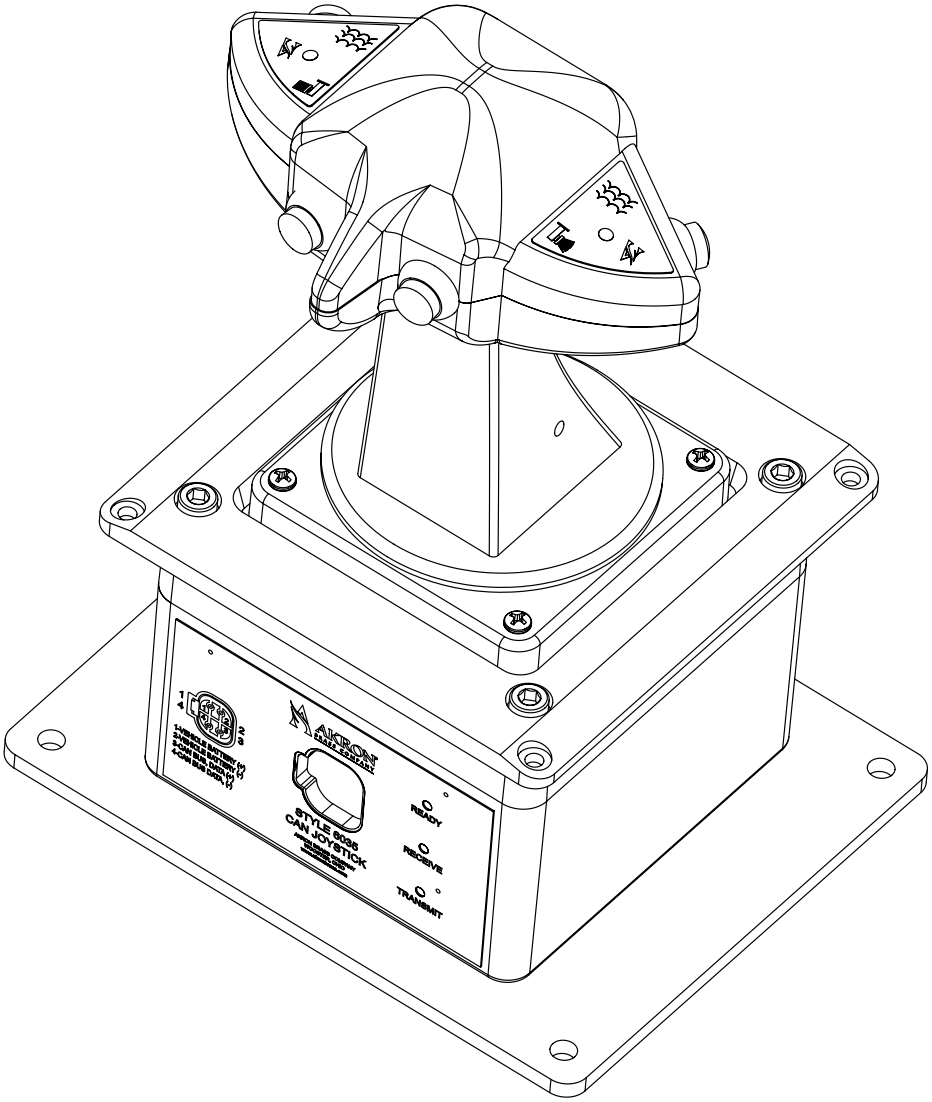
AKRON®
BRASS COMPANY

STYLE 6035 CAN POINT-AIM JOYSTICK
INSTALLATION, OPERATION & MAINTENANCE MANUAL



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SAFETY SUMMARY

SIGNAL WORD DEFINITION

Per the ANSI Z535.4 standard, the following signal words and definitions are used to indicate hazardous situations:

⚠ DANGER DANGER indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

⚠ WARNING WARNING indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

⚠ CAUTION CAUTION indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It is also used to alert against unsafe practices.

GENERAL SAFETY PRECAUTIONS

The following are general safety precautions that are not related to any specific procedures and therefore do not appear elsewhere in this publication. These are recommended precautions that personnel must understand and apply during many phases of operation and maintenance.

⚠ WARNING For fire fighting use only by trained fire fighters.

⚠ WARNING Do not use the Joystick when the override cranks are being used or are in position for use.

⚠ CAUTION Although the enclosure for the Joystick is water-resistant, it is important to keep water out of the enclosure. Prolonged exposure to water will cause damage. When the cover of the enclosure is removed, make sure the seal under the cover is intact and free of dirt and debris.

⚠ CAUTION This product must be wired in adherence with the SAE J1939/11 specification. Failure to do so may result in sporadic operation or non-operation.

⚠ CAUTION While this device is designed to reside on a standard J1939 CAN network, it is recommended that Akron Brass CAN products operate on their own CAN network isolated from the other CAN networks on the vehicle.

PRODUCT SPECIFICATIONS

6035 CAN JOYSTICK

- Power - 8 to 33 volts DC, <.25 amperes
- Operating Temperature - -40°C. to +85°C.
- Storage Temperature - -50°C. to +85°C.
- Communications – J1939/11 CAN Network
- Proportional Control

INSTALLATION INSTRUCTIONS

TOOLS & MATERIALS REQUIRED

- Medium Phillips screwdriver • Small flat screwdriver
- Metric Allen Wrench Set
- Deutsch Crimping Tool
- Deutsch DTM06-4S-CE13 or equivalent and associated crimp terminals
- Optional Akron Brass 721579 pre-wired connector/harness

MECHANICAL INSTALLATION

The 6035 CAN Joystick comes with a mounting kit that allows either surface or flush mounting.

For a flush mount application, remove the 4 screws holding the lid of the joystick. Place the surface mount bezel over the joystick and install the four M6 x 40mm socket head cap screws through the bezel and joystick lid. See Figure 1 for recommended panle cutout.

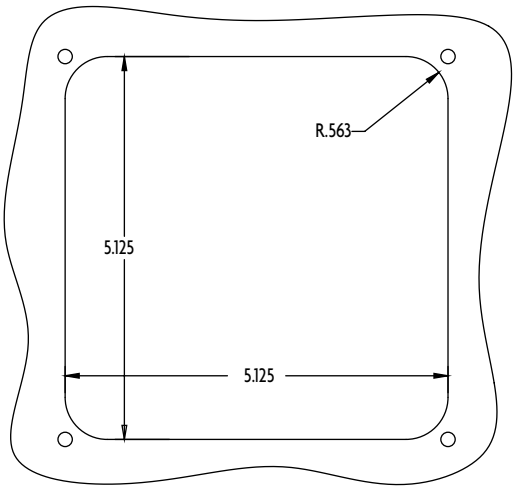
For a surface mount application, two methods may be utilized. When access to the back of the mounting surface is available, use four M6 screws from behind to directly mount the Joystick to the surface. See Figure 2 for recommended hole layout.

A second surface mount method utilizes the included adapter plate. Use the included M6 flat head screws to attach the adapter plate to the bottom of the Joystick. Next, utilizing four screws of the customer's choosing, attach the Joystick to the mounting surface. See Figure 3 for recommended hole layout.

⚠ CAUTION Although the enclosure for the Joystick is water-resistant, it is important to keep water out of the enclosure. Prolonged exposure to water will cause damage. When the cover of the enclosure is removed, make sure the seal under the cover is intact and free of dirt and debris.

Figure 1

Flush Mounting Hole Layout



RECCOMENDED OPENING
FOR FLUSH MOUNTING
(TO SCALE)

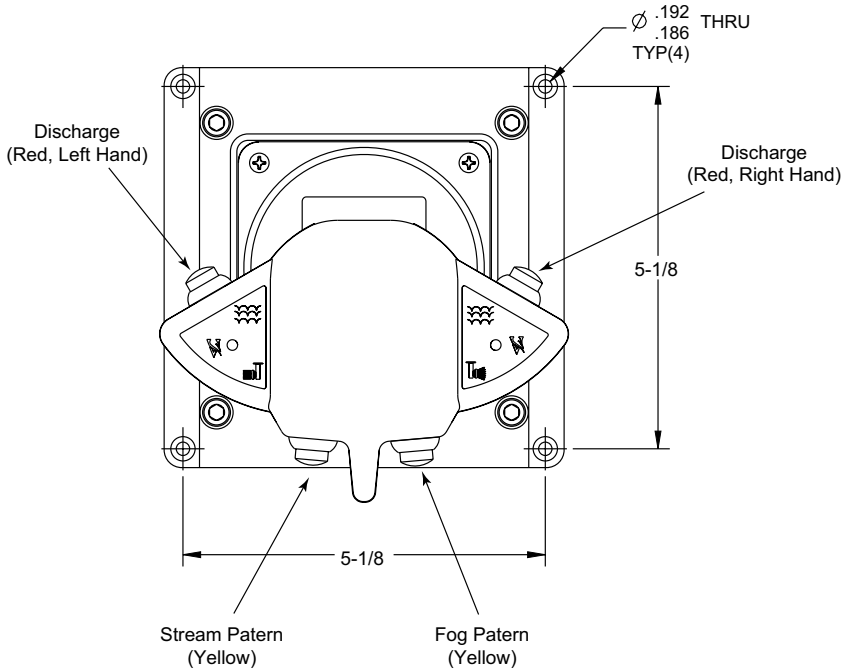


Figure 2

Surface Mount Hole Layout

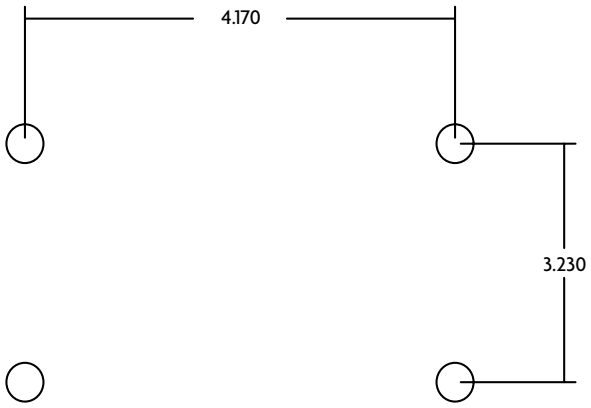
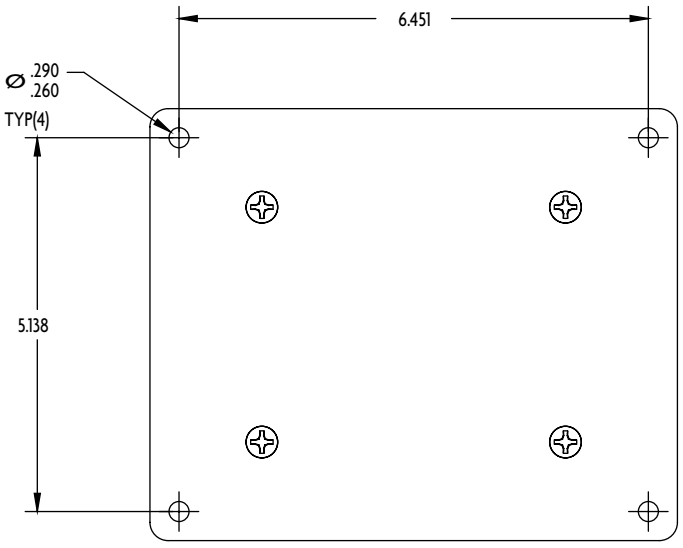


Figure 3

Bottom

Adapter Plate Hole Layout



ELECTRICAL INSTALLATION

⚠ CAUTION This product must be wired in adherence with the SAE J1939/11 specification. Failure to do so may result in sporadic operation or non-operation.

⚠ CAUTION While this device is designed to reside on a standard J1939 CAN network, it is recommended that Akron Brass CAN products operate on their own CAN network isolated from the other CAN networks on the vehicle.

The following is intended to provide the basic instructions for installation and operation of the 6035 CAN Joystick. Refer to Figure 4, Figure 5, and Figure 6 for additional information. Wiring must be in compliance with SAE J1939 for proper operation.

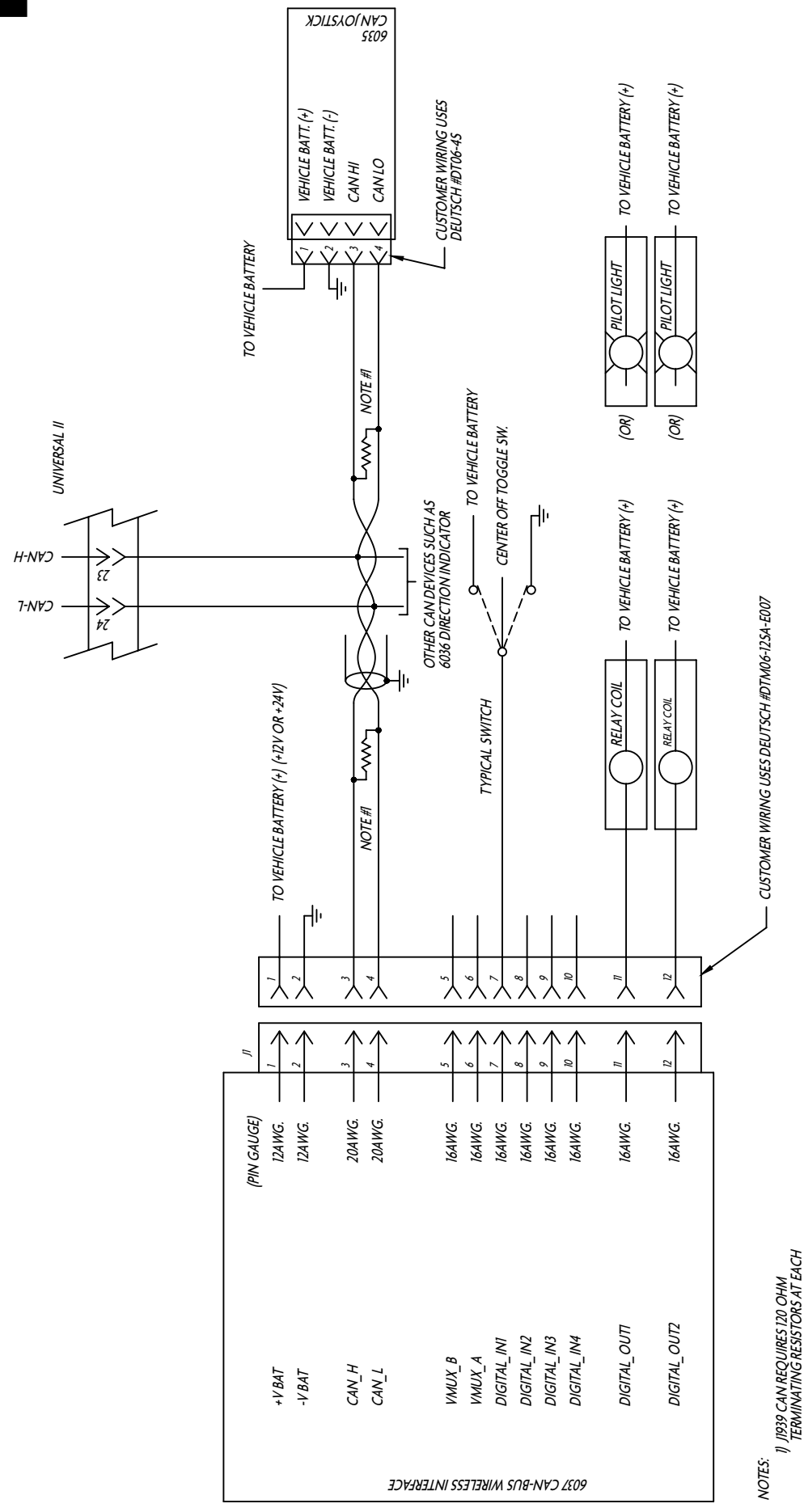
Step 1 Connect Battery Positive to Pin #1 (use of Akron Brass Harness stub part number 721579 is recommended)
Step 2 Connect Battery Negative to Pin #2
Step 3 Connect CAN HI to Pin #3 (Akron Brass Harness stub part number 721579 already has this pin properly connected to a J1939 CAN network stub connector)
Step 4 Connect CAN LO to Pin #4 (Akron Brass Harness stub part number 721579 already has this pin properly connected to a J1939 CAN network stub connector)
Step 5 Add a terminating resistor if this device is at the end of the network.

Figure 4

Connector Laber

Figure 5

Typical Electrical Connections



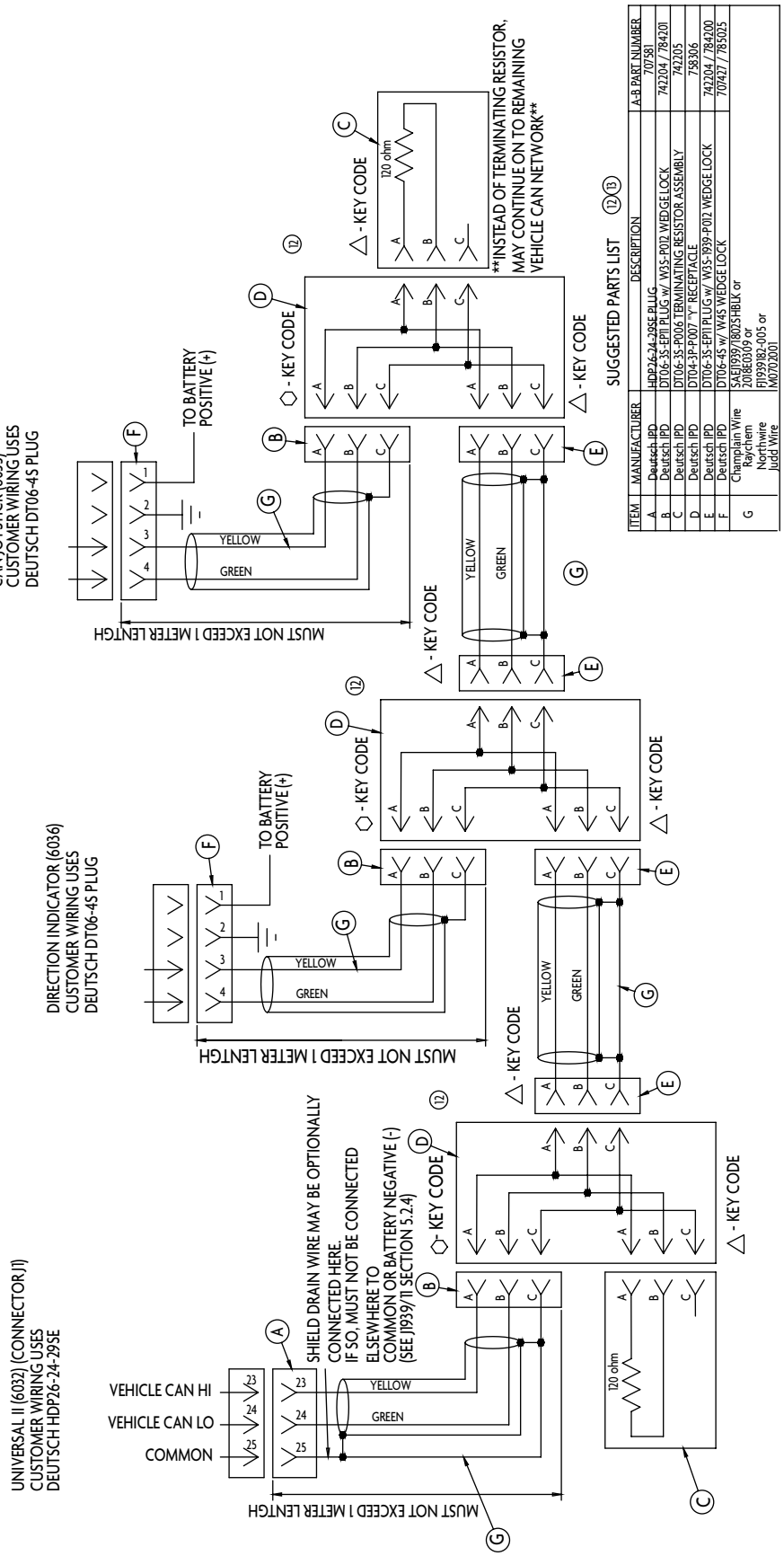
NOTES:

1) J1939 CAN REQUIRES 120 OHM TERMINATING RESISTORS AT EACH END OF NETWORK.

2) SEE DRAWING D-44723 FOR ADDITIONAL INFORMATION ON "CAN" WIRING.

Figure 6

Typical J1939 Wiring



SUGGESTED PARTS LIST (12)(13)

ITEM	MANUFACTURER	DESCRIPTION	A-B PART NUMBER
A	Deutsch IPD	HDP26-24-29SE PLUG	707581
B	Deutsch IPD	DT06-3S-EP11 PLUG w/ W3S-P012 WEDGE LOCK	742204 / 784201
C	Deutsch IPD	DT06-3S-P006 TERMINATING RESISTOR ASSEMBLY	742205
D	Deutsch IPD	DT04-3P-P007 "Y" RECEPTACLE	798306
E	Deutsch IPD	DT06-3S-EP11 PLUG w/ W3S-1939-P012 WEDGE LOCK	742204 / 784200
F	Deutsch IPD	DT06-4S w/ W4S WEDGE LOCK	707427 / 785025
G	Champlain Wire Raychem Northwire Judd Wire	SAEJ1939/18005-HBLK or 2086E0309 or FJ1939182-005 or M7072001	

PLEASE REFER TO SAE J1939/11

OPERATING INSTRUCTIONS

POINT-AIM

The 6035 CAN Joystick is Plug and Play, and comes ready to use. Once installed, the CAN Joystick can be used in conjunction with a monitor that supports the Point-Aim function.

NOTE: The 6035 CAN Joystick is designed to be as benign as possible on a typical J1939 network. It performs standard address claiming. It issues standard J1939 Joystick messages. The CAN Joystick's default mode is Joystick 3. It is possible to change this in the field by using the setup mode. It is possible to have multiple Universal II's and CAN Joysticks on the same network. Contact Akron Brass customer support for custom software if this is a requirement.

⚠ WARNING For fire fighting use only by trained fire fighters.

⚠ WARNING Do not use the Joystick when the override cranks are being used or are in position for use.

JOYSTICK INITIALIZATION AND OPERATION

Upon power up, the point-aim joystick is disabled and the monitor will not move. This was done to make sure no unintended movement of the monitor occurs at power up in the case that the joystick position may have been changed while power was off. After power up, the LED's on the top of the hand grip will blink once about every second. To initialize the joystick simply press and release both yellow stream pattern control buttons located on the front of the hand grip. If the current monitor position does not match the current joystick position, the monitor will move to synchronize with the current joystick position. Once the monitor has matched the joystick position, the LED's on the top of the hand grip will stop blinking and be on steady. Any movement of the joystick (right/left/up/down) hand grip will cause the monitor to move toward that position and the LED's on the top of the hand grip will blink until the monitor achieves the current joystick position. The hand grip will stay in its current position when you release it. It will not center itself like a standard joystick. If the monitor is setup such that it cannot physically achieve the position that the joystick is pointing to, the monitor will stop at its travel limit and the LED's on the joystick hand grip will continue to blink until such time that the joystick is brought back into the physical travel range of the monitor and the monitor can then match the joystick position again.

DISCHARGE CONTROL

The red discharge buttons are located at the back of the hand grip on both sides. This allows for use with right or left handed installations. Pressing either discharge button will open the discharge valve. Releasing the button will close the discharge valve. If you "double click" either button, the valve will open and stay open until either button is pressed and released once more.

STREAM PATTERN CONTROL

Two yellow buttons are located at the front of the hand grip, one on each side of the center of the grip. The left button will move an electric nozzle toward the fog pattern and the one on the right will move an electric nozzle toward the stream pattern when pressed. These buttons are also used during startup and manual override conditions.

MANUAL OVERRIDE

If there is a sensor problem on the monitor or in the joystick, the monitor can still be controlled using the manual override sequence. To engage the manual override sequence, you must press and hold both of the yellow stream pattern control buttons simultaneously. While holding both buttons down, you can rotate the joystick approximately 15 degrees to either side to initiate left/right rotation of the monitor. You can also point the control grip up or down approximately 15 degrees to initiate up/down movement of the monitor. The farther past the 15 degree position you go, the faster the monitor will move. Releasing yellow stream control buttons will stop the monitor movement.

SETUP AND CALIBRATION

Changes to the behavior of the joystick can be achieved by entering the setup mode. This can be done in the field with a small magnet. Three small dots located on the connector label (see Figure 4) identify the location of Hall Effect switches inside the joystick.

Zeroing and Spanning the Joystick

Place a magnet over the Switch 1 dot for approximately one second (see Figure 4). All three LEDs will begin flashing the priority level (the default will be three flashes). Momentarily place the magnet over Switch 3. The Green LED will begin flashing by itself signaling the joystick has entered calibration mode. Move the hand grip so it is level and centered horizontally. Momentarily place the magnet over Switch 3. The Yellow LED will begin flashing by itself signaling the joystick has been zeroed. Move the hand grip all the way up and all the way to the left or right. Momentarily place a magnet over Switch 3. At this point, all three LEDs will begin flashing the priority level signaling the joystick has been spanned.

Either cycling power or momentarily placing a magnet over Switch 2 will reset the joystick and return it to normal operation.

Changing the Priority Level

The SAE J1939/71 specification has made provisions for up to six joysticks residing on the same CAN bus (Joystick1 through Joystick6). Akron Brass has chosen to interpret this assignment as the priority level. Joystick1 has the highest priority, and Joystick6 has the lowest priority. A device at Joystick3 issuing “go right” messages would override a device at Joystick5 issuing “go left” messages. Akron Brass has set the default for the 6041 CAN Switch Box at Joystick1, the 6035 CAN Joystick at Joystick3, and the 6037 CAN Wireless Interface at Joystick5. Customers may require a different priority scheme. The following steps allow field changing of priority level.

Place a magnet over the Switch 1 dot for approximately one second (see Figure 4). All three LEDs will begin flashing the current priority level (the default will be three flashes). Momentarily placing a magnet over Switch 1 again will increase the Joystick number (decrease the priority) by one. Continue with momentarily placing a magnet over Switch 1 until the desired priority level has been reached. When Joystick6 has been reached, another Switch 1 activation will wrap around to Joystick1. When the desired priority level has been reached, momentarily place a magnet over Switch 2 to save the setting and the Joystick will reset and return to normal operation.

NOTE: There cannot be two devices with the same priority level. If two devices are assigned the same priority level, only one will remain active on the network. The remaining device will become inactive and claim CAN node address 254 as defined and specified by SAE J1939.

MAINTENANCE INSTRUCTIONS

The 6035 CAN Joystick has no user serviceable parts. If the device fails to operate properly, please contact an Akron Brass customer service representative.

TROUBLESHOOTING

DIAGNOSTIC LEDs

The CAN Joystick has three LEDs located near the connector labeled Ready, Receive, and Transmit. Their colors are Green, Yellow, and Red respectively. Under normal operation, the Green Ready LED indicates the unit is powered and that the unit's microprocessor is running. The Yellow LED will blink on and off when there are CAN messages sent by other devices on the network that pertain to the Joystick. The Red LED will light when the joystick is sending CAN messages that contain non-centered joystick positions or other switch operations. When the joystick returns to a quiescent state, the Red LED will turn off. The LED's on the top of the hand grip will blink setup codes and /or error codes sent from the monitor control system. See monitor instructions for a listing of these codes.

Make sure that no two CAN operator devices (Joystick, Wireless, or Switch Box) have identical priority settings, otherwise one of them will become inactive.

AKROVIEW SOFTWARE

As with all of the Akron Brass CAN product family, the 6035 CAN Joystick supports the Akroview Software. The software provides additional diagnostics as well as software updating and other capabilities. Contact Akron Brass for additional information on how you can obtain a copy of Akroview software.

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REVISED: 2/15