SKYJACK™

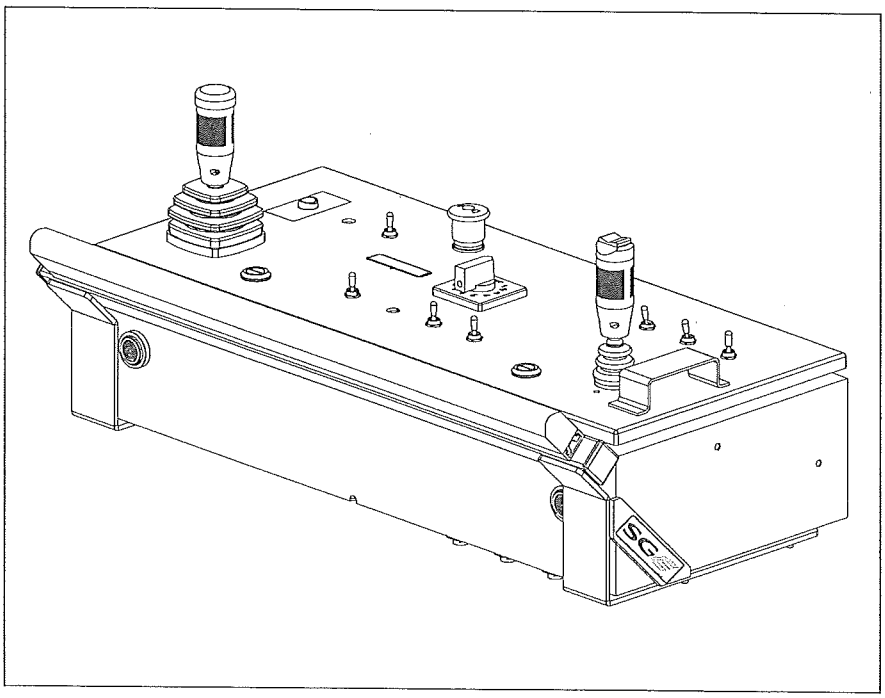
ACCESSORYZERS™

SGE

Installation & Operating Instructions

Models

SJ45T, SJ66T, SJ86T AS
SJ46AJ, SJ51AJ, SJ63AJ AS



A complete and legible copy of these instructions must be kept in the provided weather-resistant storage compartment of the SGE equipped aerial platform at all times.

WARNING

Only qualified and authorized personnel shall be permitted to install or service this equipment.

WARNING

Read all instructions closely before attempting each step of the procedure.

If you have not received the complete parts inventory, contact the Skyjack Service Department to have the missing parts sent to you. Do not attempt installation without the complete package.

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This field kit and instruction apply only to AS units with the following serial numbers:

SJ45T AS: 98 001 501 & above
SJ66T AS: 97 001 396 & above
SJ86T AS: all serial numbers
SJ46AJ AS: 95 001 105 & above
SJ51AJ AS: 95 001 105 & above
SJ63AJ AS: 95 300 481 & above

ACCESSORYZERS™

Having equipment with features and functionality that allow you and your customers to do more is a vital part of the utilization equation. Skyjack offers a range of accessory products to further expand a given products adaptability and your power to offer a truly flexible rental choice.

1.0 Familiarization and Operating Instructions

Familiarization

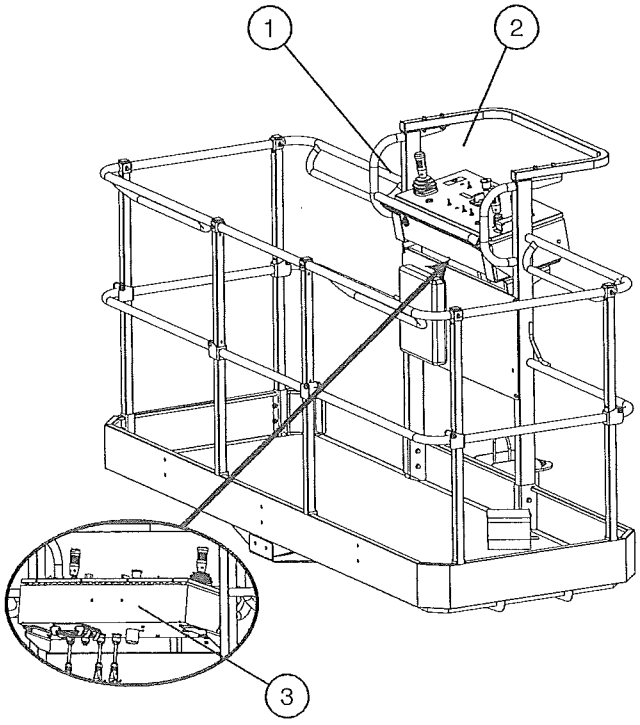
The purpose of this device is to prevent sustained in-voluntary operation of the lift, which may result from accidental contact with the platform controls, and to activate an alarm (audible/visual) to alert others of the event.

⚠ WARNING

This attachment will not prevent collision or eliminate the potential for injuries resulting from a collision.

From the Operator's point of view, this secondary guarding consists of three main components:

1. Sensor Bar - located in front of the platform control box.
2. Reset Button - located near the top left corner of the platform control box.
3. Audible/Visual Alarm - located on the underside of the platform control box.



Operation

1. When pressure is applied to the sensor bar for less than 1 second, the audible/visual alarm will activate while the bar is being pressed, interrupting all functions. The audible/visual alarm will turn off after the sensor bar is released, and functions will resume.
2. When pressure is applied to the sensor bar for more than 1 second, the audible/visual alarm will activate and the engine will shut off, halting all functions. The reset button will light up.
3. After removing pressure from the bar, press the reset button to shut off the audible/visual alarm. Restart the engine to restore normal functions.

Daily Test

1. Perform the tests described in Section 2.0 daily, to ensure the secondary guarding is functioning properly.

IMPORTANT

Never use a malfunctioning MEWP or a MEWP with malfunctioning attachments. If malfunctions are discovered, the MEWP must be tagged and placed out of service. Repairs to the MEWP may only be made by a qualified service technician.

2.0 Testing

1. Turn the main power disconnect switch to the "|" on position.
2. Pull out the "◉" emergency stop buttons on the base control console and on the platform control console.
3. Turn the base/off/platform key switch to the "  " platform position.
4. Press the sensor bar for less than 1 second and then release.

   Result: The audible/visual alarm should activate while the bar is being pressed and turn off after being released. The reset button should light up as soon as the sensor bar is pressed, and turn off when the bar is released.

5. Press the sensor bar for more than 1 second and then release.

   Result: The audible/visual alarm should activate immediately and stay on after the bar is released. The reset button should be lit. The engine fault and glow plug indicator lamps should be lit.

6. Press the reset button.

   Result: The audible/visual alarm and reset button light should go off.

7. Start the engine.
8. Press the sensor bar for less than 1 second and then release.

   Result: The audible/visual alarm should activate while the bar is being pressed and turn off after being released. The reset button should light up as soon as the sensor bar is pressed, and turn off when the bar is released.

9. Press the sensor bar for more than 1 second and then release.

   Result: The audible/visual alarm should activate immediately and stay on after the bar is released. The engine should shut down after 1 second. The reset button should be lit. The engine fault and glow plug indicator lamps should be lit.

10. Press the reset button.

    Result: The audible/visual alarm and reset button light should go off.

11. Press the sensor bar for more than 1 second and then release.

    Result: The audible/visual alarm should activate immediately and stay on after the bar is released. The reset button should be lit.

12. Activate the e-pump switch.

    Result: The platform audible/visual alarm and reset button light should go off.

13. Start the engine.
14. Activate any drive function in high torque "  ".
15. Press the sensor bar for less than 1 second and then release.

    Result: The function will stop while the bar is being pressed and motion will resume when the bar is released. The audible/visual alarm should activate while the bar is being pressed and turn off after being released. The reset button should light up as soon as the sensor bar is pressed and turn off when the bar is released.

16. Press the sensor bar for greater than 1 second and then release.

    Result: The function will stop and the audible/visual alarm should activate immediately and stay on after the bar is released. The engine should shut down after 1 second. The reset button should be lit. The engine fault and glow plug indicator lamps should be lit.

17. Start the engine.

18. Activate any platform function (i.e.lift/extend/ rotate).

19. Press the sensor bar for less than 1 second and then release.

    Result: The function will stop while the bar is being pressed and motion will resume when the bar is released. The audible/visual alarm should activate while the bar is being pressed and turn off after being released. The reset button should light up as soon as the sensor bar is pressed and turn off when the bar is released.

20. Press the sensor bar for greater than 1 second and then release.

    Result: The function will stop and the audible/ visual alarm should activate immediately and stay on after the bar is released. The engine should shut down after 1 second. The reset button should be lit. The engine fault and glow plug indicator lamps should be lit.

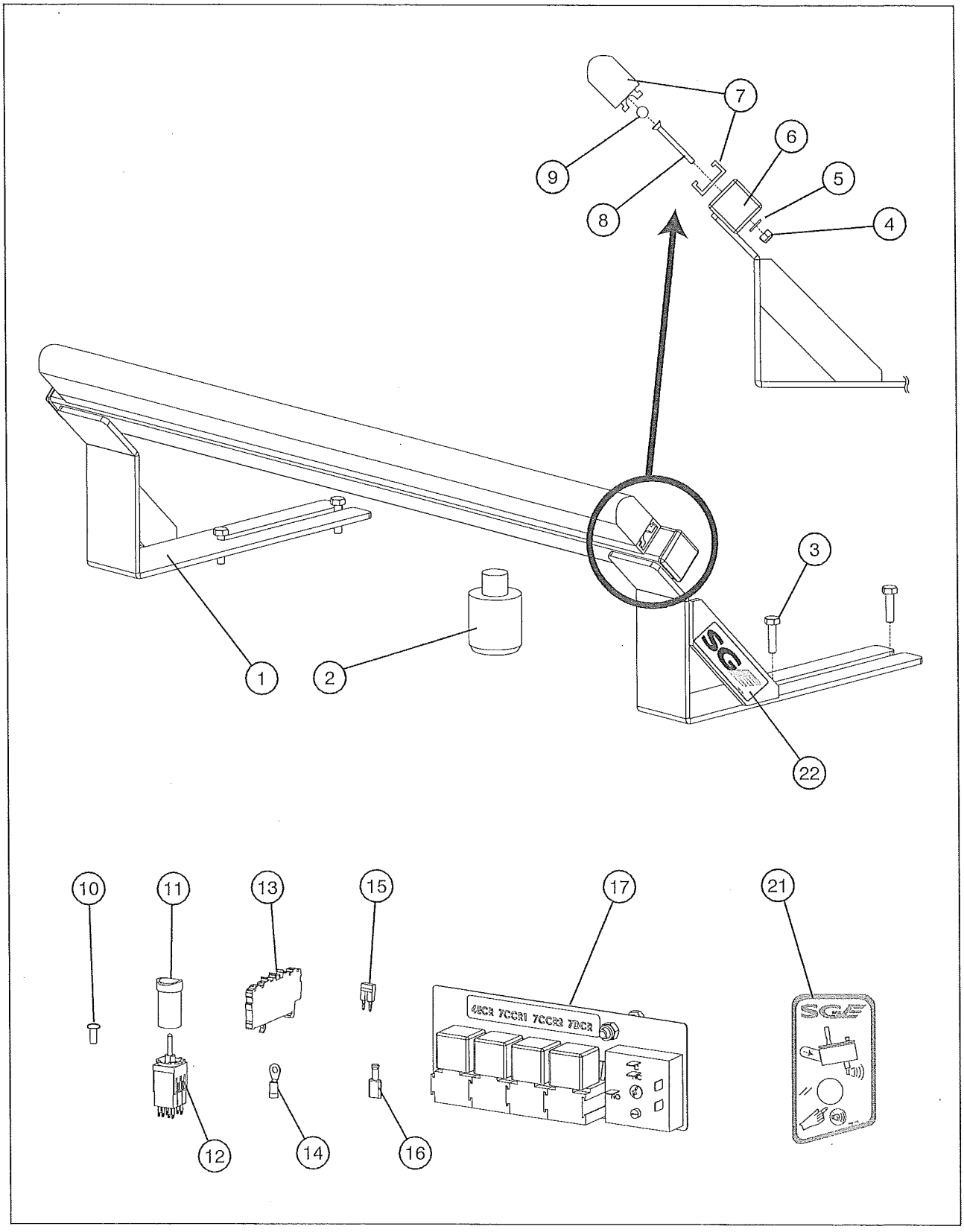
21. While the audible/visual alarm is sounding, verify that the LED strobe light is also active.

22. On the base control console, activate the e-pump switch.

    Result: The platform audible/visual alarm and reset button light should go off.

Notes

3.0 Parts Inventory



3.0 Parts Inventory

Index No.	Skyjack Part No.	Qty.	Description
-	194622	1	SGE FIELD KIT
-	166106	1	SGE KIT
1	166101	1	• SUPPORT ASSEMBLY, Sensing edge
2	166110	1	• ALARM/FLASHER, 12V, red LED
3	103857	4	• BOLT, Hex head (1/4"-20 x 1.00, Grade 5)
4	300450	3	• NUT, Hex head nylon lock (10-32, Grade 5)
5	104694	3	• WASHER, Flat (#10)
6	100702	2	• CAP, Plastic End
7	166107	1	• EDGE, Sensing with countersunk rail
8	166105	3	• BOLT, Flat head cap screw (10-32 x 1.75". Grade 5)
9	166104	1	• ROD, Sensing edge lock
10	167218	1	• SCREW, Machine slotted binding head (6-32 x 0.25")
-	166085	1	• ELECTRICAL ASSEMBLY, SGE
11	166087	1	• • PUSH BUTTON OPERATOR, Yellow flush spring return
12	166086	1	• • CONTACT BLOCK BODY, N/O, yellow LED 12-24V
13	137940	4	• • BLOCK, Terminal
14	102955	1	• • TERMINAL, Ring 14-16GA, #6 blue
15	137942	2	• • JUMPER, 2 pin
16	105359	2	• • TERMINAL, Female spade 14-16GA, insulated blue
17	166018	1	• • RELAY ASSEMBLY
18	166032	1	• • WIRE ASSEMBLY, SGE (not shown)
19	166786	1	• • WIRE KIT, SGE Base control (not shown)
20	113719	8	• • TIEWRAP, 3-5/8" long black (not shown)
21	166139	1	• LABEL, SGE
22	166756	2	• LABEL, SGE
23	194621	1	INSTALLATION INSTRUCTIONS, SGE (not shown)

4.0 Machine Preparation

1. Ensure aerial platform is on a firm, level surface.
2. Push in "◉" emergency stop button on platform control console and base control console.
3. Turn base/off/platform key switch to "○" off position. Remove key.
4. Turn main power disconnect switch to "○" off position.

5.0 Installation Procedure

Assemble the Sensing Edge Support (166101)

1. Attach the sensing edge aluminum extrusion channel **(166107)** to the support bar in three places using the supplied bolts **(166105)**, flat washers **(104694)**, and lock nuts **(300450)**.

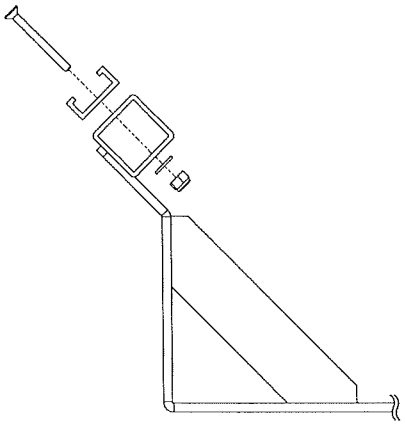


Figure 1. Install extrusion channel

2. Slide the sensing edge into the aluminum extrusion channel, Ensure the electrical cords are on the right side.

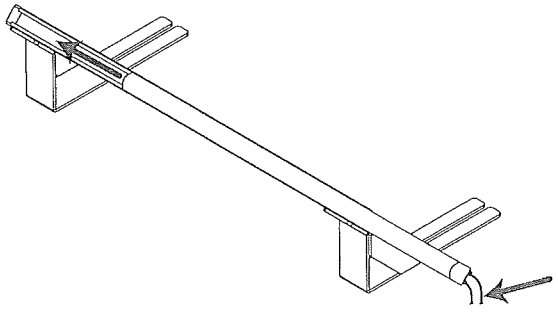


Figure 2. Insert sensing edge

3. Pass the cords through the 3/8" / 9.5mm holes.

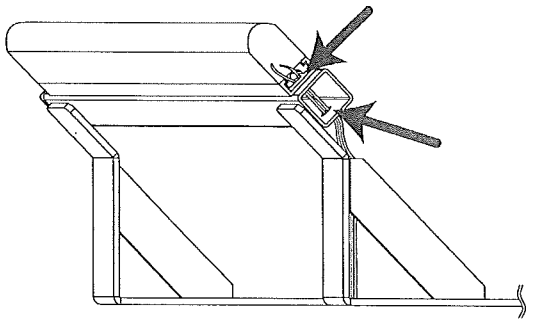


Figure 3. Pass cords through holes

4. Lock the sensing edge into the channel by sliding the locking rod **(166104)** into the space between the sensor bar and the aluminum extrusion channel. Use WD-40 (or similar) for lubrication if needed.

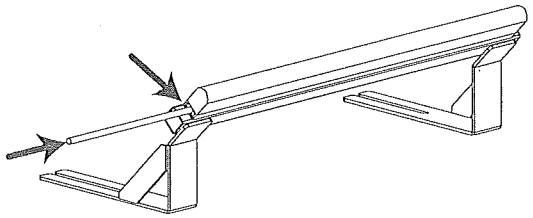


Figure 4. Lock the sensing edge

5. Place the plastic end caps **(100702)** onto the ends of the tube.

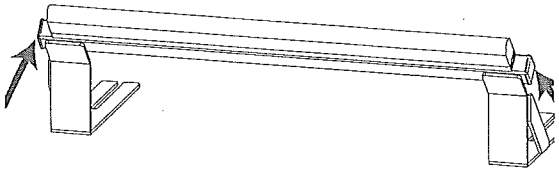


Figure 5. Install end caps

Install the Sensing Edge Support Assembly

1. From inside the platform control box, remove the 3/4" long bolts (x4) securing the control box to the platform. Keep the washers and lock nuts but discard the bolts.

2. Raise the control box and install the support assembly between the control box and the platform supporting brackets.

3. Replace the removed 3/4" long bolts with the supplied 1" long bolts **(103857)**. Secure the control box to the platform with the washers and nuts removed earlier.

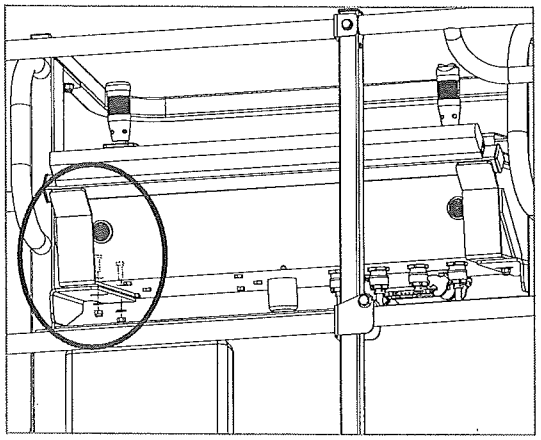


Figure 6. Install support assembly

4. Pass the sensing edge cords into the control box through the right-most drain hole.

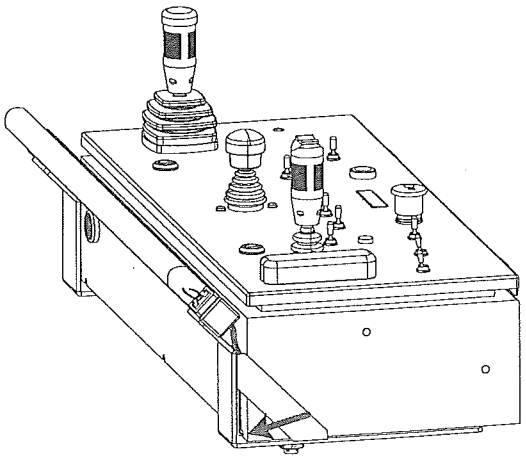


Figure 7. Pass cords through drain hole

Install the Electrical Assembly (166085)

1. On the supplied relay board, set the timer adjusting screw to the 1.0 second setting. Apply a drop of anti-tamper sealant to the adjusting screw.

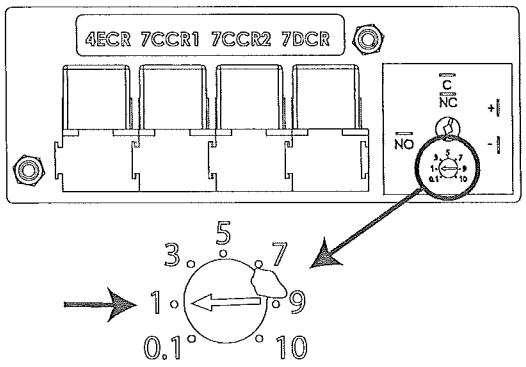


Figure 8. Set the timer screw

2. Open the platform control box lid.

3. Mount the relay plate with the supplied bolts and locknuts in the two diagonally spaced holes on the far right control box side wall.

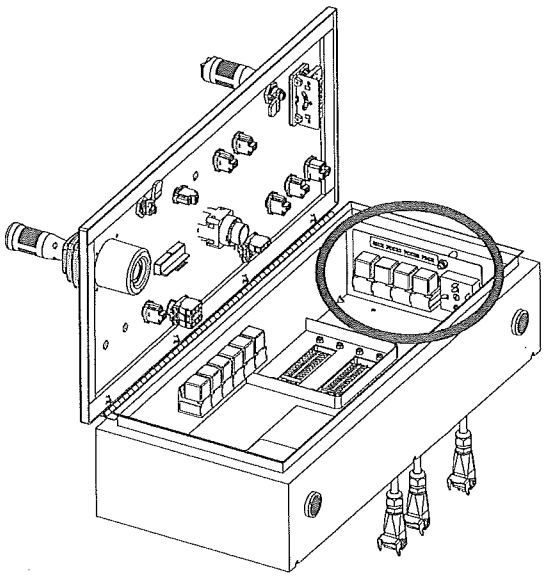


Figure 9. Mount the relay plate

4. Using a drill, enlarge the 1/2" / 13mm toggle switch hole on the far left of the cover to 16mm.

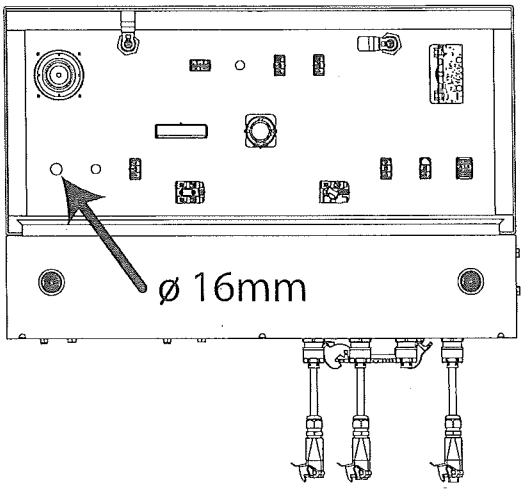


Figure 10. Enlarge hole

5. Install the lighted push button into the newly enlarged hole.

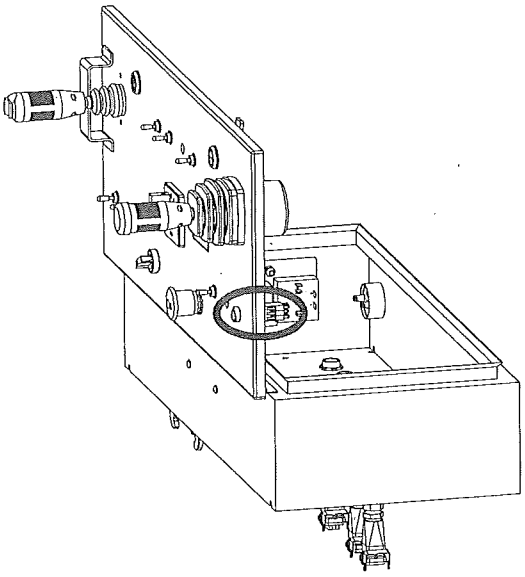


Figure 11. Install push button

6. Inside the control box, install the new terminal blocks on the DIN rail:

   a. Remove the terminal rail end stops using a thin bladed screwdriver.

   b. Cut the label strip with a utility knife, and separate the existing blocks 02 and 04A by 1" / 2.5cm.

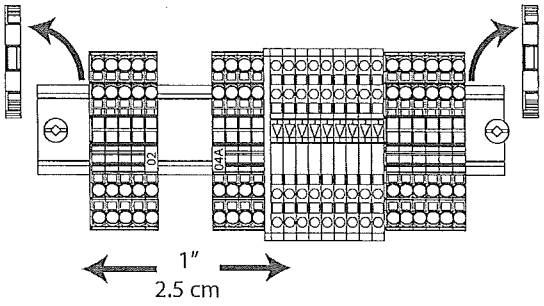


Figure 12. Separate the terminal blocks

   c. Temporarily remove the 2-pole jumper **(137942)** from the new 02 block, and set it aside.

   d. Clip the new terminal blocks **(137940)** to the rail in the space between 02 and 04A, noting the sequence below.

   e. Connect the new 02 block to the existing 02 blocks with the supplied 2-pole jumper **(137942)** removed earlier.

   f. Push the blocks together and reinstall the end stops.

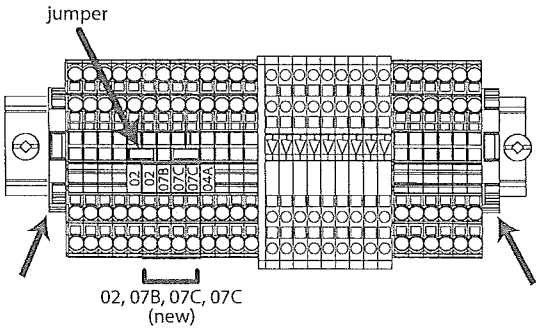


Figure 13. Install new terminal blocks and jumper

Install the Audible/Visual Alarm (166110)

1. Drill a 22mm hole in the bottom of the control box, 4" / 10cm to the right of the end of the terminal rail (the position may vary depending on the routing of the wire harness).

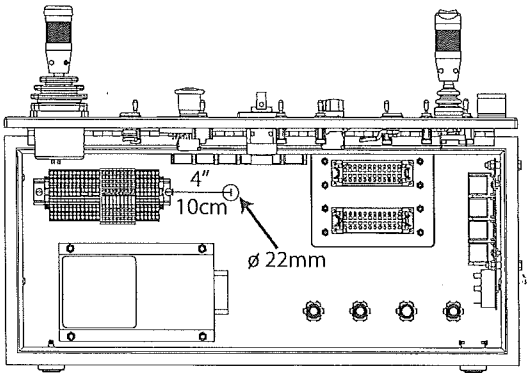


Figure 14. Drill a hole

2. Install the audible/visual alarm into the hole. Secure with the locknut.

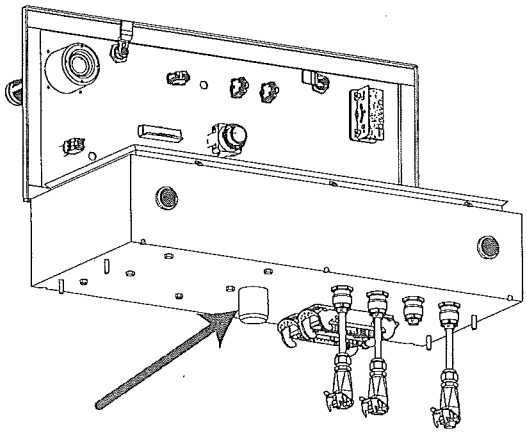


Figure 15. Install the audible/visual alarm

Connect the Wire Assembly (166032) -

Refer to Wiring Diagram 1 on page 17 for the following steps.

1. On the supplied wiring assembly **(166032)**, locate wire 07A. Connect wire 07A to the E-stop switch at the existing 07A terminal.
2. Connect the 04D/04E ring terminal at the e-pump switch to the existing 01 terminal.
3. Completely remove and discard wire 60 between the terminal rail and the boom cable 24-pole connector at position 16.
4. Connect new wire 60 into terminal rail block 60.
5. Connect new wire 60A to the boom cable 24-pole connector at position 16.
6. Remove wire 20 from the boom cable 24-pole connector at position 8. Cut off the ferrule and crimp on the supplied new ¼" female spade connector **(105359).** Connect to male spade connector 20 from the new wire assembly.
7. Connect wire 20E to the boom cable 24-pole connector at position 8.
8. Remove wire 162A from the boom cable 24-pole connector at position 24.
9. Cut off the ferrule and crimp on female terminal **(105359)**. Connect it to 09B/162B from the new relay bank.
10. Insert wire 09A/162A into the 24-pole connector at position 24.

Connect the Sensing Bar and Audible/Visual Alarm Wiring

Refer to the Wiring Diagrams on pages 17 for the following steps.

1. Route the sensor bar cords to the terminal rail, and cut off the excess.
2. Strip the jackets to expose the two wires in each cord.
3. Insert the two black wires into the 07B terminal block.
4. Insert the two white wires into the 07C terminal block.
5. Locate the two loose wires from the supplied wire assembly **(166032)**.
6. Insert one end of wire 07C into terminal "La" on the audible/visual alarm, and the other end into the terminal 07C block.
7. Insert one end of wire 02 into terminal "N" on the audible/visual alarm, and the other end into the terminal 02 block.

Complete Installation on Platform Controls

1. Secure all new wires with the supplied cable tiewraps **(113719)**.
2. Close the control box lid.
3. Clean all dirt and oil off the panel label around the new push button.
4. Apply reset label **166113**.

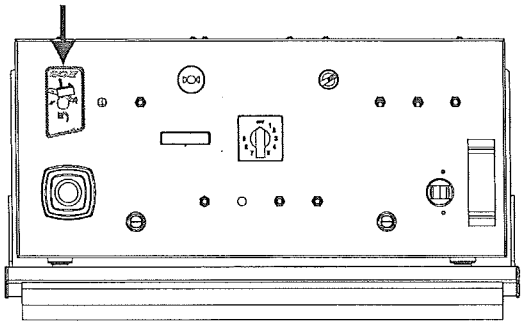


Figure 16. Apply reset label

5. Apply SGE label **(166756 x2)** to the right and left support gussets.

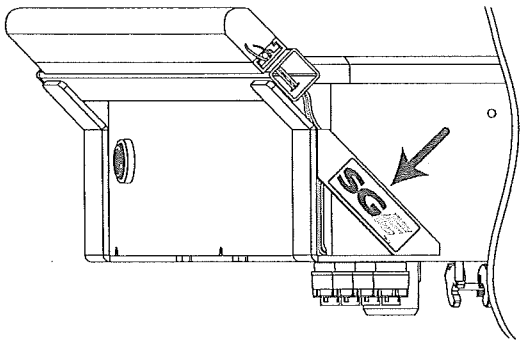


Figure 17. Apply SGE label

Base Controls Modification for: All models except SJ86T

Use wire kit **(166786)**, and refer to the Electrical Schematics on page 18 for the following steps.

1. Locate the pink/white wire #161 running from the lower right 24-pole connector position 22 to the terminal rail position 09.
2. Remove the wire 161 from the terminal block 09, remove the ferrule & strip off 3/8" / 10mm of insulation.
3. Locate the yellow wire #09 running from the tilt switch to the terminal rail position 09.
4. Remove the wire 09 from the terminal block 09 and remove the ferrule & strip off 3/8" / 10mm of insulation.
5. Insert both the 09 and the 161 wires into the blue male disconnect terminal **(105360)** and crimp together.
6. Take the supplied red wire 12A and connect the ring terminal end to the start/e-pump switch screw terminal 12A.
7. Connect the female 12A and male (09 + 161) quick disconnects together.
8. Secure the added wire with tiewraps.

For models SJ46AJ, SJ51AJ and SJ63AJ only (steps 9 through 13)

9. Locate the pink/purple wire #162A running from the relay 59CR to the terminal rail position 162A.
10. Remove the wire 162A from the terminal block 162A.
11. Crimp the blue female disconnect terminal **(105359)** to the free end.
12. Take the supplied diode wire assembly marked 162A and fully insert the diode lead into the terminal block 162A. **NOTE: Ensure the diode lead and the existing resistor lead do not contact each other!**
13. Connect the female and male quick disconnects together.
14. Test the SGE as described in Section 2.0.

Base Controls Modification for: Model SJ86T

Use wire kit **(166786)**, and refer to the Electrical Schematics on page 18 for the following steps.

15. Locate the yellow wire #09 running from the dual load sense module black plug to the terminal rail, block #09.

16. Locate the yellow wire #09B running from the dual load sense module white plug to the terminal rail, block #09.

17. Remove both wires from the terminal blocks and insert into the blue male disconnect **(105360)** and crimp together.

18. Take the supplied red wire 12A and connect the ring terminal end to the start/e-pump switch screw terminal 12A.

19. Connect the female 12A and male 09 quick disconnects together.

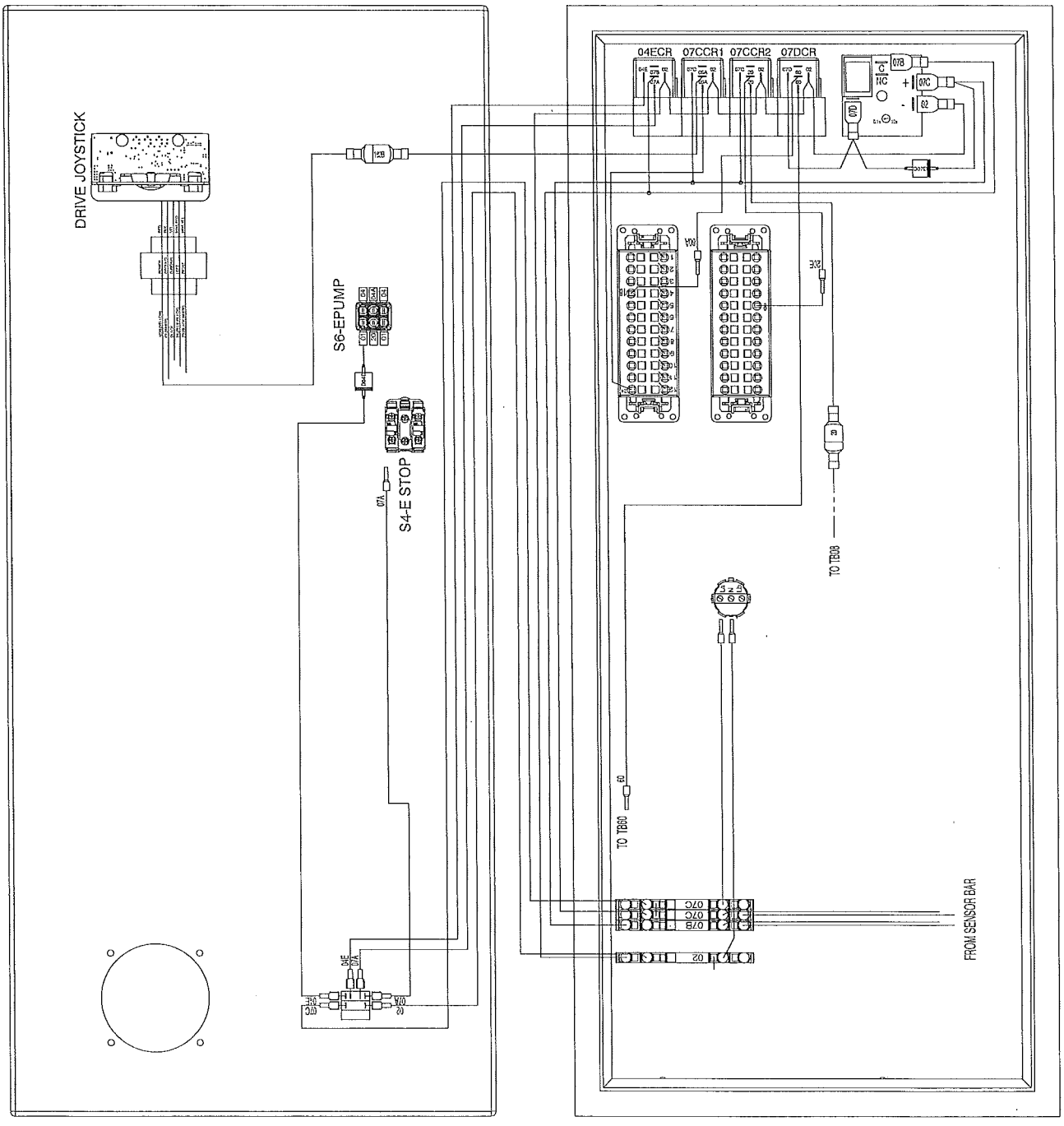
20. Secure the added wire with tiewraps.

21. Test the SGE as described in Section 2.0.

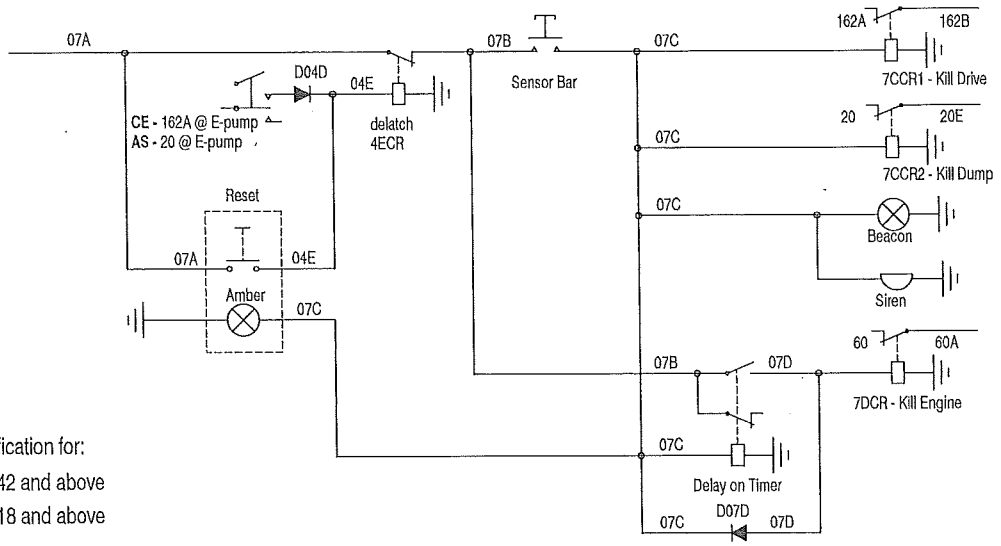
6.0 Wiring Diagrams and Schematics

Wiring Diagram - AS units

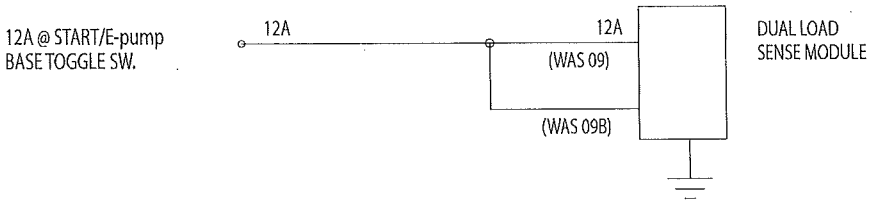
Models 46AJ, 51JA, and 63AJ all S/Ns
Model 45T S/N 98001142 and above
Model 66T S/N 97000918 and above
Model 86T all S/Ns



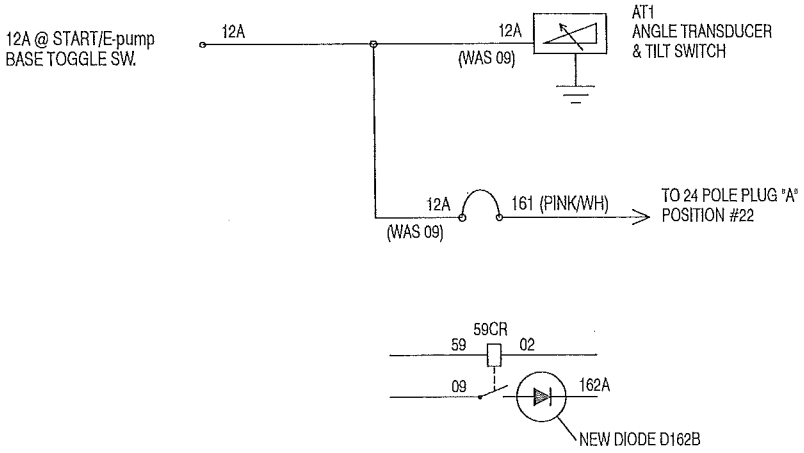
Electrical Schematics



Platform Controls Modification for:
Model 45T S/N 98001142 and above
Model 66T S/N 97000918 and above
Model 86T all S/Ns
Model 46/51/63AJ all S/Ns



Base Controls Modification for:
Model 86T



Base Controls Modification for:
Model 45T S/N 98001142 and above
Model 66T S/N 97000918 and above
Model 46/51/63AJ all S/Ns

Notes

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