

**TRANSLAND BOOM
SHUT-OFF KITS
INSTALLATION & USER GUIDE**

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Overview of Guide

This installation guide provides step-by-step instructions on installing the 50% or 60% Boom Shut-Off and the Right-Hand Boom Shut-Off. Additionally, user instructions are included for the 50% or 60% Boom Shut-Off and the Right-Hand Boom Shut-Off.

Latest Version of the "Transland Boom Shut-Off Kits Installation & User Guide"

Transland is dedicated to providing updated versions of user guidebooks for its customers. To verify you have the latest version of the "Transland Boom Shut-Off Kits Installation & User Guide," visit the Resource page at www.TranslandLLC.com.


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Safety Information

Read and Follow Safety Messages

- In these instructions, you may see the heading **⚠WARNING:** and/or the safety alert symbol . They indicate a hazardous situation that, if not avoided, could result in death or serious injury. The safety messages provide information to identify a hazard associated with potential injury.
- Read and understand this manual and all the warnings below before installing, operating, or performing maintenance or service. FAILURE TO DO SO MAY CAUSE IRREVERSIBLE DAMAGE TO YOUR SYSTEM.
- Keep this manual and all related safety information with the manuals for your aircraft.

⚠WARNING:

- Turn off power before connecting or disconnecting wires. Failing to do so can damage the system.
- Plan your installation by considering the following: 1) wire lengths, 2) clearance space, 3) power source, 4) aircraft structure, and 5) visibility.
- Consider using existing hardware and hardware locations. Avoid drilling holes that may damage other equipment (such as structural frame members, electrical cables, or fluid lines).
- Do not obstruct the view of, or access to, other instruments or the flying visibility of the operator.
- Do not route cables alongside power generator wire and other high-noise electric sources. This will cause interference.
- Do not kink or force cables into sharp bends. This can damage the cable.
- Store excess cable length with at least a 6-inch bend radius.
- Do not coil the cables. This will introduce noise in the system.
- Avoid high-temperature exposure (for example, exhaust manifold) when routing wires.
- Do not allow anyone to operate without instruction.



A drill and drill bits are required for this installation.

Best Practices

1. Flush out the system after every job so that the system is clean when stored.
2. Before and after each job, visually check across the boom for any cracks on boom, cracks on nozzles, and bad nozzles.
3. Verify all the wiring to the valves are properly connected. Also, examine wiring for any damage.
4. Replace all leaky valves.
5. ALWAYS follow the label on the products.



Warning: Certain chemicals may damage the pump valve if allowed to soak untreated for a length of time. ALWAYS flush the pump as instructed after each use.

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SECTION ONE:
50% OR 60 % BOOM SHUT-OFF
INSTALLATION INSTRUCTIONS

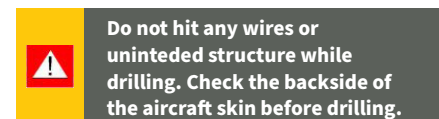
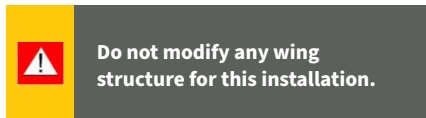
50% or 60% Boom Shut-Off Installation Instructions

1. Unpack the kit and identify the required parts. Refer to Table 1-1: 50% or 60% Boom Shut-Off Kit Parts.

Table 1-1: 50% or 60% Boom Shut-Off Kit Parts

Item Number	Part Number	Description	Quantity
1	55051	Control Valve	2
2	81557	IP 67 DIN Connector & Cable	2
3	87594	Housing for Male Terminals, WT, DEUTSCH	4
4	87596	PIN 1.59 mm, DEUTSCH	8
5	87601	Wedge Lock, 2P, REC, GRN, DT	4
6	87595	Housing for Female Terminals, WT, DEUTSCH	2
7	87597	Socket 1.59, mm, DEUTSCH	4
8	87602	Wedge Lock, 2P, PLG, ORG, STD, DT	2
9	81555	18 GA Wire, 2 Connector, Wire Master	1080 IN
10	86071	Clamp	8
11	80007	Bolt	10
12	81212	Washer	10
13	80570	10-32 Self-Lock Nut	10
14	87593	Dust Cap, 2PL, PLG, BLK, DEUTSCH	2
15	81564	Grommet	2
16	89889	3/4" Heat Shrink	6 IN
17	85141	TyRap (Black)	30
18	25050	Control Panel Assembly, Transland Boom Shut-Off	1
19		Boom	

2. The control panel (PN 25050) is designed to mount on the top left-hand side of the lower dash. However, the lower dash location may be taken if the plane has a Transland Dry Gate system. In this case, another option is to remove the bracket and mount the switches directly to the cockpit wall on the left-hand side.
3. Turn off power before connecting or disconnecting wires. Failure to do so may damage the system.
4. Assemble boom and shut-off valve and secure onto boom hangers.
5. Choose a mounting location in the cockpit for part 18 (PN 25050 - Transland Boom Shut-Off Control Panel). Mount the control panel, ensuring all cockpit switches are easily accessible to the pilot and there is room for wiring.
6. Wire control panel to aircraft power and ground, using Figure 1-1.
7. Determine two locations (one per wing) where the wiring will exit the wings' interiors to run the length of the boom hangers (second from inboard) to the valves.



8. To connect the GPS system to the control panel, use cable PN 051-0301-000 for the G4 or cable PN 050-2202-000 for the Satloc Falcon.

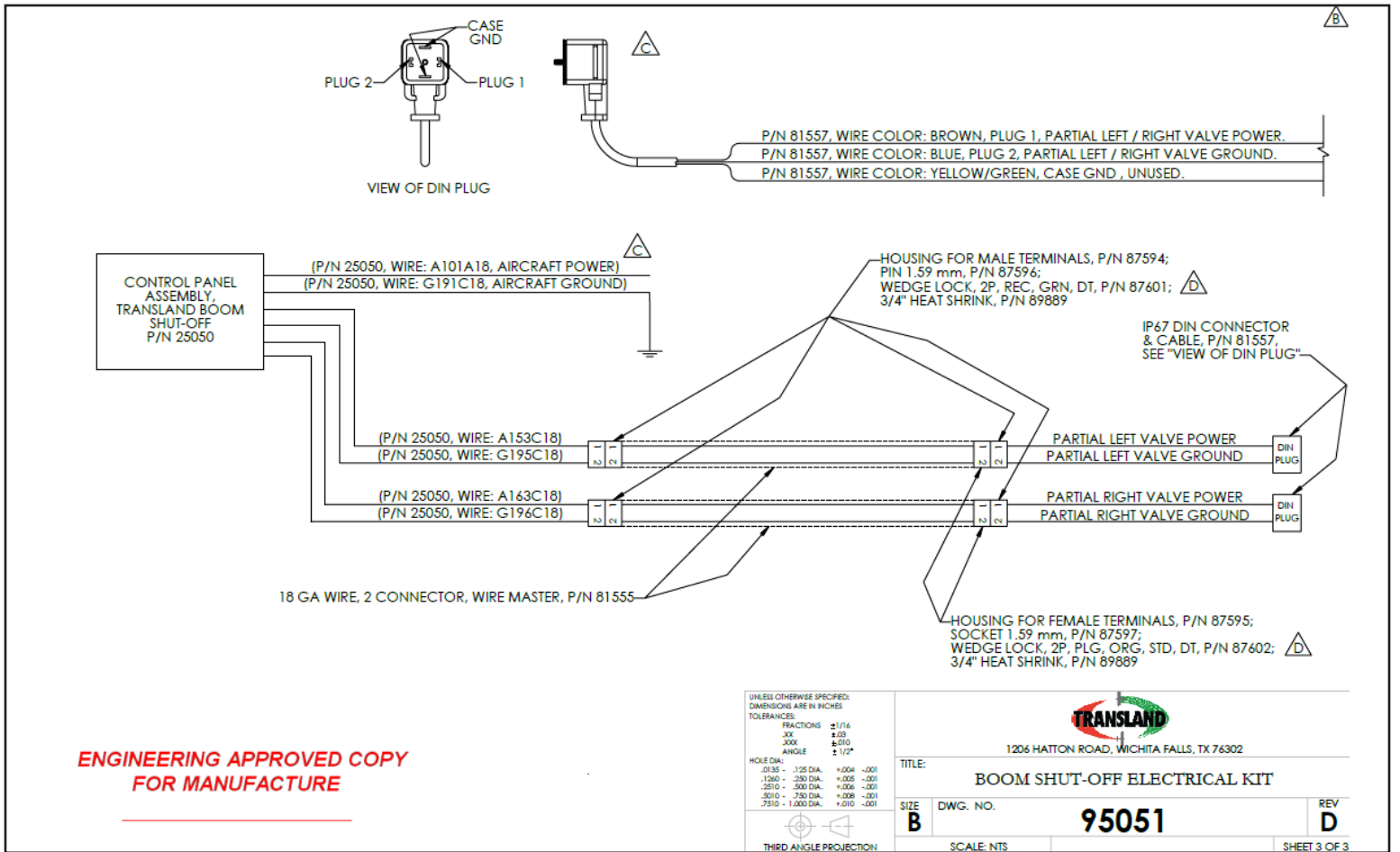


Figure 1-1: Wiring Schematic for Transland 50%/60% Boom Shut-Off Control Panel to Valves

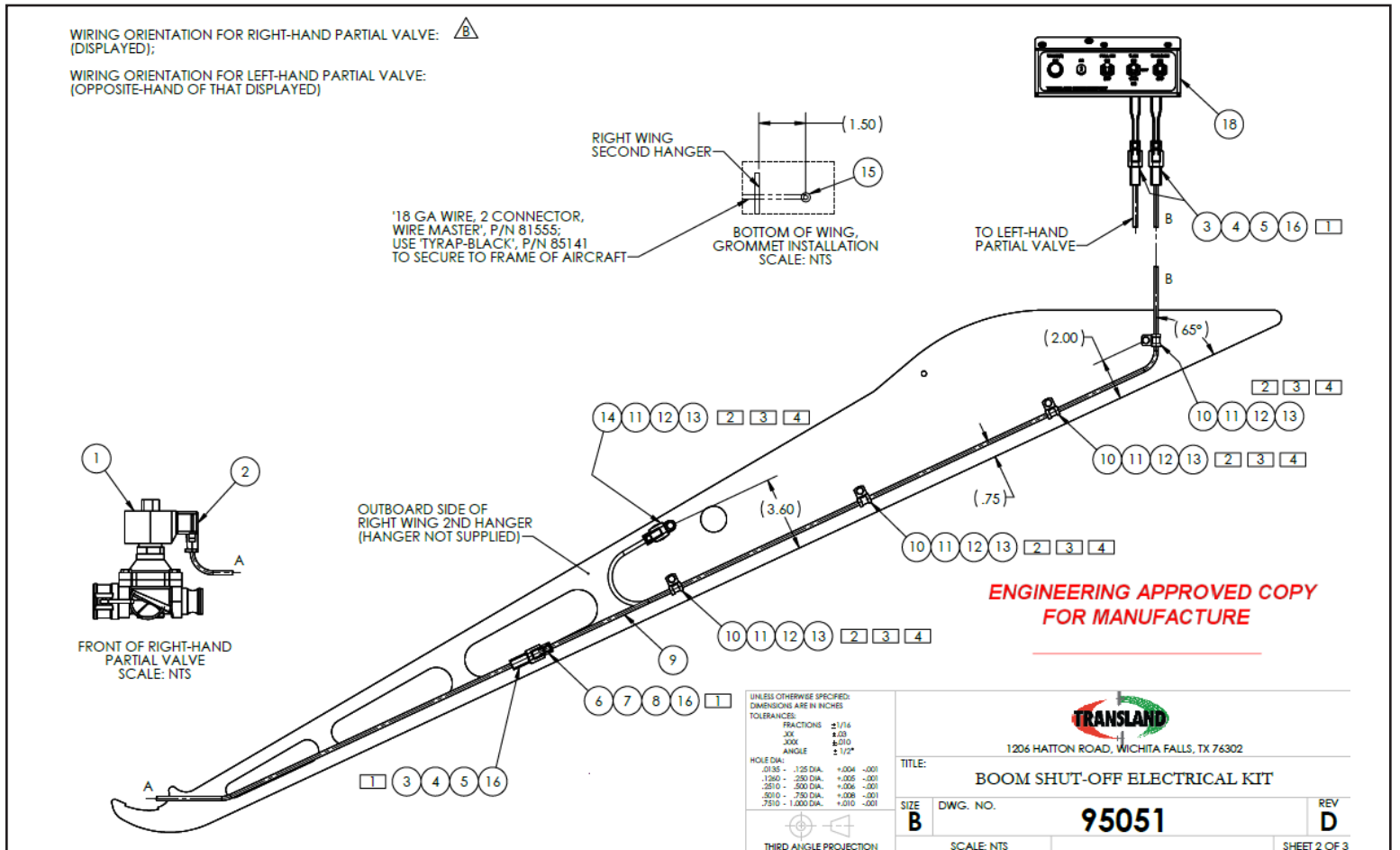


Figure 1-2: Wiring on Wing Illustration for Transland 50% / 60% Boom Shut-Off



SECTION TWO:
50% OR 60 % BOOM SHUT-OFF
USER INSTRUCTIONS

50% or 60% Boom Shut-Off User Instructions



Figure 2-1: 50% or 60% Control Panel (PN 25050)

1. Before using the boom shut-off, set up the boom sections in the GPS so that the flow control valve will appropriately change the flow rate to maintain pressure in the boom sections.
2. If any valve is powered, the blue push-to-test lamp will light.
3. When the “%LH & RH ” toggle is in the ON position, both partial valves are powered, providing a 50% or 60% swath width, depending upon the kit installed on the aircraft.
4. The “%LH & RH ” toggle will need to be in the OFF position to operate the left and right partial booms separately. With the “%LH & RH ” toggle set to OFF, an operator may power the right or left partial valve individually by setting the toggle to “%RH ” or “%LH.”
5. For full swath width, all toggles need to be in the OFF position.
6. If the Right-Hand Boom Shut-Off is installed, the right-hand valve is powered when the “FULL RH” toggle is in the ON position. This will stop the flow to the RH Boom, past the valve.

NOTE:

The “Full RH” toggle will only work if the Right-Hand Boom Shut-Off kit is installed. It is not required for the 50% or 60% Boom Shut-Off to work with the aircraft.

Testing the System

Before applying a chemical application, test the sprayer system for leakage and proper spray patterns with plain water. This allows you to familiarize yourself with the operation of the system.



Warning: Transland recommends pattern testing nozzles at a SAFE Clinic.

NOTE:

For nozzle setup, visit Transland’s website. Navigate to the nozzle page for the setup calculator.

Best Practices

1. Flush out the system after every job so that the system is clean when stored.
2. Before and after each job, visually check across the boom for any cracks on boom, cracks on nozzles, and bad nozzles.
3. Verify all the wiring to the valves are properly connected. Also, examine wiring for any damage.
4. Replace / repair all leaky valves.
5. ALWAYS follow the label on the products.



Warning: Certain chemicals are corrosive or may fall out of the system. ALWAYS flush the system after each use to reduce corrosion or clogging.



SECTION THREE:
INSTALLATION OF RIGHT-HAND
BOOM SHUT-OFF
CONNECTING WITH 50% OR 60%
BOOM CONTROLLER

Installation of Right-Hand Boom Shut-Off

Connecting with 50% or 60% Boom Shut-Off Controller

1. Unpack the kit and identify the required parts based upon Table 3-1 or Table 3-2.

Table 3-1: 2.5" Boom — Right-Hand Boom Shut-Off Electrical Kit Parts (per Drawing 53054)

Item Number	Part Number	Description	Quantity
1	58306	2"Electric RH Shut-Off Valve	1
2	87595	Housing for Female Terminals, WT, DEUTSCH	1
3	87597	Socket 1.59 mm, DEUTSCH	2
4	87601	Wedge Lock, 2P, REC, GRN, DT	1
5	81555	18 GA Wire, 2 Connector, Wire Master	180"
6	87594	Housing for Male Terminals, WT, DEUTSCH	1
7	87596	Pin 1.59 mm, DEUTSCH	2
8	87602	Wedge Lock, 2P, PLG, ORG, STD, DT	1
9	87593	Dust Cap, 2PL, PLG, BLK, DEUTSCH	1
10	80007	Bolt	1
11	81212	Washer	1
12	80570	10-32 Self-Lock Nut	1
13	81564	Grommet	1
14	89889	3/4" Heat Shrink	4 IN
15	85141	TyRap (Black)	20
16		Boom (Determined upon type of boom purchased)	1

Table 3-2: 2" Boom — Right-Hand Boom Shut-Off Electrical Kit Parts (per Drawing 53055)

Item Number	Part Number	Description	Quantity
1	58304	2"Boom Electric RH Shut-Off Valve	1
2	87595	Housing for Female Terminals, WT, DEUTSCH	1
3	87597	Socket 1.59 mm, DEUTSCH	2
4	87601	Wedge Lock, 2P, REC, GRN, DT	1
5	81555	18 GA Wire, 2 Connector, Wire Master	180"
6	87594	Housing for Male Terminals, WT, DEUTSCH	1
7	87596	Pin 1.59 mm, DEUTSCH	2
8	87602	Wedge Lock, 2P, PLG, ORG, STD, DT	1
9	87593	Dust Cap, 2PL, PLG, BLK, DEUTSCH	1
10	80007	Bolt	1
11	81212	Washer	1
12	80570	10-32 Self-Lock Nut	1
13	81564	Grommet	1
14	89889	3/4" Heat Shrink	4 IN
15	85141	TyRap (Black)	20
16		Boom (Determined upon type of boom purchased)	1

Note:

If the Transland Boom Shut-Off Control Panel (PN 25050) for the 50% or 60% Boom Shut-Off is installed on the aircraft, then the Right-Hand Boom Shut-Off kit needs to be connected to the "FULL RH " switch, on that panel.

2. Turn off power before connecting or disconnecting wires. Failure to do so may damage the system.
3. Assemble boom and shut-off valve and secure onto boom hangers.



Do not modify any wing structure for this installation.



Do not hit any wires or unintended structure while drilling. Check the backside of the aircraft skin before drilling.

Run Wiring to Boom Valve

4. Drill a 7/16" hole in the predetermined location, according to Figure 3-3.
5. Install the included grommet in the drilled hole.
6. Run item 5 wiring (PN 81555) to the right-hand boom shut-off valve from the installed control panel.
7. In the aircraft's interior, secure wiring to the aircraft frame using item 15.
8. Along the aircraft's exterior, secure wiring with item 15 onto the nearest center boom support, locating as necessary per Figure 3-3.
9. Secure the excess wire or trim wire to final necessary operating length.
10. Install the male and female housing to the ends of the ran wire according to Figure 3-1 or Figure 3-2. Items 3, 4, and 5 are for male housing. Items 6, 7, and 8 are for female housing.
11. Crimp pins and sockets to the correct wire ends as indicated by Figure 3-1 or Figure 3-2. Use CP-463 or equivalent crimp tooling.
12. Connect the male plug running from the RH valve to the female plugs of the wiring installed along the aircraft.
13. Connect the male plug of wiring into the female plug of the control panel.

To Install Item 9 (part used while the boom is uninstalled)

14. Once the wiring has been run, select locations for item 9 (per guidelines on Figure 3-3) to reduce slack in the wiring when disconnected from item 1.
15. Once the location is determined, mark one hole.
16. Drill a hole with a size 9 drill bit into the belly skin and fasten the dust cap with items 10, 11, and 12.

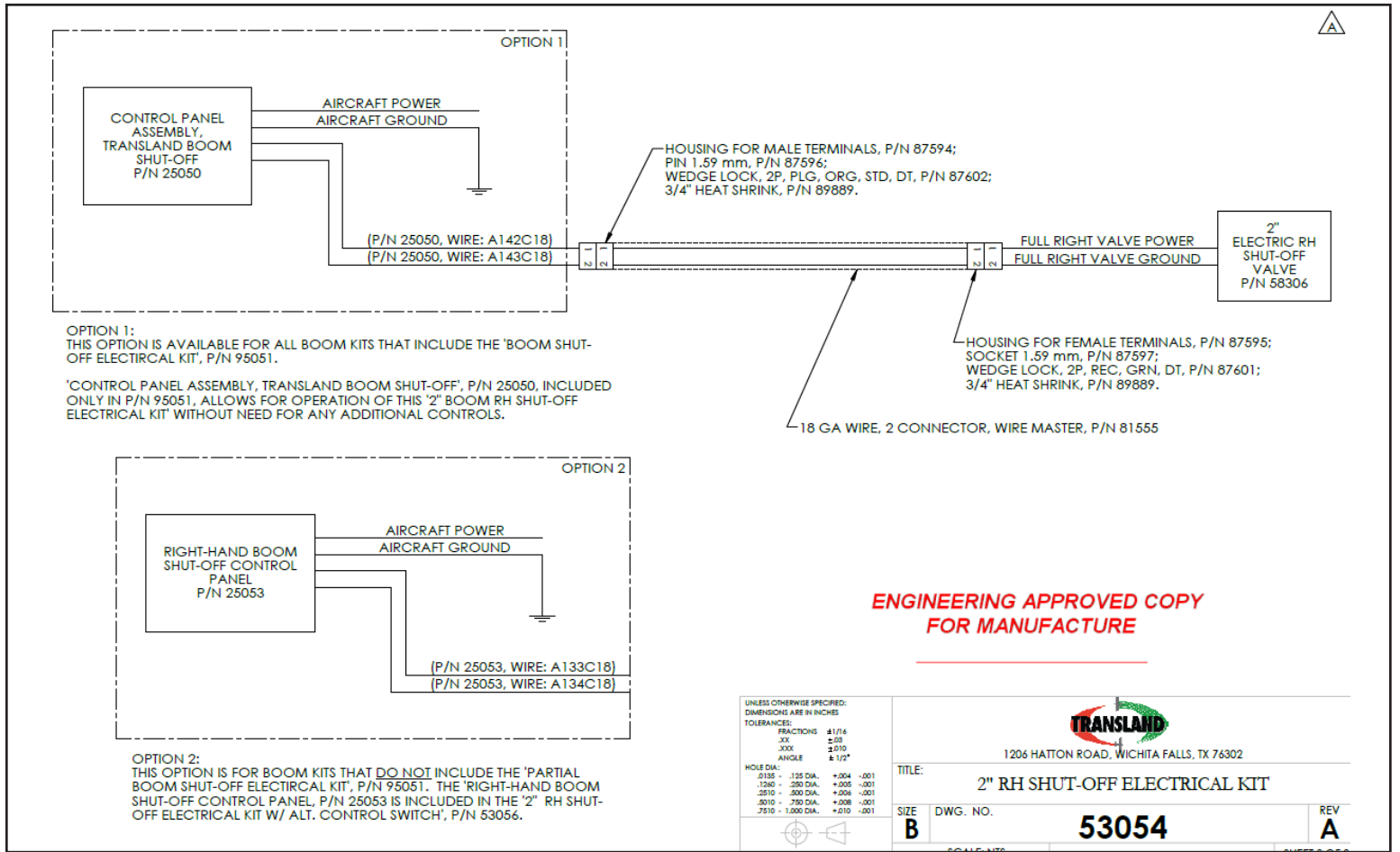


Figure 3-1: Wiring Schematic for Right-Hand Boom Shut-Off Connecting to 50% or 60% Boom Shut-Off to Valves - Using 2.5" Boom

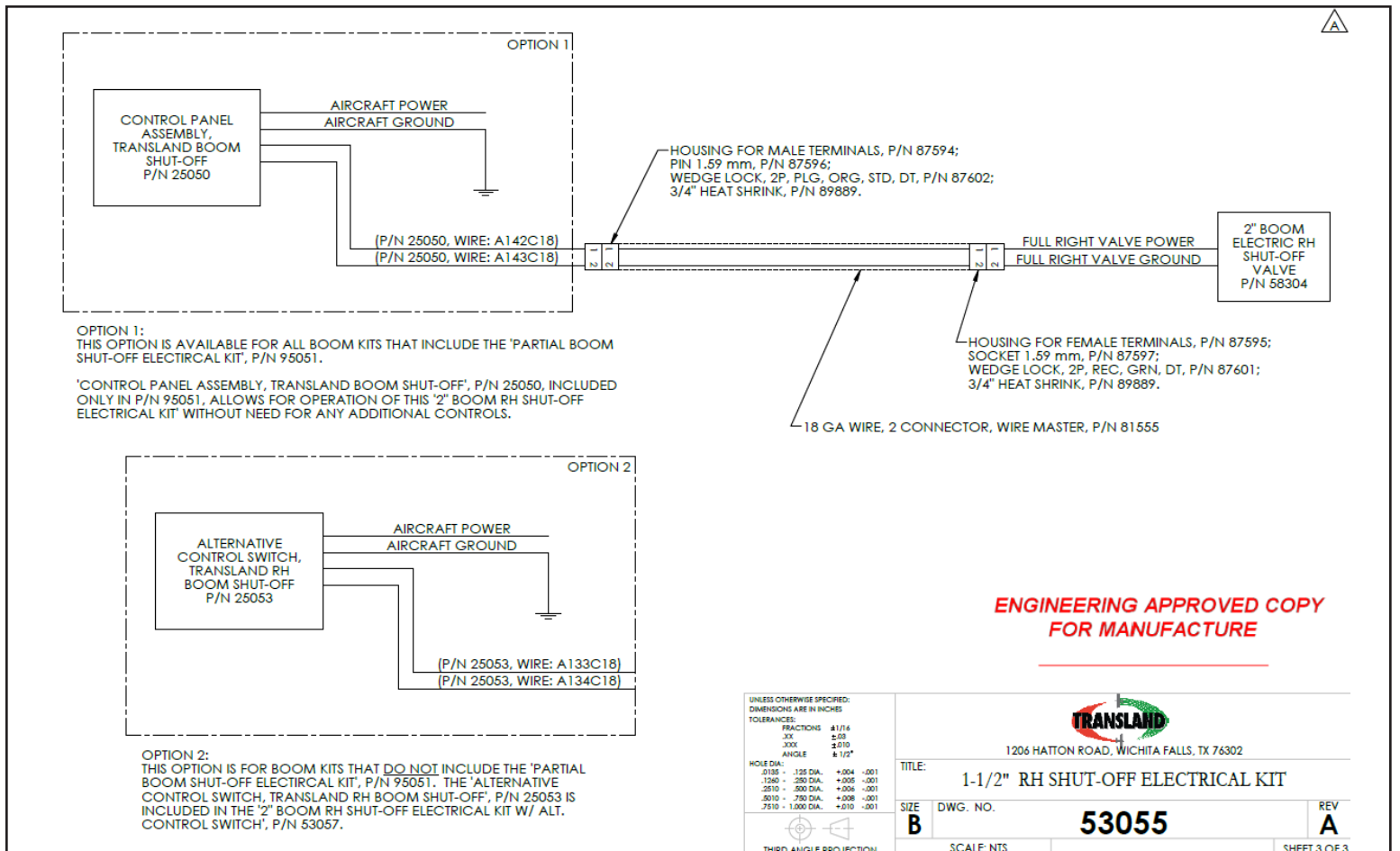


Figure 3-2: Wiring Schematic for Right-Hand Boom Shut-Off Connecting to 50% or 60% Boom Shut-Off to Valves - Using 2" Boom

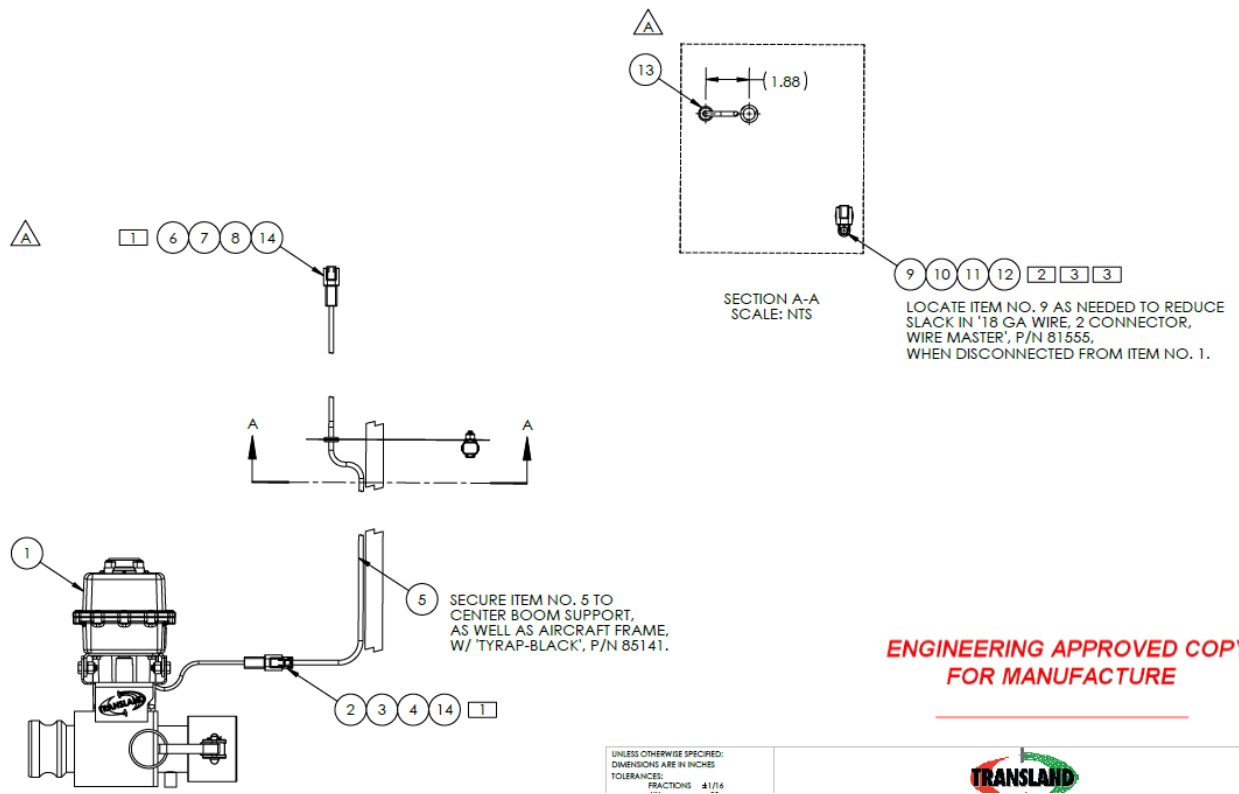


Figure 3-3: Wiring Illustration for Right-Hand Boom Shut-Off from Cockpit to Valve



SECTION FOUR:
INSTALLATION FOR ONLY THE
RIGHT-HAND BOOM SHUT-OFF

Installation for Only the Right-Hand Boom Shut-Off

1. Unpack the kit and identify the required parts.

Table 4-1: 2.5" Boom — Right-Hand Boom Shut-Off Electrical Kit Parts (per Drawing 53054)

Item Number	Part Number	Description	Quantity
1	58306	2"Electric RH Shut-Off Valve	1
2	87595	Housing for Female Terminals, WT, DEUTSCH	1
3	87597	Socket 1.59 mm, DEUTSCH	2
4	87601	Wedge Lock, 2P, REC, GRN, DT	1
5	81555	18 GA Wire, 2 Connector, Wire Master	180"
6	87594	Housing for Male Terminals, WT, DEUTSCH	1
7	87596	Pin 1.59 mm, DEUTSCH	2
8	87602	Wedge Lock, 2P, PLG, ORG, STD, DT	1
9	87593	Dust Cap, 2PL, PLG, BLK, DEUTSCH	1
10	80007	Bolt	1
11	81212	Washer	1
12	80570	10-32 Self-Lock Nut	1
13	81564	Grommet	1
14	89889	3/4" Heat Shrink	4 IN
15	85141	TyRap (Black)	20
16	25053	Alternative Control Switch, Transland RH Boom Shut-Off	1
17		Boom (Determined upon type of boom purchased)	1

Table 4-2: 2" Boom — Right-Hand Boom Shut-Off Electrical Kit Parts (per Drawing 53055)

Item Number	Part Number	Description	Quantity
1	58304	2"Boom Electric RH Shut-Off Valve	1
2	87595	Housing for Female Terminals, WT, DEUTSCH	1
3	87597	Socket 1.59 mm, DEUTSCH	2
4	87601	Wedge Lock, 2P, REC, GRN, DT	1
5	81555	18 GA Wire, 2 Connector, Wire Master	180"
6	87594	Housing for Male Terminals, WT, DEUTSCH	1
7	87596	Pin 1.59 mm, DEUTSCH	2
8	87602	Wedge Lock, 2P, PLG, ORG, STD, DT	1
9	87593	Dust Cap, 2PL, PLG, BLK, DEUTSCH	1
10	80007	Bolt	1
11	81212	Washer	1
12	80570	10-32 Self-Lock Nut	1
13	81564	Grommet	1
14	89889	3/4" Heat Shrink	4 IN
15	85141	TyRap (Black)	20
16	25053	Alternative Control Switch, Transland RH Boom Shut-Off	1
17		Boom (Determined upon type of boom purchased)	1

- If the Transland Boom-Shut Control Panel is not installed, choose a mounting location in the cockpit for item 16 (PN 25053). The optimal position to mount item 16 is the cockpit wall on the left-hand side. Ensure all cockpit switches are easily accessible to the pilot and there is room for wiring.
- Turn off the power before connecting or disconnecting wires. Failure to do so can damage the system.
- Assemble the boom and the shut-off valve and secure onto the boom hangers.
- Drill three holes (which are different in size) that are horizontally 1.25" apart. The first hole needs 1/2" drill bit. The second hole needs a 29/64 drill bit. The third hole needs 1/2" drill bit.
- Place the placard over the holes and then install the test lamp, circuit breaker, and 3PDT switch.
- If using only the Right-Hand Boom Shut-Off, refer to Figure 4-1.

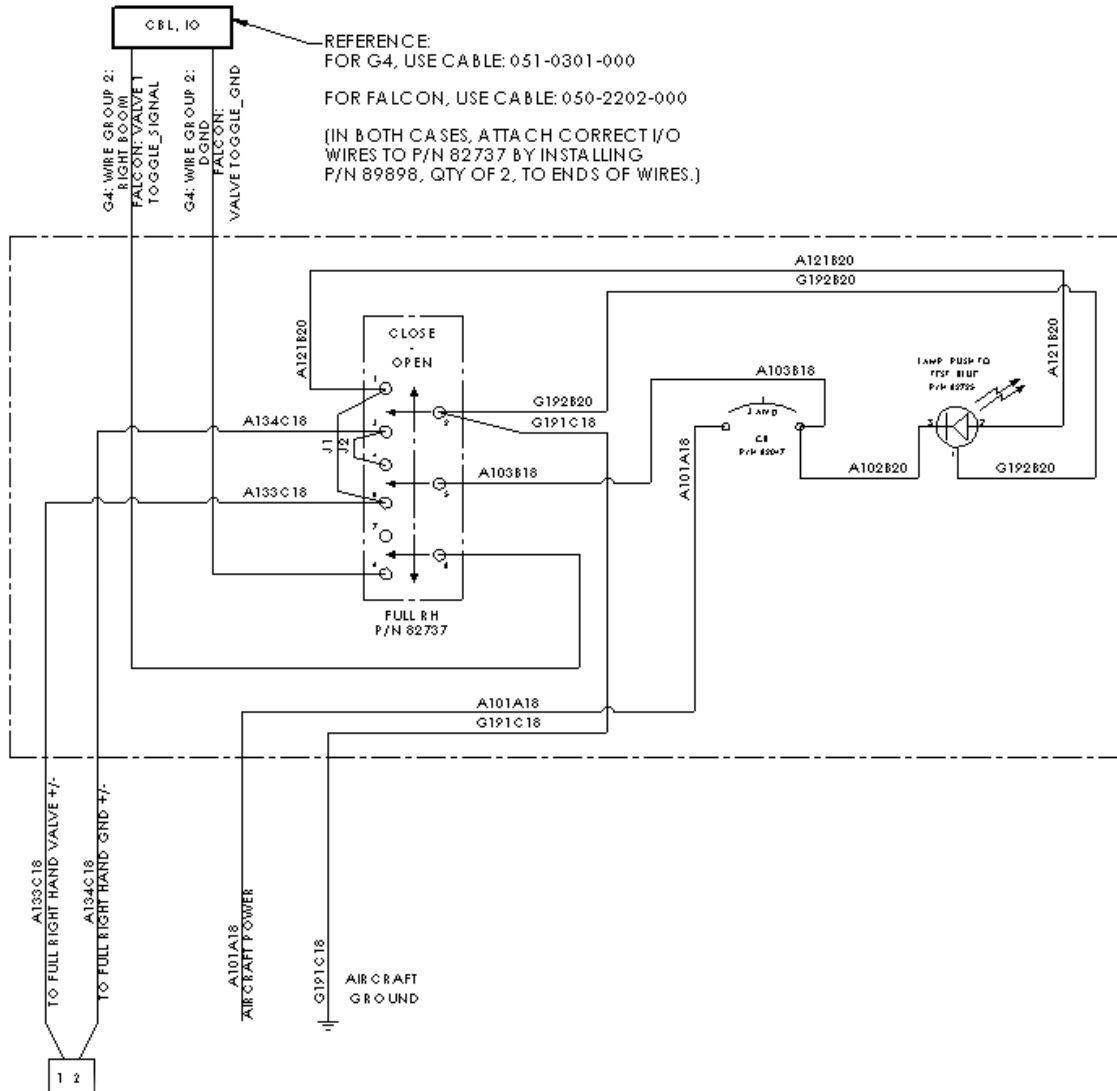


Figure 4-1: Wiring Schematic for the Satloc G4 and Satloc Falcon to wire PN 25053 - Right-Hand Boom Shut-Off Control Panel to GPS System

- To connect the GPS system to the control panel, use cable PN 051-0301-000 for the G4 or cable PN 050-2202-000 for the Satloc Falcon.
- Crimp ring terminals (PN 89898) to the wires on the IO cable, as shown on Figure 4-1.
- Connect ring terminals to the full right-hand switch (PN 82737, a sub-component of part 16) as shown on Figure 4-1.

Running Wiring to Boom Valve

- Determine a location on the belly skin of the aircraft, along the center boom support nearest the right-hand valve, where the wiring will exit the aircraft's interior.
- Drill a 7/16" hole in the predetermined location, according to Figure 4-2.

13. Install the included grommet in the drilled hole.
 14. Run item 5 wiring to the right-hand boom shut-off valve from the installed control panel.
 15. In the aircraft's interior, secure wiring to the aircraft frame using item 15.
 16. Along the aircraft's exterior, secure wiring with PN 85141 onto the nearest center boom support, locating as necessary per Figure 4-2.
 17. Secure the excess wire or trim wire to final necessary operating length.
 18. Install the male and female housing to the ends of the ran wire according to Figure 4-1. Items 3, 4, and 5 are for male housing. Items 6, 7, and 8 are for female housing.
 19. Crimp pins and sockets to the correct wire ends as shown in Figure 4-1. Use CP-463 or equivalent crimp tooling.
 20. Connect the male plug running from the RH valve to the female plugs of the wiring installed along the aircraft.
 21. Connect the male plug of wiring into the female plug of the control panel.
- To Install Item 9 (part used while the boom is uninstalled)**
22. Once the wiring has been run, select locations for item 9 (per guidelines on Figure 4-2) to reduce slack in the wiring when disconnected from item 1.
 23. Once the location is determined, mark one hole.
 24. Drill a hole with a size 9 drill bit into the belly skin and fasten the dust cap with items 10, 11, and 12.

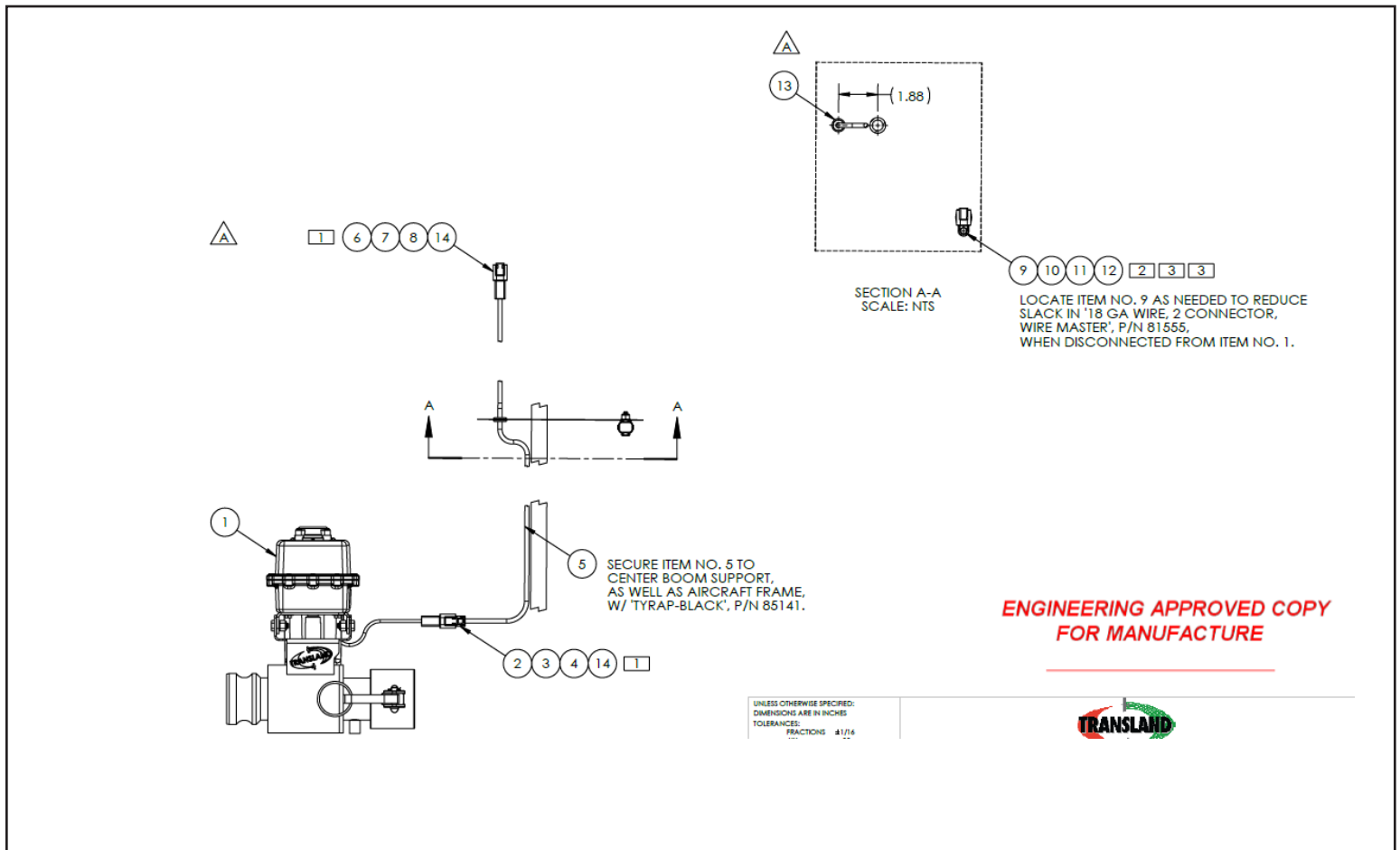


Figure 4-2: Wiring Illustration for Right-Hand Boom Shut-Off from Cockpit to Valve



SECTION FIVE:
RIGHT-HAND BOOM SHUT-OFF
USER INSTRUCTIONS

Right-Hand Boom Shut-Off User Instructions



Figure 5-1: Alternative Control Switch, Transland RH Boom Shut-Off (PN 25053)

1. Before using the boom shut-off, set up the boom sections in the GPS so that the flow control valve will appropriately change the flow rate to maintain pressure in the boom sections.
2. If the valve is powered, the blue push-to-test lamp will light.
3. The right-hand valve is powered when the “FULL RH” toggle is in the ON position. This will stop the flow to the RH Boom, past the valve.

Testing the System

Before applying a chemical application, test the spray system for leakage and proper spray patterns with plain water. This allows you to familiarize yourself with the operation of the system.



Warning: Transland recommends pattern testing nozzles at a SAFE Clinic.

NOTE:

For nozzle setup, visit Transland’s website. Navigate to the nozzle page for the setup calculator.

Best Practices

1. Flush out the system after every job so that the system is clean when stored.
2. Before and after each job, visually check across the boom for any cracks on boom, cracks on nozzles, and bad nozzles.
3. Verify all the wiring to the valves are properly connected. Also, examine wiring for any damage.
4. Replace / repair all leaky valves.
5. ALWAYS follow the label on the products.



Warning: Certain chemicals are corrosive or may fall out of the system. ALWAYS flush the system after each use to reduce corrosion or clogging.



www.translandllc.com

1206 Hatton Rd.

Wichita Falls, TX 76302

Toll Free Phone: 800-388-2511

Sales@translandllc.com