



High-Reliability Interconnect Solutions

# Complete Electronic Solutions



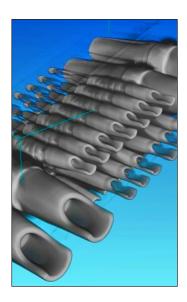
AirBorn is an employee owned company whose core business is engineering & manufacturing specialized connectors & electronic components for OEMs worldwide. We serve customers

across many industries including: Commercial Air, Industrial, Medical, Military/Defense, & Space Exploration.

Companies today are looking for more than a supplier, they're looking for a strategic partner to collaborate & grow with. AirBorn products are trusted to perform in extreme conditions, where mission-critical reliability is vital to success. Customers trust AirBorn products, and have for over 60 years.

## AirBorn Engineering = Problem Solved<sup>®</sup>

AirBorn's engineering group specializes in new product design and development for OEMs across the globe. Our team of 50+ degreed engineers are the most innovative and committed to solving our customer's challenges, but that's only the beginning of where we can help! Leverage our design and manufacturing expertise throughout the entire product development process. From conceptual design, prototyping, pilotruns through to mass production, our teams work efficiently to cut down your program's time to market.



#### Solution Engineering

AirBorn has a dedicated team of experienced and degreed solution engineers on staff to help solve your most pressing electronic challenges.



#### Cable vs. Flex Assemblies

We manufacture cable and flex assemblies and can provide an impartial recommendation of which solution is best for your distinct application.



#### Signal Integrity Expertise

Whether a new design retrofit, or a field issue, let us help you design and endto-end interconnect solution to support your high-speed signal integrity design.



#### Lab & Test Services

We'll test against the highest standards imaginable to ensure your products stand up to the rigors of space, military, commercial air, and industrial applications.

Connectors			
Micro D M Series	Hybrid-Keyed Micro D microQUAD	High-Speed Micro D microSI	Nano D N Series
Rectangular 25Gbps verSl	Stackable RC & RCII Series	Rectangular R Series	Image: Second system         Image: Second system
9		0000000 000000000000000000000000000000	
Z Axis Interposer Z Series	Circular Series 360	Strip Connector AirStrip	Macro D RocKet
Assemblies			
Flexible Circuit Assemblies	Cable Assemblies	FUZE Assemblies	Active Optical Assemblies
Embedded Systems			
Rugged Pov			otoelectronics

# AirBorn In Action

### AirBorn Solutions Are "In-Action" Inside Many Important & Famous Applications

AirBorn Connectors, Inc. was founded in 1958 to manufacture electronic connectors for aviation applications, hence our company name. By 1960, our 12 employees engaged with customers including Motorola Inc., Texas Instruments (now Raytheon), Lockheed Aircraft, Boeing and Burroughs. In the time since our founding, we've managed to be a part of many famous and important projects in human history. The Voyager I & II program, launched in 1977 and still traveling interstellar space today, is emblematic of how customers view AirBorn parts: rugged, reliable and long lasting.

Voyager Program

We're proud to be a part of America's, and our allies', vast military and defense initiatives too. AirBorn parts were designed into the Apache & Blackhawk Helicopters, F-16 & F-35 Jets, Abram's & Bradley Tanks and Ohio-Class Attack Subs just to name a few. Our solutions are also part of Patriot, Javelin, Hellfire, Tomahawk and THAAD missile programs. We excel at providing unfailing quality to mission-critical applications.

While military/defense and aviation applications are our specialty, we by no means stop there. AirBorn parts are an integral part of commercial aircraft, MRI machines, defibrillators as well as pain management systems. From deep sea to deep space, AirBorn connectors are ready for any challenge.



Mars Rovers



Commercial Airliners



Military Communications & Rifle Scopes



Pain Management Systems

Space Shuttle Program

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# RocKet Series Overview

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### RocKet Macro D — Obsoleting D38999

AirBorn's RocKet Macro D connectors can take your product to the next level with a robust design withstands all the rigours on Earth and in space. With its rugged form, three 150-position RocKets can utilize the same space as one, 151-position D38999 circular connector.

That will save you space, weight (especially crucial in space exploration applications), and overall cost. Utilizing AirBorn's RocKet Macro Ds is your first step towards obsoleting 38999s forever.

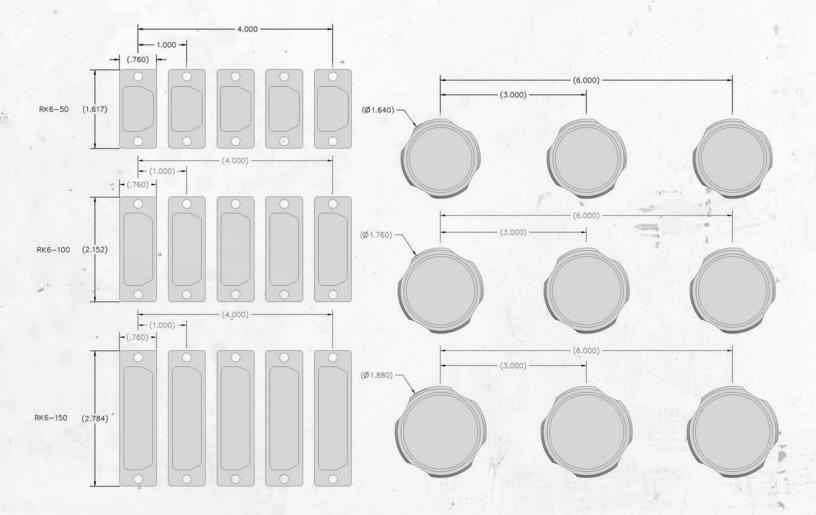
#### Key Features & Benefits:

- 2-, 3-, 4-, & 6-row models available
- 8, 25, 50, 74, 100, & 150 pin/socket positions
- Fit 3, 150 position RocKets in the space of a single, 151 position D38999 — shell size 23
- RocKets are crimp removable & customer terminated
- Install and remove wiring multiple times
- Panel-mount capability
- RocKet delivers both signal and power
- A full complement of backshells available including straight, Straight, 45°, 90°, and Lace-Wiring

151-Position D38999



D38999s



### Rectangular Means Cost, Weight, and Footprint Savings -Especially in Space Applications

When establishing your desired pin count, comparing circular to rectangular connectors often reveals a staggering amount of savings in terms of footprint, weight, — and ultimately cost. Efficiencies discovered in the beginning stages always equate to more economical designs on the back end.

Often, circular connectors are required for gloved-hand installations, as used by astronauts in space applications. When that requirement is lifted however, AirBorn's rectangular RocKet connectors become the preferred solution for space, weight, and cost savings. In the example above, we are able to fit 750, 24 awg. I/O contacts in the same space as 450 I/O contacts, when housed in a circular D38999 body.

# Critical to Success Applications

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When it comes to durability in the face of unforgiving conditions, they don't come any tougher than AirBorn's RocKet Series connectors. Whether its enduring the extreme shock and vibration of a rocket launch, the unrelenting repetition of factory robotics, or the intense temperature fluctuations inherent with oil and gas drilling, RocKet connectors are designed to withstand all of that and much more.

Looking for a rugged and reliable replacement for a D38999 circular, look no further than AirBorn's RocKet family of connectors. With the quality that AirBorn's customers can count on and space-flight heritage, RocKet Series connectors set the standard for Macro D reliability.

#### Applications

- Satellite Systems
- Launch Systems
- Panel I/O
- High-Speed Rail
- Mass Transit

- Commercial Aircraft
- Heavy Equipment
- Robotic Systems
- Oil & Gas

# RocKets Are Designed Into:

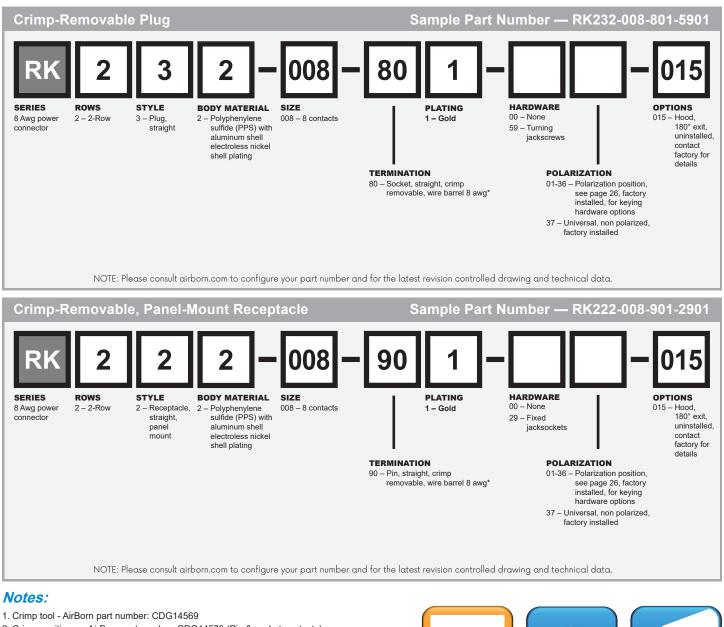


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### 2-Row, Power I/O Connector

RK2 is an 8 awg., crimp-removable contact system available in an 8 position body. Available options include panel mount or I/O, keying hardware, and a full line of backshells.

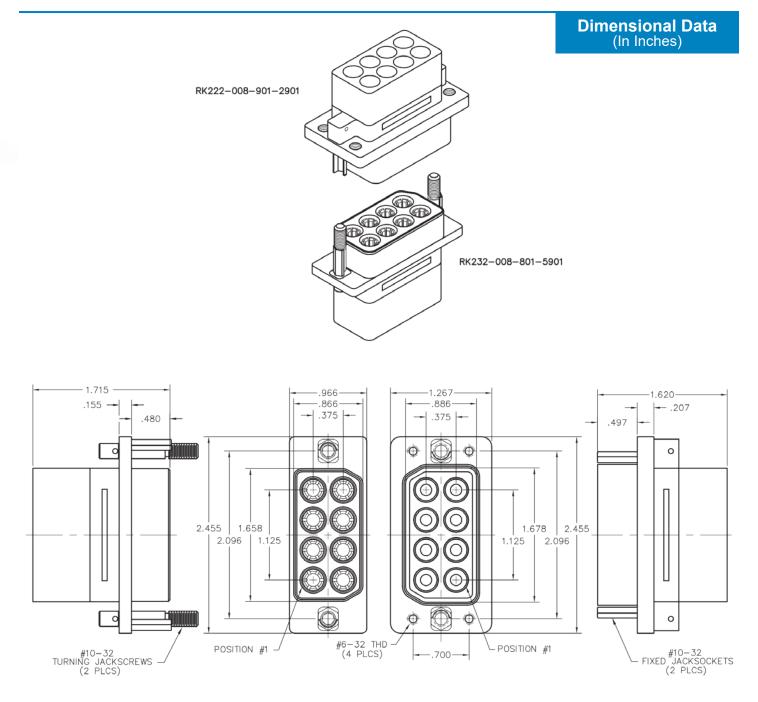




- 2. Crimp positioner AirBorn part number: CDG14570 (Pin & socket contacts)
- 3. Removal tool AirBorn part number: CDG5418
- 4. Crimp instructions see page 28
- \* Full compliment of crimp removable contacts packaged with connectors

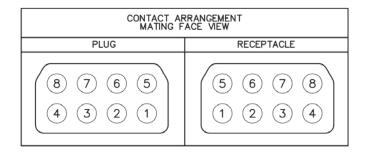


RK232-PNB-1A (CTR087, REV. 1)



PLUG

RECEPTACLE

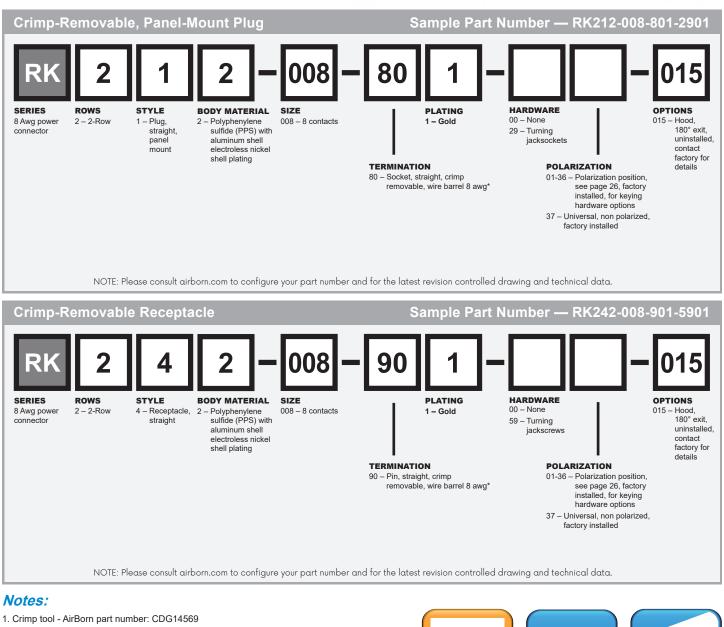


RK232-DIM-1A (CTR087 REV. 1)

### 2-Row, Power I/O Connector

RK2 is an 8 awg., crimp-removable contact system available in an 8 position body. Available options include panel mount or I/O, keying hardware, and a full line of backshells.

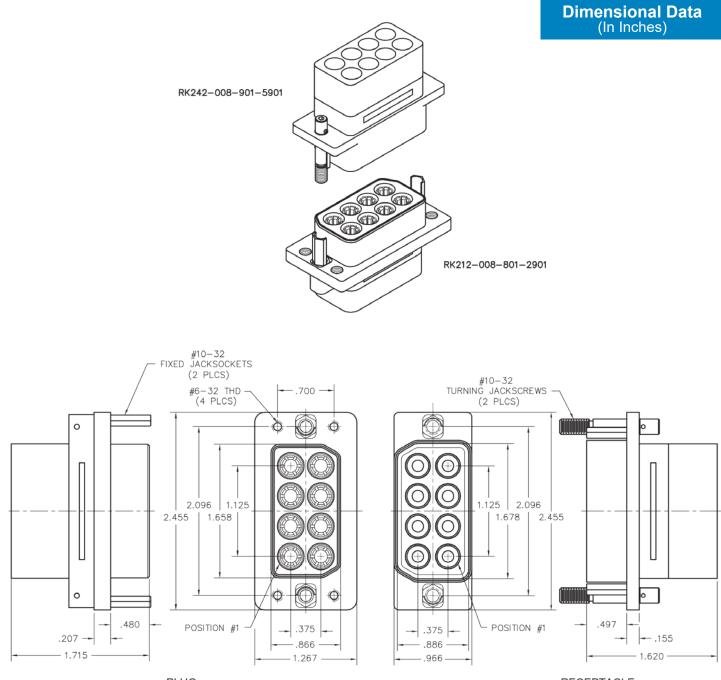




- 2. Crimp positioner AirBorn part number: CDG14570 (Pin & socket contacts)
- 3. Removal tool AirBorn part number: CDG5418
- 4. Crimp instructions see page 28
- \* Full compliment of crimp removable contacts packaged with connectors

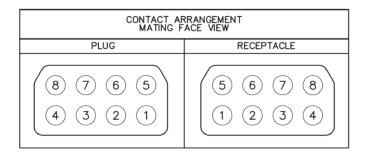


RK212-PNB-3A (CTR089, REV. 1)



PLUG

RECEPTACLE

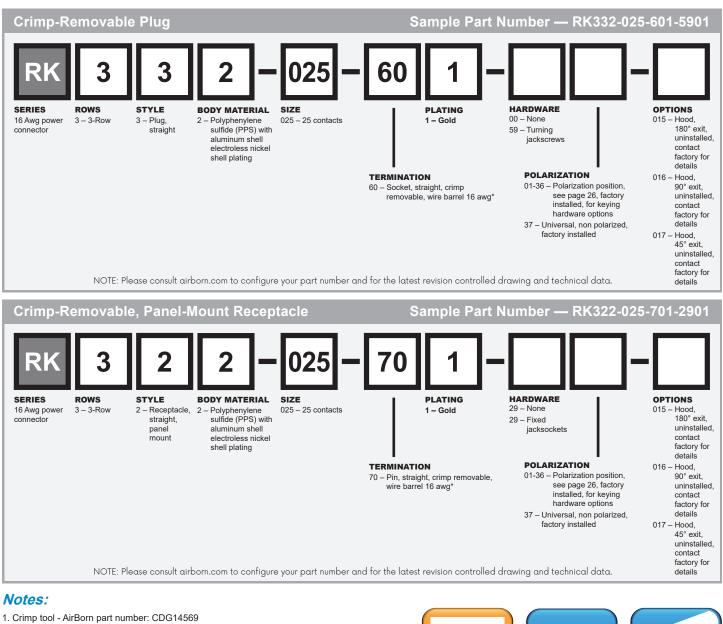


RK212-DIM-3A (CTR089, REV. 1)

### 3-Row, Power I/O Connector

RK3 is a 16 awg., crimp-removable contact system available in 25 position body. Available options include panel-mount or I/O, keying hardware, and a full line of backshells.



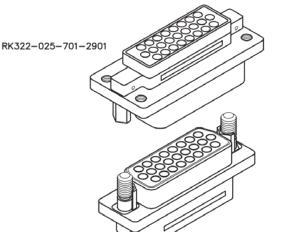


- 2. Crimp positioner AirBorn part number: CDG14570 (Pin & socket contacts)
- 3. Removal tool AirBorn part number: CDG4493
- 4. Crimp instructions see page 30
- \* Full compliment of crimp removable contacts packaged with connectors

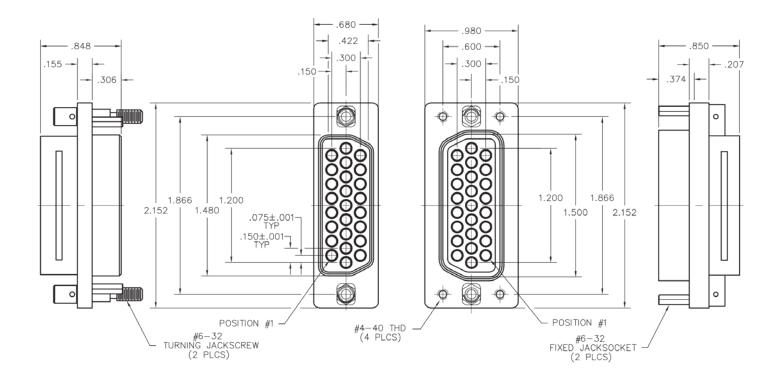


RK332-PNB-1A (CTR091, REV. 1)



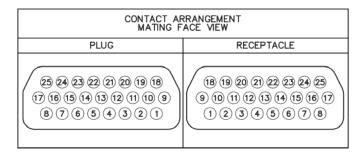


RK332-025-601-5901



PLUG

RECEPTACLE

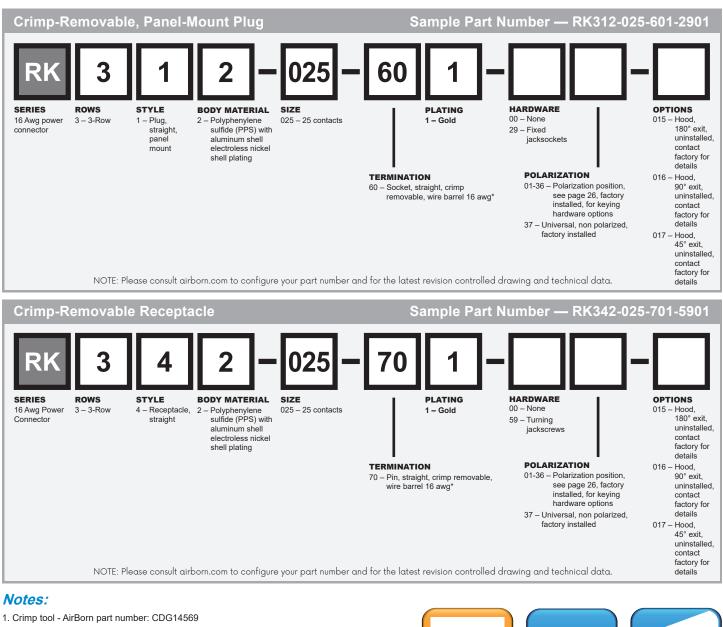


RK332-DIM-1A (CTR091, REV. 1)

### 3-Row, Power I/O Connector

RK3 is a 16 awg., crimp-removable contact system available in 25 position body. Available options include panel-mount or I/O, keying hardware, and a full line of backshells.

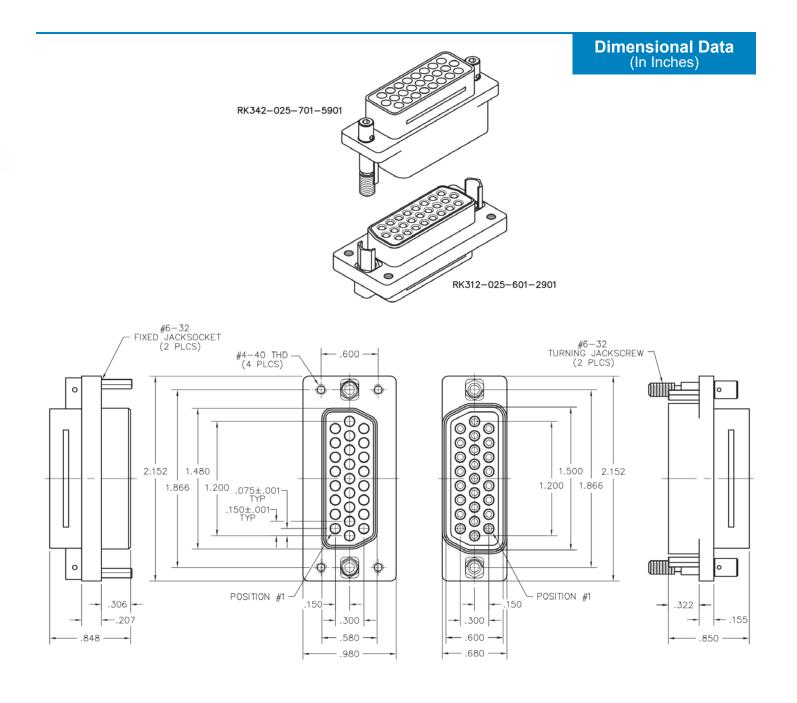




- 2. Crimp positioner AirBorn part number: CDG14570 (Pin & socket contacts)
- 3. Removal tool AirBorn part number: CDG4493
- 4. Crimp instructions see page 30
- \* Full compliment of crimp removable contacts packaged with connectors



RK312-PNB-1A (CTR093, REV. 1)



PLUG

RECEPTACLE

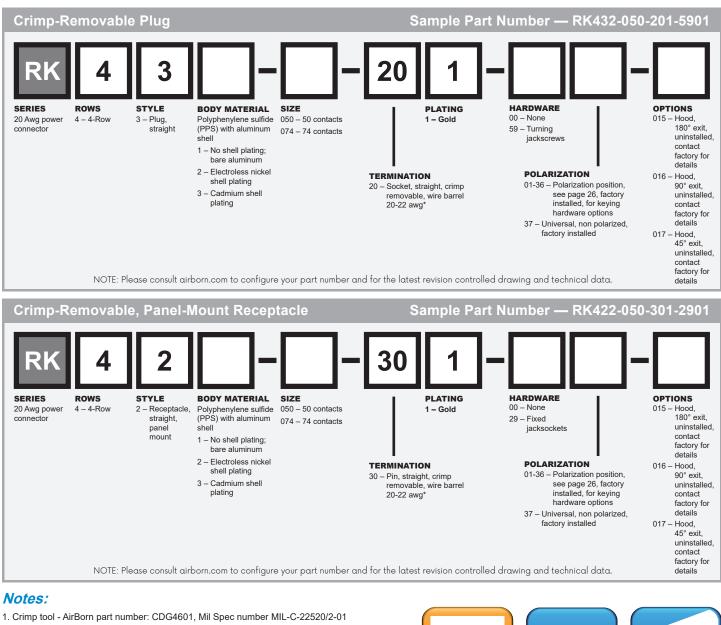
CONTACT ARRANGEMENT MATING FACE VIEW				
PLUG	RECEPTACLE			
25 24 23 22 29 19 18 (7 16 15 14 3 12 11 10 9 8 7 6 5 4 3 2 1	18       19       20       22       23       24       25         9       10       11       13       14       15       16       17         1       2       3       4       5       6       7       8			

RK312-DIM-1A (CTR093, REV. 1)

### 4-Row, Power I/O Connector

RK4 is a 20 awg., crimp-removable contact system available in 50 or 74 position body. Available options include panel-mount or I/O, keying hardware, and a full line of backshells.

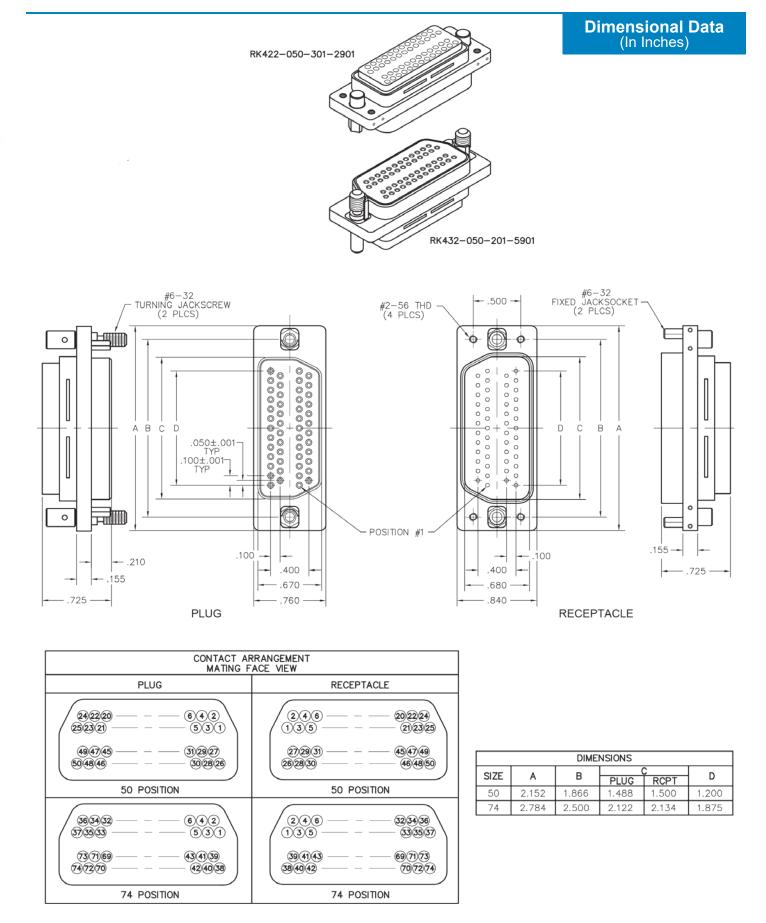




- 2. Crimp positioner AirBorn part number: CDG7936 (Pin contacts)
- CDG7935 (Socket contacts)
- 3. Removal tool AirBorn part number: CDG7932
- 4. Crimp instructions see page 33
- \* Full compliment of crimp removable contacts packaged with connectors

I/O Cable

RK431-PNB-1A (CTR095, REV. 1)

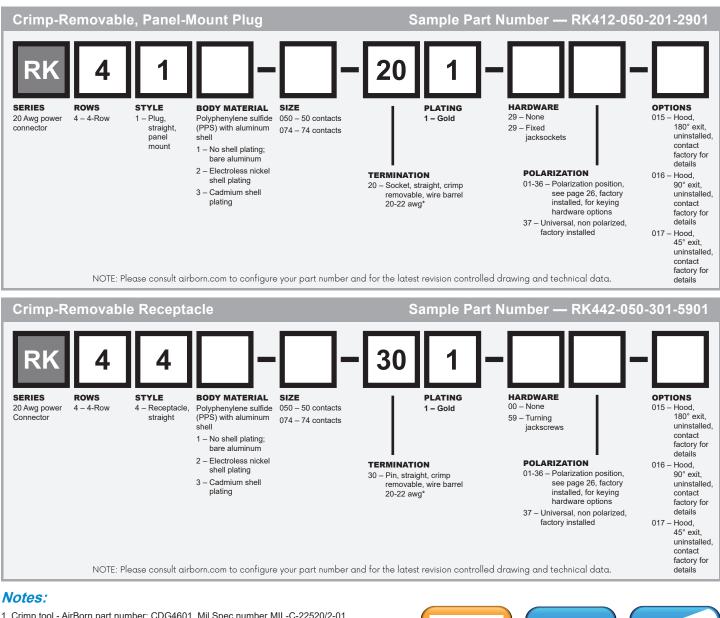


RK431-DIM-1A (CTR095, REV. 1)

### 4-Row, Power I/O Connector

RK4 is a 20 awg., crimp-removable contact system available in 50 or 74 position body. Available options include panel-mount or I/O, keying hardware, and a full line of backshells.

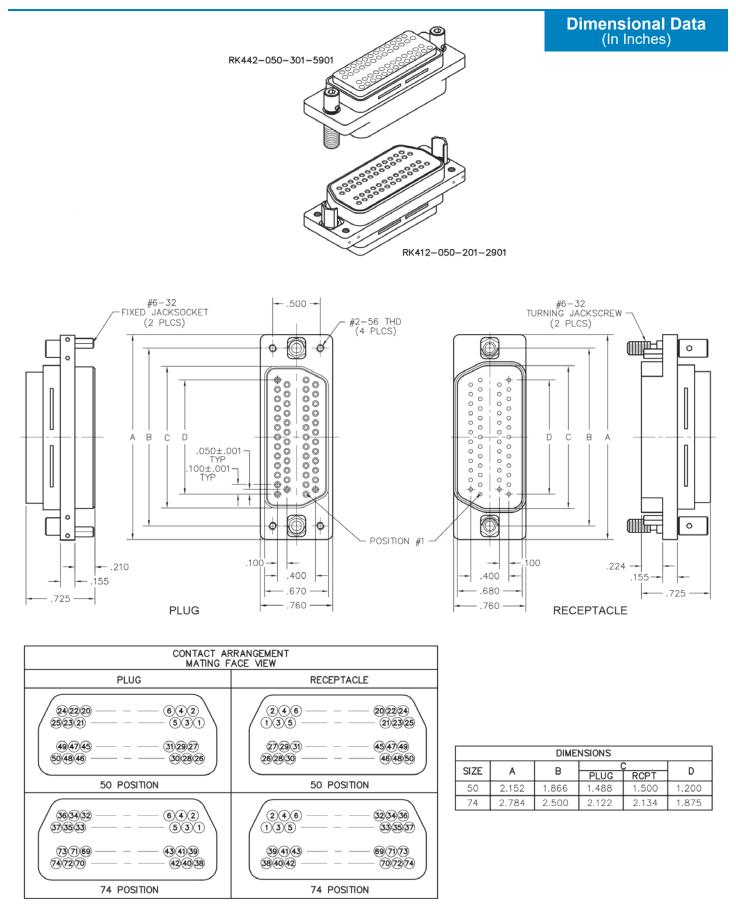




- 1. Crimp tool AirBorn part number: CDG4601, Mil Spec number MIL-C-22520/2-01
- 2. Crimp positioner AirBorn part number: CDG7936 (Pin contacts)
- CDG7935 (Socket contacts)
- 3. Removal tool AirBorn part number: CDG7932
- 4. Crimp instructions see page 33
- \* Full compliment of crimp removable contacts packaged with connectors

Row I/O Cable Crimp Removable

RK411\_PNR\_14 (CTR097, REV. 1)

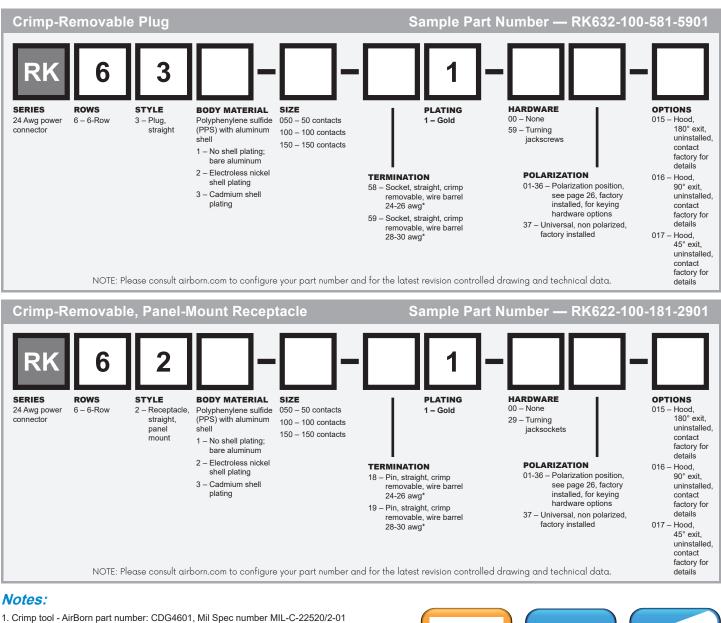


RK411-DIM-1A (CTR097, REV. 1)

### 6-Row, Signal I/O Connector

RK6 is a 24 awg., crimp-removable contact system available in 50, 100 or 150 position body. Available options include panel-mount or I/O, keying hardware, and a full line of backshells.

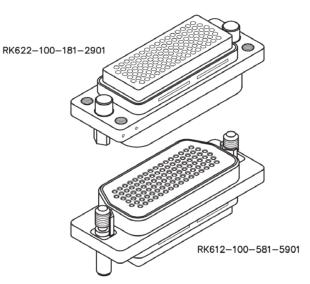


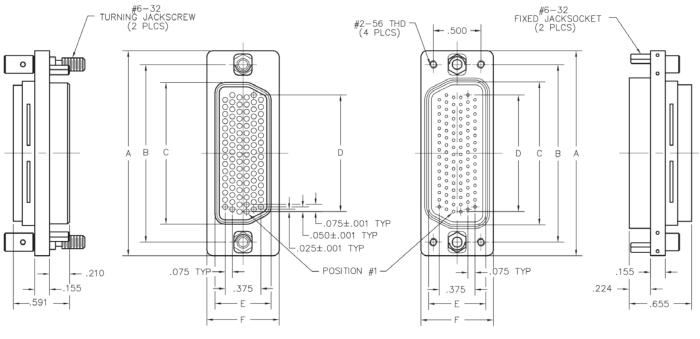


- 2. Crimp positioner AirBorn part number: CDG5598 (Pin contacts)
- CDG4602 (Socket contacts)
- 3. Removal tool AirBorn part number: CDG8161
- 4. Crimp instructions see page 36
- \* Full compliment of crimp removable contacts packaged with connectors

Row I/O Cable Crimp Removable

RK632-PNB-1A (CTR099, REV. 1)





PLUG

RECEPTACLE

DIMENSIONS									
SIZE	А	В	PLUG	C RCPT	D	PLUG	RCPT	F PLUG	- RCPT
50	1.617	1.331	.930	.950	.600	.630	.650		.760
100	2.152	1.866	1.488	1.500	1.225	.590	.600	.760	76.0
150	2.784	2.500	2.122	2.134	1.875	.590	.600	0	.760

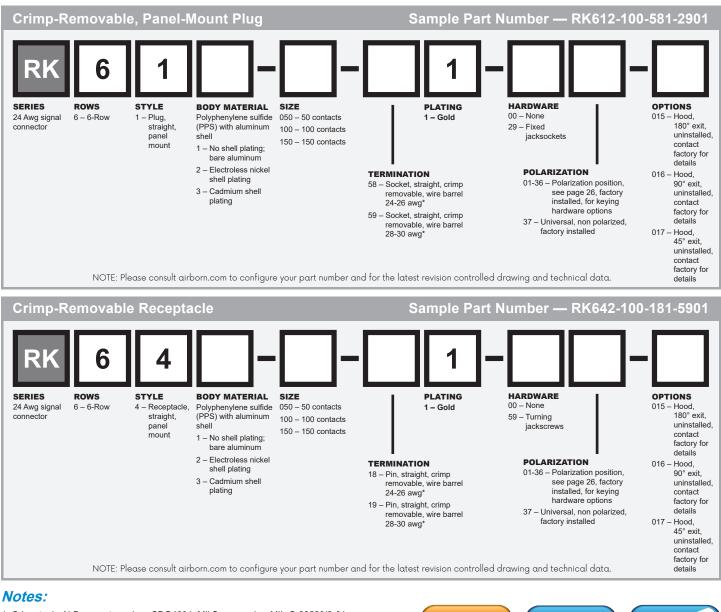
For contact arrangement, see page 27.

RK632-DIM-1A (CTR099, REV. 1)

### 6-Row, Signal I/O Connector

RK6 is a 24 awg., crimp-removable contact system available in 50, 100 or 150 position body. Available options include panel-mount or I/O, keying hardware, and a full line of backshells.

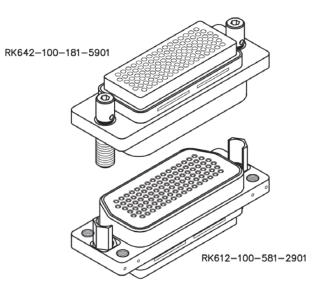


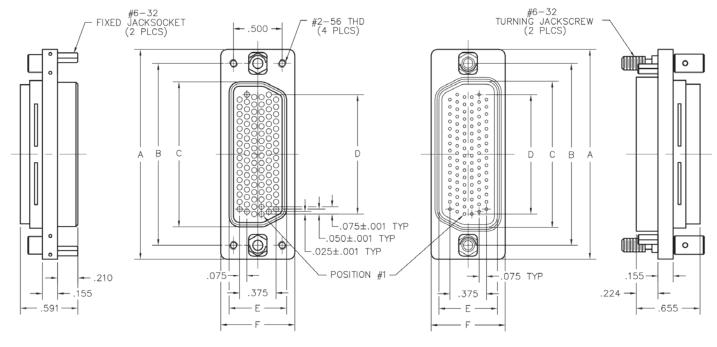


- 1. Crimp tool AirBorn part number: CDG4601, Mil Spec number MIL-C-22520/2-01
- 2. Crimp positioner AirBorn part number: CDG5598 (Pin contacts)
- CDG4602 (Socket contacts)
- 3. Removal tool AirBorn part number: CDG8161
- 4. Crimp instructions see page 36
- \* Full compliment of crimp removable contacts packaged with connectors

I/O Cable

RK611-PNB-1A (CTR101, REV. 1)





PLUG

RECEPTACLE

Γ	DIMENSIONS									
Г				(	C		E		F	
Ľ	SIZE	A	В	PLUG	RCPT	D	PLUG	RCPT	PLUG	RCPT
Γ	50	1.617	1.331	.930	.950	.600	.630	.650		.810
Γ	100	2.152	1.866	1.488	1.500	1.225	500	600	.760	76.0
Γ	150	2.784	2.500	2.122	2.134	1.875	.590	.600		.760

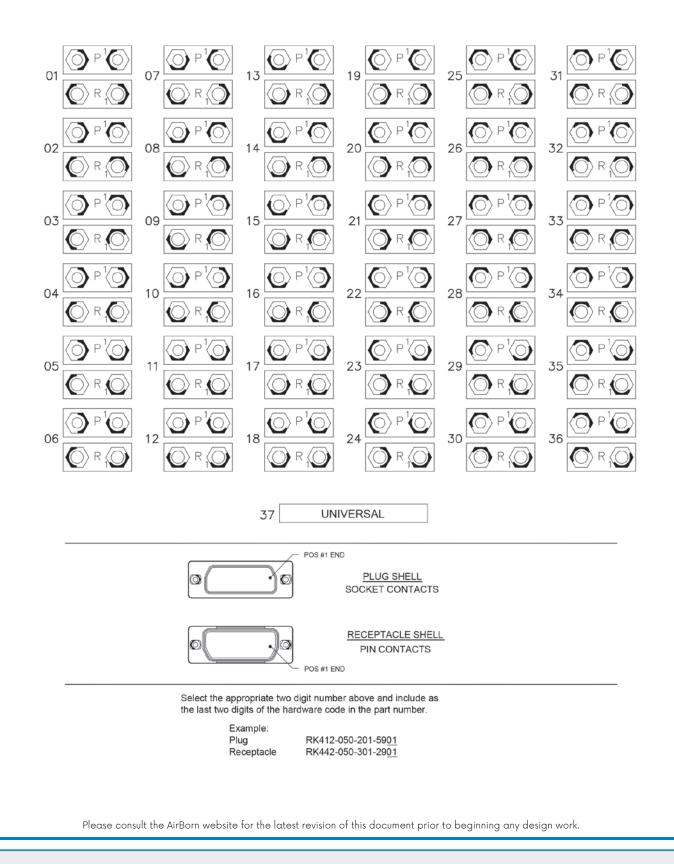
For contact arrangement, see page 27.

**RocKet Specifications** 

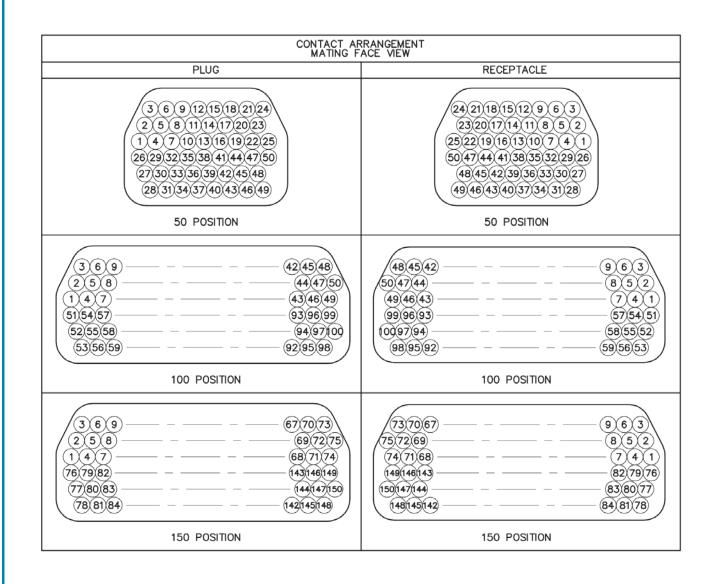
Contacts	BeCu, per ASTM-B196, ASTM B 197/B 197M					
Contact Finish	Gold plate per ASTM B 488-, SAE AMS 2422, or localized finish per MIL-C-55302					
Shells/Hoods	Aluminum Alloy 6061-T6 per QQ-A-250/11 or 6061-T6511 per QQ-A-200/8					
Aluminum Shell Finish	None - as specified by part number or Electroless Nickel per SAE AMS-C-26074, Grade B, Class 3 or					
	Electrodeposited Cadmium per SAE AMS-QQ-P-416, Type II, Class 3					
Molded Insulators	Glass filled polphenylene sulfide per MIL-M-24519, Type GST-40F					
Embedment	Insulating Compound per MIL-I-16923					
Hardware	Corrosion resistant steel per ASTM-A484/ASTM-484M and ASTM-A582/ A582M, Passivated per ASTM-A967, SAE AMS-QQ-P-35					
Connector Markings	Contact numbers are stamped on the side of the connector. Numbers are stamped on the low-numbered side only on 2- and 3-row right-angle connectors.					
Tolerances	Unless otherwise specified: Fractions = $\pm 1/64$ " Decimals = $\pm 0.010$ " Angles = $\pm 5^{\circ}$					

RocKet Performance (Re	ference MIL-C-55302)	
Contact Rating	RK2-8 AWG (42 amperes) RK3-16 AWG (13 amperes) RK4-20 AWG (5 amperes) RK6-24 AWG (3 amperes)	
Operating Temp.	-65° to +125° C or -85° to +257° F	
Category	Requirements	Test Method Per: SAE AS 13441
Test Voltage	750 V, RMS, 60 Hz @ sea level 250 V, RMS, 60 Hz @ 70,000 feet	#3001
Insulation Resistance	5,000 megohms minimum @ 500 VDC per	#3003
Durability	500 connector mating cycles	
Vibration	Mated connectors, Test Condition III	#2005
Shock	Mated connectors, Test Condition B	#2004
Salt Spray	Mated connectors, Test Condition G	#1001
Humidity	Test type II, except steps 7A and 7B not required	#1002
Temperature Cycling	Mated connectors, Test condition A	#1003
Contact Resistance	.015 ohms max (interface measurement) @ 3 amperes	#3004
Contact Engagement/ Separation	<ul> <li>RK2-8 AWG</li> <li>RK3-16 AWG</li> <li>RK4-20 AWG</li> <li>RK6-24 AWG</li> <li>RK6-24 AWG</li> <li>160 oz. max. engagement, 4 oz. min. separation</li> <li>a oz. max. engagement, 0.7 oz. min. separation</li> <li>b oz. max. engagement, 0.5 oz. min. separation</li> </ul>	
Outgassing	The entire connector assembly shall have maximum total mass los 1.0 percent of the original specimen mass and shall have a maximu condensable material (VCM) content of 0.1 percent of the original s	um volatile
Please consult th	ne AirBorn website for the latest revision of this document prior to beginning any design w	ork.

#### **RocKet Polarization**



**RocKet Contact Arrangement** 



2 Row, 8 AWG Crimp Instruction

#### CRIMPING INSTRUCTIONS CONT'D 8 AWG CONTACT WITH 8 AWG WIRE BARREL

#### INSTALLING CONTACTS

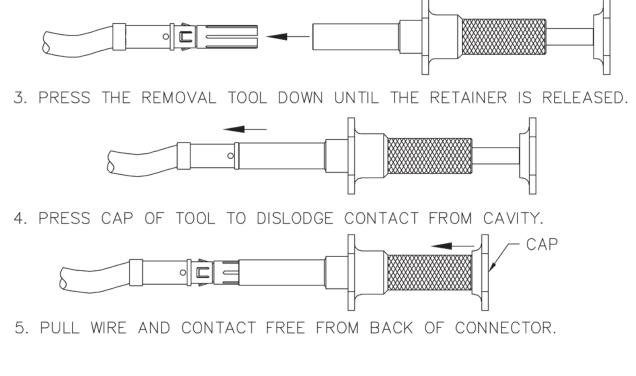
- 1. CHOOSE CRIMPED WIRE TO BE INSTALLED.
- 2. HOLD CONTACT BETWEEN THUMB AND INDEX FINGER AT THE BACK OF THE CONTACT BARREL.
- 3. INSERT CONTACT INTO CONTACT CAVITY FROM THE REAR OF CONNECTOR.
- 4. PUSH CONTACT INTO CAVITY UNTIL RETAINER IS ENGAGED.

GENTLY PULL BACK ON THE WIRE TO ENSURE SEATING.

IF CONTACT IS PROPERLY SEATED, IT WILL NOT COME OUT OF CONNECTOR WITHOUT THE AID OF THE REMOVAL TOOL.

#### REMOVING CONTACTS

- 1. IN THE EVENT THAT A WIRE MUST BE EXTRACTED FROM THE CONTACT CAVITY, THE REMOVAL TOOL IS REQUIRED.
- 2. IN THE FRONT OF THE CONNECTOR(MATING FACE), INSERT REMOVAL TOOL INTO THE CONTACT CAVITY.





2 Row, 8 AWG Crimp Instruction

#### CRIMPING INSTRUCTIONS 8 AWG CONTACT WITH 8 AWG WIRE BARREL

#### TOOLS REQUIRED

- 1. AIRBORN PN CDG14569-CRIMP TOOL
- 2. AIRBORN PN CDG14570-POSITIONER FOR PIN AND SOCKET CONTACTS
- 3. AIRBORN PN CDG5418-REMOVAL TOOL

#### CRIMPING PROCESS

- 1. INSTALL POSITIONER ONTO CRIMP TOOL.
- 2. STRIP INSULATION OF WIRE .510±.010
- 3. DROP CONTACT INTO THE NEST OF THE CRIMP TOOL, MAKING SURE THAT IT BOTTOMS OUT IN THE POSITIONER.



- 4. INSERT STRIPPED END OF WIRE INTO CRIMP BARREL OF CONTACT. INSULATION SHOULD EXTEND INTO INSULATION CUP.
- 5. CRIMP CONTACT BY DEPRESSING FOOT PEDAL
- 6. VISUALLY INSPECT CRIMP:

A. WIRE INSULATION SHOULD EXTEND INTO INSULATION CUP. THERE SHOULD NOT BE A GAP BETWEEN INSULATION AND INSULATION CUP.

B. THERE SHOULD BE STRANDS OF WIRE VISIBLE THRU THE INSPECTION HOLE IN THE BARREL OF THE CONTACT.



3 Row, 16 AWG Crimp Instruction

#### CRIMPING INSTRUCTIONS

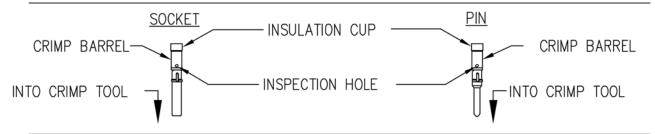
16 AWG CONTACT WITH 16 AWG WIRE BARREL

#### TOOLS REQUIRED

- 1. AIRBORN PART NUMBER CDG14571-CRIMP TOOL (MIL-C-22520/1-01)
- 2. AIRBORN PART NUMBER CDG14572-TURRET FOR PINS AND SOCKETS (MIL-C-22520/1-03)
- 3. AIRBORN PART NUMBER CDG4492-INSERTION TOOL
- 4. AIRBORN PART NUMBER CDG4493-REMOVAL TOOL

#### CRIMPING PROCESS

- 1. STRIP INSULATION OF WIRE .200±.010.
- 2. INSTALL TURRET ONTO CRIMP TOOL.
- 3. SELECT THE BLUE/RED BUTTON ON THE TURRET
- 4. TURN DIAL ON BACK OF CRIMP TOOL TO SETTING 7. THIS IS A BASELINE SETTING. SEE "GUIDELINES FOR ESTABLISHING TENSILE VALUE FOR CRIMP".
- 5. DROP CONTACT INTO THE NEST OF THE CRIMP TOOL, MAKING SURE THAT IT BOTTOMS OUT IN THE TURRET.



- 6. INSERT STRIPPED END OF WIRE INTO CRIMP BARREL OF CONTACT. INSULATION SHOULD EXTEND INTO INSULATION CUP.
- 7. CRIMP CONTACT BY SQUEEZING HANDLES TOGETHER. CRIMP IS COMPLETE WHEN HANDLES RELEASE TO ORIGINAL POSITION.
- 8. VISUALLY INSPECT CRIMP:
  - A. THERE SHOULD BE NO GAP BETWEEN INSULATION AND CRIMP BARREL.
  - B. THERE SHOULD BE STRANDS OF WIRE VISIBLE THRU THE INSPECTION HOLE IN THE CRIMP BARREL.
  - C. THERE SHOULD BE NO STRANDS OF WIRE OUTSIDE THE CRIMP BARREL.

#### 3 Row, 16 AWG Crimp Instruction

#### GUIDELINES FOR ESTABLISHING TENSILE VALUE FOR CRIMP

#### EQUIPMENT REQUIRED:

FORCE GAGE WIRE-FROM LOT TO BE USED FOR PRODUCT CONTACT-FROM LOT TO BE USED FOR PRODUCT CRIMP TOOL TURRET

#### PROCEDURE TO ESTABLISH TENSILE VALUE OF WIRE:

- 1. CUT 10 PIECES OF WIRE (ABOUT 2-3 INCHES LONG)
- 2. REMOVE INSULATOR FROM ENTIRE LENGTH OF WIRE
- 3. TIN APPROXIMATELY 1.00" ON BOTH ENDS
- 4. PERFORM TENSILE TEST ON FORCE GAGE
- 5. DETERMINE AVERAGE TENSILE VALUE OF WIRE

#### PROCEDURE TO ESTABLISH TENSILE VALUE OF CRIMP

- 1. CUT 10 PIECES OF WIRE (ABOUT 2-3 INCHES LONG)
- 2. STRIP WIRE .200±.010" ON ONE END AND 1.00" ON OTHER END
- 3. TIN END OF WIRE THAT IS STRIPPED 1.00"
- 4. TURN DIAL ON BACK OF CRIMP TOOL TO SETTING 7
- 5. CRIMP CONTACT ON .200" STRIPPED END
- 6. PERFORM TENSILE TEST ON FORCE GAGE
- 7. RECORD ALL 10 READINGS.
- 8. DETERMINE AVERAGE TENSILE VALUE OF CRIMP
- 9. TENSILE VALUE OF CRIMP SHOULD BE 75% OF TENSILE VALUE OF WIRE
- UNDER MAGNIFICATION, EXAMINE CRIMP.
   PREFERRED CRIMP FAILURE IS BREAKAGE OF THE WIRE STRANDS OUTSIDE THE CRIMP BARREL.
   A CRIMP IS CONSIDERED UNACCEPTABLE IF THE WIRE PULLS OUT OF THE WIRE BARREL WITHOUT BREAKING THE WIRE STRANDS.
- 11. IF WIRE PULLS OUT OF THE WIRE BARREL WITHOUT BREAKING THE WIRE STRANDS, SELECT THE NEXT LOWER SETTING NUMBER ON THE CRIMP TOOL AND REPEAT PROCEDURE TO ESTABLISH TENSILE VALUE OF CRIMP. THE LOWER THE SETTING NUMBER ON THE CRIMP TOOL, THE TIGHTER THE CRIMP.

3 Row, 16 AWG Crimp Instruction

#### CRIMPING INSTRUCTIONS

24 AWG CONTACT WITH 24, 26, 28 AND 30 AWG WIRE BARREL

#### TOOLS REQUIRED

- 1. AIRBORN PN CDG4601-CRIMP TOOL
- 2. AIRBORN PN CDG4602-POSITIONER FOR SOCKET CONTACTS
- 3. AIRBORN PN CDG5598-POSITIONER FOR PIN CONTACTS
- 4. AIRBORN PN CDG8161-REMOVAL TOOL

#### CRIMPING PROCESS

- 1. SELECT CORRECT POSITIONER FOR THE PIN OR SOCKET CONTACT.
- 2. INSTALL POSITIONER ONTO BACK OF CRIMP TOOL.
- 3. CHOOSE "SELECTION NUMBER" FROM POSITIONER FOR THE WIRE AWG THAT HAS BEEN SELECTED FOR YOUR APPLICATION. SET CRIMP TOOL TO THAT SELECTION NUMBER.
- 4. STRIP INSULATION OF WIRE .145±.005
- 5. DROP CONTACT INTO THE NEST OF THE CRIMP TOOL, MAKING SURE THAT IT BOTTOMS OUT ON THE POSITIONER.



- 6. INSERT STRIPPED END OF WIRE INTO BARREL OF CONTACT. INSULATION SHOULD BE FLUSH WITH BACK OF CONTACT BARREL.
- 7. CRIMP CONTACT BY SQUEEZING HANDLES TOGETHER. CRIMP IS COMPLETE WHEN THE HANDLES RELEASE TO ORIGINAL POSITION.
- 8. VISUALLY INSPECT CRIMP: THERE SHOULD BE NO GAP MIN./ONE WIRE DIA MAX. BETWEEN INSULATION AND BARREL OF CONTACT. THERE SHOULD BE STRANDS OF WIRE VISIBLE THRU THE INSPECTION HOLE IN THE BARREL OF THE CONTACT.

4 Row, 20 AWG Crimp Instruction

#### CRIMPING INSTRUCTIONS

#### 20 AWG CONTACT WITH 20,24-26 OR 28-30 AWG BARREL

#### TOOLS REQUIRED

- 1. AIRBORN PN CDG4601-CRIMP TOOL
- 2. AIRBORN PN CDG7935-POSITIONER FOR SOCKET CONTACTS
- 3. AIRBORN PN CDG7936-POSITIONER FOR PIN CONTACTS
- 4. AIRBORN PN CDG7932-REMOVAL TOOL

#### CRIMPING PROCESS

- 1. SELECT CORRECT POSITIONER FOR THE PIN OR SOCKET CONTACT.
- 2. INSTALL POSITIONER ONTO BACK OF CRIMP TOOL.
- 3. TO DETERMINE WHICH "SELECTION NUMBER" TO CHOOSE ON THE CRIMP TOOL, BEGIN BY DETERMINING THE TENSILE STRENGTH OF THE WIRE TO BE USED.

FOR EXAMPLE, IF USING 20 AWG WIRE BEGIN BY TURNING "SELECTION NUMBER" TO 6. CRIMP TEST CONTACTS(3-5 PIECES). PERFORM TENSILE TEST. TENSILE TEST RESULTS ARE INVALID IF (1)ANY STRANDS OF WIRE ARE NOT CAPTURED IN BARREL, (2)STRANDS ARE NICKED OR CUT BEFORE TEST, (3) WIRE BROKE AT SHARP EDGE OF TEST FIXTURE, OR (4)WIRE PULLED OUT OF BARREL WITHOUT BREAKING STRANDS.

IF TENSILE STRENGTH VALUES ARE NOT 75% (MINIMUM) OF TENSILE STRENGTH OF WIRE, CHANGE "SELECTION NUMBER". CRIMP ANOTHER GROUP OF TEST CONTACTS(3-5 PIECES) AND PERFORM TENSILE TEST AGAIN. CONTINUE THIS PROCESS UNTIL TENSILE STRENGTH OF CRIMP MEETS OR EXCEEDS 75% OF TENSILE STRENGTH OF WIRE.

#### 4 Row, 20 AWG Crimp Instruction

#### CRIMPING INSTRUCTIONS CONT'D

20 AWG CONTACT WITH 20,24-26 OR 28-30 AWG BARREL

- 4. STRIP LENGTH OF INSULATION: 24-26 AND 28-30 AWG: .145±.005 20 AWG: .190±.005
- 5. DROP CONTACT INTO THE NEST OF THE CRIMP TOOL, MAKING SURE THAT IT BOTTOMS OUT ON THE POSITIONER.



- 6. INSERT STRIPPED END OF WIRE INTO BARREL OF CONTACT. INSULATION SHOULD BE FLUSH WITH BACK OF CONTACT BARREL.
- 7. CRIMP CONTACT BY SQUEEZING HANDLES TOGETHER. CRIMP IS COMPLETE WHEN THE HANDLES RELEASE TO ORIGINAL POSITION.
- 8. VISUALLY INSPECT CRIMP: THERE SHOULD BE NO GAP MIN./ONE WIRE DIA MAX. BETWEEN INSULATION AND BARREL OF CONTACT. THERE SHOULD BE STRANDS OF WIRE VISIBLE THRU THE INSPECTION HOLE IN THE BARREL OF THE CONTACT.

4 Row, 20 AWG Crimp Instruction

#### CRIMPING INSTRUCTIONS CONT'D

#### 20 AWG CONTACT WITH 20,24-26 OR 28-30 AWG BARREL

#### INSTALLING CONTACTS

- 1. CHOOSE CRIMPED WIRE TO BE INSTALLED.
- 2. HOLD CONTACT BETWEEN THUMB AND INDEX FINGER AT THE BACK OF THE CONTACT BARREL.
- 3. INSERT CONTACT INTO CONNECTOR UNTIL A DEFINITE "CLICK" IS HEARD. GENTLY PULL BACK ON THE WIRE TO CONFIRM SEATING.

IF CONTACT IS PROPERLY SEATED, IT WILL NOT COME OUT OF CONNECTOR WITHOUT THE AID OF THE REMOVAL TOOL.

#### REMOVING CONTACTS

- 1. IN THE EVENT THAT A WIRE MUST BE EXTRACTED FROM THE CONTACT CAVITY, THE REMOVAL TOOL IS REQUIRED.
- 2. OPEN REMOVAL TOOL AND PLACE TIP AROUND THE WIRE INSULATION.
- 3. MOVE THE TOOL SO THAT THE TIP GOES DOWN INTO THE CONTACT CAVITY.
- 4. WHILE PRESSING THE TOOL DOWN, ROTATE THE HANDLE BACK AND FORTH.
- 5. WHEN THE TIP OF THE HANDLE IS DOWN AS FAR AS IT WILL GO, THE CONTACT IS READY TO BE REMOVED.
- 6. MAKING SURE TO KEEP THE TIP OF THE TOOL PERPENDICULAR TO THE CONNECTOR, PULL TOOL FREE OF THE CONTACT CAVITY.
- 7. OPEN REMOVAL TOOL AND REMOVE THE EXTRACTED WIRE.

6 Row, 24 AWG Crimp Instruction

#### CRIMPING INSTRUCTIONS

24 AWG CONTACT WITH

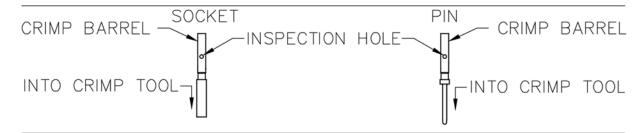
#### 24, 26, 28 AND 30 AWG WIRE BARREL

#### TOOLS REQUIRED

- 1. AIRBORN PN CDG4601-CRIMP TOOL
- 2. AIRBORN PN CDG4602-POSITIONER FOR SOCKET CONTACTS
- 3. AIRBORN PN CDG5598-POSITIONER FOR PIN CONTACTS
- 4. AIRBORN PN CDG8161-REMOVAL TOOL

#### CRIMPING PROCESS

- 1. SELECT CORRECT POSITIONER FOR THE PIN OR SOCKET CONTACT.
- 2. INSTALL POSITIONER ONTO BACK OF CRIMP TOOL.
- 3. CHOOSE "SELECTION NUMBER" FROM POSITIONER FOR THE WIRE AWG THAT HAS BEEN SELECTED FOR YOUR APPLICATION. SET CRIMP TOOL TO THAT SELECTION NUMBER.
- 4. STRIP INSULATION OF WIRE .145±.005
- 5. DROP CONTACT INTO THE NEST OF THE CRIMP TOOL, MAKING SURE THAT IT BOTTOMS OUT ON THE POSITIONER.



- 6. INSERT STRIPPED END OF WIRE INTO BARREL OF CONTACT. INSULATION SHOULD BE FLUSH WITH BACK OF CONTACT BARREL.
- 7. CRIMP CONTACT BY SQUEEZING HANDLES TOGETHER. CRIMP IS COMPLETE WHEN THE HANDLES RELEASE TO ORIGINAL POSITION.
- 8. VISUALLY INSPECT CRIMP: THERE SHOULD BE NO GAP MIN./ONE WIRE DIA MAX. BETWEEN INSULATION AND BARREL OF CONTACT. THERE SHOULD BE STRANDS OF WIRE VISIBLE THRU THE INSPECTION HOLE IN THE BARREL OF THE CONTACT.

6 Row, 24 AWG Crimp Instruction

#### <u>CRIMPING INSTRUCTIONS CONT'D</u> 24 AWG CONTACT WITH 24, 26, 28 AND 30 AWG WIRE BARREL

#### INSTALLING CONTACTS

- 1. CHOOSE CRIMPED WIRE TO BE INSTALLED.
- 2. HOLD CONTACT BETWEEN THUMB AND INDEX FINGER AT THE BACK OF THE CONTACT BARREL.
- 3. INSERT CONTACT INTO CONNECTOR UNTIL A DEFINITE "CLICK" IS HEARD. GENTLY PULL BACK ON THE WIRE TO INSURE SEATING.

IF CONTACT IS PROPERLY SEATED, IT WILL NOT COME OUT OF CONNECTOR WITHOUT THE AID OF THE REMOVAL TOOL.

#### REMOVING CONTACTS

- 1. IN THE EVENT THAT A WIRE MUST BE EXTRACTED FROM THE CONTACT CAVITY, THE REMOVAL TOOL IS REQUIRED.
- 2. OPEN REMOVAL TOOL AND PLACE TIP AROUND THE WIRE INSULATION.
- 3. MOVE THE TOOL SO THAT THE TIP GOES DOWN INTO THE CONTACT CAVITY.
- 4. WHILE PRESSING THE TOOL DOWN, ROTATE THE HANDLE BACK AND FORTH.
- 5. WHEN THE TIP OF THE HANDLE IS DOWN AS FAR AS IT WILL GO, THE CONTACT IS READY TO BE REMOVED.
- 6. MAKING SURE TO KEEP THE TIP OF THE TOOL PERPENDICULAR TO THE CONNECTOR, PULL TOOL FREE OF THE CONTACT CAVITY.
- 7. OPEN REMOVAL TOOL AND REMOVE THE EXTRACTED WIRE.



6 Row, 24 AWG Crimp Instruction

#### CRIMPING INSTRUCTIONS

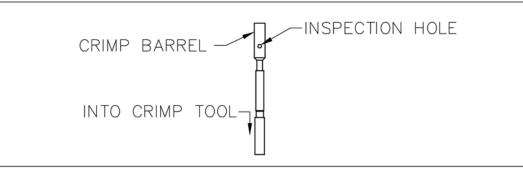
24 AWG CONTACT WITH 22 AND 20 AWG WIRE BARREL

#### TOOLS REQUIRED

- 1. AIRBORN PN CDG4601-CRIMP TOOL
- 2. AIRBORN PN CDG4603-POSITIONER FOR SOCKET CONTACTS
- 3. AIRBORN PN CDG8161-REMOVAL TOOL

#### CRIMPING PROCESS

- 1. INSTALL POSITIONER ONTO BACK OF CRIMP TOOL.
- 2. CHOOSE "SELECTION NUMBER" FROM POSITIONER FOR THE WIRE AWG THAT HAS BEEN SELECTED FOR YOUR APPLICATION. SET CRIMP TOOL TO THAT SELECTION NUMBER.
- 3. STRIP INSULATION OF WIRE .145±.005
- 4. DROP CONTACT INTO THE NEST OF THE CRIMP TOOL, MAKING SURE THAT IT BOTTOMS OUT ON THE POSITIONER.



- 5. INSERT STRIPPED END OF WIRE INTO BARREL OF CONTACT. INSULATION SHOULD BE FLUSH WITH BACK OF CONTACT BARREL.
- 6. CRIMP CONTACT BY SQUEEZING HANDLES TOGETHER. CRIMP IS COMPLETE WHEN THE HANDLES RELEASE TO ORIGINAL POSITION.
- 7. VISUALLY INSPECT CRIMP: THERE SHOULD BE NO GAP MIN./ONE WIRE DIA MAX. BETWEEN INSULATION AND BARREL OF CONTACT. THERE SHOULD BE STRANDS OF WIRE VISIBLE THRU THE INSPECTION HOLE IN THE BARREL OF THE CONTACT.



6 Row, 24 AWG Crimp Instruction

#### CRIMPING INSTRUCTIONS CONT'D

24 AWG CONTACT WITH 22 AND 20 AWG WIRE BARREL

#### INSTALLING CONTACTS

- 1. CHOOSE CRIMPED WIRE TO BE INSTALLED.
- 2. HOLD CONTACT BETWEEN THUMB AND INDEX FINGER AT THE BACK OF THE CONTACT BARREL.
- 3. INSERT CONTACT INTO CONNECTOR UNTIL A DEFINITE "CLICK" IS HEARD. GENTLY PULL BACK ON THE WIRE TO INSURE SEATING.

IF CONTACT IS PROPERLY SEATED, IT WILL NOT COME OUT OF CONNECTOR WITHOUT THE AID OF THE REMOVAL TOOL.

#### REMOVING CONTACTS

- 1. IN THE EVENT THAT A WIRE MUST BE EXTRACTED FROM THE CONTACT CAVITY, THE REMOVAL TOOL IS REQUIRED.
- 2. <u>THE WIRE BARREL MUST BE CUT OFF BEFORE USING</u> REMOVAL TOOL.
- 3. OPEN REMOVAL TOOL AND PLACE TIP AROUND THE WIRE INSULATION.
- 4. MOVE THE TOOL SO THAT THE TIP GOES DOWN INTO THE CONTACT CAVITY.
- 5. CONTINUE TO LIGHTLY PRESS DOWN. IF RESISTANCE IS MET, ROTATE FORTH IF TOOL MEETS ANY RESISTANCE.
- 6. WHEN THE TIP OF THE HANDLE IS DOWN AS FAR AS IT WILL GO, THE CONTACT IS READY TO BE REMOVED.
- 7. MAKING SURE TO KEEP THE TIP OF THE TOOL PERPENDICULAR TO THE CONNECTOR, PULL TOOL FREE OF THE CONTACT CAVITY.
- 8. OPEN REMOVAL TOOL AND REMOVE THE EXTRACTED WIRE.



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