AGICON

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model ACM-01
operation guide

1. Disclaimer

This information is provided in good faith and is believed to be complete and correct at the time of compilation, To the extent permitted by law, no responsibility is accepted for any loss or damage incurred due to errors or omissions, however caused.

2. Warnings

The Agicon ACM-01 controls machinery that is potentially dangerous, and it should be treated as such at all times. In particular:

- No person should place himself or herself in a location where sudden machine movement could cause injury. While the vehicle engine is running, the machine should be considered capable of starting at any time.
- The radio remote control is capable of operation over long distances (more than 1000m in certain circumstances). The remote control must not be operated unless the machine is in full view.
- There is no Emergency-Stop located on the remote control. The operator must ensure that an Emergency-Stop station is within reach and accessible when using the remote control.
- Before carrying out any kind of maintenance or inspection on the machine, suitable steps must be taken to isolate the power and control systems.
- This manual intended as an operation guide, and is not sufficient instruction for persons installing or maintaining the Agicon ACM-01.
- No attempt must be made to override any of the interlocks of the system.
- The control system should be tested for correct operation at regular intervals. It is recommended that all Emergency-Stop controls be tested at the start of each shift. If any unexpected behaviour occurs, turn off the electrical power and vehicle engine, and seek assistance.

2.1. Welding

The voltages and currents used in welding have the potential to damage the ACM-01 system – ensure that it is unplugged (including any fixed aerial connection) before undertaking any welding on the vehicle.

2.2. Jump Starting

Take particular care when jump-starting the vehicle that the ACM-01 system is not exposed to any over-voltages. It is recommended that the system is unplugged during this process, although it is not necessary to disconnect the aerial.

3. Introduction

The Agicon ACM-01 is designed for the simple and safe control of concrete transport vehicles. The system controls the vehicle's engine speed, bowl speed and discharge chute, and can be operated from either a compact console in the vehicle cab, or from a radio remote control. A number of special features are provided to make the system efficient, intuitive and safe to operate.

The Agicon ACM-01 system comprises four main components:

In-Cab Console AGI-CC-01: The in-cab console is typically located on the dashboard or above the operator's head in the vehicle cab. It provides full control of the machine, as well as an LCD display that informs the operator of the machine status.

Radio Control Transmitter AGI-TX-01: The transmitter provides control of the machine functions without the need for trailing cables, allowing the operator to choose the most convenient and safest location from which to monitor operations. The transmitter does not include an Emergency-Stop actuator, so the operator must ensure that a physical Emergency-Stop station is accessible and within reach when operating in remote control mode.

Control Board ACM-01: The control board may be located in a less-accessible part of the vehicle, as it has no operator controls. The ACM-01 contains the main control system, power supply, and drive electronics, as well as some diagnostic displays.

The AGI-DCC-01 Charging Dock

The Charging Dock holds and charges the transmitter when it is not in use, and is typically located in the vehicle cab.

The AGI-RESS-01 Rear Control Station

The control station located at the rear of the truck includes an Emergency-Stop button that can be used to interrupt machine operations in case of an emergency. Optionally, it may also include controls for the Chute raise/lower.

4. Basic Operation

The Agicon ACM-01 system has a number of different controls and indicators. It is important that prior to using the system, the use of these controls, and the meaning of the indicators are known and understood by the operator.

4.1. Status Display on LCD

The 2-line display on the AGI-CC-01 in-cab controller displays the current machine status, and is segmented into a number of areas as described below. Note that the status displayed reflects the drive signals from the Agicon to the vehicle – in the event that there is a mechanical, electrical, or hydraulic fault, this may not necessarily reflect the actual machine state. Should the machine not operate as expected, press the Emergency-Stop button, turn off the engine and consult the Trouble-shooting section.

4.1.1. Control Mode

Indicates whether the AGI-CC-01 cab controller or the AGI-TX-01 remote control is being used to control the system. As a safety measure, the machine can only be controlled from one location at any one time.

CAB: Commands are being accepted from the AGI-CC-01 in-cab controller. The AGI-TX-01 remote control is not functional. The Emergency-Stop button of the AGI-CC-01 is always operational, regardless of the control mode.

RMT: Commands are being accepted from the AGI-TX-01 remote control. The in-cab controller is not functional, except for the CAB button which can be used to pass control back to the in-cab controller. The Emergency-Stop button located on the AGI-CC-01 is always operational, regardless of the control mode.

4.1.2. Bowl Mode

Displays the current direction and speed of the bowl, as well as any special control mode being used.

EMERGNY-STOP: One of the emergency-stop buttons is depressed, and there is no electrical power to the bowl or chute. The Emergency-Stop buttons located on the AGI-CC-01 cab controller and elsewhere on the vehicle will stop the system in either Cab or Remote mode – they must all be released before the bowl or chute can be used.

BOWL STOPPED: There is no drive to the bowl hydraulics, and the bowl is stationary.

BOWL RUNNING: This is only displayed on systems which do not have an electronically-controlled bowl speed. On such systems, the bowl direction and speed are controlled by an electro-mechanical actuator, the position of which is not known to the ACM-01. In this type of installation, the ACM-01 can only display whether the bowl is running or stopped, with no indication of direction or speed.

STOPPING…. : A command to stop the bowl has been accepted, and the bowl is ramping down in speed. The display will change to BOWL STOPPED when the drive to the hydraulics has been reduced to zero, which brings the bowl to rest. It is necessary to wait for the bowl to stop before further bowl commands will be accepted.

MIX : The bowl is rotating in the mix direction. Also shown is the drive signal being given to the hydraulic system, displayed as a percentage. A higher value means a higher bowl speed, although this may also be affected by the engine speed.

DISCHG: The bowl is rotating in the discharge direction. Also shown is the drive signal being given to the hydraulic system, displayed as a percentage. A higher value means a higher bowl speed, although this may also be affected by the engine speed. The AGI-CC-01 will beep every 3 seconds while the bowl is in discharge mode.

PLANT : The bowl is rotating in the mix direction, with a 100% drive to the hydraulic controls and engine throttle. This mode is typically used for initial loading of the mixer.

TRANSIT : The bowl is rotating in the mix direction. Also displayed is the drive signal being given to the hydraulic system, displayed as a percentage. This value will automatically decrease as the engine speed rises, and increase as the engine speed falls, in order to keep the bowl speed approximately constant. Transit mode is only available on vehicles with electronic control of the hydraulic pump.

WASH-MIX: The bowl is rotating in the mix direction during a wash cycle. Each wash cycle involves one or more mix-discharge direction changes to clean the bowl. Refer section 5.4

WASH-DISCHG: The bowl is rotating in the discharge direction during a wash cycle. Each wash cycle involves one or more mix-discharge direction changes to clean the bowl. Refer section 5.4

4.1.3. Engine Mode

This displays the percentage of engine speed requested of the vehicle computer (also known as the Engine Control Unit or ECU). There are interlocks that must be present before the engine speed can be raised above idle – the park brake must be engaged, the footbrake must be off, and the transmission must be in Neutral (for vehicles that have a compatible transmission). Some installations will also require that the Remote Throttle switch (if fitted) is in the Remote position.

Note: Some vehicle computers are configured to only recognise a change to remote throttle when the engine is not under load. On such vehicles, applying the park brake and placing the transmission in neutral will automatically slow and stop the bowl. Once stopped, it may be restarted in the mode desired.

ECU: The engine computer is requested to set the engine speed to the value indicated. This may either be a number representing the requested rpm (e.g. 1250), or a percentage (e.g. 80%), depending on how the system is configured.

PARKBRKE : No command is being given to the engine computer because the park brake is engaged.

FOOTBRKE : No command is being given to the engine computer because the foot brake is depressed.

I**N GEAR :** No command is being given to the engine computer because the transmission is not in neutral.

NOT SLCT: No command is being given to the engine computer because the Remote Throttle dash switch is not turned on.

***CRADLE* :** This may be displayed (subject to the installer's configuration) if the park brake is released, the transmission is not in neutral, or the footbrake is applied and the AGI-TX-01 radio control transmitter is not in the cradle. The AGI-CC-01 will emit a continuous tone to warn the driver that the transmitter is missing.

Blank : On vehicles without a direct interface to the engine computer, the engine mode display will be blank once all interlocks have been satisfied.

4.1.4. Information Area

This section of the display may contain different information, depending on how the system was configured:

Blank: no additional information is available

RPM: The current engine speed is displayed

ERR: an internal error has occurred, and an error code is given. Record the error code, turn off the Agicon system, and seek technical assistance.

nnn:xxx (where nnn and xxx are 3-digit numbers). This indicates that the system is in User Diagnostics mode, and is displaying information for troubleshooting purposes. For more information, see section 6.1. To exit this mode, press the CLEAR button to stop the bowl, then press and release the Emergency-Stop button.

4.2. Controls

4.2.1. Backlight

The display backlight is normally on whenever the system is powered. If automatic-dimming has been enabled, which it is by default, then the backlight will dim whenever the vehicle headlights are on, to minimize driver distraction.

4.2.2. Emergency-Stop mushroom button

The red Emergency-Stop button on the cab control unit latches down when pressed, and must be twisted gently clockwise to release it. Pressing the Emergency-Stop button will return the engine to idle and stop all motion of the bowl and chute. These functions are not usable until the Emergency-Stop button is released. This button should only be used in urgent circumstances, as it stops the bowl without first ramping down. To stop the bowl normally, use the CLEAR button, which will slow the bowl gradually to a stop.

4.2.3. Halt/Resume Button

The HALT/RESUME button allows the operator to temporarily halt the operation of the machine, then to later resume the same bowl direction, speed, and engine speed. If the bowl is in the Mix, Discharge, Plant or Transit mode when the button is pressed, then the current settings are saved to memory, then the bowl is slowed to a stop and the engine returned to idle. When the button is pressed again, the bowl resumes the same mode and speed, and the engine returns to the original speed (only on vehicles with direct connection to the engine computer). As a safety measure, pressing any buttons other than Chute Up/Down after halting will prevent resumption. In that case, manually set the bowl and engine to the desired settings.

4.2.4. Clear Button

The CLEAR button is used to ramp the bowl to a stop and bring the engine speed back to idle. The current settings are not stored when the CLEAR button is pressed, so it is not possible to Resume.
The CLEAR button is not intended for use in an Emergency – in that case, press an Emergency-Stop button.

4.2.5. Engine Up/Down Buttons

When the ENGINE-UP / ENGINE-DOWN button is depressed, the engine speed is increased/decreased within the programmed limits. Interlocks are present which will prevent the engine increasing above idle until the footbrake, park-brake, transmission and Remote-Throttle switch (if fitted) are in the correct states – see section 4.1.3 for more details. For vehicles with a direct interface to the engine computer, the status display will show the engine speed being requested.

4.2.6. Chute Up/Down Buttons

Drives the chute up or down while the button is pressed. Ensure that the chute is not obstructed by persons or objects before commencing motion. The chute will move as long as the button is held depressed.

4.2.7. Mix Button

Pressing the MIX button has slightly different results depending on the current control mode:

> **Mix Mode:** If the bowl is currently mixing, then pressing the MIX button will increase the bowl speed. Pressing the button momentarily will increase the speed by a small increment. If the button is pressed and held, the speed will continue to increase until the button is released. Once the hydraulic drive signal reaches 100%, the bowl speed will not increase further – further increase may be possible by raising the engine speed.

Plant Mode: If the machine is in Plant Mode, the bowl is already rotating at full speed in the Mix Direction. Pressing the MIX button has no effect.

Discharge Mode: If the bowl is currently discharging, then pressing the MIX button will decrease the bowl speed. Pressing the button momentarily will decrease the speed by a small increment. If the button is pressed and held, the speed will continue to decrease until the button is released. Once the hydraulic drive signal reaches 0%, the bowl will stop. If the MIX button is held down or pressed again, the direction will reverse, and the machine will enter Mix Mode, and the bowl speed will start to increase.

Stopped: On vehicles with an electronically-controlled hydraulic pump, pressing the MIX button while the bowl is stopped will enter Mix mode, and set the bowl speed to minimum. Pressing or holding the MIX button will then behave as per Mix mode above. On vehicles with a mechanically-controlled pump, pressing the MIX button will enable the pump, **and it will resume operation in the direction in which it was last operated, which may be in the discharge mode. For that reason, it is important on such vehicles to carefully monitor the bowl when starting.** Holding the MIX button down while the bowl is discharging will slow it to a stop, then reverse it.

Transit Mode: In transit mode, the system holds the bowl speed relatively constant by reducing the hydraulic drive as the engine speed increases. Pressing the MIX button while in Transit mode will increase the target bowl speed within the allowable limits.

The MIX button is also used in conjunction with the Cab button to initiate a Wash cycle – refer section 5.4

4.2.8. Discharge Button

Pressing this button has slightly different results depending on the current control mode:

Discharge Mode: If the bowl is currently discharging, then pressing the DISCHARGE button will increase the bowl speed. Pressing the button momentarily will increase the speed by a small increment. If the button is pressed and held,

the speed will continue to increase until the button is released. Once the hydraulic drive signal reaches 100%, the bowl speed will not increase further – further increase may be possible by raising the engine speed.

Plant Mode: If the machine is in Plant Mode, the bowl is rotating at full speed in the Mix Direction. Pressing the DISCHARGE button will change the mode to Mix, and the bowl speed will start to decrease.

Mix Mode: If the bowl is currently mixing, then pressing the DISCHARGE button will decrease the bowl speed. Pressing the button momentarily will decrease the speed by a small increment. If the button is pressed and held, the speed will continue to decrease until the button is released. Once the hydraulic drive signal reaches 0%, the bowl will stop. If the DISCHARGE button is held down or pressed again, the direction will reverse, and the machine will enter Discharge Mode, and the bowl speed will start to increase.

Stopped: On vehicles with an electronically-controlled hydraulic pump, pressing the DISCHARGE button while the bowl is stopped will enter Discharge mode, and set the bowl speed to minimum. Pressing or holding the DISCHARGE button will then behave as per Discharge mode above. On vehicles with a mechanically-controlled pump, pressing the DISCHARGE button will enable the pump, **and it will resume operation in the direction in which it was last operated, which may be in the Mix mode. For that reason, it is important on such vehicles to carefully monitor the bowl when starting.** Holding the DISCHARGE button down while the bowl is mixing will slow it to a stop, then reverse it.

Transit Mode: In transit mode, the system holds the bowl mixing speed relatively constant by reducing the hydraulic drive as the engine speed increases. Pressing the DISCHARGE button while in Transit mode will decrease the target bowl speed within the allowable limits.

4.2.9. Plant Button

The PLANT button drives the bowl to full mix speed and increases the engine speed to the preset plant speed (as long as the required interlocks are met). It is not possible to enter Plant Mode directly from Discharge mode– stop the bowl first using the CLEAR button, and wait until the bowl ramps down to a complete stop. Once in Plant mode, the engine speed can be adjusted using the ENGINE UP/DOWN buttons. Pressing the PLANT button again will bring the engine speed back to the preset speed.

On vehicles with a mechanically-controlled hydraulic pump, pressing the Plant button will activate the hydraulic pump in the direction in which it was last used, which may cause the bowl to initially rotate in the discharge direction. For that reason, the bowl on such systems must be carefully observed when starting. Once started, the bowl speed will be ramped to full speed in the Mix direction.

4.2.10. Transit Button

Note: On vehicles without electronic control of the hydraulic pump, transit mode is disabled.

The TRANSIT button drives the bowl to a preset mix speed and removes the drive signal to the engine computer. For correct operation, the Remote Throttle switch (if fitted) must be in the off position. The drive to the hydraulic system will then be automatically increased or decreased in order to keep the bowl speed constant as the engine speed changes while driving. It is not possible to enter Transit Mode directly from Discharge mode– stop the bowl first using the CLEAR button, and wait until the bowl ramps down to a complete stop.

Once in Transit mode, the target bowl speed can be adjusted using the MIX/DISCHARGE buttons within the permitted limits. Pressing the TRANSIT button again will return to the standard transit speed. (This is useful for temporarily increasing the transit speed while ascending a steep incline – increase the transit speed using the MIX button, then return to the standard speed by pressing the TRANSIT button again).

For more detailed information on how to use and set Transit mode, see section 5.3, which included a description of the Auto-transit feature.

4.2.11. Cab Button

Pressing this button puts the system into Cab control mode, and disables the AGI-TX-01 remote control. It is the only button other than the Emergency-Stop on the In-Cab controller that functions in Remote mode. If the system is running on the remote control when the CAB button is pressed, it will continue to run.

4.2.12. Remote Button

Pressing this button puts the system into Remote control mode, and disables the in-cab console buttons (except for the Emergency-Stop button, and the CAB button which can be used to return to Cab control). If the system is running on the cab controls when the Remote button is pressed, it will continue to run.

The system may also enter Remote mode automatically by taking the transmitter out of the charge cradle, and return to Cab mode by replacing it in the cradle – see section 5.2

4.3. AGI-TX-01 remote control transmitter

The controls available on the AGI-TX-01 transmitter are largely the same as those on the AGI-CC-01 cab controller. Refer to the section on the AGI-CC-01 for a description of the available commands. The section below describes the special features of the AGI-TX-01 transmitter.

4.3.1. Changing to Remote Mode

To control the machine from the AGI-TX-01, proceed as follows, starting with the system in Cab Mode:

- Remove the AGI-TX-01 transmitter from the charging dock by first pressing it down to release it.
- If the system is configured to do so, the mode will automatically change to Remote mode. Otherwise, press the REMOTE button on the AGI-CC-01 cab controller to enable control from the AGI-TX-01 transmitter.

4.3.2. Special Features

Plant Mode: There is no dedicated PLANT button on the AGI-TX-01 as there is on the cab control, but it is possible to enter Plant mode by pressing the ***RPM+*** and ***MIX*** buttons simultaneously.

Transit Mode: There is no dedicated TRANSIT button on the AGI-TX-01 as there is on the cab control, but it is possible to enter Transit mode by pressing the ***RPM-*** and ***MIX*** buttons simultaneously.

4.3.3. Low Battery

Normally, the LED on the AGI-TX-01 will illuminate red when a button is pressed to show that it is transmitting. If the LED is flashing red, then this indicates that the battery is in a low state of charge – return the transmitter to the charging dock. Note that the LED is illuminated green when charging. If the low-battery condition persists despite charging for several hours, then replace the battery – see section 4.3.5

4.3.4. Returning to CAB mode

To return to CAB mode:

- Return the AGI-TX-01 transmitter to the docking station.
- On systems configured to do so, the system will automatically return to Cab mode. Otherwise, press the CAB button on the in-cab controller.

4.3.5. Battery Replacement

The battery in the AGI-TX-01 transmitter should be replaced if a low-battery indication is given despite being charged properly.

Replacement batteries are available from your dealer, and the battery is accessed by removing the battery compartment cover.

Unplug the existing battery and fit the new one, ensuring the wires are not trapped when the cover is replaced.

Contact your local council or waste disposal department for guidelines regarding the disposal of Ni-Mh batteries.

4.4. AGI-DCC-01 Charging Dock

When not in use, the AGI-TX-01 transmitter should be stowed in the charging dock. The green LED on the AGI-TX-01 transmitter lights to show the battery is charging.

5. Special Features of the System

The Agicon ACM-01 system has a number of features to make the system faster, safer, and more intuitive to use. It is important to note that the installer can enable or disable some of these options, and not all vehicle designs support all options. Contact your mixer supplier for further details.

5.1. Engine Interlocks

The ACM-01 can only control the engine speed when the vehicle is stationary, and requires that

- The park brake is applied, and
- The transmission is in Neutral, and
- The foot brake is NOT applied, and
- The ***Remote Accel*** dashboard switch is in the ON position (where fitted)

5.2. Automatic CAB/RMT Changeover

To simplify the process of changing between Cab and Remote control, the system can do so automatically (unless disabled by the installer). The operation is as follows:

- Initially the system will be in CAB mode allowing for use of the in-cab controller.
- To change the system from CAB mode to RMT mode, simply remove the AGI-TX-01 from the charge-cradle - the system will automatically change to RMT mode maintaining any engine RPM or bowl operation previously selected.
- Returning the AGI-TX-01 to the charge cradle will automatically change the system back to CAB mode, maintaining any engine RPM or bowl operation previously selected.

5.3. Transit Mode

The Transit Mode feature allows for the mixer bowl to turn at a pre-set speed regardless of engine RPM, suitable for normal road driving. The pump displacement, as shown by the Transit speed percentage, will automatically decrease with higher engine RPM, and increase again when engine RPM decreases, thus maintaining a constant bowl speed.

5.3.1. Temporarily adjusting the Transit Speed

In the situation of unusually steep road gradient, the bowl speed can be temporarily increased using the MIX button – press and release for a single step change, or press and hold to ramp the bowl speed up.
To decrease the bowl transit speed, similarly press the DISCHARGE button, or hold it to ramp down.
To return to the default speed, press and release the TRANSIT button.

Important Note – In Transit mode, pressing the DISCHARGE button will only ramp the bowl speed down to the minimum level (indicated when MIX 000% is displayed) - it will **not** change to the DISCHARGE direction.

5.3.2. Auto Transit

Unless specifically disabled by the installer, the system includes a feature, referred to as Auto-Transit, whereby Transit mode is activated automatically when the vehicle road-speed reaches approximately 15 kph (or other speed nominated by the installer). Note that the Auto-transit feature, unlike the manual TRANSIT button, will change directly to Transit mode even if the system is currently in Discharge mode.

On entering Transit mode, the bowl speed is set to the default Transit speed – it can be adjusted up and down from there using the MIX and DISCHARGE buttons.

When the vehicle park-brake is applied, the system will automatically exit Transit mode. Specifically, the mode will change to Mix mode, keeping the bowl speed approximately the same as it was in Transit mode. As always in Mix mode, the engine

speed can now be adjusted using the ENGINE-UP and ENGINE-DOWN, and the pump drive can be adjusted using the MIX and DISCHARGE buttons.

5.3.3. Changing the Default Transit Speed

The default transit speed – i.e. the bowl speed that is set when Transit mode is entered - can be set between appropriate limits by the operator at any time. This can only be done from the AGI-CC-01 cab controller as follows:

- Entering Transit mode
- Adjusting the bowl speed to the desired setting using the MIX and DISCHARGE buttons
- Pressing and holding the TRANSIT BUTTON for 3 seconds until the AGI-CC-01 emits a long beep, then releasing it.

While this can be done at any time, it may be a distraction when driving the vehicle so the recommended procedure is:

- Park the vehicle in a safe position.
- With the engine at idle speed, apply the Foot Brake and release the Park Brake. Keep the footbrake pressed for the entire procedure.
- With the AGI-CC-01 displaying CAB - BOWL STOPPED, press and release the TRANSIT button to enter Transit mode.
- The screen will display CAB TRANSIT XXX%, where XXX is the current transit speed.
- Using the MIX and DISCHARGE buttons, adjust the bowl speed as required.
- To save this speed as the new default, press and hold the TRANSIT button for approximately 3 seconds until the AGI-CC-01 emits a long beep, then release it. The setting has now been saved.
- To test the new setting, press the CLEAR button to stop the bowl – the display will read CAB BOWL STOPPED. Then press the TRANSIT button again, and verify that the new speed is correct.

5.4. Wash Mode

The ACM-01 control system supports an automatic wash mode to optimize the cleaning of remnant concrete from the bowl. Like many of the features of the system, it is programmable to suit each manufacturer, and may be altered or disabled by them. For that reason, the following information is typical – for details of your specific system, contact your mixer manufacturer.

A wash cycle comprises one of more Mix-Discharge transitions designed to agitate the water in the bowl in a way to dislodge any concrete that remains. A typical cycle may be:

- The bowl rotates at medium speed in the Mix direction for 15 seconds
- The bowl rotates at medium speed in the Discharge direction for 3 seconds – i.e. long enough to create significant turbulence, but not to eject the wash water.
- The bowl returns to the Mix direction and the Mix-Discharge cycle is repeated a total of 3 times.
- On the final discharge, however, the bowl rotates at maximum speed for a much longer time (e.g. 60 seconds) to fully eject the wash water.
- Once the wash is complete, the vehicle horn sounds briefly, the bowl stops, and the engine returns to idle.

While the above is typical, each manufacturer or installer may use different settings. Contact your mixer manufacturer for specifics of their system.

To enter wash mode from the AGI- CC-01 in-cab controller:

- Begin with the engine at idle, park-brake applied, transmission in Neutral, and the bowl stopped.
- Press and hold the CAB button
- While holding it, press the MIX button, then release both buttons.

It is not possible to initiate a wash cycle from the AGI-TX-01 remote control.

To terminate a wash cycle in operation:

- Press an Emergency-Stop in an emergency situation, otherwise
    - Depress the foot-brake, or
    - Press the MIX or DISCHARGE button

6. Troubleshooting

Symptom: No display on AGI-CC-01 controller

Check:

Power lamp on ACM-01

Power Lamp On:

Cable to ACM-01

Contrast adjustment

Power Lamp Off:

Power supply to ACM-01

Internal protection circuits – remove power, wait 5 minutes, and retry.

Symptom: AGI-CC-01 displays "COMMUNICATION ERROR"

Check:

Cable to ACM-01

Symptom: AGI-CC-01 displays "EMERGENCY STOP"

Check:

AGI-CC-01 Emergency Stop button

Machine Emergency-Stop buttons

Symptom: Cannot raise Engine Speed above idle

Check:

Display on AGI-CC-01 for which interlock is responsible (see section 4.1.3)

Symptom: AGI-TX-01 transmitter not operating

Check LED on the transmitter when pressing buttons

Red: - normal operation. Check receiver card in AMC-01

Flashing Red: Low battery – return the transmitter to the Charging Dock for at least 30 minutes and re-test.

Off: Replace battery with a new one (see section 4.3.5) and charge the transmitter in the Charging Dock for at least 2 hours.

Symptom: Other problem

Contact your mixer manufacturer or Agicon technical support.

6.1. User Diagnostics mode

User Diagnostics mode is not a normal function of the control system. It is a special mode that allows normal control of the machine, but displays some internal parameters for diagnostic purposes. If requested to enter User Diagnostic mode by a technician trouble-shooting the system, proceed as follows:

To enter User Diagnostics mode

- Press the CAB button to ensure that the system is in Cab mode
- Press the CLEAR button and wait for the bowl to stop
- Ensure all Emergency-Stop buttons are released
- Press and hold the CAB button
- With the CAB button held down, press the Emergency-Stop button in
- With the CAB button still held down, release the Emergency-Stop button
- Release the CAB button

Functions in User Diagnostics Mode

In User Diagnostics mode, the Information Area on the AGI-CC-01 screen shows a value

nnn:xxx

where:

nnn is the number of the parameter being displayed
xxx is the value of the parameter being displayed

Pressing the CAB button will scroll through the various parameters one-by-one. If you are performing diagnostics under instruction from a technician, they will tell you which parameter to scroll to, and they will interpret the data there.

A full description of the various parameters and their meanings may be found in the Agicon ACM-01 Technical Manual.

While User Diagnostics mode is active, it is also possible to set the engine speed minimum and maximum values requested of the ECU. **Because the normal restrictions on engine speed do not apply, extra caution should be exercised when setting the speed this way.**

To set the minimum (idle) speed requested of the ECU

- Enter User Diagnostics Mode as described above
- Press the CAB button to ensure that the system is in CAB mode
- Press the CLEAR button and wait for the bowl to stop
- Ensure the park brake is on, the foot brake is off, and the transmission is in neutral
- Ensure the ***Remote Accel*** switch (if fitted) is in the ON position
- Press the ENGINE DOWN button until the engine speed drops to idle
- Press the ENGINE UP button until the engine speed increases slightly above idle
- Press the ENGINE DOWN button until the engine speed just drops to idle
- With the CAB button held down, press the ENGINE DOWN button to set the minimum speed

To set the maximum speed requested of the ECU

- Enter User Diagnostics Mode as described above
- Press the CAB button to ensure that the system is in Cab mode
- Press the CLEAR button and wait for the bowl to stop
- Ensure the park brake is on, the foot brake is off, and the transmission is in neutral

- Ensure the ***Remote Accel*** switch (if fitted) is in the ON position
- Adjust the engine speed using the ENGINE UP / ENGINE DOWN buttons until the desired maximum speed is reached.
- With the CAB button held down, press the ENGINE UP button to set the maximum speed

After setting the engine speeds, exit User Diagnostics mode, and test the minimum and maximum speeds are operating as expected.

To exit User diagnostics mode

- Press the CAB button to ensure that the system is in Cab mode
- Press the CLEAR button and wait for the bowl to stop
- Press the Emergency-Stop button
- Release the Emergency-Stop button and operate the system normally

7. Maintenance

7.1. Every Day

Before operating the system, check the operation of all commands. In particular, start the bowl spinning slowly and press each Emergency-Stop button to ensure that the bowl stops immediately.

7.2. Annually

The system should be inspected annually by a technician competent to do so. Refer to the Agicon ACM-01 Technical Manual for a description of the recommended tests.

7.3. Cleaning

Do not use any solvents or abrasives to clean the components of the system. A moist cloth may be used to clean the external surfaces of the AGI-CC-01, AGI-TX-01, AGI-RESS-01, and AMC-01. Use a dry cloth when cleaning the AGI-DCC-01 charging dock.

7.4. Storage

Store the system in a clean dry location with a temperature between 5ºC and 35ºC. If the system is unused for 60 days or more, the battery should be removed from the AGI-TX-01 transmitter, and stored separately. It is recommended that the AGI-TX-01 be charged at least every 6 months.

7.5. Disposal

The components of the ACM-01 control system contain substances which may be subject to disposal restrictions in some jurisdictions – the circuit boards contain lead in the solder, and the NiMH battery in the radio transmitter may require special handling. Consult your local authority or your supplier for further instructions.

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