

## Econoseal J Series [Mark II(+)] . . . Sealed Connectors

### Contacts

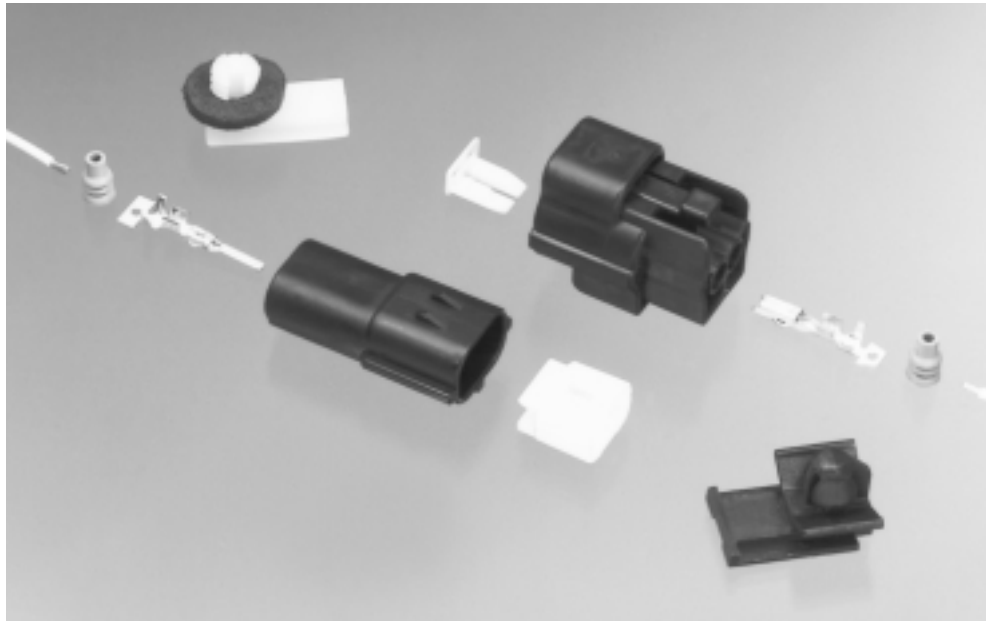
- 070 series tab contacts. 1.8 mm [.071 in.] wide x 0.64 mm [.025 in.] thick
- Receptacle contacts are available in brass or phosphor bronze with pre-tin or gold plating.
- Tab contacts are available in pre-tin or gold plated brass.
- Lanceless design to reduce tangling.
- Wire range 0.20 - 1.25 mm<sup>2</sup> [#24 - #16 AWG]

### Wire Seals and Cavity Plugs

- Made from NBR material.
- Wire seal and contact crimped simultaneously.
- For wire insulation diameters of 1.4 - 2.6 mm [.055 - .102 in.]

### Connector Housings

- Housings and lock plates made from PBT material.
- Connectors available in 1, 2, 3, 4, 6, 8, 10, and 12 position versions.
- Utilize a loose piece secondary lock (sold separately).
- Cavity plugs are available to seal unused contact cavities.
- An audible click helps insure proper connector mating.
- Protected locking lever.
- Recognized under the Component Program of Underwriters Laboratories Inc. File No. E28476.



AMP Econoseal J Series Mark II(+) Connectors have been developed for use in automobile engine compartments and other applications where waterproof protection and rugged construction are required.

Waterproof protection is achieved by means of a wire seal which is inserted onto the wire and crimped simultaneously with the insulation support of the contact. Plug housings include a factory installed NBR interface seal. Cavity plugs are available to seal contact positions on the connector which are not used.

The wire seals and cavity plugs incorporate a beveled, 3 ridge design, with the front two ridges being slightly smaller than the rear ridge to reduce

insertion into the connector housing. Another important feature allows trapped air to escape when the internal connector pressure becomes excessive due to changes in temperature or atmospheric pressure.

The MarkII(+) connector incorporates a secondary lock plate which when inserted into the connector housing will detect partially mated contacts. The lock plate also increases contact retention and prevents contact damage during mating or unmating of the connector. **One lock plate is required for each connector housing. Lock plates are sold separately.**

Sealing surfaces of the MarkII(+) connector are located inside of the connector housing thus reducing the possibility of damage to the seal during handling.

### Product Performance

**Temperature Rating**  
-30 to 105<sup>o</sup> C (including temperature rise due to applied current.)

**Contact Termination Resistance**  
3 mΩ(Max. (Initial)  
10 mΩ(Max. (Final)

**Dielectric Strength**  
1.0 kVAC between adjacent contacts.

**Current Guidelines**  
See page 13 of the product specification for information.

### Product Documentation

**Product Specification**  
108-5262

**Application Specification**  
114-5082

**Customer Manual**  
CM-325J

**Sample Kit**  
889458

## Econoseal J Series [Mark II+] (Continued)

### Connector Housings and Double Lock Plates



Double lock plates are sold separately. One lock plate is required for each connector housing. Plug housings include a factory assembled, black, NBR interface seal.

Positions	Plug Connector Utilizes Receptacle Contacts		Cap Connector Utilizes Tab Contacts	
	Housing Black Polyester	Lock Plate Yellow Polyester	Housing Black Polyester	Lock Plate Yellow Polyester
1	174877-2	174878-7	174879-2	174880-7
2	174352-2	174353-7	174354-2	174355-7
3	174357-2	174358-7	174359-2	174360-7
4	174257-2	174258-7	174259-2	174260-7
6	174262-2	174263-7	174264-2	174265-7
8	174982-2	174983-7	174984-2	174985-7
10	174655-2	174656-7	174657-2	174658-7
12	174661-2	174662-7	174663-2	174664-7

### 070 Series Tab Contacts



- Manufactured from 0.32 [.013] thick material.
- Tab contact area measures 1.8 [.071] wide x 0.64 [.025] thick.
- Uncrimped contact length = 20.4 [.803]

Wire Range mm <sup>2</sup> / AWG	Wire Ins. Dia. mm / Inches	Material & Finish	Tab Part Number	
			Strip	Loose Piece
0.20 - 0.50 [24 - 20]	1.4 - 2.4 [.055 - .094]	Brass Pre-Tin	171631-1	173600-1
		Brass Select Gold	171631-2	—
0.50 - 1.25 [20 - 16]	2.0 - 2.6 [.079 - .102]	Brass Pre-Tin	171661-1	173706-1
		Brass Select Gold	171661-2	—

### 070 Series Receptacle Contacts



- Manufactured from 0.3 [.012] thick material.
- Uncrimped contact length = 16.5 [.650]

Wire Range mm <sup>2</sup> / AWG	Wire Ins. Dia. mm / Inches	Material & Finish	Rec Part Number	
			Strip	Loose Piece
0.20 - 0.50 [24 - 20]	1.4 - 2.4 [.055 - .094]	Brass Pre-Tin	171630-1	171699-1
		Phos. Bronze Select Gold	171630-5	—
0.50 - 1.25 [20 - 16]	2.0 - 2.6 [.079 - .102]	Brass Pre-Tin	171662-1	173707-1
		Phos. Bronze Pre-Tin	171662-4	—
		Phos. Bronze Select Gold	171662-5	—

## Econoseal J Series [Mark II+] (Continued)

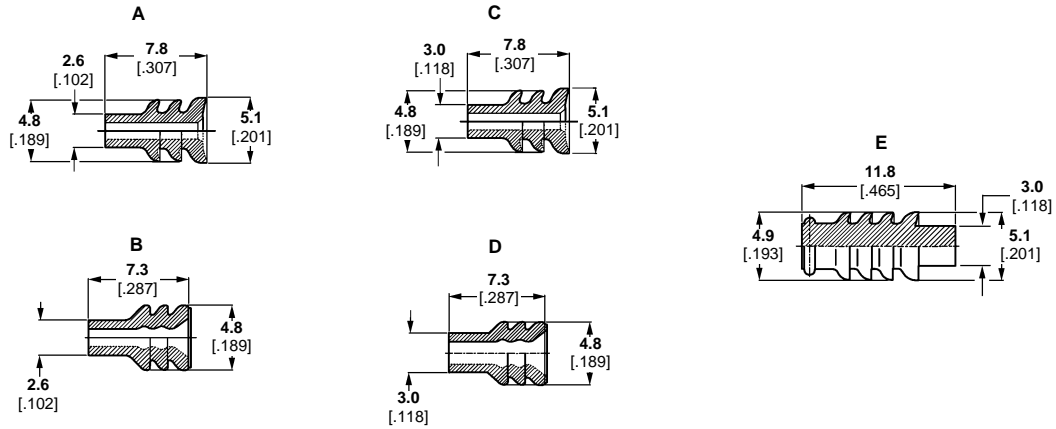
### Wire Seals and Cavity Plugs

One wire seal is required for each contact.  
Cavity plugs are used to seal unused connector cavities.



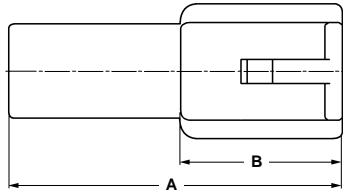
Description	Wire Range mm <sup>2</sup> /AWG	Wire Ins. Dia. mm/Inches	Material & (Color)	Style	Wire Seal Part Number	Use With Contact Part Number
Wire Seals	0.2-0.5 [24-20]	1.4-2.4 [.055-.094]	NBR (Black)	A	172746-1	171631-1 171631-2 173600-1
		1.4-2.1 [.055-.083]		B		178210-1
	0.50-1.25 [20-16]	2.0-2.6 [.079-.102]	NBR (Gray)	C	172888-2	171661-1 171661-2 173706-1
		2.0-2.6 [.079-.102]		D		176886-2
Cavity Plug	—	—	NBR (Black)	E	172748-1	—
			NBR (Gray)		172748-2	

### Wire Seals and Cavity Plugs . . . Dimensional Data

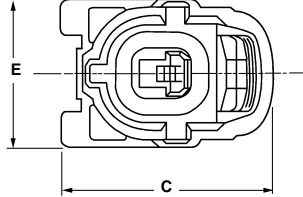
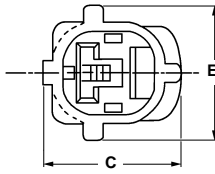


## Econoseal J Series [Mark II+] (Continued)

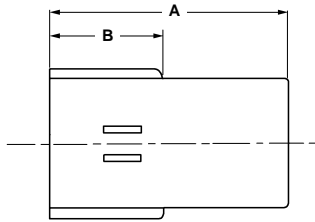
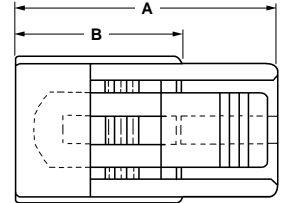
### Dimensional Data



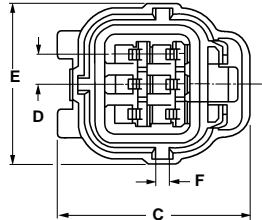
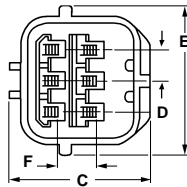
**Figure #1**  
**CAP HOUSING**  
Single Row Configuration



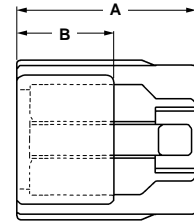
**Figure #2**  
**PLUG HOUSING**  
Single Row Configuration



**Figure #3**  
**CAP HOUSING**  
Double Row Configuration



**Figure #4**  
**PLUG HOUSING**  
Double Row Configuration



Position Housing Type	Part Number	Figure	Rows Single/ Double	Dim. "A"		Dim. "B"		Dim. "C"		Dim. "D"		Dim. "E"		Dim. "F"	
				mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
1 / Cap	174879-2	1	1	32.5	[1.28]	15.7	[.618]	14.2	[.559]	—	—	13.5	[.531]	—	—
1 / Plug	174877-2	2	1	27.6	[1.09]	17.5	[.689]	22.0	[.866]	—	—	15.8	[.622]	—	—
2 / Cap	174354-2	1	1	32.5	[1.28]	15.7	[.618]	14.05	[.553]	4.8	[.189]	18.3	[.720]	—	—
2 / Plug	174352-2	2	1	27.6	[1.09]	17.5	[.689]	22.8	[.898]	4.8	[.189]	20.6	[.811]	—	—
3 / Cap	174359-2	1	1	32.5	[1.28]	15.7	[.618]	13.9	[.547]	4.8	[.189]	23.1	[.909]	—	—
3 / Plug	174357-2	2	1	27.6	[1.09]	17.5	[.689]	22.8	[.898]	4.8	[.189]	25.4	[1.00]	—	—
4 / Cap	174259-2	3	2	35.5	[1.40]	18.2	[.717]	20.6	[.811]	4.8	[.189]	18.3	[.720]	5.6	[.220]
4 / Plug	174257-2	4	2	27.6	[1.09]	21.5	[.846]	29.3	[1.15]	4.8	[.189]	20.6	[.811]	5.6	[.220]
6 / Cap	174264-2	3	2	35.5	[1.40]	18.2	[.717]	20.6	[.811]	4.8	[.189]	23.1	[.909]	5.6	[.220]
6 / Plug	174262-2	4	2	27.6	[1.09]	21.5	[.846]	29.3	[1.15]	4.8	[.189]	25.4	[1.00]	5.6	[.220]
8 / Cap	174984-2	3	2	36.5	[1.44]	19.7	[.776]	30.7	[1.21]	4.8	[.189]	27.9	[1.10]	5.6	[.220]
8 / Plug	174982-2	4	2	27.6	[1.09]	21.5	[.846]	33.2	[1.31]	4.8	[.189]	31.0	[1.22]	5.6	[.220]
10 / Cap	174657-2	3	2	36.5	[1.44]	19.7	[.776]	30.7	[1.21]	4.8	[.189]	32.7	[1.29]	5.6	[.220]
10 / Plug	174655-2	4	2	27.6	[1.09]	21.5	[.846]	33.2	[1.31]	4.8	[.189]	35.8	[1.41]	5.6	[.220]
12 / Cap	174663-2	3	2	36.5	[1.44]	19.7	[.776]	26.85	[1.06]	4.8	[.189]	37.5	[1.48]	5.6	[.220]
12 / Plug	174661-2	4	2	27.6	[1.09]	21.5	[.846]	33.2	[1.31]	4.8	[.189]	40.6	[1.60]	5.6	[.220]

## Mounting Clips

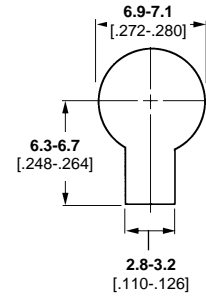
Panel cut-out dimensions are for reference only, see current AMP customer drawing for details.

For Econoseal J Series Mark II+ Connectors . . . Type 1

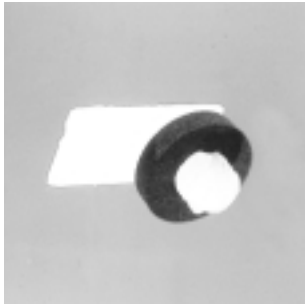


Part Number	Material and Color	Panel Thickness
85000-1	Nylon, Black	0.7-1.6 [0.028-0.063]

Panel Cut-Out Dimensions

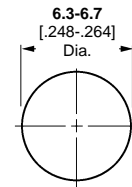


For Econoseal J Series Mark II+ Connectors . . . Type 2



Part Number	Material and Color	Panel Thickness
626897-1	Nylon, Natural	0.56-5.10 [.022-.201]

Panel Cut-Out Dimensions

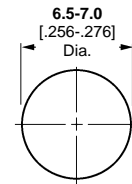


For Econoseal III, .250 Series Wire To Wire Connectors

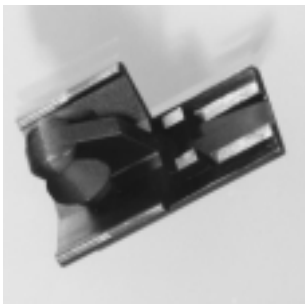


Part Number	Material and Color	Panel Thickness
345485-1	Nylon, Black	0.8-1.6 [.031-.063]

Panel Cut-Out Dimensions

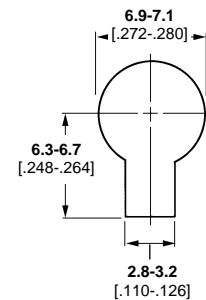


For .187 Series Sealed Connectors



Part Number	Material and Color	Panel Thickness
85003-2	Nylon, Black	2.5 [.098]

Panel Cut-Out Dimensions



## Application Tooling

Applicators for Strip Mounted Contacts . . . List is in numerical order by contact part number.

Contact		Applicator Part Number			
Description	Strip Mounted Part Number	AMP-O-LECTRIC Model "K" Bench Machine*	AMP-O-LECTRIC Model "G" Bench Machine	AMPOMATOR CLS IV+ and Komax Lead-Making Machines	AMP-O-MATIC Stripper-Crimper Machine
Econoseal J Series Mark II+ Receptacle	171630 (-1 and -5)	567458-2	—	—	—
Econoseal J Series Mark II+ Tab	171631 (-1 and -2)	567376-2	—	—	—
Econoseal J Series Mark II+ Tab	171661 (-1 and -2)	567266-2	567266-3	—	—
Econoseal J Series Mark II+ Receptacle	171662 (-1, -2, & -5)	567317-2	567317-3	567317-1	567932-1
.187 Series Sealed Tab	175087-1				
.187 Series Sealed Tab	175088-1				
.187 Series Sealed Receptacle	175090-1				
.187 Series Sealed Receptacle	175091-1				
<b>Applicators made to order. Call the TECHNICAL SUPPORT CENTER for information</b>					
Econoseal III .250 Series Receptacle	175104-2	567317-2	567317-3	567317-1	567932-1
AMP SUPERSEAL 1.5 SERIES Tab	282109-1	567464-2	567464-3	—	—
AMP SUPERSEAL 1.5 SERIES Receptacle	282110-1	567465-2	—	—	—
AMP SUPERSEAL 1.5 SERIES Receptacle	282403-1	680295-2	680295-3	680295-1	—
AMP SUPERSEAL 1.5 SERIES Tab	282404-1	—	680155-3	680155-1	—
<b>Applicators made to order. Call the TECHNICAL SUPPORT CENTER for information</b>					
Superseal (3.5 mm Centers) Receptacle	282438-1				
AMP SUPERSEAL 1.5 SERIES Tab	282465-1	680419-2	680419-3	680419-1	—
AMP SUPERSEAL 1.5 SERIES Receptacle	282466-1	680070-2	—	680070-1	—
Econoseal III .250 Series Tab	344008-1	680007-2	—	680070-1	—
Econoseal III .250 Series Receptacle	344009-1	680010-2	680010-1	680010-1	—
Econoseal III .250 Series Tab	344069-1	680072-2	—	—	—
Econoseal III .250 Series Receptacle	344070-1	680369-2	680369-1	680369-1	—
Mini MULTILOCK Receptacle	917308-1				
Mini MULTILOCK Tab	917309-1				
<b>Applicators made to order. Call the TECHNICAL SUPPORT CENTER for information</b>					
Sealed Circular Connector (2.5 mm) Pin	929966-1	—	—	—	—
Sealed Circular Connector (2.5 mm) Pin	929967-1	680320-2	680320-3	680320-1	—
Sealed Circular Connector (2.5 mm) Pin	929968-1	680321-2	—	680321-1	—
<b>Applicators made to order. Call the TECHNICAL SUPPORT CENTER for information</b>					
Sealed Circular Connector (2.5 mm) Socket	929973-1				
Sealed Circular Connector (2.5 mm) Socket	929974-1	680320-2	680320-3	680320-1	—
Sealed Circular Connector (2.5 mm) Socket	929975-1	680321-2	680321-3	680321-1	—
<b>Applicators made to order. Call the TECHNICAL SUPPORT CENTER for information</b>					
Sealed Circular Connector (1.5 mm) Pin	929982-1				
Sealed Circular Connector (1.5 mm) Pin	929983-1	680320-2	680320-3	680320-1	—
Sealed Circular Connector (1.5 mm) Pin	929984-1	680321-2	680321-3	680321-1	—
<b>Applicators made to order. Call the TECHNICAL SUPPORT CENTER for information</b>					
Sealed Circular Connector (1.5 mm) Socket	929988-1				
Sealed Circular Connector (1.5 mm) Socket	929989-1	680320-2	680320-3	680320-1	—
Sealed Circular Connector (1.5 mm) Socket	929990-1	680321-2	680321-3	680321-1	—
Sealed Circular Connector (2.5 mm) Pin	962800-1				
Sealed Circular Connector (2.5 mm) Socket	962801-1				
<b>Applicators made to order. Call the TECHNICAL SUPPORT CENTER for information</b>					
Sealed MQS Receptacle	962885-1	680060-2	680055-3	680060-1	—
Sealed MQS Receptacle	962885-5	680060-2	680055-3	680060-1	—
Sealed MQS Receptacle	965906-1	680093-2	—	—	—

\*The Model "K" has been superseded by the Model "G".

### Related Tooling Data

#### Descriptions and Specifications

- Applicators—Page 71
- Bench Machines—Pages 71, 72
- CQM—Page 72
- Lead Makers—Page 73
- Wire Strippers—Page 74

**FOR APPLICATION TOOLING ASSISTANCE CALL 1-800-522-6752**

## Application Tooling (Continued)

**Hand Tools for Loose Piece Contacts . . . List is in numerical order by contact part number.**

Description	Contact		Hand Tool	
	Loose Piece Part Number	Strip Mounted Part Number (For Reference)	Part Number With Die Set	Description
Econoseal J Series Mark II+ (Note 2)	173600-1	171631-1	753890-1	CERTI-CRIMP Straight Action Hand Tool
	171699-1	171630-1		
	173706-1	171661-1	755241-1	CERTI-CRIMP Double Action Hand Tool
	173707-1	171662-1	755262-1	
AMP SUPERSEAL 1.5 SERIES (Note 3)	183036-1	282404-1	—	PRO-CRIMPER II Hand Tool and Die Set (Die Set Part Number 58583-2 also available separately.)
	183024-1	282109-1	58583-1	
	183035-1	282403-1	—	
	183025-1	282110-1	58583-1	
Econoseal III .250 Series (Note 4)	344991-1	344069-1	525316-3	CERTI-CRIMP Hand Tool With Die Set
	344989-1	344008-1	525316-1	
	344995-1	344070-1	525316-4	
	344993-1	344009-1	525316-1	
Sealed Circular Connectors	(Note 1)	929967-1 (Note 1)	58606-1	PRO-CRIMPER II Hand Tool and Die Set (Die Set Part Number 58606-2 also available separately.)
Sealed Circular Plastic Connectors (Note 5)	213845-3,-4	213845-1,-2	Hand Tool 69710-1	CERTI-CRIMP "C" Head Hand Tool
	213847-3,-4	213847-1,-2	Requires Die Set 356612-1	
	213841-3,-4	213841-1,-2	Hand Tool 69710-1	
	213843-3,-4	213843-1,-2	Requires Die Set 356611-1	
Splash Proof/Sealed Universal MATE-N-LOK Connectors (Note 6)	350690-1,-2,-3,-7	350561-1,-2,-3,-7	90300-2 or 90548-1	CERTI-CRIMP Straight Action Hand Tool or PRO-CRIMPER II Hand Tool and Die Set (Die Set Part Number 90548-2 also available separately.)
	350706-1,-2,-7	350689-1,-2,-3,-7		
	640347-2	350851-1,-2,-7	—	—
	350689-1,-3,-7	350570-3,-6	—	—
	350547-1,-2,-3,-6,-7	350218-1,-2,-3,-6,-7	90296-2 or 90546-1	CERTI-CRIMP Straight Action Hand Tool or PRO-CRIMPER II Hand Tool and Die Set (Die Set Part Number 90546-2 also available separately.)
	350705-1,-2,-7	350687-1,-2,-7		
	350669-1	350684-1		
	350550-1,-2,-3,-6,-7	350356-1,-2,-3,-6,-7	—	—

**Notes:**

1. A loose piece part number is not currently available. This hand tool is designed to crimp the strip mounted product after removal from the carrier.
2. These hand tools are not designed to crimp strip mounted product. Loose piece insulation support barrels are different than those of strip mounted product. Wire barrel designs of the 173706-1 and 173707-1 also differ from the strip mounted product.
3. This hand tool will also crimp the strip mounted product after removal from the carrier.
4. These hand tools are not designed to crimp strip mounted product. The loose piece wire and insulation support barrels are different than those of the strip mounted product.
5. For strip mounted contacts, use Extraction Tool **Part Number 318813-1**.
6. For loose piece contacts (except 350669-1) and strip mounted contacts (except 350684-1 and 350356-□), use Extraction Tool **Part Number 318851-1**. For strip mounted contacts (except 350356-□, 350684-1 and 350689-□), use Insertion Tool **Part Number 455830-1**.

### Related Tooling Data

**Descriptions and Specifications**

Hand Tools—Pages 74, 75  
Wire Strippers—Page 74  
626 Pneumatic Tool System—  
Page 74

**FOR APPLICATION TOOLING ASSISTANCE CALL 1-800-522-6752**