to sound.

Opening Doors from the Inside

Doors can be opened from the inside of the vehicle using one of the following methods:

- Press any desired door button on the transmitter (Figure AE–50).
- Press an adjacent door release button for a cargo door (Figures AE–55).
- Use the manual override at the door lock (Figure AE–60).



AE-50 Transmitter



AE-55 Door Release Button



AE–60 Door Lock with Manual Override Release

Emergency Entrance and Exit

A lost transmitter or a dead battery will not prevent entry into the vehicle:

- In the event of a dead battery, the vehicle may be entered with a key via the rear door.
- Each door dead bolt can be manually operated from the interior.

NOTE: Owner/operator vehicles are NOT ARMED when shipped from Utilimaster. To arm the system, remove the black capped Jumper from the Main Module and press button #1 on a trained transmitter upon receiving the vehicle.

NOTE: Fleet vehicles ARE ARMED when shipped from Utilimaster and will need to be programmed upon arriving at their destination.

ACE (with Ignition) System

The ACE with *Ignition* System refers to a fully functional vehicle securing system that includes a Dash Module (Figure AE–75) for starting and stopping the vehicle's engine. This System may or may not include the audible alarm option.

NOTE: The information in this guide is generic. Details in the illustrations and procedures may differ from those in your vehicle. Use this information as a guideline where applicable.

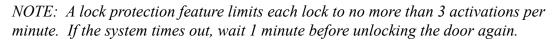
NOTE: A vehicle will only respond to a Transmitter (Figure AE–50) that is specifically programmed to the vehicle.

Entering the Vehicle

Use a transmitter to open the vehicle doors as follows:

- Button #1 unlocks the cab driver side door.
- Button #2 unlocks the cab passenger side door.
- Button #3 unlocks the cargo bulkhead door is so equipped.
- Button #4 unlocks the rear cargo door.

Upon activation, the lock remains open for 5 seconds. If you do not open the door within that time, it will lock automatically.



NOTE: Entering the vehicle without a transmitter will cause the alarm to sound.



AE-70 Programming Button (on right)



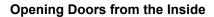
AE-75 Cab Door Release Buttons

Silencing an Alarm

The alarm can be silenced in one of three ways:

- Press any button on a trained transmitter.
- Turn the ignition ON using the factory key and then hold down the programming button (Figure AE–70) on the Main Module for 5 seconds. (The Main Module is mounted on the overhead shelf on the passenger side.)
- Plug the currently programed Jumper into the Main Module.

 NOTE: If the alarm is silenced it will still sound again if a new alarm condition occurs (if a Jumper is NOT installed).



Doors can be opened from the inside of the vehicle using one of the following methods:

- Press the desired door button on the transmitter (Figure 50).
- Press a door release button on the Dash Module (Figure 75).
- Press an adjacent door release button for a cargo door (Figure 55).
- Use the manual release mechanism at the door lock. (Figure 60)

Emergency Entrance and Exit

- In the event of a dead battery, the vehicle may be entered with a key via the rear door.
- Each door dead bolt can be manually operated from the interior.

Starting and Stopping the Engine

Starting the Engine

NOTE: Prior to starting the vehicle, the driver and cargo doors must be closed.

must be closea.
Press and hold the START button (Figure AE–90) until the engine starts. (The vehicle must be

started within 30 seconds of entering the vehicle or the system will time out.)

- If you do not start the vehicle within 30 seconds, press the #3 button on the transmitter before pressing the START button.
- In cold weather, diesel engines may require a delay before starting the engine. Enter the accessory mode by tapping the start button, and wait for the indicator on the instrument panel before pressing the START button.

NOTE: If the START button is flashing, it means a door is open and the vehicle will not start until the driver's and cargo doors are closed.

IMPORTANT: Do NOT press the START button while the engine is running or it will engage the starter.



AE-90 Start Engine Button



AE-95 Stop Engine Button



AE-100 Door Indicators

Stopping the Engine

• Press the STOP button (Figure AE–95) on the Dash Module for longer than 1/2 second.

Stopping and Restarting the Engine

- Press the STOP button on the Dash Module to stop the engine or if the engine has stalled.
- Press the START button on the Dash Module within 5 seconds to restart the engine.

If more than 5 seconds passes after pressing the STOP button, the system will time out. Press the #3 button on the transmitter before pressing the START button.

Dash Module Indicators

See Figure AE–100 and AE–105 for the Dash Module LED indicators.

NOTE: The START and STOP button indicators are incorporated into the button assembly.

Systems with Alarms

NOTE: Owner/operator vehicles are NOT ARMED when shipped from Utilimaster. To arm the system, remove the Black Jumper from the Main Module and press button #1 on a trained transmitter upon receiving the vehicle. See the ACE Programming Section for more information.

NOTE: Fleet vehicles ARE ARMED when shipped from Utilimaster and will need to be programmed upon arriving at their destination. See the ACE Programming Section for more information.

LABEL	COLOR	LIGHT ON
ACC/IGN	GREEN	Ignition ON
DOOR	YELLOW	Door Open
START	GREEN	Ready to Start (Solid)
START	GREEN	Door Open (Flash)
STOP	RED	Press to Stop (Engine)

AE-105 Dash Module Indicator Lights

Service Information

Programming

New Owner/Operator Vehicles

Owner/operator prepped vehicles are identified by the Black cap Jumper in the ACE Main Module mounted on the overhead shelf on the passenger side (Figures AE–150 and AE–155).

- If the vehicle is equipped with an alarm, remove the Jumper and press button #1 on a trained transmitter to ARM the system. Keep the Jumper (Figure AE–155) in a secure location for training new transmitters should any get lost or stolen.
- If the vehicle is NOT equipped with the alarm option, remove the Jumper (even if the vehicle is delivered fully operational) and store it in a secure location for training replacement transmitters.

NOTE: The vehicle will not respond to a transmitter (Figure AE–160) unless the transmitter is correctly programmed to the specific vehicle.

NOTE: Owner/operator vehicles with alarms are NOT ARMED when shipped from Utilimaster. To arm the system, remove the Black Jumper from the Main Module upon receiving the vehicle and press button #1 on a trained transmitter.

IMPORTANT: ALWAYS tag and store ALL Jumpers in a secure location.

NOTE: The information in this guide is generic. Details in the illustrations and procedures may differ from those in your vehicle. Use this information as a guideline where applicable.



AE-150 ACE Main Module

New Fleet Vehicles

Fleet prepped vehicles are identified by an empty Jumper socket (covered with only a plug) in the Main Module (Figure AE–165) mounted on the overhead shelf on the passenger side and the alarms (if so equipped) ARE active upon arrival. It is advised that new Jumpers be inserted into all new vehicles and the transmitters be trained when first received. See the Training Transmitters Section.



AE-155 Jumper with Black Cap



AE–160 Transmitter (Key Fob)

Training Transmitters

IMPORTANT: Before starting work, read and understand all of the instructions.

IMPORTANT: When training new transmitters ALL of the previously trained transmitters will be erased from the system memory, so have ALL required transmitters available before proceeding.

NOTE: All system functions (alarms and solenoids) are disabled while in training mode.

NOTE: Not all vehicles will have audible signals as described in this process.

NOTE: Up to 10 transmitters may be trained per vehicle.

- 1. Stop the engine, and verify that the vehicle is NOT in the accessory mode.
- 2. Remove the jumper socket cover from the Main Module and plug the currently programmed Jumper into the Main Module socket (Figure AE–165). (The speaker, if equipped, will make a short, low-tone beep followed by a short, hightone beep.)
- 3. Press and release the programming button 5 times (Figure AE–170). (The speaker will make a single high-tone beep and the Green Programming LED will light.)
- 4. Press button #1 on the first transmitter. (The speaker beeps once and the programming LED will flash once to confirm the transmitter is recognized.)
- 5. Repeat step 4 to train additional transmitters up to a maximum of 10 per vehicle.

NOTE: The system will wait up to 5 seconds between transmitters being trained. If no additional



AE-165 Jumper Socket (cover not shown)

transmitters are detected, the system will time out automatically. Upon exiting, the speaker will beep and the LED will flash once for each trained transmitter. When the LED has finished flashing, it remains lit for another 2.5 seconds, then turns off signifying the end of the training sequence. However, once ten transmitters are trained, the system automatically exits without the five second delay.

6. After the system has exited the training sequence, remove the jumper and press any button on a trained Transmitter to ARM the system.

IMPORTANT: Insure that the socket cover is securely installed to prevent it from being damaged.

IMPORTANT: ALWAYS tag and store ALL Jumpers in a secure location.



AE–170 Programming Button

Changing Jumpers

IMPORTANT: When a new Jumper is used to train a module, the old jumper and ALL Transmitters are erased from the system memory and must be retrained.

NOTE: Before starting work, read and understand all of the instructions.

- 1. Stop the engine, and verify that the vehicle is NOT in the accessory mode.
- 2. Plug the currently programmed Jumper into the Main Module Jumper socket. (The speaker will make a short, low-tone beep followed by a short, high-tone beep if the vehicle is equipped with an alarm.)

IMPORTANT: The system will remain DISARMED as long as the Jumper is in place.

3. Press and hold the programming button (Figure AE–170) for 5 seconds. (The speaker will beep three times and the Green Programming LED will flash.

IMPORTANT: You only have 10 seconds to complete the next two steps.

- 4. Remove the current Jumper and replace it with a new Jumper.
- 5. Press the programming button on the Main Module once. If the new Jumper is recognized, the programming LED will light for 3 seconds indicating the system is fully functional.

IMPORTANT: If the new Jumper was not recognized, the speaker beeps for one second and the programming LED turns off shortly after. This indicates the old Jumper information is still in the system and the programming procedure must be repeated from the beginning.

IMPORTANT: After the new Jumper is confirmed ALL previous transmitters are no longer recognized and will need to be retrained to the vehicle.

- 6. Remove the Jumper from the Main Module.
- 7. Train transmitters to the vehicle. (See the earlier Training Transmitters Section.)

NOTE: The illuminated green "Programming LED" indicates that the Main Module is in the programming mode.

NOTE: A transmitter can be trained to an individual truck, multiple trucks, or a combination of vehicles for maintenance personnel.

Battery

Access

The batteries on most Aeromasters are located through an access panel in the right-hand stepwell (Figure BA–10). Batteries on all other chassis are likely to be located under the hood. (Figure BA–15). Otherwise see the Chassis Service Manual.



WARNING: Batteries that are improperly connected, jumped, or charged can potentially explode and spew acid, causing vehicle damage and personal injury. Carefully follow the chassis manufacturer's recommendations for those procedures.

Battery posts and related accessories may contain lead and lead compounds. Wash hands after handling.



WARNING: Consult the chassis operator's guide supplied by the chassis manufacturer for instructions on connecting, jumping, and servicing the battery. Improper procedures may result in vehicle damage and personal injury.



WARNING: To avoid accidental shock or damage to the vehicle, disconnect the battery before servicing an electrical component. Check your chassissupplied operation or service information for specific recommendations.



CAUTION: Do NOT close the hood without first pressing the orange button on the passenger side gas strut to disengage the safety locking mechanism. Failure to do so could result in damage to the hood.



Illustration BA–10 Batteries Under the Access Lid in Stepwell



Illustration BA–15 Battery Under the Hood



Illustration BA-20 Optional Memory Saver



WARNING: Always remove the (black) Negative cable first and connect it last.

Removal

Disconnecting

- 1. Make sure the ignition switch is Off.
- 2. A memory saver (with 9-volt battery) can be plugged into the accessory outlet on the dash (Figure BA–20). Check your chassis-supplied operation or service information for specific recommendations.
- 3. Disconnect the Negative (black) battery cable(s) first, and tuck the cable(s) away from the terminal(s) to prevent accidental contact (Figure BA–25).

Installation

- 1. Install the battery in the battery tray—in the same orientation.
- 2. Secure the battery hold-downs.
- 3. Connect the battery cables, Negative last. *NOTE: Remember to fasten the*

NOTE: Remember to fasten the hood or access panel.



WARNING: Connecting unauthorized devices to the vehicle's wiring can potentially cause vehicle malfunction, damage, fire, personal injury, and/ or voiding of the warranty. Contact Utilimaster before connecting any devices to the vehicle's wiring other than plugging into a supplied accessory outlet (cigarette lighter).



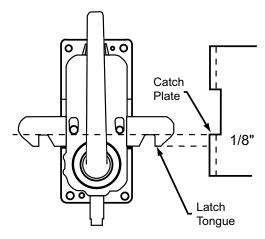
Illustration BA–25 Negative (Black) Cable Disconnected and Tucked Away

NOTE: This service information is generic. Details in illustrations and procedures may differ from those in your vehicle. Because Utilimaster manufactures many customized vehicle bodies, this manual cannot list and illustrate every possible part in every vehicle. Nevertheless, the most common body options are described here. Use this information as a guideline where it applies.

Maintenance Check List

- ☐ Check that doors open easily and close tightly.
- ☐ Check alignment of latches and catches (Figure MC–10).
- ☐ Check for wear on the bulkhead and sliding door catch plates and latch tongue. At least 1/8" of the sliding door latch tongue needs to engage the catch plate.
- ☐ Check operation of the locks.
- ☐ Check that rear door is centered in the opening.
- ☐ Lubricate ABLOY® lock cylinders with a lightweight oil. (ABLOY recommends Exxon Hydraulic oil type NUTO® 68, or equivalent, for the lock cylinders.)
- ☐ If the ABLOY lock cylinders become dirty, use ZEP® 45 penetrating lubricant to clean the cylinders before applying the NUTO® 68.
- ☐ On the ACE rear door dead bolt, lubricate the three zerk fittings with #2 grease at six-month intervals or three-month intervals in hot, dusty conditions (Figure MC–20).
- ☐ On the ACE bulkhead and both side door dead bolts, lubricate each side of the slide bolt with dry graphite lubrication at six-month intervals or as needed (Figure MC–25).

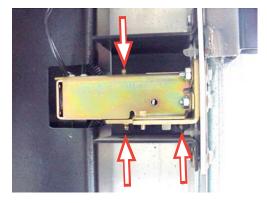
For more information on properly maintaining your truck, see the Utilimaster Vehicle—Body Service Manual (03102101-VY04EN.)



MC-10 Check Latch Tongue and Catch Plate for Wear



MC–15 Check Roll-Up Door Latch Deadbolt for Wear



MC-20 Rear Door Dead Bolt



MC-25 Bulkhead and Side Door Dead Bolt

Trouble Shooting

General Information

Many of the perceived problems encountered in operating the ACE System often come down to understanding the way the system is designed to function. This section will help define and discern some of the most common issues likely to appear. Because of the various configurations available for the ACE System, not all issues can be addressed through this manual. However, being familiar with this information and the options of the vehicle, the quicker issues can be resolved.

If an issue continues after exhausting this information, Utilimaster support staff are available via the contact information in the *More Information* Section.

NOTE: This service information is generic. Details in illustrations and procedures may differ from the ACE System in your vehicle. Use this information as a guideline where it applies.

Alarm Does NOT Sound

NOTE: NOT all vehicles are equipped with audible alarms.

NOTE: The alarm will NOT sound when the Jumper is inserted in the Main Module.

If the Jumper is NOT in the Main Module, check the fuse.

Secure all electrical connections between the power source and the Main Module and the Main Module and alarm.

If the problem continues, replace the Main Module.

Alarm Sounding Condition with Ignition OFF

Press any button on the transponder to stop the alarm.

The alarm may sound three times when activating a door because each door lock is limited to three activations in a one minute time span to prevent overheating of the solenoid. This lockout is temporary and only effects the door lock being cycled.

Wait one minute for the lock to reset itself.

If the problem is consistently the bulkhead or rear door, disconnect the harness at the Main Module and check the continuity at the door release button. It should read OPEN circuit when the button is NOT pressed and CLOSED circuit when the button is held down.

If the problem is consistently one of the cab doors, disconnect the ignition harness at the Main Module and wait one minute. Try the transponder, if the door works properly with the harness disconnected, replace the Dash Module.

Alarm Sounding Condition with Ignition ON

NOTE: The bulkhead and rear door are the only doors that can activate the alarm while the engine is running or in accessory mode.

Secure all doors.

If the problem continues, secure all electrical connections between the door's magnetic switches and the Dash Module.

Arming the System

NOTE: The system can *NOT* be armed with a Jumper plugged into the Main Module.

Audio (Alarm) Reference Chart

NOTE: Low tones are generally associated with the cargo area of the truck and high tones are generally associated with the cab area of the truck.

NOTE: Some audio signals will vary as described during the Jumper and Transmitter training procedure.

Description of Sound	Reason for Sound
One high tone beep	Cab zone is armed
One low tone beep	Cargo zone is armed
Double low tone beep	Perimeter zone is armed
One high tone beep followed by a low tone beep	Vehicle is armed
One low tone beep followed by a high tone beep	System is in DISARMED mode
Three high tone beeps	Cab door is locked out due to excessive lock activations
Three low tone beeps	Bulkhead or rear door is locked out due to excessive lock activations

Audio Reference Chart.

Door will NOT Open (One Door Only)

Each door lock is limited to three activations in a one minute time span to prevent overheating of the solenoid. If this occurs, the audio alarm (if so equipped) will sound three times as an indication. This lock out is temporary and only effects the door lock being cycled.

Wait one minute for the lock to reset itself. If that fails, enter the vehicle through a different door and check the fuses at the Main Module.

Verify that the lock solenoid moves freely with the override lever.

Secure all electrical connections between the lock and the Main Module.

Start the vehicle and check for a voltage reading at the lock. Replace either the lock assembly (with an indication of voltage) or the Control Model (if no voltage is detected).

Doors will NOT Open (All Doors)

Wait one minute for the lock to reset itself or enter the vehicle through a different door.

Verify that the transponder is programmed to the vehicle and the batteries are good.

Access the vehicle through the keyed manual override door and verify vehicle power by starting the engine.

Retrain all the transponders. (See the Programming Section.)

Engine Cranks but Won't Start

Press and hold the START button.

The truck with the ACE system with ignition controls can be started by pressing the START button on the Dash Module within thirty seconds of entering the vehicle.

To start the engine after thirty seconds have passed, or press the #3 button on the transmitter (to wake the system) and then press and hold the START button.

If the START button is flashing, insure that all of the doors are closed. (See also LEDs on the Dash Module.)

In cold weather, diesel engines may require a delay before starting the engine. Wait for the WAIT TO START indicator on the instrument panel to go out before starting the engine.

Engine will NOT Crank to Start

NOTE: Some vehicles require that the clutch or brake be depressed while starting the engine.

Verify that the vehicle has full battery power.

Verify that the transmission is in either PARK or NEUTRAL.

Check the voltage from the Dash Module to the starter.

Check the vehicle's ignition and starter relays.

See also the Modules Section

Replace the Dash Module.

Engine Won't Stop

Press and hold the STOP button.

If the vehicle is started with the ignition key, it must also be used to turn off the engine. If the vehicle is started with the START button on the Dash Module, it has to stopped using the STOP button on the Dash Module.

LEDs on the Main Module

One illuminated red LED indicates a blown fuse matching the indicated number.

A red LED on the Main Module will light up when an on-board fuse has blown.

The row of flashing red LEDs on the Main Module, perform a 'hard reset' by removing the power fuses under the hood.

Secure all electrical connections between the Dash Module and the Main Module.

If the problem continues, replace the Dash Module.

See also the Modules Section

NOTE: The illuminated green "Programming LED" indicates that the Main Module is still in the programming mode.

LEDs on the Dash Module

The Door LED will flash whenever at least one door is open. The number of flashes (1, 2, 3, or 4) indicate which door(s) are open. (See the Door Flash Code

chart). If more than one door is open it will flash for each door open and then repeat the sequence.

Secure all doors.

If the problem continues, secure all electrical connections between the door's magnetic switches and the Dash Module.

Door	Flash Code
Driver	One flash
Passenger	Two flashes
Bulkhead	Three flashes
Rear	Four flashes

Door Flash Codes on the Dash Module.

Modules

Main Module

If the Main Module loses recognition of the Dash Module, the Main Module will act as if the ignition is OFF and will ARM the vehicle. Installing the assigned Jumper will return all alarm and door functions.

Dash Module

If the Dash Module loses recognition of the Main Module while the vehicle is running, all of the LED on the except for the IGN/ACC will slowly flash. If the vehicle does NOT stop after pressing the STOP button, it will keep running until communication between the two modules is reestablished.

If the Dash Module loses recognition of the Main Module while the vehicle is NOT running, the IGN/ACC will slowly flash. The vehicle can not be started or put in accessory mode until communication between the two modules is reestablished.

Motion Detector

NOTE: The motion detector will activate ten second after all the doors of the particular zone have been closed but will NOT activate if the engine is running or if the ignition is in the Accessory mode.

If the cargo zone does NOT arm, verify that the bulkhead and rear doors are closed.

If the problem is consistent, the motion sensor may be on a too sensitive setting.

Secure all electrical connections between the Motion Detector and the Main Module.

If the problem continues, replace the Motion Detector.

If the problem continues, replace the Main Module.

More Information

Download Files

Many support documents, including those described here, are downloadable (as Adobe® Acrobat® PDF files) from our award-winning web site at www.utilimaster.com. Click on the Technical Manuals button, to access the download page. To view the files you must have the Adobe Acrobat Reader version 4.0 or higher installed on your computer. Acrobat readers are available free for all leading computer operating systems on the Adobe web site (www.adobe.com).

ACE Quick Reference Guides

There are three quick reference guides that can be downloaded from the web site. *ACE Door System Operator's Guide* (03102974), *ACE with Ignition Operator's Guide* (03102975) and *ACE Programming Guide* (03102976). They are also available in durable laminated sheets by contacting the Utilimaster Customer Service Department.

Contact Utilimaster

Browse our site for more information about Utilimaster and its products or contact Utilimaster Customer Service by using one of the following methods:

- Call 800-237-7806.
- Email to CustSvc@Utilimaster.com.
- Mail to the following address:

Utilimaster

Attn: Customer Service Department 603 Earthway Blvd. Bristol, IN 46507-9182 U.S.A.

Ordering Parts

How to Order

To order parts for this vehicle, gather the following information:

- Model and year of vehicle (200_ Purolator on chassis).
- Chassis VIN or Utilimaster Body Number.
- Complete shipping address.
- Preferred method of shipping.
- Complete description of all the necessary parts (see the relevant parts manual).
- · Method of payment.

NOTE: Customer Service prefers payment by Visa, MasterCard, Discover, or American Express credit cards. Purchase Orders from customers with established open accounts are also accepted.

Then contact Utilimaster Customer Service by using one of the following methods:

- Email your order to CustSvc@Utilimaster.com. (See the Customizable Parts Order Form section.)
- Call 800-237-7806 and ask for the Parts Department.
- Mail or express service your order to the following address:

Utilimaster Corp. Attn: Parts Department 603 Earthway Blvd. Bristol, IN 46507-9182 U.S.A.

Returns

To return parts for credit, call the Customer Service Department for prior authorization. All returns must be shipped prepaid freight. A restocking fee will be charged to all returns. Special-order parts are not returnable.

Customizable Parts Order Form

You can download a customizable form template file from the Utilimaster web site www.utilimaster.com. That template has a header that you can customize with your name and address. Then, to order parts, you only have to enter the specific information about the vehicle—saving retyping the same address information repeatedly. After completing the form information, the file can be emailed as an attachment. That form can also be used for mailing.

Aftermarket Parts



Utilimaster Introduces Online Parts Catalog and Ordering System

Utilimaster is pleased to introduce an **Electronic Parts Catalog and Ordering System** that will save your team time and money by providing 24-hour access to your vehicle parts and the OEM Bill of Material.



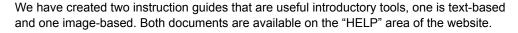
The parts website can be reached directly at https://parts.utilimaster.com.

The Electronic Parts Catalog and Ordering System provides:

- Vehicle Identification Number (VIN) parts look up for all Utilimaster vehicles manufactured from 1999 to present
- VIN look-up detailing the OEM Bills of Material to improve order accuracy, speed and efficiency
- 24-hour parts catalog and order access
- · Fast parts look up
- Original equipment parts direct from the manufacturer
- · Save your "Favorite Truck" for one-time VIN entry and easy reordering
- · All orders reviewed by a Utilimaster Customer Service Representative to ensure accuracy
- Secure website to protect your information
- One-time registration

Registering is easy! Go to the Login page:

- If you are a new customer, follow the prompts through our quick one-page registration.
- If you are an existing customer, have a copy of any invoice handy, select "I have bought from Utilimaster on the phone before, but never online" and follow the prompts. If you currently receive a discount, the pricing will change from retail pricing to your specific discounted price list once you have logged in.
- Pre-register by emailing your team's contact names and email addresses to <u>tfalk@utilimaster.com</u> or by calling 800-237-7806. We will enter you into the system, ensuring that your team receives accurate pricing.





Lighting

HVAC



The parts website is live, and ready for your orders!









Filing Warranty Claims

If a problem on the Utilimaster body is caused by a defect in materials or workmanship during the warranty period, it will be covered by our Limited Warranty. Chassis, engine, tires, and battery failures are covered by the individual manufacturers.

Claims must meet the requirements listed below. Failure to meet these requirements may result in a denied or delayed claim.

Complete a repair order with the following information:

- Chassis VIN or Utilimaster Body Serial Number.
- Year and model of vehicle.
- Owner's and/or service facility's name and complete address.
- Service center representative's signature (or name).
- Date vehicle was repaired.
- Mileage at time of failure.
- Itemized description of the problem, including complaint, cause of failure (if known), and correction (describe in detail).
- Service center labor rate and total time of repair.
- Total claim amount, including cost of parts (include Utilimaster part numbers), labor, miscellaneous charges, and sales tax (if applicable).
- Your claim or repair order number.

 NOTE: The claim or repair order

 number is the number used to

 match Utilimaster payment with

 the work done. It will be noted on

 your payment.
- Utilimaster authorization number (repairs costing over \$150 U.S. or for structural warranty require prior authorization from Utilimaster).

Other claim requirements:

- Any repairs over \$150 U.S. or for structural warranty require prior authorization from Utilimaster, and that number must appear on the repair order. Contact the Warranty Department.
- Any claim that is not legible and complete will be returned for completion.
- All paint claims require pictures, estimates, and prior authorization.
- Shipping damage claims also require pictures, estimates, and prior authorization. The damage must also be noted on the Delivery Acceptance form. This form requires the signature of the carrier driver.
- Sublet work must have the sublet repair order attached to the service facility's repair order that is being submitted.
- Claims must be submitted within 30 days after the repair is completed.

The claim can be mailed, faxed, emailed, or performed on-line on our web site (assuming all required information is included).

- Warranty claims should be mailed to: Utilimaster
 Attn: Warranty Department
 603 Earthway Blvd.
 Bristol, IN 46507-9182
 U.S.A.
- Or you can email your claim with the above information to Warranty@Utilimaster.com. (You can download a customizable Warranty Claim Form template from the Utilimaster web site www.utilimaster.com. The template has a header that you can customize with your name and address. Then, to file a claim, you only have to enter the specific information about the vehicle—saving retyping the same address information repeatedly. After completing the form information, the file can be emailed as an attachment. This form can also be used for mailing or faxing.)

Claims are paid semimonthly. Utilimaster generally does not pay sales tax on claims. If you do not have our tax exemption number on file, please call 800-582-3454 and ask for the accounting department to obtain the number.

Before returning any parts, contact a Utilimaster Warranty representative.



CAUTION: Utilimaster vehicles are built to designed specifications. Improper use or overloading can cause damage to the equipment and void the warranty.



WARNING: Unauthorized alteration or improper maintenance or repair can result in possible dangerous driving conditions.

Reporting Safety Defects

United States Only

If you believe that your vehicle has a defect that could cause a crash, injury, or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA), in addition to notifying Utilimaster.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Utilimaster.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at **888-327-4236** or file a complaint online at:

http://www.-odi.nhtsa.dot.gov/ivoq/ or write to:

U.S. Department of Transportation National Highway Traffic Safety Administration Office of Defects Investigation, NVS-216, 1200 New Jersey Avenue, SE Washington, DC 20590

You can also obtain other information about motor vehicle safety from the Hotline.

Canada Only

If you believe that your Canadian-registered vehicle has a defect that could cause a crash, injury, or death, you should immediately inform Transport Canada, in addition to notifying Utilimaster.

To contact Transport Canada, call 800-333-0510 (or 613-993-9851 in the Ottawa region) or write to:

Transport Canada Motor Vehicle Defect Investigation PO Box 8880 Ottawa, Ontario, K1G 3J2

Towing and Emergency Repairs

Problems with the Utilimaster body are unlikely to disable a vehicle enough to make it undrivable. See the chassis operator's manual and the engine service manual for emergency information.

See the chassis operator's manual for information on towing procedures. Utilimaster recommends the following:

- A wheel lift or flatbed equipment is the preferred method of towing.
- Unload the vehicle when possible to reduce stress on the chassis during towing.
- Be sure to place the transmission in Neutral and fully release the parking brake if towing.



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ACE System

Customer Service HOTLINE 800-237-7806

Monday—Friday 6:30 a.m. to 6 p.m. Eastern Standard Time Zone

Email: CustSvc@Utilimaster.com

Automated Control and Entry Service Manual

Part Number: 03102977

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