



*Automatic Connector Application
Machine (ACAM)
Trouble Shooting Guide*



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LA2418-1 P-664 8/04 Printed in U.S.A.

This is the ACAM Troubleshooting Guide. When used in conjunction with IDEAL ACAM Set-up and Instruction Manual, it offers a comprehensive maintenance and repair system. Refer to the ACAM Instruction Manual for detailed explanations of "Solutions" listed in the ACAM Trouble Shooting Guide.

Through the ACAM Troubleshooting Guide, you will see "Reference" listed. Refer to the inside back page for detailed address and phone number information for IDEAL Technical Services / Engineering Applications Service, Customer Service, Quality Hotline and your OEM Sales Specialists.

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General Trouble Shooting Guide

Situation

If the wire connector won't tighten completely...

Possible Cause:

Torque adjustment too low.

Gun is out of adjustment

Incorrect strip length of wires

Solution:

Check torque range (high vs. low) and adjust torque level upward by increments of 5 until connector tightens correctly.

Adjust hand tool. Check to see if finger receiving washer is correctly positioned as hand tool is adjusted.

Check with IDEAL for recommended strip length. (Reference #1.

Situation:

If the wire connector won't tighten at all...

Possible Cause:

Hand tool is out of adjustment

Disassembled, damaged or broken drive shaft

Using wrong connector for machine

Incorrect strip length of wires or incorrect connector for combinations

Hand tool friction is set too low

Solution:

Adjust hand tool.

Repair or replace as needed. Check set-screws making drive shaft connections.

Check machine number to connector used. Reference #1.

Check with IDEAL for recommended strip length wire and wire connector for your specific wire size, insulation and combinations. Reference #1.

Increase hand tool friction setting on keypad up to a maximum of 250.

Situation:

If the finished connection doesn't have 1 to 3 wire twists below connector skirt...

<i>Possible Cause:</i>	<i>Solution:</i>
Torque set too low	Increase torque setting.
Wire strip length may be too short	Increase the strip to the recommended length. Reference #1.
Operator technique	Receive training on operation of ACAM. REference #4.
Improper connector model for wire combination	Check with IDEAL to see if wire combination is listed for the specific connector. Reference #1.
Hand tool not properly adjusted	Adjust hand tool.

Situation:

If the stripped length of wire twists off when the wire connector is applied...

<i>Possible cause:</i>	<i>Solution:</i>
Torque may be set too high	Decrease your torque setting.
Possible wrong connector for application	Check with your IDEAL OEM Sales Specialist or IDEAL Application Engineering Service for correct connector for application. Reference #1 or #4.
Strip length of wires may be too short	Increase strip length so that no wire is exposed below the bottom of the connector. Reference #1.
Using extremely "soft" wire	Some lots of wire are soft and do not allow for a connection to be made. Consider alternate wires.
Hand tool may be out of adjustment	Adjust hand tool.

Situation:

If the stripped wire is exposed below the bottom of the wire connector skirt...

<i>Possible Cause:</i>	<i>Solution:</i>
Wire strip lengths may be too long	Shorten strip to recommended lengths. Reference #1.
Wire strip lengths may be too long	Use a longer skirted connector. Reference #1.
Operator technique may be incorrect	Receive training on operation of ACAM. Reference #4.
May have the incorrect connector for the application	Reference #1.
Connector is not fully seated on combinations	Adjust torque level.
Several strands of a stranded wire have turned back within the connection	Pre-twist stranded combinations.

Situation:

If the ACAM AM will not turn on or electronic module won't function...

<i>Possible cause:</i>	<i>Solution:</i>
Fuse at power cord may be blown	Replace fuse.
CPU Module may have received a surge, spike or static energy	Replace CPU Module. Always protect your ACAM with surge protected outlets or strips or a power conditioner.
Power not getting to ACAM	Check power source for correct voltage.
Bad connections between electronic module	Check connections.

Hand Tool Trouble Shooting Guide

Situation:

If the hand tool stops before completing the wire connection...

Possible cause:

Drive cable is building up excessive resistance

Torque level set too low

Hand tool adjustment is set too tight

Connector jammed in the hand tool

Hand tool friction set too low

Solution:

Check cable at machine and hand tool connection, adjust torque level and grease drive cable.

Check torque range (high vs. low) and adjust torque level upward.

Adjust hand tool barrel assembly clockwise.

Unjam hand tool by removing the connector.

Increase hand tool friction setting on keypad up to a maximum of 250.

Situation:

If the wire connector is backward in hand tool or shaft...

Possible cause:

Vibration is set too high

Debris in ejector is tripping connector

Trip screw in alignment ramp is too high

Alignment ramp misaligned

Solution:

Lower vibration adjustment(s) - fine tune vibration adjustment on side of ACAM and/or course adjustment directly under ACAM motor center base plate.

Remove debris from ejector.

Lower screw on alignment ramp that trips the connectors.

Realign alignment ramp.

Situation:

If the wire connector falls out of hand tool...

Possible cause:

Retaining spring is worn out or missing

Front barrel is adjusted too tight

Solution:

Replace U-shaped retainer spring.

Loosen barrel adjustment.

Situation:

If the wire connector is jammed in hand tool...

Possible cause:

Connector is in the hand tool backward

Hand tool is dirty

Connector that fell on the floor and was stepped on was placed back into hopper or bowl

Flash on the connector

Hand tool is improperly adjusted

Solution:

Squeeze front retaining spring on hand tool to release connector.

Preventive maintenance - clean hand tool

Be careful not to place debris or deformed connectors into machine.

Use only the family of IDEAL Wire-Nut® Wire Connector products. Reference #3 and #4.

Adjust hand tool.

Feed System Trouble Shooting Guide

Situation:

If the wire connector is jammed in bowl...

Possible cause:

Feed tube is out of alignment

Something in system is physically impairing connector movement

Telescoping connectors have formed a bridge across the bowl

Bowl may - in some instances - form rough edges causing the connectors to hang up in the bowl

Solution:

Align feed tube or barrel.

Check for connector caught in bowl track, connector or debris blocking alignment ramp or feed tube.

Break up the jam and adjust vibration as needed.

Lightly sand the interior of the bowl.

Situation:

If the wire connectors are spilling out of the bowl...

Possible cause:

Operator has placed too many connectors directly into bowl

Hopper is feeding too many connectors into bowl

Hopper gate may be open

Connector is jammed at entrance to

Solution:

Reduce quantity of connectors in bowl.

Check height of Capacitive Proximity sensor and adjust proximity switch. Capacitive Proximity sensor should have approximately 3-6 threads exposed on top of upper nut. Adjust sensitivity screw on proximity level sensor as outlined in manual.

Check hopper operation, especially hopper gate area. See if solenoid cycles in the test mode. Also, check vibrator module. Replace solenoid or vibrator module if needed.

Align feed tube with alignment ramp.

feed tube

Situation:

If the bowl will not stop vibrating...

Possible cause:

Faulty hopper, solenoid, vibrator module or connector adapter

Level sensor incorrectly set, incorrectly positioned or faulty

Level sensor may be dirty

ACAM may be in test mode

Connector may be hung up in system

Situation:

If the vibration of feeder bowl is inconsistent...

Possible cause:

Course vibration adjustment nut under ACAM may be loose

Fuse in the switch is turned to the 220V position causing the machine to vibrate at 1/2 speed

Erratic voltage in the line to the ACAM

Solution:

Replace components as needed. Turn ACAM off, then on to reset.

Correctly set proximity level sensor. Replace as needed.

Clean as needed.

Push Clear button several times. Turn ACAM off, then on.

Locate and remove jammed connector.

Solution:

Tighten the course vibration nut under the CAM motor centerbase plate.

Turn fuse to 110V position.

Use a voltage power conditioner. Reference #4.

Situation:

If the wire connector does not make it to the hand tool...

<i>Possible cause:</i>	<i>Solution:</i>
A connector may be jammed in some location	Unjam the connector.
A connector may not be able to fall down the end tube	Straighten tube. Check stand height and raise as needed.
There is a kink in the feed spring assembly	Repair or replace as needed.

Wire Connector Trouble Shooting Guide

Situation:

If the wire connector has no spring in it...

<i>Possible cause:</i>	<i>Solution:</i>
Using an All-Plastic wire connector	There is a type of wire connector that has no spring. It is correct to use on specific applications. Contact your IDEAL OEM Sales Specialist if alternative types of wire connectors are needed. Reference #4.
Check original manufacturer of wire connector	Only IDEAL wire connectors are designed to work with IDEAL ACAMs. If your connector is supposed to have a spring in it and doesn't, remove the connectors. Reference #3. ACAMs are leased to facilitate the efficient application of IDEAL wire connectors only.

Situation:

If the wire connector shell separates from spring during assembly...

<i>Possible cause:</i>	<i>Solution:</i>
Inferior competitive connectors used in place of IDEAL	Use only IDEAL wire connectors in the ACAM. REference #4.
Torque setting too high	Lower torque setting.
Incorrect wire combination for connector	Consult your OEM connector guide for the correct combination for each connector or contact your IDEAL OEM Sales Specialist or contact IDEAL Technical Service. Reference #4.
Any other situation	Reference #3

Notes:

References

For additional information, contact:

Reference #1 -- Technical Service/Engineering Application Service

Ph: 800.338.4495 Ph: 815.895.5181
 Fax: 815.895.9470 Fax: 800.533.4483

For assistance with ACAM leases, troubleshooting, replacement parts and part drawings. To get assistance on which connector to use, recommended strip lengths and UL/CSA-approved wire combinations.

Reference #2 -- Customer Service

Ph: 800.435.0705 Ph: 815.895.5181
 Fax: 815.895.9470 Fax: 800.533.4483

To place or expedite an order, check shipping dates, receive proof of delivery, or to order replacement parts.

Reference #3 -- Quality Hotline

Ph: 800.435.0705, ext. 100 Ph: 815.895.5185, ext. 100

To report any problem related to the product, packaging, delivery, or service.

Reference #4 -- OEM Sales Specialists

Ph: 800.435.0705 Ph: 815.895.5181

To receive ACAM demonstrations, field service, operator training, product samples, and pricing information.

Reference #5 -- Tech Support Hotline

Ph: 877-201-9003

IDEAL INDUSTRIES, INC.

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Ordering Information

Automatic Connector Application Machine

<u>Connector Model No.</u>	<u>ACAM Cat.No</u>
71B® Gray	30-971
72B® Blue	30-972
73B® Orange	30-973
74B® Yellow	30-974
76B® Red	
341® Tan Twister®	
342® Gray Twister®	
<u>High Temperature Model</u>	
71B® Black	30-971
72B® Black	30-972
73B® Black	30-973
59B® Black	

Optional Accessories

<u>Description</u>	<u>Cat.No.</u>
Adjustable Mounting Stand	2-9053
Bench Mount and Foot Switch	30-984
Auxiliary Hopper	30-951