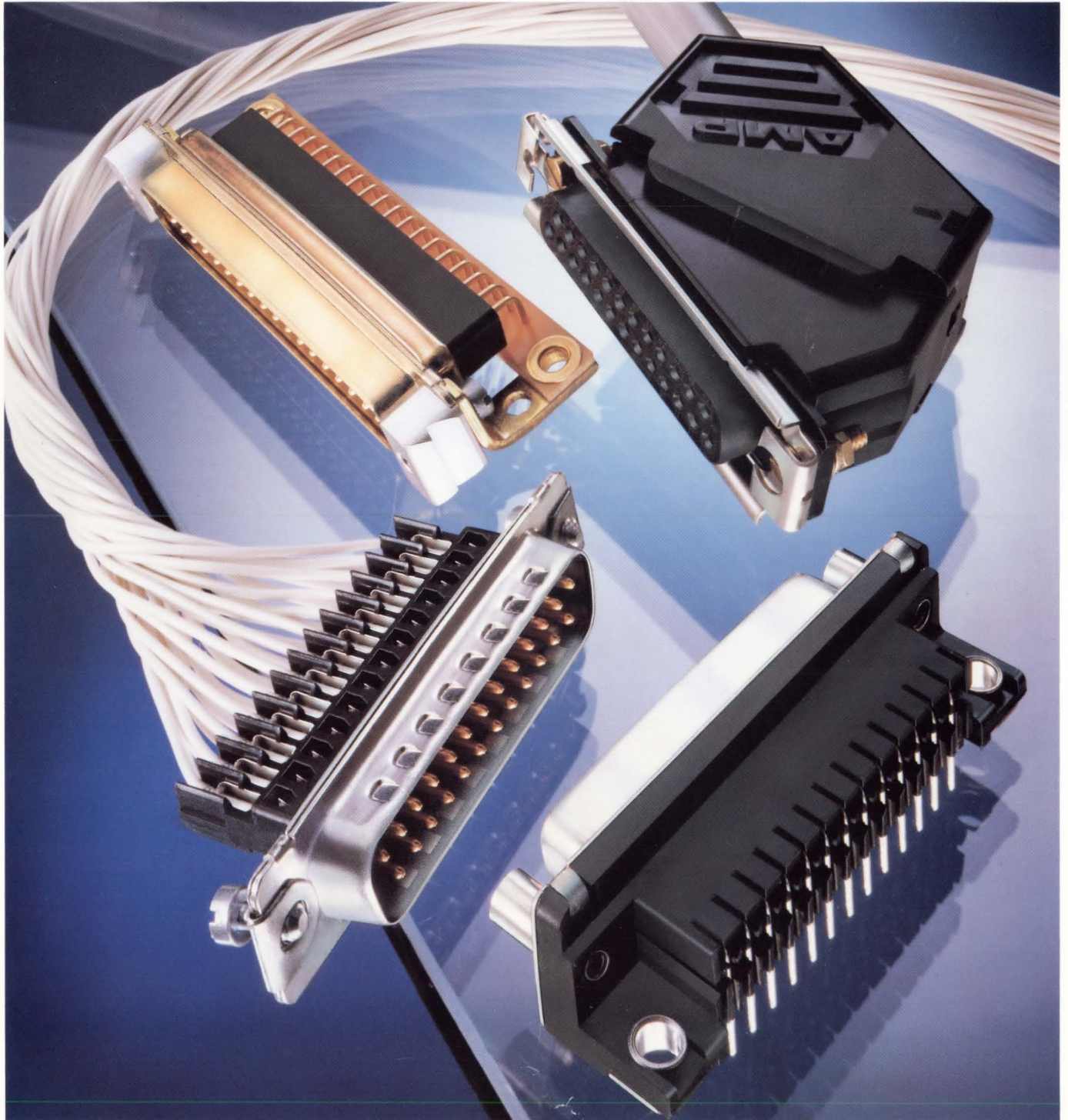


AMP

**AMPLIMITE Subminiature D,
HD-20 (High Density)
Pin and Socket Connectors**

Catalog
79-546
Revised 12-84



AMP means productivity/Worldwide

**AMPLIMITE Subminiature D,
HD-20 Connectors**

Features

■ Available in various styles; metal-shell connectors with plastic inserts, front metal-shell connectors with plastic housings and all-plastic connectors.

■ HDP-20 connectors for discrete wire terminations, pc board mounting and wrap-type terminations.

■ AMP-LATCH HDF-20 low profile connectors for round conductor flat ribbon cable with conductors on .050 [1.27] centers, including planar ribbon cable, ground ribbon cable (fast peel) and shielded/jacketed ribbon cable.

■ HDJ-20 connectors for jacketed cable.

■ HDE-20 connectors for mass termination of discrete wire, jacketed cable and ribbon cable (with conductors separated).

■ Shell sizes 1 thru 5 offer wide choice of contact positions; 9, 15, 25, 37 and 50. Special 19-position size available in HDP-20, HDF-20 and HDE-20 configurations.

■ HDP-20 metal-shell connectors accept size 20 DF (precision formed) and 20 DM (screw-machined) contacts; cap-tivated plastic retention tines eliminate need for spring clips.

■ Thermoplastic material, flame retardant.

■ Numerous accessories available for strain relief and cable clamping, shielding, connector-to-connector mating, connector-to-pc board mounting, circuit commoning and keying.

■ Machine applied terminations assure highest production rates at lowest applied cost.

■ Recognized under the Component Program of Underwriters Laboratories Inc. File No. E28476

■ CSA Certified, File No. LR 16455



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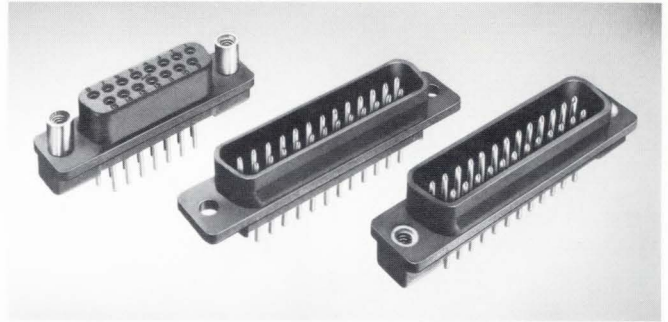
Specifications subject to change.
 Consult AMP Incorporated for latest design specifications.

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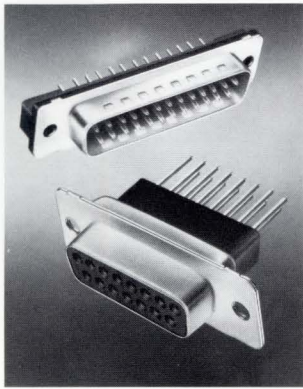
Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.



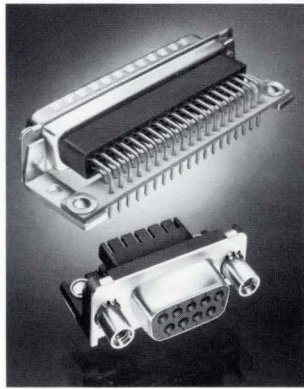
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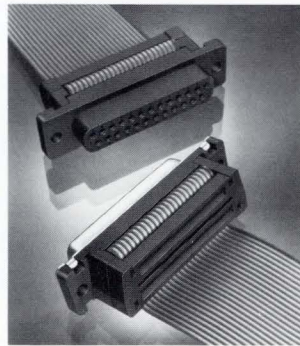
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HDP-20 Metal-shell Connectors with Straight Posted Contacts; Zinc or Tin Plated Shells (Pages 8 thru 13)



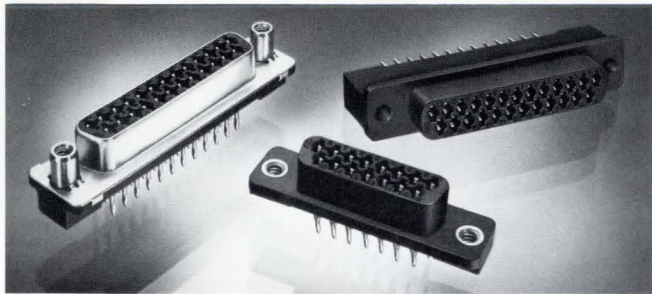
HDP-20 Metal-Shell Connectors with Right-Angle Posted Contacts; 590, 545, 454 and 318 Mount; Zinc or Tin Plated Shells (Pages 14 thru 23)



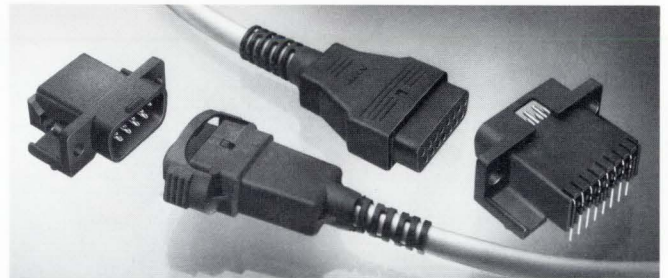
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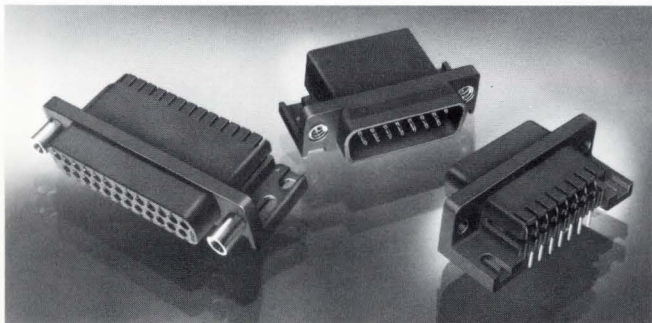
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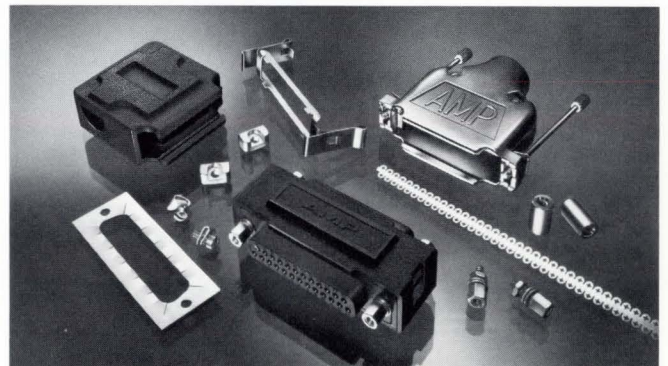
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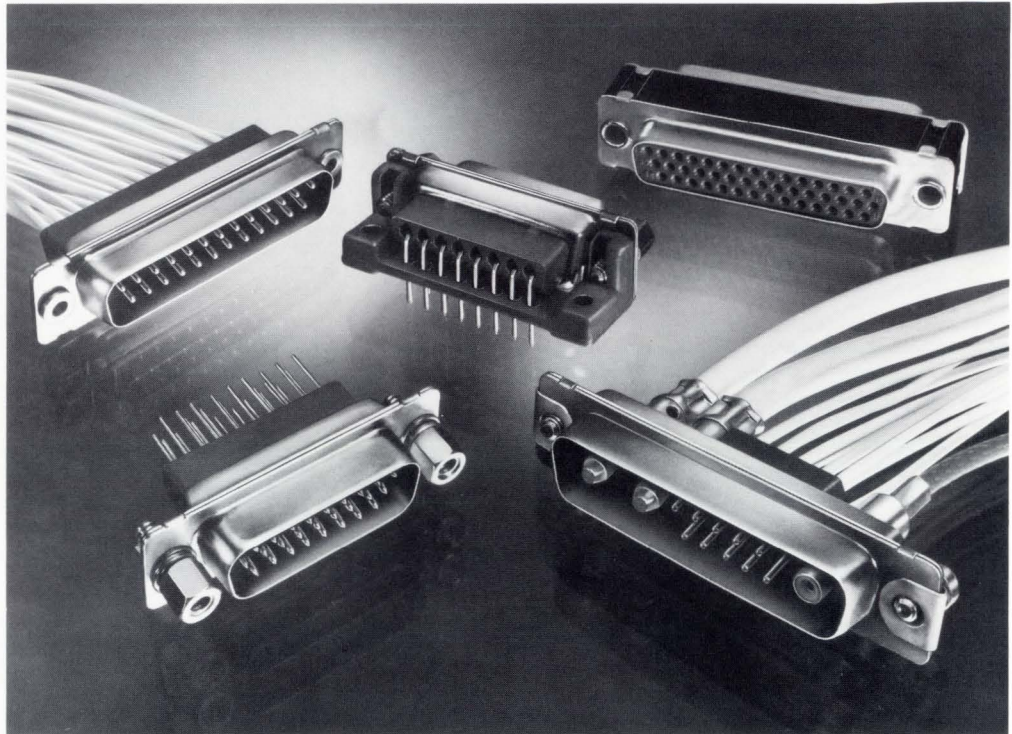
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Other AMPLIMITE Subminiature D Connectors

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.

Military Connectors

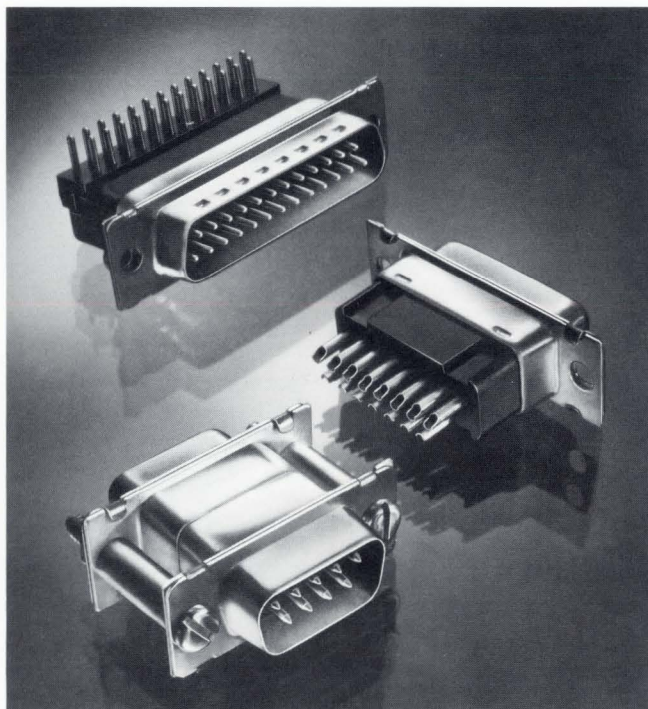
AMPLIMITE Military Connectors conform to the latest amendments of MIL-C-24308 and are intermateable with existing military D type connectors.



AMPLIMITE Military Connectors—A choice of two contact centerline spacings are offered with the Series 90 (.090 [2.29]) and Series 109 (.109 [2.77]) connectors. Connector sizes are from 15 thru 104 positions in Series 90, and from 9 thru 50 positions in Series 109. Both connector series are available with either standard or non-magnetic shells and contacts. Refer to AMP Catalog No. 79-547.

Filtered Connectors

AMPLIMITE Filtered Connectors are designed to conform to FCC regulations which may require the use of filtering to limit electromagnetic emission in computing devices.



AMPLIMITE Filtered Connectors—Solder cup, right-angle and posted versions are available in sizes 9, 15, 25, 37 and 50 positions. A filtered feed-thru connector is also available for each connector size. Refer to AMP Catalog No. 82-683.

AMPLIMITE Subminiature D, HD-20 Connectors

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.

Performance Specifications

The electrical and mechanical performance characteristics of AMPLIMITE Subminiature D connectors are listed below.

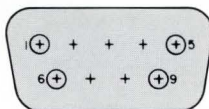
Electrical Characteristics

Contact Current Rating:
Crimp (with 20 AWG [0.5-0.6 mm²] wire)—7.5 Amperes
Insulation Displacement Crimp (with 20 AWG [0.5-0.6 mm²] wire)—3 Amperes
Posted (.025 [0.64] Sq.)—5 Amperes
Posted (.026 [0.66] Dia.)—5 Amperes
Posted (.040 [1.02] Dia.)—7.5 Amperes
Termination Resistance:
Crimp—5 Milliohms (max)
Posted—8 Milliohms (max)
Insulation Displacement Crimp—10 Milliohms (initial)
20 Milliohms (after test)
Dielectric Withstanding Voltage: 1000 VAC (min.)
Insulation Resistance: 5000 Megohms

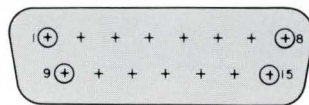
Mechanical Characteristics

Contact Engagement Force: 12 oz. [3.4 N] (max.)
Contact Separation Force: .75 oz. [0.2 N] (min.)
Contact Retention:
For HDP-20 Metal-Shell—10 lb. [44 N] (min.)
For HDP-20 Right-Angle Posted—2 lb. [8 N] (min.)
For HDP-20 All-Plastic Straight Posted—2 lb. [8 N] (min.)
For HDE-20 Metal-Shell and All-Plastic—7 lb. [31 N] (min.)
Tensile Strength (Crimp):
With 20 AWG [0.5-0.6 mm²] Wire—20 lb. [89 N]
With 22 AWG [0.3-0.4 mm²] Wire—12 lb. [53 N]
With 24 AWG [0.2 mm²] Wire—8 lb. [36 N]
With 26 AWG [0.12-0.15 mm²] Wire—4.5 lb. [20 N]
With 28 AWG [0.08-0.09 mm²] Wire—2.7 lb. [12 N]
Tensile Strength (Insulation Displacement Crimp):
With 20 AWG [0.5-0.6 mm²] Wire—9.5 lb. [42 N]
With 22 AWG [0.3-0.4 mm²] Wire—4 lb. [18 N]
With 24 AWG [0.2 mm²] Wire—6 lb. [27 N]
With 26 AWG [0.12-0.15 mm²] Wire—2.5 lb. [11 N]
With 28 AWG [0.08-0.09 mm²] Wire—2.5 lb. [11 N]
With 30 AWG [0.05 mm²] Wire—1 lb. [4.5 N]
Contact Mating Force (per contact): 8 oz. [2.3 N] (max.)

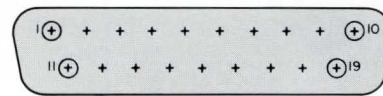
Contact Arrangements



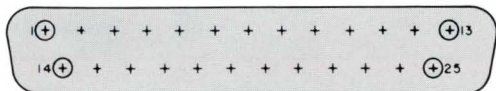
9 Position
(Shell Size 1)



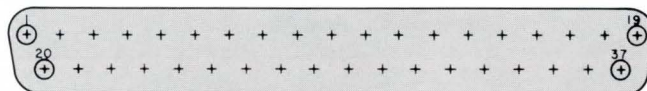
15 Position
(Shell Size 2)



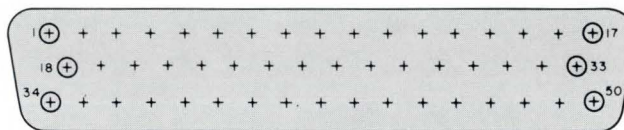
19 Position
(Special)



25 Position
(Shell Size 3)



37 Position
(Shell Size 4)



50 Position
(Shell Size 5)

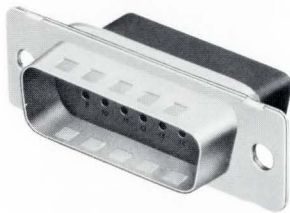
Note: Mating face of plug assembly shown;
receptacle assembly is mirror image.

HDP-20 Metal-Shell Connectors (for Snap-In Contacts)

Plugs



Without Grounding Indents,
Zinc or Tin Plated Shell



With Grounding Indents,
Tin Plated Shell Only

Material and Finish:

Shell—Steel, Zinc (Yellow Chromate) or Tin plated

Insert—Black Thermoplastic, 94V-0 Rated

Reference Information:

Applicable Specifications—page 5
Cavity Identification—page 5

Contacts:

20 DF (Precision Formed)—
pages 55 & 56

20 DM (Screw-Machined)—
page 58

Application Tooling:

for 20 DF Contacts—page 59
for 20 DM Contacts—page 58

Mateable Receptacles:

HDP-20—pages 7, 10-11, 13, 16-17,
19, 21, 23 & 24

HDF-20—page 41

HDE-20—page 49

Pc Board Mounting—page 64

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67

Plug/Receptacle Adapters—page 68

Cable Clamp Assemblies—pages 70
thru 74, 76 thru 81

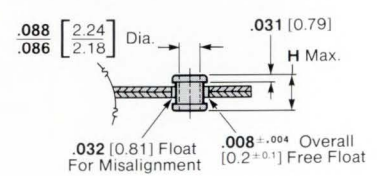
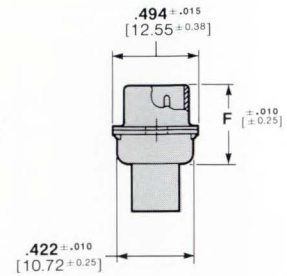
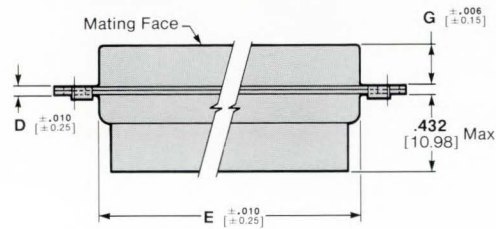
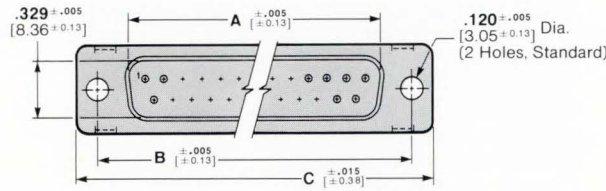
Mating Hardware—pages 86 thru 93

RFI Gaskets—page 94

Standoff Bushings—page 95

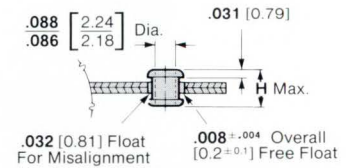
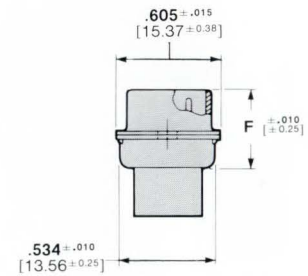
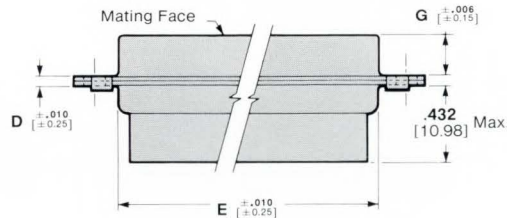
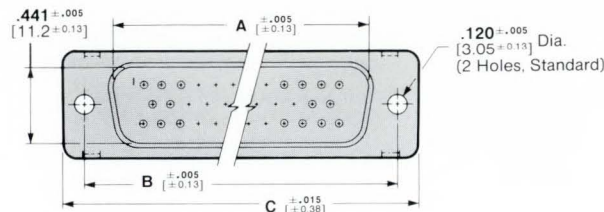
Commoning Strip—page 95

9, 15, 25 and 37 Positions



Floating Bushing

50 Positions



Floating Bushing

No. of Contact Positions (Shell Size)	Dimensions								Mounting Method	Plug Part No.		
	A	B	C	D	E	F	G	H		Zinc Plated Shell	Tin Plated Shell Without Grounding Indents	Tin Plated Shell With Grounding Indents
9 (1)	.666 16.92	.984 24.99	1.213 30.81	.030 0.76	.759 19.28	.422 10.72	.235 5.97	.130 3.3	Standard	205204-1	205204-3	205204-4
15 (2)	.994 25.25	1.312 33.32	1.541 39.14	.030 0.76	1.083 27.51	.422 10.72	.235 5.97	.130 3.3	Standard	205206-1	205206-2	205206-3
									Floating Bushing	205435-1	—	—
25 (3)	1.534 38.96	1.852 47.04	2.088 53.04	.039 0.99	1.625 41.3	.426 10.82	.230 5.84	.139 3.53	Standard	205208-1	207464-1	207464-2
									Floating Bushing	205436-1	—	—
37 (4)	2.182 55.42	2.500 63.5	2.729 69.32	.039 0.99	2.272 57.71	.426 10.82	.230 5.84	.139 3.53	Standard	205210-1	205210-2	205210-3
									Floating Bushing	205437-1	—	—
50 (5)	2.079 52.81	2.406 61.11	2.635 66.93	.039 0.99	2.178 55.32	.426 10.82	.230 5.84	.139 3.53	Standard	205212-1	205212-2	205212-3
									Floating Bushing	205438-1	—	—

Note: All plugs accept size 20 DF and 20 DM pin contacts

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

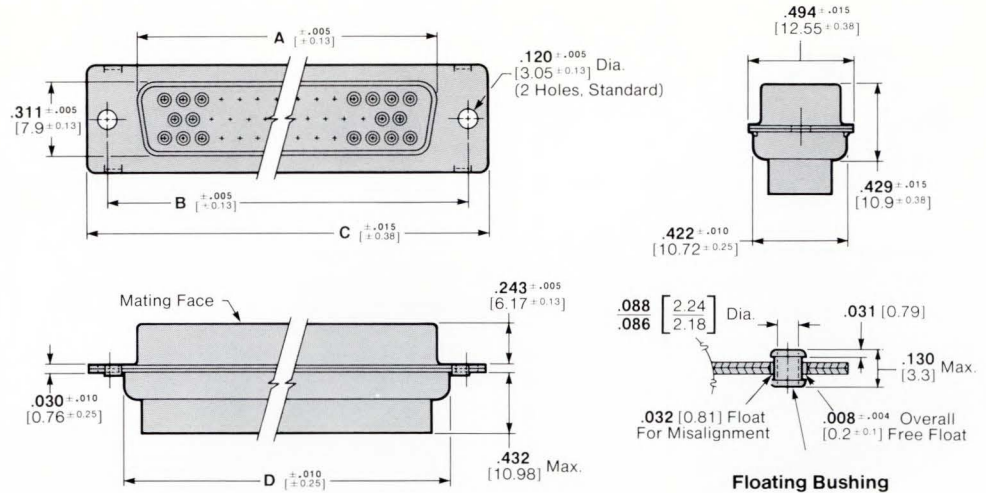
Receptacles



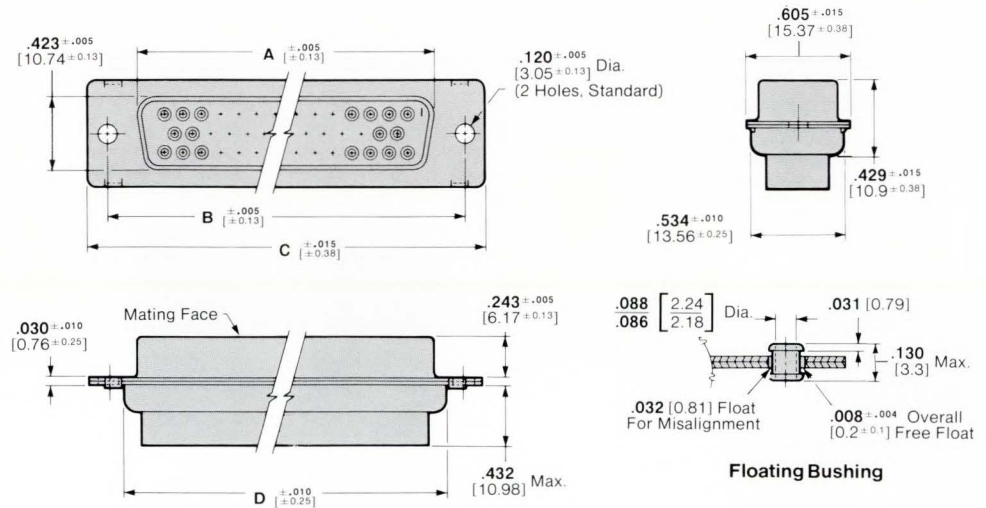
Zinc or Tin Plated Shell

- Material and Finish:**
Shell—Steel; Zinc (Yellow Chromate) or Tin plated
Insert—Black Thermoplastic, 94V-0 Rated
- Reference Information:**
Applicable Specifications—page 5
Cavity Identification—page 5
- Contacts:**
20 DF (Precision Formed)—pages 55 & 56
20 DM (Screw-Machined)—page 58
- Application Tooling:**
for 20 DF Contacts—page 59
for 20 DM Contacts—page 58
- Mateable Plugs:**
HDP-20—pages 6, 8-9, 12, 14-15, 18, 20 & 22
HDF-20—page 40
HDE-20—page 48
- Pc Board Mounting—page 64**
Mating/Panel Mounting—page 66
- Accessories:**
Connector Savers—page 67
Plug/Receptacle Adapters—page 68
Cable Clamp Assemblies—pages 70 thru 74, 76 thru 81
Mating Hardware—pages 86 thru 93
RFI Gaskets—page 94
Standoff Bushings—page 95
Keying Plug—page 95

9, 15, 25 and 37 Positions



50 Positions



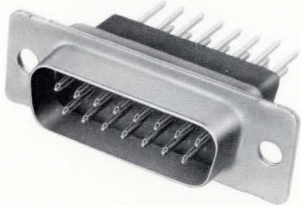
No. of Contact Positions (Shell Size)	Dimensions				Mounting Method	Receptacle Part No.	
	A	B	C	D		Zinc Plated Shell	Tin Plated Shell
9 (1)	.643 16.33	.984 24.99	1.213 30.81	.759 19.28	Standard	205203-1	205203-3
15 (2)	.971 24.66	1.312 33.32	1.541 39.14	1.083 27.51	Floating Bushing	205205-1	205205-2
25 (3)	1.511 38.38	1.852 47.04	2.088 53.04	1.625 41.3	Standard	205207-1	207463-1
37 (4)	2.159 54.84	2.500 63.5	2.729 69.32	2.272 57.71	Floating Bushing	205441-1	—
50 (5)	2.064 52.43	2.406 61.11	2.635 66.93	2.178 55.32	Standard	205209-1	205209-2
					Floating Bushing	205442-1	—
					Standard	205211-1	205211-2
					Floating Bushing	205443-1	—

Notes: 1. All receptacles accept size 20 DF and 20 DM socket contacts.
2. A 19-position receptacle is available, see page 52.

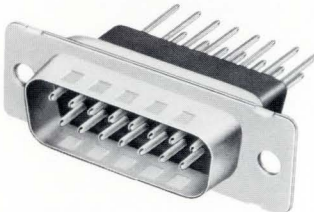
HDP-20 Metal-Shell Connectors with .025 [0.64] Sq. Straight Posted Contacts (for Pc Board Mounting or Wrap-Type Terminations)

DUPLEX PLATING AVAILABLE:
Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

Plug Assemblies



Without Grounding Indents,
Zinc or Tin Plated Shell



With Grounding Indents,
Tin Plated Shell Only

Material and Finish:

Shell—Steel; Zinc (Yellow Chromate) or Tin plated

Insert—Black Thermoplastic, 94V-0 Rated

Pin Contacts (Posted)—Brass; plated as follows:

A—Gold flash over .000050 [0.00127] nickel on entire contact, with additional .000030 [0.00076] gold on mating end for length of .150 [3.81] min.

B—Gold flash over .000030 [0.00076] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Contacts, 20 DF (Precision Formed),

.025 [0.64] Sq. Post—page 56

Mateable Receptacles:

HDP-20—pages 7, 10-11, 13, 16-17,

19, 21, 23 & 24

HDF-20—page 41

HDE-20—page 49

Pc Board Mounting—page 64

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67

Plug/Receptacle Adapters—page 68

Mating Hardware—pages 86 thru 89,

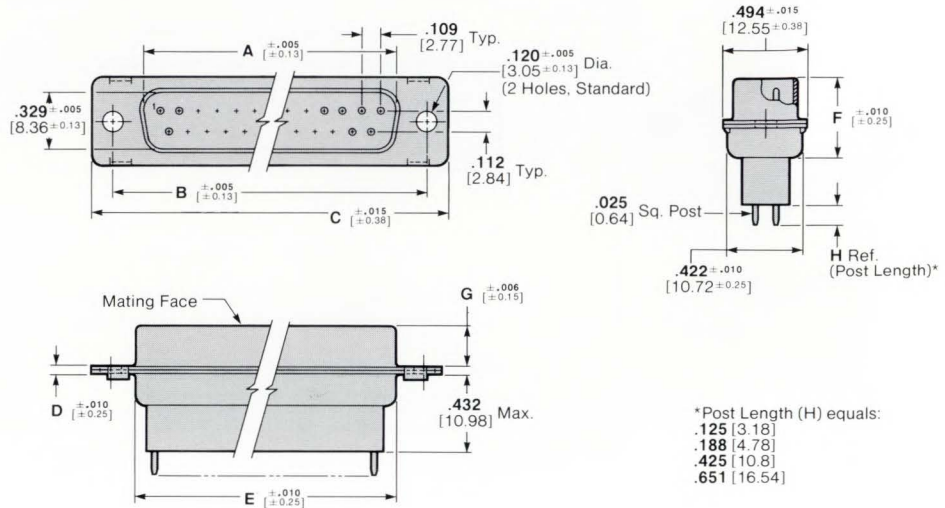
92 & 93

RFI Gaskets—page 94

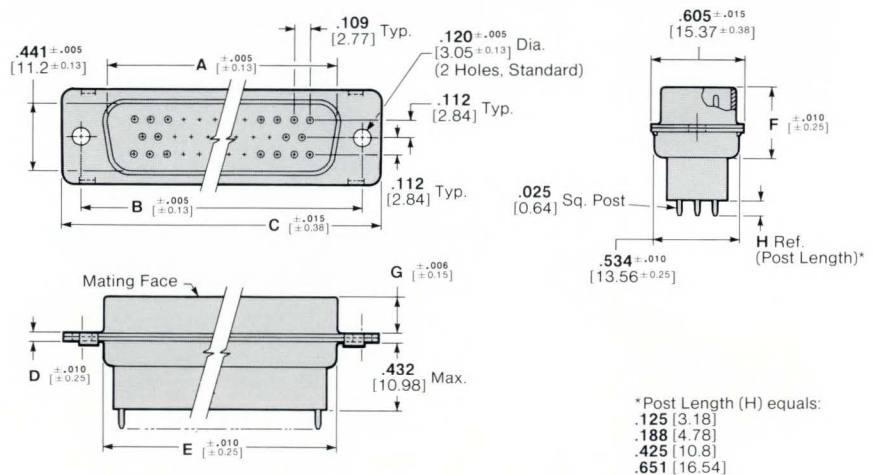
Standoff Bushings—page 95

Commoning Strip—page 95

9, 15, 25 and 37 Positions



50 Positions



*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .188 [4.78] post length is for recommended pc board thickness of .125 [3.18]. .425 [10.8] and .651 [16.54] post lengths are for wrap-type terminations.

- Notes:**
1. All plug assemblies are preloaded with size 20 DF posted pin contacts.
 2. Special loading of contacts can be arranged upon request.
 3. For pc board hole pattern specifications, see page 64.
 4. Insertion/Extraction Tool **No. 91083-2** is used to remove and install posted pin contacts.

DUPLEX PLATING AVAILABLE:
 Gold on mating end,
 tin on termination end.
 Consult AMP Incorporated.

Dimensioning:
 All dimensions in inches and millimetres.
 Values in brackets are metric equivalents.
 Chart contains dimensions in inches over
 millimetres.

No. of Contact Positions (Shell Size)	Dimensions								Contact Finish (Plating Code)	Plug Assembly Part No.			
	A	B	C	D	E	F	G	H*		Zinc Plated Shell	Tin Plated Shell		
											Without Grounding Indents	With Grounding Indents	
9 (1)	.666 16.92	.984 24.99	1.213 30.81	.030 0.76	.759 19.28	.422 10.72	.235 5.97		A	.125	205733-1	745182-1	745410-1
										.188	205733-7	745182-7	745410-7
										.425	205733-3	745182-3	745410-3
										.651	205733-5	745182-5	745410-5
										.125	205733-2	745182-2	745410-2
										.188	205733-8	745182-8	745410-8
									B	.425	205733-4	745182-4	745410-4
										.651	205733-6	745182-6	745410-6
										.125	205735-1	745184-1	745411-1
										.188	205735-7	745184-7	745411-7
										.425	205735-3	745184-3	745411-3
										.651	205735-5	745184-5	745411-5
15 (2)	.994 25.25	1.312 33.32	1.541 39.14	.030 0.76	1.083 27.51	.422 10.72	.235 5.97		A	.125	205735-2	745184-2	745411-2
										.188	205735-8	745184-8	745411-8
										.425	205735-4	745184-4	745411-4
										.651	205735-6	745184-6	745411-6
										.125	205737-1	745186-1	745412-1
										.188	205737-7	745186-7	745412-7
									B	.425	205737-3	745186-3	745412-3
										.651	205737-5	745186-5	745412-5
										.125	205737-2	745186-2	745412-2
										.188	205737-8	745186-8	745412-8
										.425	205737-4	745186-4	745412-4
										.651	205737-6	745186-6	745412-6
25 (3)	1.534 38.96	1.852 47.04	2.088 53.04	.039 0.99	1.625 41.3	.426 10.82	.230 5.84		A	.125	205714-1	745188-1	745413-1
										.188	205714-7	745188-7	745413-7
										.425	205714-3	745188-3	745413-3
										.651	205714-5	745188-5	745413-5
										.125	205714-2	745188-2	745413-2
										.188	205714-8	745188-8	745413-8
									B	.425	205714-4	745188-4	745413-4
										.651	205714-6	745188-6	745413-6
										.125	205739-1	745190-1	745414-1
										.188	205739-7	745190-7	745414-7
										.425	205739-3	745190-3	745414-3
										.651	205739-5	745190-5	745414-5
37 (4)	2.182 55.42	2.500 63.5	2.729 69.32	.039 0.99	2.272 57.71	.426 10.82	.230 5.84		A	.125	205739-2	745190-2	745414-2
										.188	205739-8	745190-8	745414-8
										.425	205739-4	745190-4	745414-4
										.651	205739-6	745190-6	745414-6
										.125	205739-1	745190-1	745414-1
										.188	205739-7	745190-7	745414-7
									B	.425	205739-3	745190-3	745414-3
										.651	205739-5	745190-5	745414-5
										.125	205739-2	745190-2	745414-2
										.188	205739-8	745190-8	745414-8
										.425	205739-4	745190-4	745414-4
										.651	205739-6	745190-6	745414-6

*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .188 [4.78] post length is for recommended pc board thickness of .125 [3.18]. .425 [10.8] and .651 [16.54] post lengths are for wrap-type terminations.

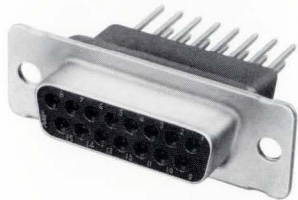
- Notes:**
1. All plug assemblies are preloaded with size 20 DF posted pin contacts.
 2. Special loading of contacts can be arranged upon request.
 3. For pc board hole pattern specifications, see page 64.
 4. Insertion/Extraction Tool **No. 91083-2** is used to remove and install posted pin contacts.

HDP-20 Metal-Shell Connectors with .025 [0.64] Sq. Straight Posted Contacts (for Pc Board Mounting or Wrap-Type Terminations)

DUPLEX PLATING AVAILABLE:

Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

Receptacle Assemblies



Zinc or Tin Plated Shell



With Clinch Nuts,
Tin Plated Shell Only

Material and Finish:

Shell—Steel; Zinc (Yellow Chromate) or Tin plated

Insert—Black Thermoplastic, 94V-0 Rated

Socket Contacts (Posted)

Phosphor Bronze, plated as follows:

A—Gold flash over .000050 [0.00127] nickel on entire contact, with additional .000030 [0.00076] gold on mating end for length of .100 [2.54] min.

B—Gold flash over .000030 [0.00076] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Contacts, 20 DF (Precision Formed),

.025 [0.64] Sq. Post—page 56

Mateable Plugs:

HDP-20—pages 6, 8-9, 12, 14-15, 18,

20 & 22

HDF-20—page 40

HDE-20—page 48

Pc Board Mounting—page 64

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67

Plug/Receptacle Adapters—page 68

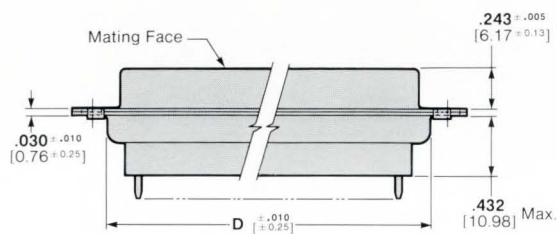
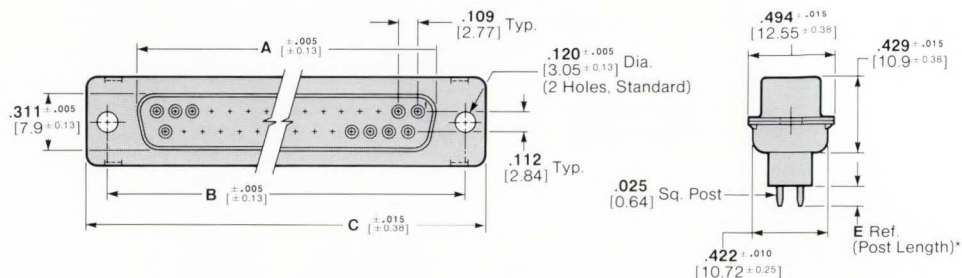
Mating Hardware—pages 86 thru 89,
92 & 93

RFI Gaskets—page 94

Standoff Bushings—page 95

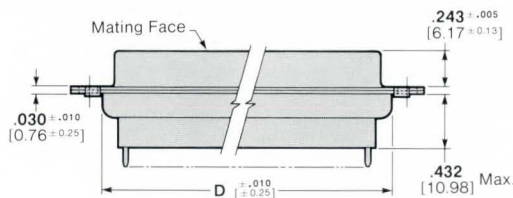
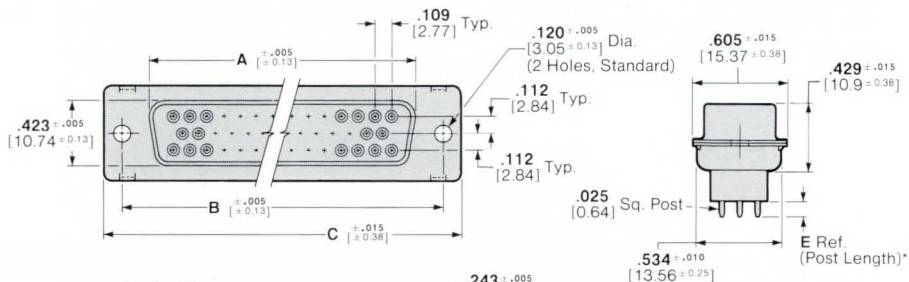
Keying Plug—page 95

9, 15, 25 and 37 Positions



*Post Length (E) equals:
.125 [3.18]
.188 [4.78]
.425 [10.8]
.651 [16.54]

50 Positions



*Post Length (E) equals:
.125 [3.18]
.188 [4.78]
.425 [10.8]
.651 [16.54]

*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .188 [4.78] post length is for recommended pc board thickness of .125 [3.18]. .425 [10.8] and .651 [16.54] post lengths are for wrap-type terminations.

- Notes:**
1. All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
 2. Special loading of contacts can be arranged upon request.
 3. For pc board hole pattern specifications, see page 64.
 4. Insertion/Extraction Tool **No. 91083-2** is used to remove and install posted socket contacts.

DUPLEX PLATING AVAILABLE:
 Gold on mating end,
 tin on termination end.
 Consult AMP Incorporated.

Dimensioning:
 All dimensions in inches and millimetres.
 Values in brackets are metric equivalents.
 Chart contains dimensions in inches over millimetres.

No. of Contact Positions (Shell Size)	Dimensions					Contact Finish (Plating Code)	Receptacle Assembly Part No.								
	A	B	C	D	E*		Zinc Plated Shell	Tin Plated Shell							
								With Standard Mounting Holes	With Clinch Nuts						
9 (1)	.643 16.33	.984 24.99	1.213 30.81	.759 9.28	.125	A	205734-1	745183-1	747190-2						
					.188		205734-7	745183-7	747190-4						
					.425		205734-3	745183-3	747190-6						
					.651		205734-5	745183-5	747190-8						
					.125		205734-2	745183-2	747190-1						
					.188		205734-8	745183-8	747190-3						
					.425	B	205734-4	745183-4	747190-5						
					.651		205734-6	745183-6	747190-7						
					15 (2)		.971 24.66	1.312 33.32	1.541 39.14	1.083 27.51	.125	A	205736-1	745185-1	745820-1
											.188		205736-7	745185-7	745820-7
											.425		205736-3	745185-3	745820-3
											.651		205736-5	745185-5	745820-5
.125	205736-2	745185-2	745820-2												
.188	205736-8	745185-8	745820-8												
.425	B	205736-4	745185-4	745820-4											
.651		205736-6	745185-6	745820-6											
25 (3)		1.511 38.38	1.852 47.04	2.088 53.04		1.625 41.3					.125	A	205738-1	745187-1	745886-1
											.188		205738-7	745187-7	745886-7
											.425		205738-3	745187-3	745886-3
											.651		205738-5	745187-5	745886-5
	.125				205738-2		745187-2	745886-2							
	.188				205738-8		745187-8	745886-8							
	.425				B		205738-4	745187-4	745886-4						
	.651						205738-6	745187-6	745886-6						
	37 (4)						2.159 54.84	2.500 63.5	2.729 69.32	2.272 57.71	.125	A	205713-1	745189-1	747315-1
											.188		205713-7	745189-7	747315-7
											.425		205713-3	745189-3	747315-3
											.651		205713-5	745189-5	747315-5
.125		205713-2	745189-2	747315-2											
.188		205713-8	745189-8	747315-8											
.425		B	205713-4	745189-4	747315-4										
.651			205713-6	745189-6	747315-6										
50 (5)			2.064 52.43	2.406 61.11	2.635 66.93	2.178 55.32					.125	A	205740-1	745191-1	747302-1
											.188		205740-7	745191-7	747302-7
											.425		205740-3	745191-3	747302-3
											.651		205740-5	745191-5	747302-5
	.125	205740-2					745191-2	747302-2							
	.188	205740-8					745191-8	747302-8							
	.425	B					205740-4	745191-4	747302-4						
	.651						205740-6	745191-6	747302-6						

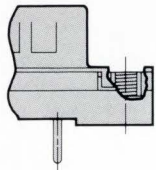
*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .188 [4.78] post length is for recommended pc board thickness of .125 [3.18]. .425 [10.8] and .651 [16.54] post lengths are for wrap-type terminations.

- Notes:**
1. All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
 2. Special loading of contacts can be arranged upon request.
 3. For pc board hole pattern specifications, see page 64.
 4. Insertion/Extraction Tool **No. 91083-2** is used to remove and install posted socket contacts.

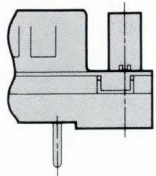
HDP-20 Metal-Shell Connectors with .026 [0.66] Dia. Straight Posted Contacts (for Pc Board Mounting)

DUPLEX PLATING AVAILABLE:
Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

Plug Assemblies (with Integral Standoff and Grounding Indents)



With 4-40 Threaded Inserts



With 4-40 Fixed Female
Screwlocks

Material and Finish:
Front Shell—Steel; Tin plated
Housing—Black Thermoplastic,
94V-0 Rated

Threaded Inserts—Brass; unplated

Female Screwlocks—Brass; Nickel plated

Pin Contacts (Posted)—Brass; plated as follows:

A—Gold flash over .000050 [0.00127] nickel on entire contact, with additional .000030 [0.00076] gold on mating end for length of .150 [3.81] min.

B—Gold flash over .000030 [0.00076] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Receptacles:

HDP-20—pages 7, 10-11, 13, 16-17, 19, 21, 23 & 24

HDF-20—page 41

HDE-20—page 49

Pc Board Mounting—page 64

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67

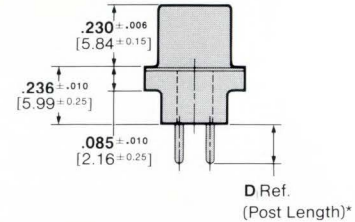
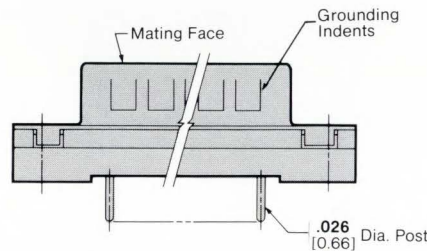
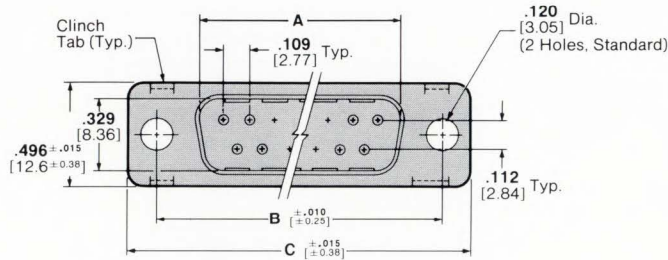
Plug/Receptacle Adapters—page 68

Mating Hardware—pages 87 thru 89, 92 & 93

RFI Gaskets—page 94

Commoning Strip—page 95

25 and 37 Positions



*Post Length (D) equals:
.125 [3.18]
.170 [4.32]
.250 [6.35]

No. of Contact Positions (Shell Size)	Dimensions				Contact Finish (Plating Code)	Plug Assembly Part No.			
	A	B	C	D*		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks	
25 (3)	1.534 38.96	1.852 47.04	2.090 53.09	.125	A	745968-2	745968-8	1-745968-4	
				.170		745968-4	1-745968-0	1-745968-6	
				.250		745968-6	1-745968-2	1-745968-8	
				.125		B	745968-1	745968-7	1-745968-3
				.170			745968-3	745968-9	1-745968-5
				.250			745968-5	1-745968-1	1-745968-7
37 (4)	2.182 55.42	2.500 63.5	2.732 69.39	.125	A	747375-2	747375-8	1-747375-4	
				.170		747375-4	1-747375-0	1-747375-6	
				.250		747375-6	1-747375-2	1-747375-8	
				.125		B	747375-1	747375-7	1-747375-3
				.170			747375-3	747375-9	1-747375-5
				.250			747375-5	1-747375-1	1-747375-7

*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .170 [4.32] post length is for recommended pc board thicknesses of .093 [2.36] and .125 [3.18]. .250 [6.35] post length is for special applications.

- Notes:**
- All plug assemblies are preloaded with size 20 DF posted pin contacts.
 - Special loading of contacts can be arranged upon request.
 - Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.
 - For pc board hole pattern specifications, see page 64.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

Short Mounting Flange, Without Grounding Indents

No. of Contact Positions (Shell Size)	Dimensions						Contact Finish (Plating Code)	Plug Assembly Part No. (without Grounding Straps)			Plug Assembly Part No. (with Grounding Straps)		
	A	B	C	D	E	F		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks	With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
	9 (1)	.666 16.92	.276 7.01	.984 24.99	1.213 30.81	.965 24.51		.235 5.97	A	2-745990-0	2-745990-2	2-745990-4	1-745990-4
15 (2)	.994 25.25	.278 7.06	1.312 33.32	1.541 39.14	.965 24.51	.235 5.97	A	2-745986-0	2-745986-2	2-745986-4	1-745986-4	1-745986-6	1-745986-8
25 (3)	1.534 38.96	.274 6.96	1.852 47.04	2.088 53.04	.970 24.64	.230 5.84	A	2-745994-0	2-745994-2	2-745994-4	1-745994-4	1-745994-6	1-745994-8
37 (4)	2.182 55.42	.272 6.91	2.500 63.5	2.729 69.32	.972 24.69	.230 5.84	A	2-745998-0	2-745998-2	2-745998-4	1-745998-4	1-745998-6	1-745998-8
							B	1-745998-9	2-745998-1	2-745998-3	1-745998-3	1-745998-5	1-745998-7

Short Mounting Flange, With Grounding Indents

No. of Contact Positions (Shell Size)	Dimensions						Contact Finish (Plating Code)	Plug Assembly Part No. (without Grounding Straps)			Plug Assembly Part No. (with Grounding Straps)		
	A	B	C	D	E	F		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks	With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
	9 (1)	.666 16.92	.276 7.01	.984 24.99	1.213 30.81	.965 24.51		.235 5.97	A	745990-8	1-745990-0	1-745990-2	745990-2
15 (2)	.994 25.25	.278 7.06	1.312 33.32	1.541 39.14	.965 24.51	.235 5.97	A	745986-8	1-745986-0	1-745986-2	745986-2	745986-4	745986-6
25 (3)	1.534 38.96	.274 6.96	1.852 47.04	2.088 53.04	.970 24.64	.230 5.84	A	745994-8	1-745994-0	1-745994-2	745994-2	745994-4	745994-6
37 (4)	2.182 55.42	.272 6.91	2.500 63.5	2.729 69.32	.972 24.69	.230 5.84	A	745998-8	1-745998-0	1-745998-2	745998-2	745998-4	745998-6
							B	745998-7	745998-9	1-745998-1	745998-1	745998-3	745998-5

Long Mounting Flange, Without Grounding Indents

No. of Contact Positions (Shell Size)	Dimensions						Contact Finish (Plating Code)	Plug Assembly Part No. (without Grounding Straps)			Plug Assembly Part No. (with Grounding Straps)		
	A	B	C	D	E	F		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks	With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
	9 (1)	.666 16.92	.276 7.01	.984 24.99	1.213 30.81	.988 25.1		.235 5.97	A	2-747009-0	2-747009-2	2-747009-4	1-747009-4
15 (2)	.994 25.25	.278 7.06	1.312 33.32	1.541 39.14	.988 25.1	.235 5.97	A	2-747045-0	2-747045-2	2-747045-4	1-747045-4	1-747045-6	1-747045-8
25 (3)	1.534 38.96	.274 6.96	1.852 47.04	2.088 53.04	.993 25.22	.230 5.84	A	2-747047-0	2-747047-2	2-747047-4	1-747047-4	1-747047-6	1-747047-8
37 (4)	2.182 55.42	.272 6.91	2.500 63.5	2.729 69.32	.995 25.27	.230 5.84	A	2-747049-0	2-747049-2	2-747049-4	1-747049-4	1-747049-6	1-747049-8
							B	1-747049-9	2-747049-1	2-747049-3	1-747049-3	1-747049-5	1-747049-7

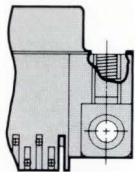
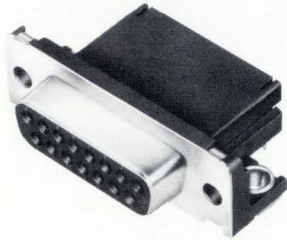
Long Mounting Flange, With Grounding Indents

No. of Contact Positions (Shell Size)	Dimensions						Contact Finish (Plating Code)	Plug Assembly Part No. (without Grounding Straps)			Plug Assembly Part No. (with Grounding Straps)		
	A	B	C	D	E	F		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks	With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
	9 (1)	.666 16.92	.276 7.01	.984 24.99	1.213 30.81	.988 25.1		.235 5.97	A	747009-8	1-747009-0	1-747009-2	747009-2
15 (2)	.994 25.25	.278 7.06	1.312 33.32	1.541 39.14	.988 25.1	.235 5.97	A	747045-8	1-747045-0	1-747045-2	747045-2	747045-4	747045-6
25 (3)	1.534 38.96	.274 6.96	1.852 47.04	2.088 53.04	.993 25.22	.230 5.84	A	747047-8	1-747047-0	1-747047-2	747047-2	747047-4	747047-6
37 (4)	2.182 55.42	.272 6.91	2.500 63.5	2.729 69.32	.995 25.27	.230 5.84	A	747049-8	1-747049-0	1-747049-2	747049-2	747049-4	747049-6
							B	747049-7	747049-9	1-747049-1	747049-1	747049-3	747049-5

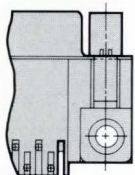
- Notes:**
- All plug assemblies are preloaded with size 20 DF posted pin contacts.
 - Recommended pc board thickness is .093 [2.37] max.
 - For pc board hole pattern specifications, see page 65.
 - Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

HDP-20 Metal-Shell Connectors with .026 [0.66] Dia. Right-Angle Posted Contacts 590 Mount (for Pc Board Mounting)

Receptacle Assemblies



With 4-40 Threaded Inserts
(Short Mounting Flange Shown)



With 4-40 Fixed Female
Screwlocks
(Short Mounting Flange Shown)

Material and Finish:

Front Shell—Steel; Tin plated

Housing—Black Thermoplastic,
94V-0 Rated

Eyelets—Brass; Tin plated

Threaded Inserts—Brass; unplated

Female Screwlocks—Brass; Nickel
plated

Socket Contacts (Posted)—Phosphor
Bronze; duplex plated as follows:

A—.000030 [0.00076] gold on mating
end for length of .100 [2.54] min.,
.000100-.000200 [0.00254-0.00508]
bright tin or bright tin-lead on termina-
tion end, with entire contact under-
plated .000050 [0.00127] nickel

B—Gold flash on mating end for length of
.100 [2.54] min., .000100-.000200
[0.00254-0.00508] bright tin or bright
tin-lead on termination end, with
entire contact underplated .000050
[0.00127] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Plugs:

HDP-20—pages 6, 8-9, 12, 14-15, 18,
20 & 22

HDF-20—page 40

HDE-20—page 48

Pc Board Mounting—page 65

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67

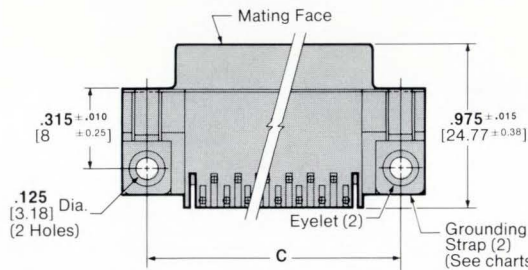
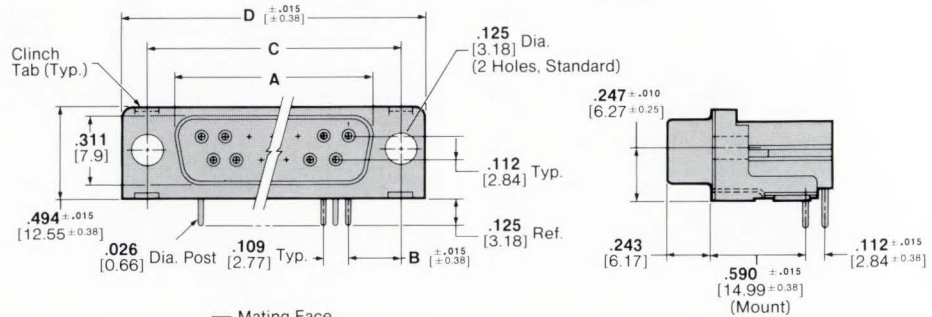
Plug/Receptacle Adapters—page 68

Mating Hardware—pages 87 thru 89,
92 & 93

RFI Gaskets—page 94

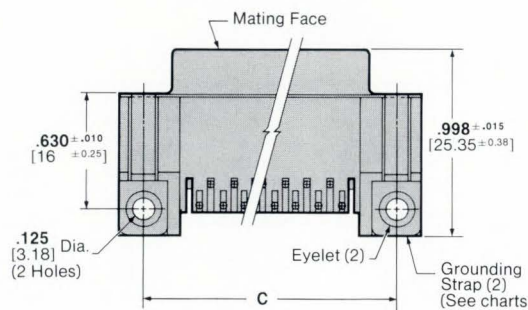
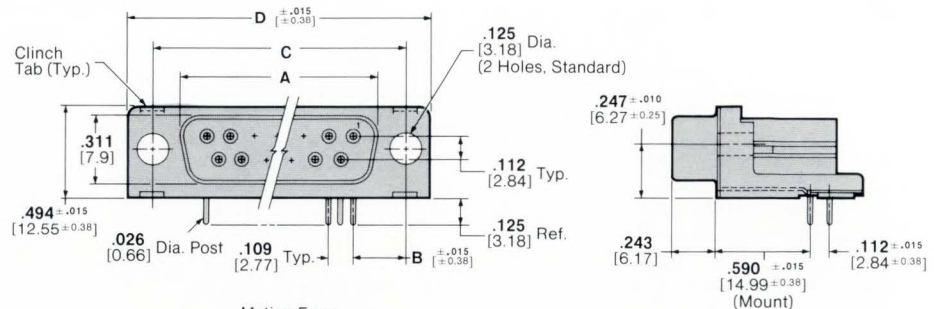
Keying Plug—page 95

9, 15, 25 and 37 Positions (With Short Mounting Flange)



Without Grounding Straps
(See charts.)

9, 15, 25 and 37 Positions (With Long Mounting Flange)



Without Grounding Straps
(See charts.)

- Notes:**
1. All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
 2. Recommended pc board thickness is .093 [2.37] max.
 3. For pc board hole pattern specifications, see page 65.
 4. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

Dimensioning:
 All dimensions in inches and millimetres.
 Values in brackets are metric equivalents.
 Charts contain dimensions in inches over millimetres.

Short Mounting Flange

No. of Contact Positions (Shell Size)	Dimensions				Contact Finish (Plating Code)	Receptacle Assembly Part No. (without Grounding Straps)			Receptacle Assembly Part No. (with Grounding Straps)		
	A	B	C	D		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks	With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.643 16.33	.276 7.01	.984 24.99	1.213 30.81	A	745988-8	1-745988-0	1-745988-2	745988-2	745988-4	745988-6
					B	745988-7	745988-9	1-745988-1	745988-1	745988-3	745988-5
15 (2)	.971 24.66	.278 7.06	1.312 33.32	1.541 39.14	A	745984-8	1-745984-0	1-745984-2	745984-2	745984-4	745984-6
					B	745984-7	745984-9	1-745984-1	745984-1	745984-3	745984-5
25 (3)	1.511 38.38	.274 6.96	1.852 47.04	2.088 53.04	A	745992-8	1-745992-0	1-745992-2	745992-2	745992-4	745992-6
					B	745992-7	745992-9	1-745992-1	745992-1	745992-3	745992-5
37 (4)	2.159 54.84	.272 6.91	2.500 63.5	2.729 69.32	A	745996-8	1-745996-0	1-745996-2	745996-2	745996-4	745996-6
					B	745996-7	745996-9	1-745996-1	745996-1	745996-3	745996-5

Long Mounting Flange

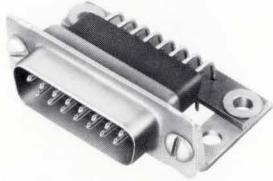
No. of Contact Positions (Shell Size)	Dimensions				Contact Finish (Plating Code)	Receptacle Assembly Part No. (without Grounding Straps)			Receptacle Assembly Part No. (with Grounding Straps)		
	A	B	C	D		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks	With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.643 16.33	.276 7.01	.984 24.99	1.213 30.81	A	747010-8	1-747010-0	1-747010-2	747010-2	747010-4	747010-6
					B	747010-7	747010-9	1-747010-1	747010-1	747010-3	747010-5
15 (2)	.971 24.66	.278 7.06	1.312 33.32	1.541 39.14	A	747046-8	1-747046-0	1-747046-2	747046-2	747046-4	747046-6
					B	747046-7	747046-9	1-747046-1	747046-1	747046-3	747046-5
25 (3)	1.511 38.38	.274 6.96	1.852 47.04	2.088 53.04	A	747048-8	1-747048-0	1-747048-2	747048-2	747048-4	747048-6
					B	747048-7	747048-9	1-747048-1	747048-1	747048-3	747048-5
37 (4)	2.159 54.84	.272 6.91	2.500 63.5	2.729 69.32	A	747050-8	1-747050-0	1-747050-2	747050-2	747050-4	747050-6
					B	747050-7	747050-9	1-747050-1	747050-1	747050-3	747050-5

- Notes:**
- All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
 - Recommended pc board thickness is .093 [2.37] max.
 - For pc board hole pattern specifications, see page 65.
 - Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

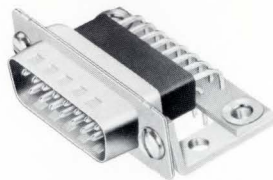
HDP-20 Metal-Shell Connectors with .025 [0.64] Sq. Right-Angle Posted Contacts 545 Mount (for Pc Board Mounting)

DUPLEX PLATING AVAILABLE:
Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

Plug Assemblies



Without Grounding Indents,
Zinc or Tin Plated Shell



With Grounding Indents,
Tin Plated Shell Only

Material and Finish:

Shell—Steel; Zinc (Yellow Chromate) or Tin plated

Insert—Black Thermoplastic, 94V-0 Rated

Pin Contacts (Posted)—Brass; plated as follows:

A—Gold flash over .000050 [0.00127] nickel on entire contact, with additional .000030 [0.00076] gold on mating end for length of .150 [3.81] min.

B—Gold flash over .000030 [0.00076] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Receptacles:

HDP-20—pages 7, 10-11, 13, 16-17,

19, 21, 23 & 24

HDF-20—page 41

HDE-20—page 49

Pc Board Mounting—page 65

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67

Plug/Receptacle Adapters—page 68

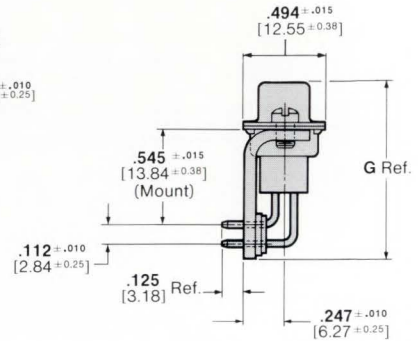
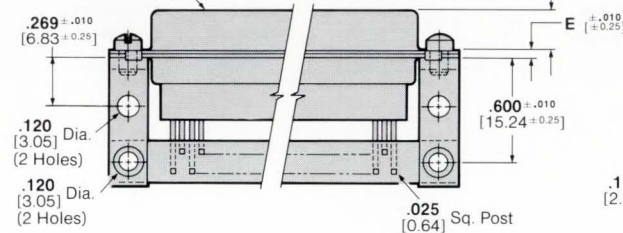
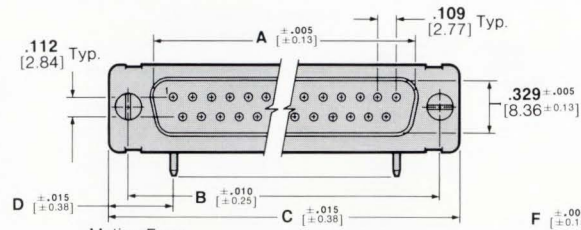
Mating Hardware—pages 87 thru 89,

92 & 93

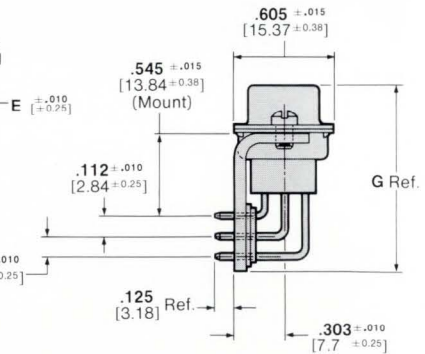
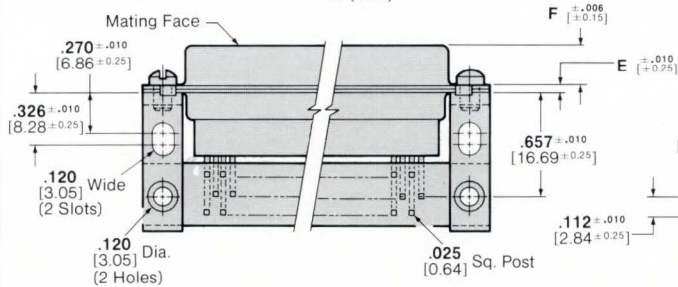
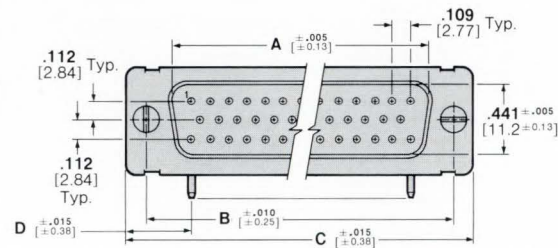
RFI Gaskets—page 94

Commoning Strip—page 95

9, 15, 25 and 37 Positions



50 Positions



No. of Contact Positions (Shell Size)	Dimensions							Contact Finish (Plating Code)	Plug Assembly Part No.				
	A	B	C	D	E	F	G		Zinc Plated Shell		Tin Plated Shell without Grounding Indents		Tin Plated Shell with Grounding Indents
	With Standard Mounting Holes	With Female Screwlocks	With Standard Mounting Holes*	With Standard Mounting Holes	With Standard Mounting Holes	With Female Mounting Holes	With Female Screwlocks						
9 (1)	.666	.984	1.213	.276	.030	.235	1.025	A	205865-2	747092-2	745351-2	745351-4	747197-4
	16.92	24.99	30.81	7.01	0.76	5.97	26.04	B	205865-1	747092-1	745351-1	745351-3	747197-3
15 (2)	.994	1.312	1.541	.278	.030	.235	1.025	A	205867-2	206761-2	745352-2	745352-4	747192-2
	25.25	33.32	39.14	7.06	0.76	5.97	26.04	B	205867-1	206761-1	745352-1	745352-3	747192-1
25 (3)	1.534	1.852	2.088	.274	.039	.230	1.029	A	205857-2	206977-2	745353-2	745353-4	747022-2
	38.96	47.04	53.04	6.96	0.99	5.84	26.14	B	205857-1	206977-1	745353-1	745353-3	747022-1
37 (4)	2.182	2.500	2.729	.272	.039	.230	1.029	A	205859-2	207300-2	745354-2	745354-4	747444-2
	55.42	63.5	69.32	6.91	0.99	5.84	26.14	B	205859-1	207300-1	745354-1	745354-3	747444-1
50 (5)	2.079	2.406	2.635	.333	.039	.230	1.149	A	205869-2	206521-2	745355-2	745355-4	747497-4
	52.81	61.11	66.93	8.46	0.99	5.84	29.18	B	205869-1	206521-1	745355-1	745355-3	747497-3

*These plug assemblies can be made available with female screwlocks, consult AMP Incorporated.

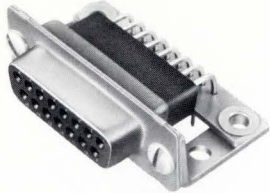
Notes:

1. All plug assemblies are preloaded with size 20 DF posted pin contacts.
2. Recommended pc board thickness is .093 [2.37] max.
3. For pc board hole pattern specifications, see page 65.
4. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

DUPLEX PLATING AVAILABLE:
Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over
millimetres.

Receptacle Assemblies



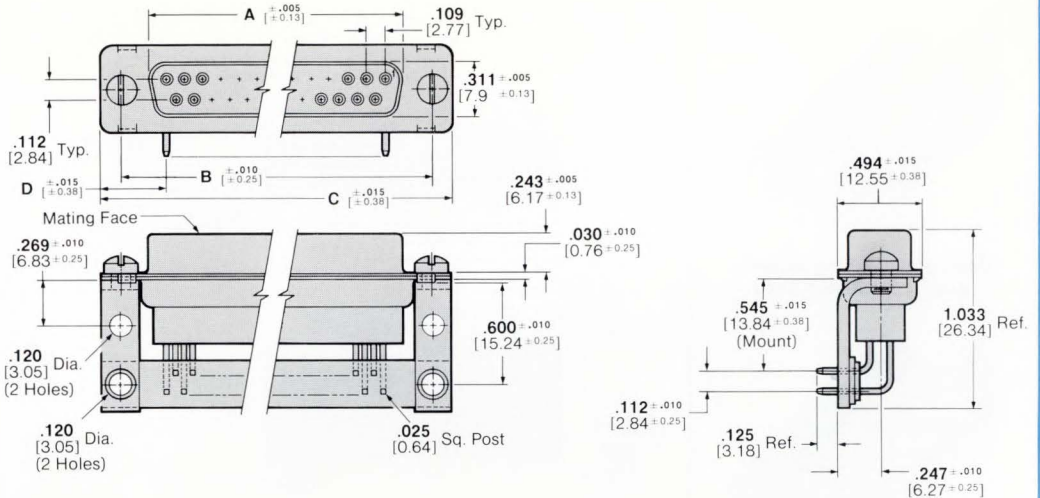
Zinc or Tin Plated Shell



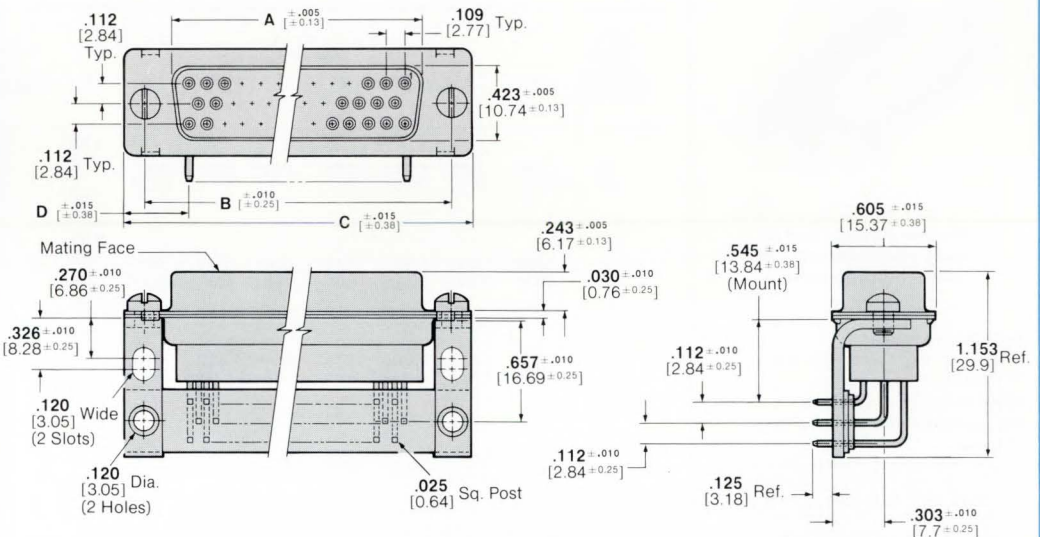
With 4-40 Female Screwlocks
(Preassembled)

Material and Finish:
Shell—Steel; Zinc (Yellow Chromate)
or Tin plated
Insert—Black Thermoplastic, 94V-0 Rated
Socket Contacts (Posted)—Phosphor
Bronze; plated as follows:
A—Gold flash over .000050 [0.00127]
nickel on entire contact, with additional
.000030 [0.00076] gold on mating
end for length of .100 [2.54] min.
B—Gold flash over .000030 [0.00076]
nickel
Reference Information:
Applicable Specifications—page 5
Cavity Identification—page 5
Mateable Plugs:
HDP-20—pages 6, 8-9, 12, 14-15, 18,
20 & 22
HDF-20—page 40
HDE-20—page 48
Pc Board Mounting—page 65
Mating/Panel Mounting—page 66
Accessories:
Connector Savers—page 67
Plug/Receptacle Adapters—page 68
Mating Hardware—pages 87 thru 89,
92 & 93
RFI Gaskets—page 94
Keying Plug—page 95

9, 15, 25 and 37 Positions



50 Positions



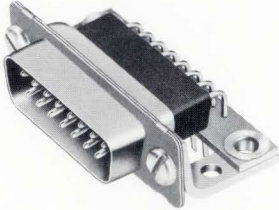
No. of Contact Positions (Shell Size)	Dimensions				Contact Finish (Plating Code)	Receptacle Assembly Part No.			
						Zinc Plated Shell		Tin Plated Shell	
	A	B	C	D		With Standard Mounting Holes	With Female Screwlocks	With Standard Mounting Holes	With Female Screwlocks
9 (1)	.643 16.33	.984 24.99	1.213 30.81	.276 7.01	A	205866-2	745258-2	745112-2	747020-2
					B	205866-1	745258-1	745112-1	747020-1
15 (2)	.971 24.66	1.312 33.32	1.541 39.14	.278 7.06	A	205868-2	745257-2	745113-2	747021-2
					B	205868-1	745257-1	745113-1	747021-1
25 (3)	1.511 38.38	1.852 47.04	2.088 53.04	.274 6.96	A	205858-2	206978-2	745114-2	745536-2
					B	205858-1	206978-1	745114-1	745536-1
37 (4)	2.159 54.84	2.500 63.5	2.729 69.32	.272 6.91	A	205860-2	745256-2	745115-2	745964-2
					B	205860-1	745256-1	745115-1	745964-1
50 (5)	2.064 52.43	2.406 61.11	2.635 66.93	.333 8.46	A	205870-2	745033-2	745116-2	747193-2
					B	205870-1	745033-1	745116-1	747193-1

Notes: 1. All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
2. Recommended pc board thickness is .093 [2.37] max.
3. For pc board hole pattern specifications, see page 65.
4. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

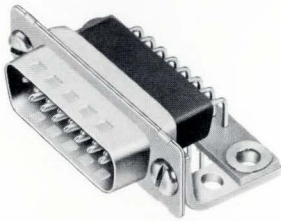
HDP-20 Metal-Shell Connectors with .025 [0.64] Sq. Right-Angle Posted Contacts 454 Mount (for Pc Board Mounting)

DUPLEX PLATING AVAILABLE:
Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

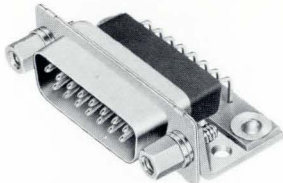
Plug Assemblies



Without Grounding Indents,
Zinc or Tin Plated Shell



With Grounding Indents,
Tin Plated Shell Only



With 4-40 Female Screwlocks
(Preassembled). Can be
made available, consult
AMP Incorporated.

Material and Finish:

Shell—Steel; Zinc (Yellow Chromate)
or Tin plated

Insert—Black Thermoplastic, 94V-0 Rated

Pin Contacts (Posted)—Brass; plated
as follows:

A—Gold flash over .000050 [0.00127]
nickel on entire contact, with additional
.000030 [0.00076] gold on mating
end for length of .150 [3.81] min.

B—Gold flash over .000030 [0.00076]
nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Receptacles:

HDP-20—pages 7, 10-11, 13, 16-17,
19, 21, 23 & 24

HDF-20—page 41

HDE-20—page 49

Pc Board Mounting—page 65

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67

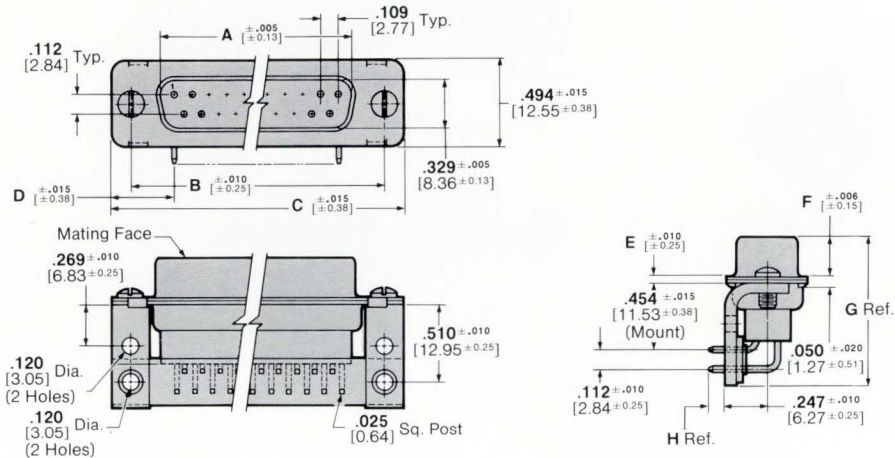
Plug/Receptacle Adapters—page 68

Mating Hardware—pages 87 thru 89,
92 & 93

RFI Gaskets—page 94

Commoning Strip—page 95

9, 15, 25 and 37 Positions



No. of Contact Positions (Shell Size)	Dimensions								Contact Finish (Plating Code)	Plug Assembly Part No.		
	A	B	C	D	E	F	G	H		Zinc Plated Shell	Tin Plated Shell	
										Without Grounding Indents	With Grounding Indents	
9 (1)	.666 16.92	.984 24.99	1.213 30.81	.276 7.01	.030 0.76	.235 5.97	.915 23.24	.125 3.18	A	745417-4	745434-6	745434-8
									B	745417-3	745434-5	745434-7
									A	745417-2	745434-2	745434-4
									B	745417-1	745434-1	745434-3
15 (2)	.994 25.25	1.312 33.32	1.541 39.14	.278 7.06	.030 0.76	.235 5.97	.915 23.24	.125 3.18	A	745418-4	745435-6	745435-8
									B	745418-3	745435-5	745435-7
									A	745418-2	745435-2	745435-4
									B	745418-1	745435-1	745435-3
25 (3)	1.534 38.96	1.852 47.04	2.088 53.04	.274 6.96	.039 0.99	.230 5.84	.919 23.34	.125 3.18	A	745419-4	745436-6	745436-8
									B	745419-3	745436-5	745436-7
									A	745419-2	745436-2	745436-4
									B	745419-1	745436-1	745436-3
37 (4)	2.182 55.42	2.500 63.5	2.729 69.32	.272 6.91	.039 0.99	.230 5.84	.919 23.34	.125 3.18	A	745420-4	745437-6	745437-8
									B	745420-3	745437-5	745437-7
									A	745420-2	745437-2	745437-4
									B	745420-1	745437-1	745437-3

- Notes:**
- All plug assemblies are preloaded with size 20 DF posted pin contacts.
 - Recommended pc board thickness is .093 [2.37] max.
 - For pc board hole pattern specifications, see page 65.
 - Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

DUPLEX PLATING AVAILABLE:

Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

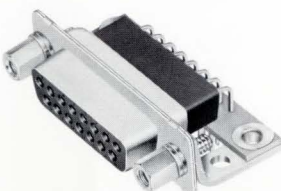
Dimensioning:

All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over
millimetres.

Receptacle Assemblies



Zinc or Tin Plated Shell



With 4-40 Female Screwlocks
(Preassembled). Can be
made available, consult
AMP Incorporated.

Material and Finish:

Shell—Steel; Zinc (Yellow Chromate)
or Tin plated

Insert—Black Thermoplastic, 94V-0 Rated

Socket Contacts (Posted)—Phosphor
Bronze; plated as follows:

A—Gold flash over .000050 [0.00127]
nickel on entire contact, with additional
.000030 [0.00076] gold on mating
end for length of .100 [2.54] min.

B—Gold flash over .000030 [0.00076]
nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Plugs:

HDP-20—pages 6, 8-9, 12, 14-15, 18,
20 & 22

HDF-20—page 40

HDE-20—page 48

Pc Board Mounting—page 65

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67

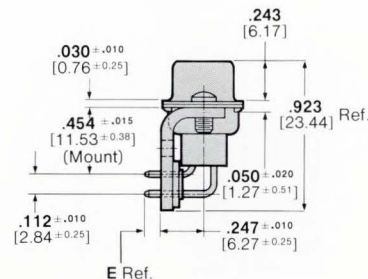
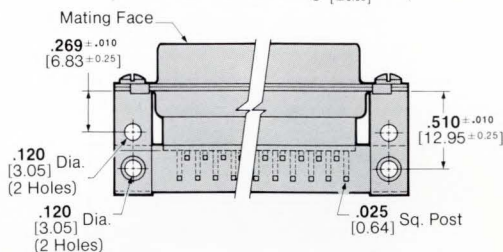
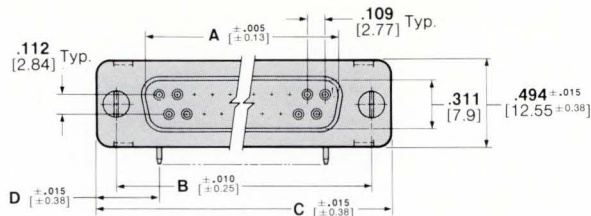
Plug/Receptacle Adapters—page 68

Mating Hardware—pages 87 thru 89,
92 & 93

RFI Gaskets—page 94

Keying Plug—page 95

9, 15, 25 and 37 Positions



No. of Contact Positions (Shell Size)	Dimensions					Contact Finish (Plating Code)	Receptacle Assembly Part No.	
	A	B	C	D	E		Zinc Plated Shell	Tin Plated Shell
9 (1)	.643 16.33	.984 24.99	1.213 30.81	.276 7.01	.125 3.18	A	745421-4	745438-4
					.220 5.59	B	745421-3	745438-3
					.125 3.18	A	745422-4	745439-4
					.220 5.59	B	745422-3	745439-3
15 (2)	.971 24.66	1.312 33.32	1.541 39.14	.278 7.06	.125 3.18	A	745422-4	745439-4
					.220 5.59	B	745422-3	745439-3
					.125 3.18	A	745423-4	745440-4
					.220 5.59	B	745423-3	745440-3
25 (3)	1.511 38.38	1.852 47.04	2.088 53.04	.274 6.96	.125 3.18	A	745424-4	745441-4
					.220 5.59	B	745424-3	745441-3
					.125 3.18	A	745424-2	745441-2
					.220 5.59	B	745424-1	745441-1
37 (4)	2.159 54.84	2.500 63.5	2.729 69.32	.272 6.91	.125 3.18	A	745424-4	745441-4
					.220 5.59	B	745424-3	745441-3
					.125 3.18	A	745424-2	745441-2
					.220 5.59	B	745424-1	745441-1

Notes: 1. All receptacle assemblies are preloaded with size 20 DF posted socket contacts.

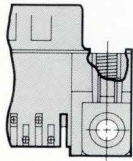
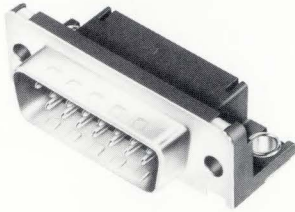
2. Recommended pc board thickness is .093 [2.37] max.

3. For pc board hole pattern specifications, see page 65.

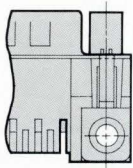
4. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

HDP-20 Metal-Shell Connectors with .026 [0.66] Dia. Right-Angle Posted Contacts 318 Mount (for Pc Board Mounting)

Plug Assemblies (with Grounding Indents)



With 4-40 Threaded Inserts



With 4-40 Fixed Female Screwlocks

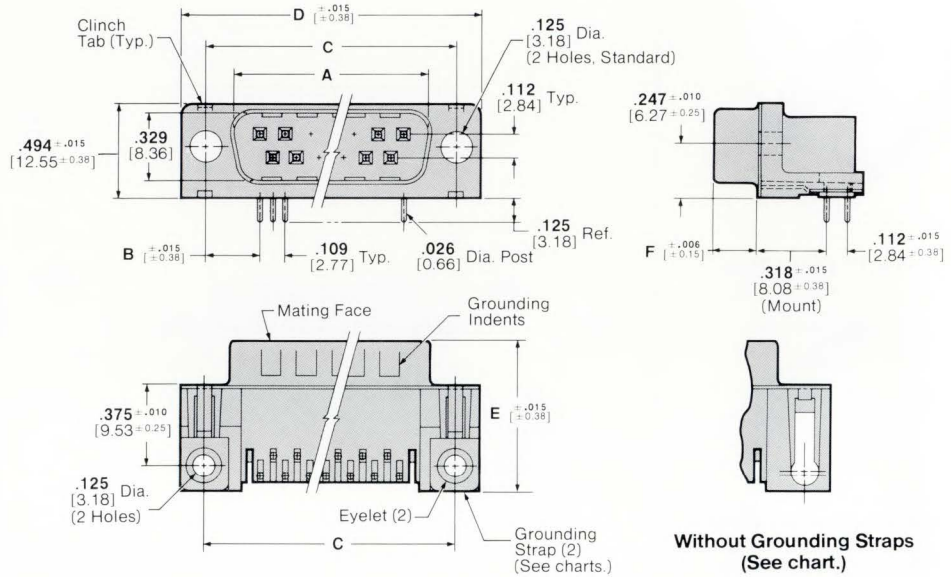
Material and Finish:
Front Shell—Steel; Tin plated
Housing—Black Thermoplastic, 94V-0 Rated

Eyelets—Brass; Tin plated
Threaded Inserts—Brass; unplated
Female Screwlocks—Brass; Nickel plated

Pin Contacts (Posted)—Brass; duplex plated as follows:
A—.000030 [0.00076] gold on mating end for length of .150 [3.81] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel
B—Gold flash on mating end for length of .150 [3.81] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

Reference Information:
 Applicable Specifications—page 5
 Cavity Identification—page 5
 Mating Receptacles:
 HDP-20—pages 7, 10-11, 13, 16-17, 19, 21, 23 & 24
 HDF-20—page 41
 HDE-20—page 49
 Pc Board Mounting—page 65
 Mating/Panel Mounting—page 66
Accessories:
 Connector Savers—page 67
 Plug/Receptacle Adapters—page 68
 Mating Hardware—pages 87 thru 89, 92 & 93
 RFI Gaskets—page 94
 Commoning Strip—page 95

9, 15, 25 and 37 Positions



Without Grounding Straps

No. of Contact Positions (Shell Size)	Dimensions						Contact Finish (Plating Code)	Plug Assembly Part No.		
	A	B	C	D	E	F		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.666	.276	.984	1.213	.733	.235	A	747250-8	1-747250-0	1-747250-2
	16.92	7.01	24.99	30.81	18.62	5.97	B	747250-7	747250-9	1-747250-1
15 (2)	.994	.278	1.312	1.541	.733	.235	A	747236-8	1-747236-0	1-747236-2
	25.25	7.06	33.32	39.14	18.62	5.97	B	747236-7	747236-9	1-747236-1
25 (3)	1.534	.274	1.852	2.088	.738	.230	A	747238-8	1-747238-0	1-747238-2
	38.96	6.96	47.04	53.04	18.75	5.84	B	747238-7	747238-9	1-747238-1
37 (4)	2.182	.272	2.500	2.729	.740	.230	A	747252-8	1-747252-0	1-747252-2
	55.42	6.91	63.5	69.32	18.8	5.84	B	747252-7	747252-9	1-747252-1

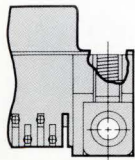
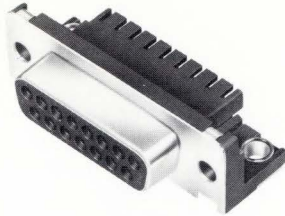
With Grounding Straps

No. of Contact Positions (Shell Size)	Dimensions						Contact Finish (Plating Code)	Plug Assembly Part No.		
	A	B	C	D	E	F		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.666	.276	.984	1.213	.733	.235	A	747250-2	747250-4	747250-6
	16.92	7.01	24.99	30.81	18.62	5.97	B	747250-1	747250-3	747250-5
15 (2)	.994	.278	1.312	1.541	.733	.235	A	747236-2	747236-4	747236-6
	25.25	7.06	33.32	39.14	18.62	5.97	B	747236-1	747236-3	747236-5
25 (3)	1.534	.274	1.852	2.088	.738	.230	A	747238-2	747238-4	747238-6
	38.96	6.96	47.04	53.04	18.75	5.84	B	747238-1	747238-3	747238-5
37 (4)	2.182	.272	2.500	2.729	.740	.230	A	747252-2	747252-4	747252-6
	55.42	6.91	63.5	69.32	18.8	5.84	B	747252-1	747252-3	747252-5

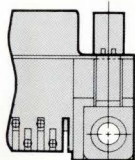
Notes: 1. All plug assemblies are preloaded with size 20 DF posted pin contacts.
 2. Recommended pc board thickness is .093 [2.37] max.
 3. For pc board hole pattern specifications, see page 65.
 4. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

Receptacle Assemblies



With 4-40 Threaded Inserts

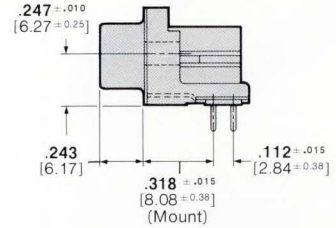
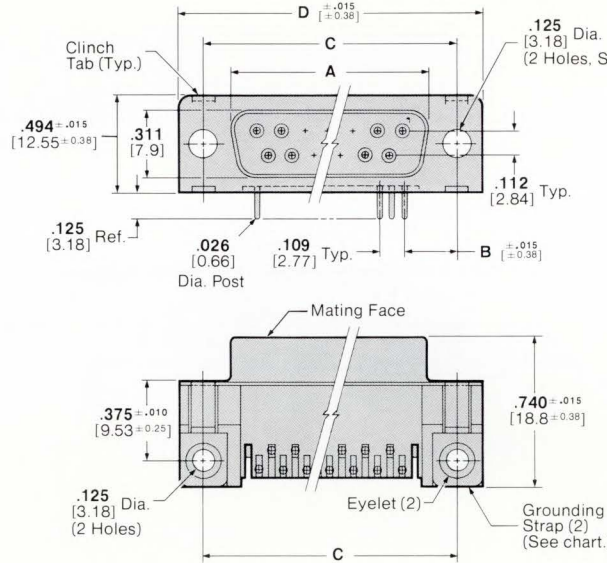


With 4-40 Fixed Female Screwlocks

Material and Finish:
Front Shell—Steel; Tin plated
Housing—Black Thermoplastic, 94V-0 Rated
Eyelets—Brass; Tin plated
Threaded Inserts—Brass; unplated
Female Screwlocks—Brass; Nickel plated
Socket Contacts (Posted)—Phosphor Bronze; duplex plated as follows:
A—.000030 [0.00076] gold on mating end for length of .100 [2.54] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel
B—Gold flash on mating end for length of .100 [2.54] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

Reference Information:
Applicable Specifications—page 5
Cavity Identification—page 5
Mateable Plugs:
HDP-20—pages 6, 8-9, 12, 14-15, 18, 20 & 22
HDF-20—page 40
HDE-20—page 48
Pc Board Mounting—page 65
Mating/Panel Mounting—page 66
Accessories:
Connector Savers—page 67
Plug/Receptacle Adapters—page 68
Mating Hardware—pages 87 thru 89, 92 & 93
RFI Gaskets—page 94
Keying Plug—page 95

9, 15, 25 and 37 Positions



Without Grounding Straps (See chart.)

Without Grounding Straps

No. of Contact Positions (Shell Size)	Dimensions				Contact Finish (Plating Code)	Receptacle Assembly Part No.		
	A	B	C	D		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.643	.276	.984	1.213	A	745781-9	1-745781-1	1-745781-3
	16.33	7.01	24.99	30.81	B	745781-8	1-745781-0	1-745781-2
15 (2)	.971	.278	1.312	1.541	A	—*	—*	—*
	24.66	7.06	33.32	39.14	B	—*	—*	—*
25 (3)	1.511	.274	1.852	2.088	A	745783-9	1-745783-1	1-745783-3
	38.38	6.96	47.04	53.04	B	745783-8	1-745783-0	1-745783-2
37 (4)	2.159	.272	2.500	2.729	A	—*	—*	—*
	54.84	6.91	63.5	69.32	B	—*	—*	—*

With Grounding Straps

No. of Contact Positions (Shell Size)	Dimensions				Contact Finish (Plating Code)	Receptacle Assembly Part No.		
	A	B	C	D		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.643	.276	.984	1.213	A	745781-2	745781-4	745781-6
	16.33	7.01	24.99	30.81	B	745781-1	745781-3	745781-5
15 (2)	.971	.278	1.312	1.541	A	745782-2	745782-4	745782-6
	24.66	7.06	33.32	39.14	B	745782-1	745782-3	745782-5
25 (3)	1.511	.274	1.852	2.088	A	745783-2	745783-4	745783-6
	38.38	6.96	47.04	53.04	B	745783-1	745783-3	745783-5
37 (4)	2.159	.272	2.500	2.729	A	745784-2	745784-4	745784-6
	54.84	6.91	63.5	69.32	B	745784-1	745784-3	745784-5

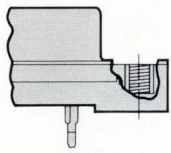
*15- and 37-position receptacle assemblies without grounding straps can be made available, consult AMP Incorporated.

- Notes:**
- All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
 - Recommended pc board thickness is .093 [2.37] max.
 - For pc board hole pattern specifications, see page 65.
 - Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.
 - A 19-position receptacle assembly is available, see page 52.

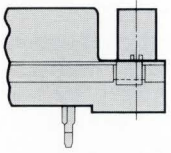
HDP-20 Metal-Shell Connectors with Straight Posted ACTION PIN Contacts (for Pc Board Mounting)

Dimensioning:
All dimensions in inches and millimetres. Values in brackets are metric equivalents. Chart contains dimensions in inches over millimetres.

Receptacle Assemblies (Medium Profile)



With Integral Standoff and 4-40 Threaded Inserts



With Integral Standoff and 4-40 Fixed Female Screwlocks

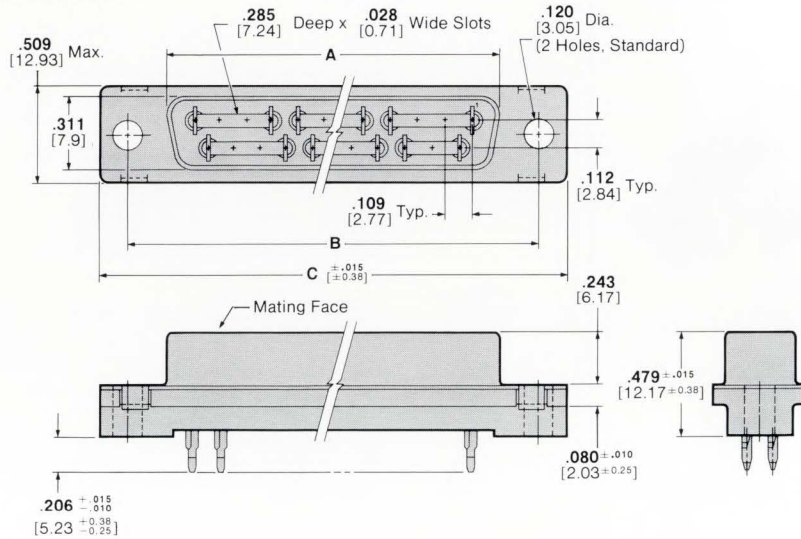
Material and Finish:
Front Shell—Steel; Tin plated
Housing—Black Thermoplastic, 94V-0 Rated
Threaded Inserts—Brass; unplated
Female Screwlocks—Brass; Nickel plated
ACTION PIN Contacts—Copper Alloy; duplex plated as follows:
A—.000030 [0.00076] gold on mating end, bright tin or bright tin-lead on ACTION PIN post surface, with entire contact underplated .000050 [0.00127] nickel
B—Gold flash on mating end, bright tin or bright tin-lead on ACTION PIN post surface, with entire contact underplated .000050 [0.00127] nickel

Reference Information:
Applicable Specifications—page 5
Cavity Identification—page 5
Mateable Plugs:
HDP-20—pages 6, 8-9, 12, 14-15, 18, 20 & 22
HDF-20—page 40
HDE-20—page 48
Pc Board Mounting—page 64
Mating/Panel Mounting—page 66
Accessories:
Connector Savers—page 67
Plug/Receptacle Adapters—page 68
Mating Hardware—pages 87 thru 89, 92 & 93
RFI Gaskets—page 94
Keying Plug—page 95

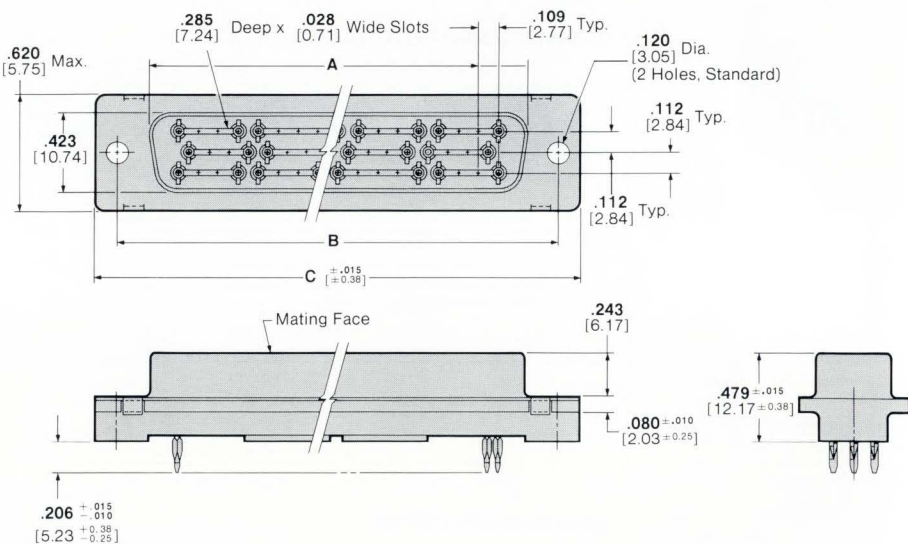


Insertion/Extraction Tool No. 91261-1 (includes Insertion Tip No. 543133-1, Extraction Tip No. 126961-2)

15 and 25 Positions



50 Positions



For .093 to .125 [2.36 to 3.18] Thick Pc Boards

No. of Contact Positions (Shell Size)	Dimensions			Contact Finish (Plating Code)	Receptacle Assembly Part No.			Seating Tool Part No.
	A	B	C		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks	
15 (2)	.971 24.66	1.312 33.32	1.541 39.14	B	747140-1	747141-1	747142-1	91165-2
				A	747140-2	747141-2	747142-2	
25 (3)	1.511 38.38	1.852 47.04	2.088 53.04	B	745922-1	745925-1	745928-1	91163-2
				A	745922-2	745925-2	745928-2	
50 (5)	2.064 52.43	2.406 61.11	2.635 66.93	B	747143-1	747144-1	747145-1	91167-2
				A	747143-2	747144-2	747145-2	

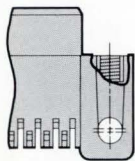
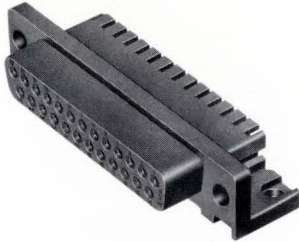
Notes:
1. All receptacle assemblies are preloaded with straight posted ACTION PIN socket contacts.
2. For pc board hole pattern specifications, see page 64.
3. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.
4. Insertion/Extraction Tool No. 91261-1 is used to remove and install straight posted ACTION PIN socket contacts. Consult AMP Incorporated for replacement contact nos.

HDP-20 All-Plastic Connectors with .026 [0.66] Dia. Right-Angle Posted Contacts 318 Mount (for Pc Board Mounting)

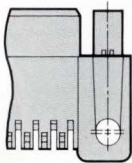
Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Chart contains dimensions in inches over millimetres.

Receptacle Assemblies

9, 15, 25 and 37 Positions



With 4-40 Threaded Inserts



With 4-40 Fixed Female Screwlocks

Material and Finish:
Housing—Black Thermoplastic, 94V-0 Rated

Threaded Inserts—Brass; unplated

Female Screwlocks—Brass; Nickel plated

Socket Contacts (Posted)—Phosphor Bronze; duplex plated as follows:

A—.000030 [0.00076] gold on mating end for length of .100 [2.54] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

B—Gold flash on mating end for length of .100 [2.54] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Plugs:

HDP-20—pages 26, 28, 30-31 & 34-35

HDF-20—page 42

HDJ-20—pages 44, 46 & 47

HDE-20—page 50

Pc Board Mounting—page 65

Mating/Panel Mounting—page 66

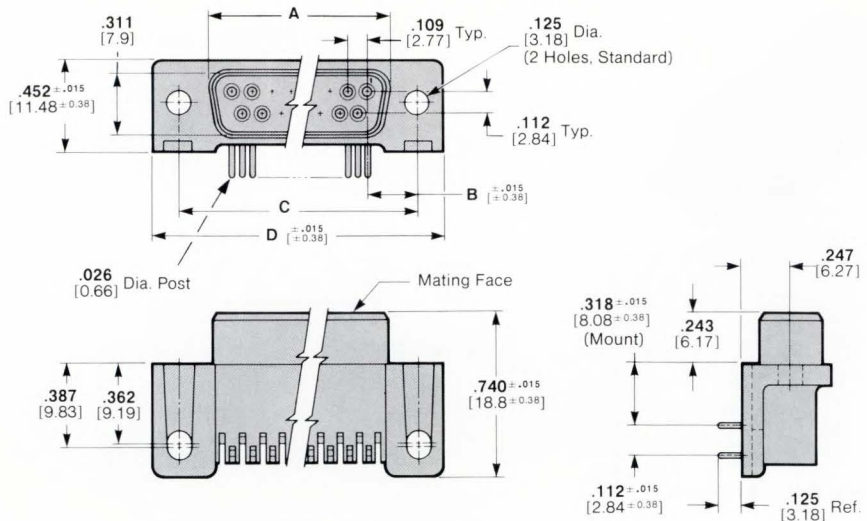
Accessories:

Connector Savers—page 67

Plug/Receptacle Adapters—page 69

Mating Hardware—pages 87 thru 89, 92 & 93

Keying Plug—page 95

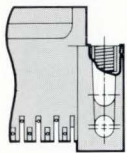
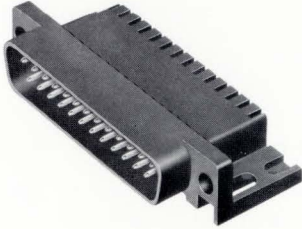


No. of Contact Positions (Shell Size)	Dimensions				Contact Finish (Plating Code)	Receptacle Assembly Part No.		
	A	B	C	D		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.643	.276	.984	1.213	A	745131-2	745394-2	745395-2
	16.33	7.01	24.99	30.81	B	745131-1	745394-1	745395-1
15 (2)	.971	.278	1.312	1.541	A	745271-2	745393-2	745396-2
	24.66	7.06	33.32	39.14	B	745271-1	745393-1	745396-1
25 (3)	1.511	.274	1.852	2.088	A	745132-2	745392-2	745397-2
	38.38	6.96	47.04	53.04	B	745132-1	745392-1	745397-1
37 (4)	2.159	.272	2.500	2.729	A	747093-2	747724-2	747725-2
	54.84	6.91	63.5	69.32	B	747093-1	747724-1	747725-1

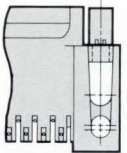
- Notes:**
- All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
 - Recommended pc board thickness is .093 [2.37] max.
 - For pc board hole pattern specifications, see page 65.
 - Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

HDP-20 All-Plastic Connectors with .026 [0.66] Dia. Right-Angle Posted Contacts 478 Mount (for Pc Board Mounting)

Plug Assemblies



With 4-40 Threaded Inserts



With 4-40 Fixed Female Screwlocks

Material and Finish:

Housing—Black Thermoplastic, 94V-0 Rated

Threaded Inserts—Brass; unplated

Female Screwlocks—Brass; Nickel plated

Pin Contacts (Posted)—Brass; duplex plated as follows:

A—.000030 [0.00076] gold on mating end for length of .150 [3.81] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

B—Gold flash on mating end for length of .150 [3.81] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Receptacles:

HDP-20—pages 25, 27, 29, 32-33 & 36 thru 39

HDF-20—page 43

HDJ-20—page 44

HDE-20—page 51

Pc Board Mounting—page 65

Mating/Panel Mounting—page 66

Accessories:

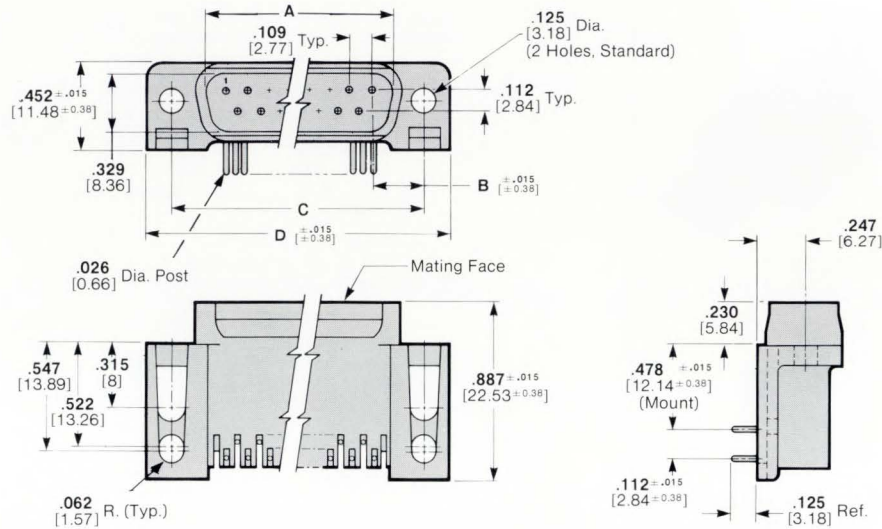
Connector Savers—page 67

Plug/Receptacle Adapters—page 69

Mating Hardware—pages 87 thru 89, 92 & 93

Commoning Strip—page 95

9, 15, 25 and 37 Positions

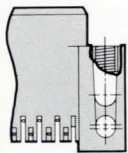
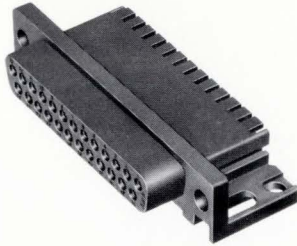


No. of Contact Positions (Shell Size)	Dimensions				Contact Finish (Plating Code)	Plug Assembly Part No.		
	A	B	C	D		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.666	.276	.984	1.213	A	745828-2	745877-2	745878-2
	16.92	7.01	24.99	30.81	B	745828-1	745877-1	745878-1
15 (2)	.994	.278	1.312	1.541	A	747729-2	747730-2	747731-2
	25.25	7.06	33.32	39.14	B	747729-1	747730-1	747731-1
25 (3)	1.534	.274	1.852	2.088	A	745128-2	745401-2	745402-2
	38.96	6.96	47.04	53.04	B	745128-1	745401-1	745402-1
37 (4)	2.182	.272	2.500	2.729	A	747732-2	747733-2	747734-2
	55.42	6.91	63.5	69.32	B	747732-1	747733-1	747734-1

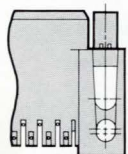
- Notes:**
- All plug assemblies are preloaded with size 20 DF posted pin contacts.
 - Recommended pc board thickness is .093 [2.37] max.
 - For pc board hole pattern specifications, see page 65.
 - Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

Receptacle Assemblies



With 4-40 Threaded Inserts



With 4-40 Fixed Female Screwlocks

Material and Finish:
Housing—Black Thermoplastic, 94V-0 Rated

Threaded Inserts—Brass; unplated

Female Screwlocks—Brass; Nickel plated

Socket Contacts (Posted)—Phosphor Bronze; duplex plated as follows:
A—.000030 [0.00076] gold on mating end for length of .100 [2.54] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel
B—Gold flash on mating end for length of .100 [2.54] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

Reference Information:

Applicable Specifications—page 5
Cavity Identification—page 5

Mateable Plugs:

HDP-20—pages 26, 28, 30-31 & 34-35
HDF-20—page 42
HDJ-20—pages 44, 46 & 47
HDE-20—page 50

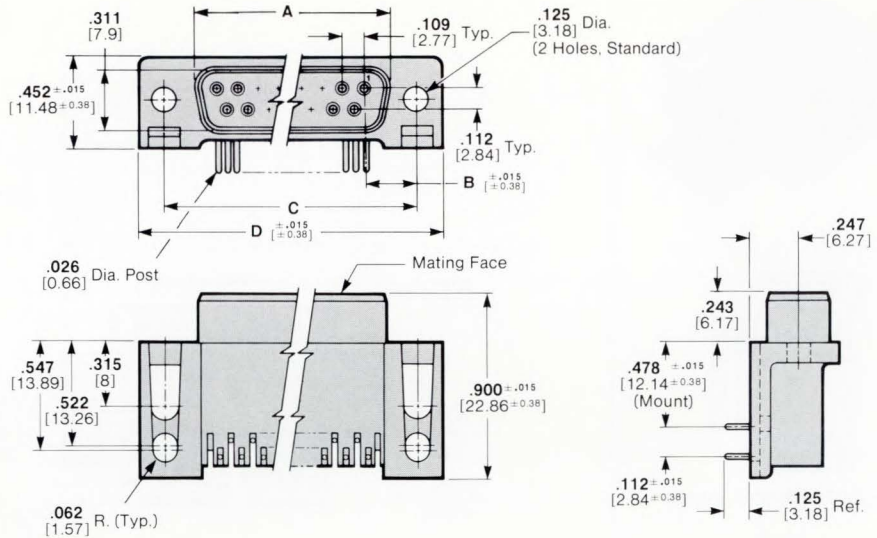
Pc Board Mounting—page 65

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67
Plug/Receptacle Adapters—page 69
Mating Hardware—pages 87 thru 89, 92 & 93
Keying Plug—page 95

9, 15, 25 and 37 Positions

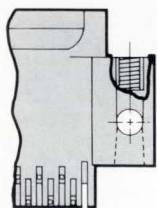
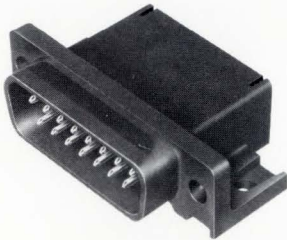


No. of Contact Positions (Shell Size)	Dimensions				Contact Finish (Plating Code)	Receptacle Assembly Part No.		
	A	B	C	D		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.643 16.33	.276 7.01	.984 24.99	1.213 30.81	A	745330-2	745391-2	745400-2
					B	745330-1	745391-1	745400-1
15 (2)	.971 24.66	.278 7.06	1.312 33.32	1.541 39.14	A	745387-2	745390-2	745399-2
					B	745387-1	745390-1	745399-1
25 (3)	1.511 38.38	.274 6.96	1.852 47.04	2.088 53.04	A	745085-2	745389-2	745398-2
					B	745085-1	745389-1	745398-1
37 (4)	2.159 54.84	.272 6.91	2.500 63.5	2.729 69.32	A	747726-2	747727-2	747728-2
					B	747726-1	747727-1	747728-1

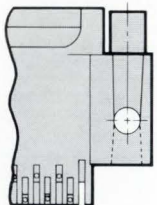
- Notes:**
- All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
 - Recommended pc board thickness is .093 [2.37] max.
 - For pc board hole pattern specifications, see page 65.
 - Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

HDP-20 All-Plastic Connectors with .026 [0.66] Dia. Right-Angle Posted Contacts 590 Mount (for Pc Board Mounting)

Plug Assemblies



With 4-40 Threaded Inserts



With 4-40 Fixed Female Screwlocks

Material and Finish:

Housing—Black Thermoplastic, 94V-0 Rated

Threaded Inserts—Brass; unplated

Female Screwlocks—Brass; Nickel plated

Pin Contacts (Posted)—Brass; duplex plated as follows:

A—.000030 [0.00076] gold on mating end for length of .150 [3.81] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated. .000050 [0.00127] nickel.

B—Gold flash on mating end for length of .150 [3.81] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated. .000050 [0.00127] nickel.

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Receptacles:

HDP-20—pages 25, 27, 29, 32-33 & 36 thru 39

HDF-20—page 43

HDJ-20—page 44

HDE-20—page 51

Pc Board Mounting—page 65

Mating/Panel Mounting—page 66

Accessories:

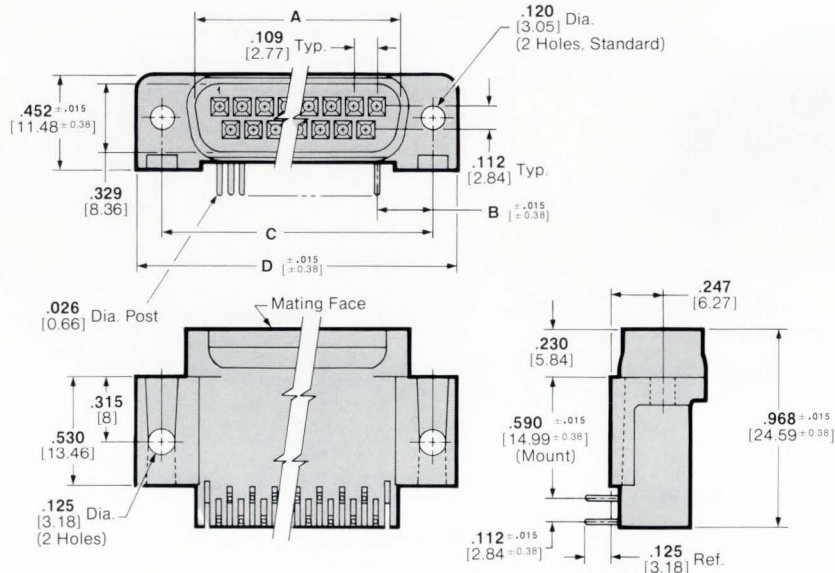
Connector Savers—page 67

Plug/Receptacle Adapters—page 69

Mating Hardware—pages 87 thru 89, 92 & 93

Commoning Strip—page 95

9, 15, 25 and 37 Positions

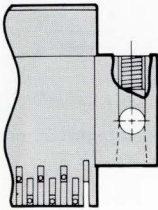
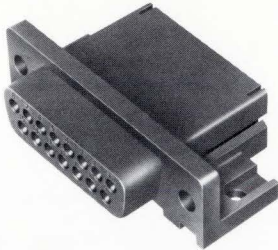


No. of Contact Positions (Shell Size)	Dimensions				Contact Finish (Plating Code)	Plug Assembly Part No.		
	A	B	C	D		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.666	.276	.984	1.213	A	747467-2	747467-4	747467-6
	16.92	7.01	24.99	30.81	B	747467-1	747467-3	747467-5
15 (2)	.994	.278	1.312	1.541	A	747468-2	747468-4	747468-6
	25.25	7.06	33.32	39.14	B	747468-1	747468-3	747468-5
25 (3)	1.534	.274	1.852	2.088	A	747469-2	747469-4	747469-6
	38.96	6.96	47.04	53.04	B	747469-1	747469-3	747469-5
37 (4)	2.182	.272	2.500	2.729	A	747470-2	747470-4	747470-6
	55.42	6.91	63.5	69.32	B	747470-1	747470-3	747470-5

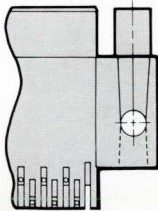
- Notes:**
- All plug assemblies are preloaded with size 20 DF posted pin contacts.
 - Recommended pc board thickness is .093 [2.37] max.
 - For pc board hole pattern specifications, see page 65.
 - Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

Receptacle Assemblies



With 4-40 Threaded Inserts



With 4-40 Fixed Female Screwlocks

Material and Finish:
Housing—Black Thermoplastic, 94V-0 Rated

Threaded Inserts—Brass; unplated

Female Screwlocks—Brass; Nickel plated

Socket Contacts (Posted)—Phosphor Bronze; duplex plated as follows:

A—.000030 [0.00076] gold on mating end for length of .100 [2.54] min.
.000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel.

B—Gold flash on mating end for length of .100 [2.54] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel.

Reference Information:

Applicable Specifications—page 5
Cavity Identification—page 5

Mateable Plugs:

HDP-20—pages 26, 28, 30-31 & 34-35
HDF-20—page 42
HDJ-20—pages 44, 46 & 47
HDE-20—page 50

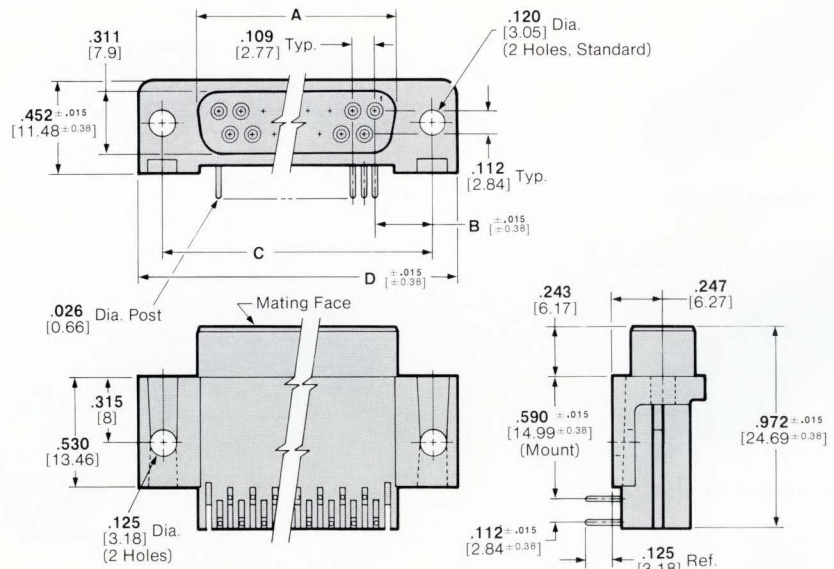
Pc Board Mounting—page 65

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67
Plug/Receptacle Adapters—page 69
Mating Hardware—pages 87 thru 89, 92 & 93
Keying Plug—page 95

9, 15, 25 and 37 Positions



No. of Contact Positions (Shell Size)	Dimensions				Contact Finish (Plating Code)	Receptacle Assembly Part No.		
	A	B	C	D		With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.643	.276	.984	1.213	A	747459-2	747459-4	747459-6
	16.33	7.01	24.99	30.81	B	747459-1	747459-3	747459-5
15 (2)	.971	.278	1.312	1.541	A	747460-2	747460-4	747460-6
	24.66	7.06	33.32	39.14	B	747460-1	747460-3	747460-5
25 (3)	1.511	.274	1.852	2.088	A	747461-2	747461-4	747461-6
	38.38	6.96	47.04	53.04	B	747461-1	747461-3	747461-5
37 (4)	2.159	.272	2.500	2.729	A	747462-2	747462-4	747462-6
	54.84	6.91	63.5	69.32	B	747462-1	747462-3	747462-5

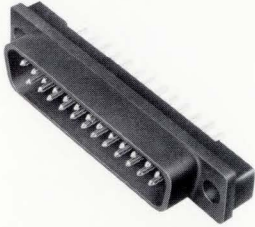
- Notes:**
1. All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
 2. Recommended pc board thickness is .093 [2.37] max.
 3. For pc board hole pattern specifications, see page 65.
 4. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

HDP-20 All-Plastic Connectors with .040 [1.02] Dia. Straight Posted Contacts (for Pc Board Mounting)

DUPLEX PLATING AVAILABLE:

Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

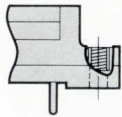
Plug Assemblies



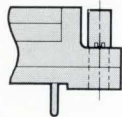
With Integral Standoff



Without Integral Standoff



With Integral Standoff and 4-40
Threaded Inserts (See page 31
for typical application.)



With Integral Standoff and 4-40
Fixed Female Screwlocks (See
page 31 for typical applications.)

Material and Finish:

Housing—Black Thermoplastic,
94V-0 Rated

Threaded Inserts—Brass; unplated

Female Screwlocks—Brass; Nickel
plated

Pin Contacts (Posted)—Brass; plated as
follows:

A—Gold flash over .000050 [0.00127]
nickel on entire contact, with
additional .000030 [0.00076] gold on
mating end for length of .150
[3.81] min.

B—Gold flash over .000030 [0.00076]
nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Receptacles:

HDP-20—pages 25, 27, 29, 32-33 &
36 thru 39

HDF-20—page 43

HDJ-20—page 44

HDE-20—page 51

Pc Board Mounting—page 64

Mating/Panel Mounting—page 66

Accessories:

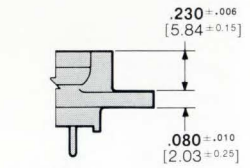
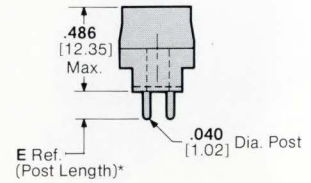
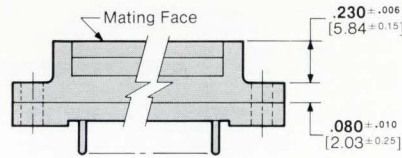
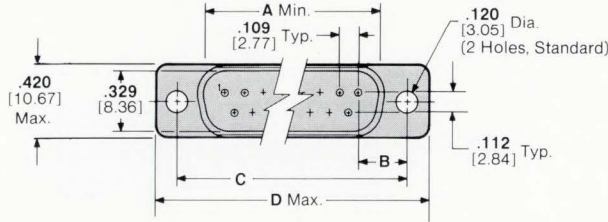
Connector Savers—page 67

Plug/Receptacle Adapters—page 69

Mating Hardware—pages 87 thru 89,
92 & 93

Commoning Strip—page 95

9, 15, 25 and 37 Positions



Without Integral Standoff

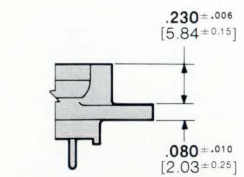
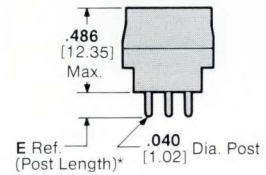
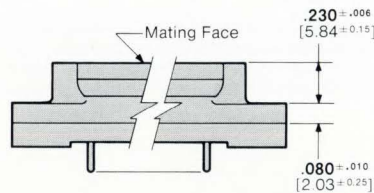
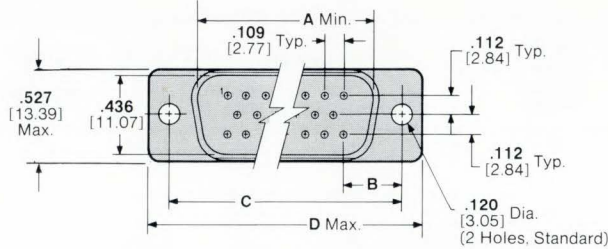
*Post Length (E) equals:

.125 [3.18]

.170 [4.32]

.250 [6.35]

50 Positions



Without Integral Standoff

*Post Length (E) equals:

.125 [3.18]

.170 [4.32]

.250 [6.35]

*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .170 [4.32] post length is for recommended pc board thicknesses of .093 [2.36] and .125 [3.18]. .250 [6.35] post length is for special applications.

Notes: 1. All plug assemblies are preloaded with size 20 DF posted pin contacts.

2. For pc board hole pattern specifications, see page 64.

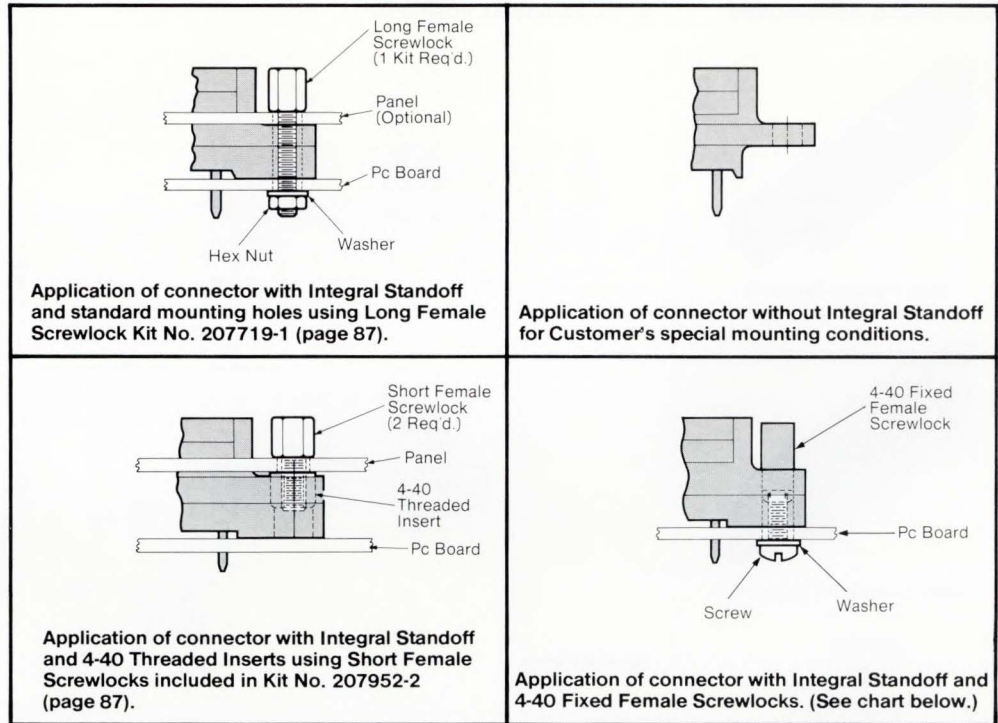
3. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

DUPLEX PLATING AVAILABLE:

Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

Dimensioning:

All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Chart contains dimensions in inches over millimetres.



No. of Contact Positions (Shell Size)	Dimensions					Contact Finish (Plating Code)	Plug Assembly Part No. (Without Integral Standoff)	Plug Assembly Part No. (with Integral Standoff)		
	A	B	C	D	E*			With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.661 16.79	.276 7.01	.984 24.99	1.228 31.19	.125	A	208003-6	207663-4	745041-4	745061-4
					.170		208003-8	207663-6	745041-6	745061-6
					.250		1-208003-0	207663-8	745041-8	745061-8
					.125		208003-5	207663-3	745041-3	745061-3
					.170		208003-7	207663-5	745041-5	745061-5
					.250		208003-9	207663-7	745041-7	745061-7
15 (2)	.989 25.12	.278 7.06	1.312 33.32	1.556 39.52	.125	A	208065-4	207325-4	745042-4	745062-4
					.170		208065-6	207325-6	745042-6	745062-6
					.250		208065-8	207325-8	745042-8	745062-8
					.125		208065-3	207325-3	745042-3	745062-3
					.170		208065-5	207325-5	745042-5	745062-5
					.250		208065-7	207325-7	745042-7	745062-7
25 (3)	1.529 38.84	.274 6.96	1.852 47.04	2.103 53.42	.125	A	207879-6	207089-6	745016-6	745063-6
					.170		207879-8	207089-8	745016-8	745063-8
					.250		1-207879-0	1-207089-0	1-745016-0	1-745063-0
					.125		207879-5	207089-5	745016-5	745063-5
					.170		207879-7	207089-7	745016-7	745063-7
					.250		207879-9	207089-9	745016-9	745063-9
37 (4)	2.177 55.3	.272 6.91	2.500 63.5	2.744 69.7	.125	A	208005-6	207329-4	745044-4	745064-4
					.170		208005-8	207329-6	745044-6	745064-6
					.250		1-208005-0	207329-8	745044-8	745064-8
					.125		208005-5	207329-3	745044-3	745064-3
					.170		208005-7	207329-5	745044-5	745064-5
					.250		208005-9	207329-7	745044-7	745064-7
50 (5)	2.074 52.68	.333 8.46	2.406 61.11	2.650 67.31	.125	A	208067-4	207667-4	745045-4	745065-4
					.170		208067-6	207667-6	745045-6	745065-6
					.250		208067-8	207667-8	745045-8	745065-8
					.125		208067-3	207667-3	745045-3	745065-3
					.170		208067-5	207667-5	745045-5	745065-5
					.250		208067-7	207667-7	745045-7	745065-7

*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .170 [4.32] post length is for recommended pc board thicknesses of .093 [2.36] and .125 [3.18]. .250 [6.35] post length is for special applications.

- Notes:**
- All plug assemblies are preloaded with size 20 DF posted pin contacts.
 - Unshaded parts in illustrations above are not included with these connectors. They are to be supplied by the Customer or, where applicable, purchased separately from AMP using the part nos. specified.
 - It is recommended that these connectors be secured with appropriate hardware to a pc board and/or panel.
 - For pc board hole pattern specifications, see page 64.
 - Male screw retainers (page 86) are used as mating hardware with 4-40 female screwlocks.

HDP-20 All-Plastic Connectors with .040 [1.02] Dia. Straight Posted Contacts (for Pc Board Mounting)

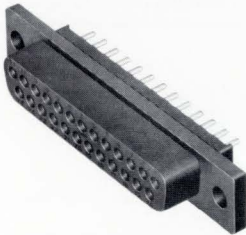
DUPLEX PLATING AVAILABLE:

Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

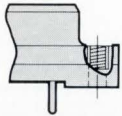
Receptacle Assemblies



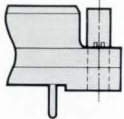
With Integral Standoff



Without Integral Standoff



With Integral Standoff and 4-40
Threaded Inserts (See page 33
for typical application.)



With Integral Standoff and 4-40
Fixed Female Screwlocks (See
page 33 for typical applications.)

Material and Finish:

Housing—Black Thermoplastic,
94V-0 Rated

Threaded Inserts—Brass; unplated

Female Screwlocks—Brass; Nickel
plated

Socket Contacts (Posted)—Phosphor
Bronze; plated as follows:

A—Gold flash over .000050 [0.00127]
nickel on entire contact, with addition-
al .000030 [0.00076] gold on mating
end for length of .100 [2.54] min.

B—Gold flash over .000030 [0.00076]
nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Plugs:

HDP-20—pages 26, 28, 30-31 & 34-35

HDF-20—page 42

HDJ-20—pages 44, 46 & 47

HDE-20—page 50

Pc Board Mounting—page 64

Mating/Panel Mounting—page 66

Accessories:

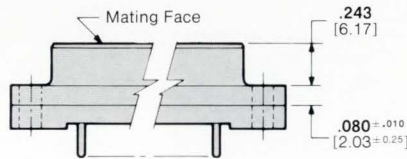
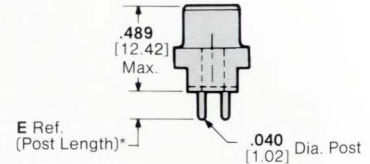
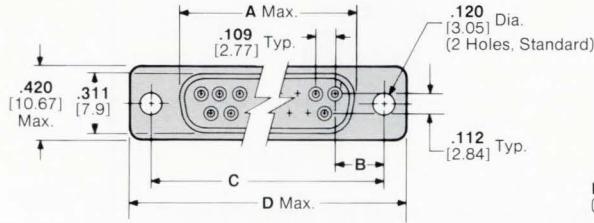
Connector Savers—page 67

Plug/Receptacle Adapters—page 69

Mating Hardware—pages 87 thru 89,
92 & 93

Keying Plug—page 95

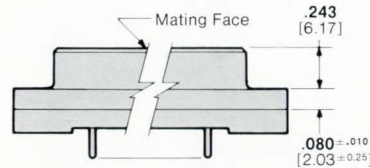
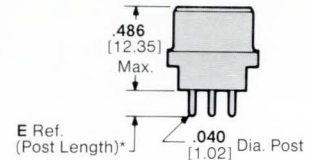
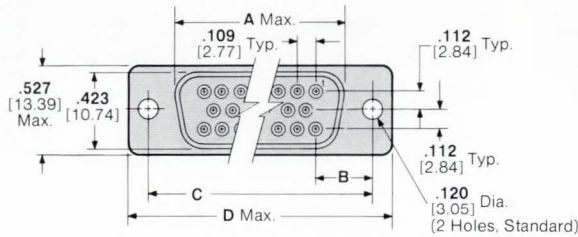
9, 15, 25 and 37 Positions



Without Integral Standoff

*Post Length (E) equals:
.125 [3.18]
.170 [4.32]
.250 [6.35]

50 Positions



Without Integral Standoff

*Post Length (E) equals:
.125 [3.18]
.170 [4.32]
.250 [6.35]

*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .170 [4.32] post length is for recommended pc board thicknesses of .093 [2.36] and .125 [3.18]. .250 [6.35] post length is for special applications.

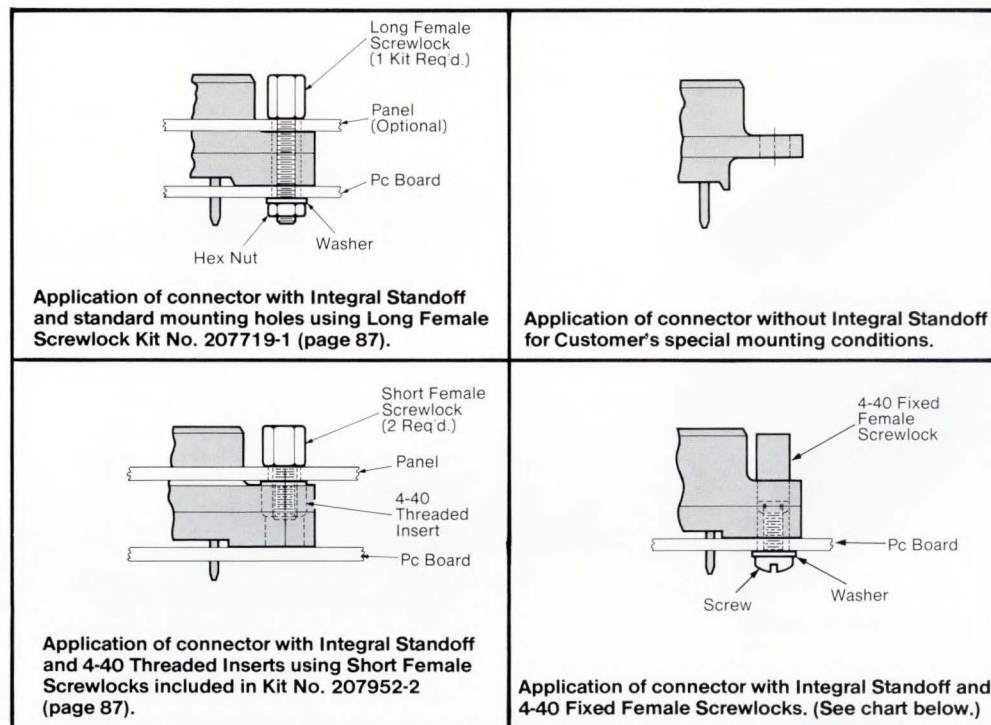
- Notes:**
1. All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
 2. For pc board hole pattern specifications, see page 64.
 3. Male screw retainers (page 86) are used as mating hardware with 4-40 female screwlocks.

DUPLEX PLATING AVAILABLE:

Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

Dimensioning:

All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Chart contains dimensions in inches over
millimetres.



No. of Contact Positions (Shell Size)	Dimensions					Contact Finish (Plating Code)	Receptacle Assembly Part No. (Without Integral Standoff)	Receptacle Assembly Part No. (with Integral Standoff)		
	A	B	C	D	E*			With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.648 16.46	.276 7.01	.984 24.99	1.228 31.19	.125	A	208002-6	207665-4	745046-4	745066-4
					.170		208002-8	207665-6	745046-6	745066-6
					.250	B	1-208002-0	207665-8	745046-8	745066-8
					.125		208002-5	207665-3	745046-3	745066-3
					.170		208002-7	207665-5	745046-5	745066-5
					.250		208002-9	207665-7	745046-7	745066-7
15 (2)	.976 24.8	.278 7.06	1.312 33.32	1.556 39.52	.125	A	208066-4	207323-4	745047-4	745067-4
					.170		208066-6	207323-6	745047-6	745067-6
					.250	B	208066-8	207323-8	745047-8	745067-8
					.125		208066-3	207323-3	745047-3	745067-3
					.170		208066-5	207323-5	745047-5	745067-5
					.250		208066-7	207323-7	745047-7	745067-7
25 (3)	1.516 38.51	.274 6.96	1.852 47.04	2.103 53.42	.125	A	207878-6	207090-6	745017-6	745068-6
					.170		207878-8	207090-8	745017-8	745068-8
					.250	B	1-207878-0	1-207090-0	1-745017-0	1-745068-0
					.125		207878-5	207090-5	745017-5	745068-5
					.170		207878-7	207090-7	745017-7	745068-7
					.250		207878-9	207090-9	745017-9	745068-9
37 (4)	2.164 54.97	.272 6.91	2.500 63.5	2.744 69.7	.125	A	208004-6	207327-4	745049-4	745069-4
					.170		208004-8	207327-6	745049-6	745069-6
					.250	B	1-208004-0	207327-8	745049-8	745069-8
					.125		208004-5	207327-3	745049-3	745069-3
					.170		208004-7	207327-5	745049-5	745069-5
					.250		208004-9	207327-7	745049-7	745069-7
50 (5)	2.069 52.55	.333 8.46	2.406 61.11	2.650 67.31	.125	A	208068-4	207669-4	745050-4	745070-4
					.170		208068-6	207669-6	745050-6	745070-6
					.250	B	208068-8	207669-8	745050-8	745070-8
					.125		208068-3	207669-3	745050-3	745070-3
					.170		208068-5	207669-5	745050-5	745070-5
					.250		208068-7	207669-7	745050-7	745070-7

*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .170 [4.32] post length is for recommended pc board thicknesses of .093 [2.36] and .125 [3.18]. .250 [6.35] post length is for special applications.

- Notes:**
1. All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
 2. Unshaded parts in illustrations above are not included with these connectors. They are to be supplied by the Customer or, where applicable, purchased separately from AMP using the part nos. specified.
 3. It is recommended that these connectors be secured with appropriate hardware to a pc board and/or panel.
 4. For pc board hole pattern specifications, see page 64.
 5. Male screw retainers (page 86) are used as mating hardware with 4-40 female screwlocks.

HDP-20 All-Plastic Connectors with .026 [0.66] Dia. Straight Posted Contacts (for Pc Board Mounting)

DUPLEX PLATING AVAILABLE:
Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

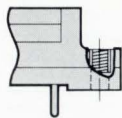
Plug Assemblies



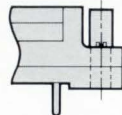
With Integral Standoff



Without Integral Standoff



With Integral Standoff and 4-40
Threaded Inserts (See page 35
for typical application.)



With Integral Standoff and 4-40
Fixed Female Screwlocks (See
page 35 for typical applications.)

Material and Finish:

Housing—Black Thermoplastic,
94V-0 Rated

Threaded Inserts—Brass; unplated

Female Screwlocks—Brass; Nickel
plated

Pin Contacts (Posted)—Brass; plated as
follows:

A—Gold flash over .000050 [0.00127]
nickel on entire contact, with addition-
al .000030 [0.00076] gold on mating
end for length of .150 [3.81] min.

B—Gold flash over .000030 [0.00076]
nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Receptacles:

HDP-20—pages 25, 27, 29, 32-33
& 36 thru 39

HDF-20—page 43

HDJ-20—page 44

HDE-20—page 51

Pc Board Mounting—page 64

Mating/Panel Mounting—page 66

Accessories:

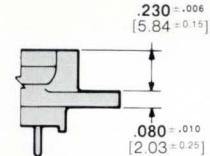
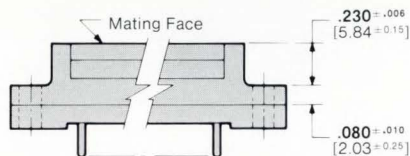
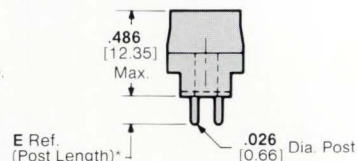
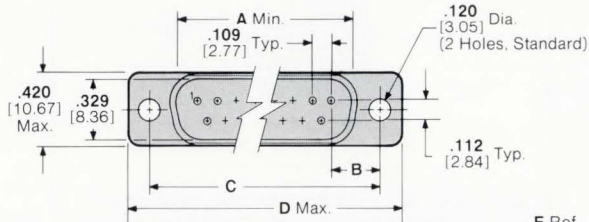
Connector Savers—page 67

Plug/Receptacle Adapters—page 69

Mating Hardware—pages 87 thru 89,
92 & 93

Commoning Strip—page 95

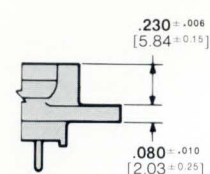
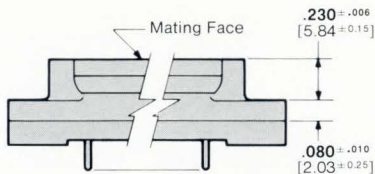
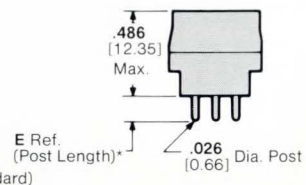
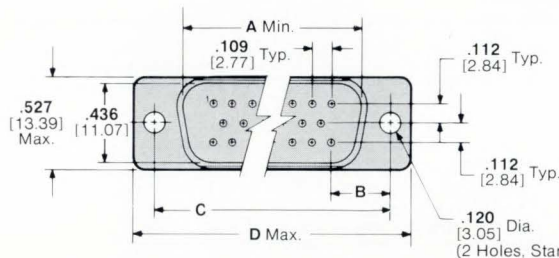
9, 15, 25 and 37 Positions



*Post Length (E) equals:
.125 [3.18]
.170 [4.32]
.250 [6.35]

Without Integral Standoff

50 Positions



*Post Length (E) equals:
.125 [3.18]
.170 [4.32]
.250 [6.35]

Without Integral Standoff

*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .170 [4.32] post length is for recommended pc board thicknesses of .093 [2.36] and .125 [3.18]. .250 [6.35] post length is for special applications.

- Notes:**
1. All plug assemblies are preloaded with size 20 DF posted pin contacts.
 2. For pc board hole pattern specifications, see page 64.
 3. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

DUPLEX PLATING AVAILABLE:

Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

Dimensioning:

All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Chart contains dimensions in inches over
millimetres.

<p>Application of connector with Integral Standoff and standard mounting holes using Long Female Screwlock Kit No. 207719-1 (page 87).</p>	<p>Application of connector without Integral Standoff for Customer's special mounting conditions.</p>
<p>Application of connector with Integral Standoff and 4-40 Threaded Inserts using Short Female Screwlocks included in Kit No. 207952-2 (page 87).</p>	<p>Application of connector with Integral Standoff and 4-40 Fixed Female Screwlocks. (See chart below.)</p>

No. of Contact Positions (Shell Size)	Dimensions					Contact Finish (Plating Code)	Plug Assembly Part No. (Without Integral Standoff)	Plug Assembly Part No. (with Integral Standoff)		
	A	B	C	D	E*			With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks
9 (1)	.661 16.79	.276 7.01	.984 24.99	1.228 31.19	.125	A	208084-2	208006-2	745051-2	745071-2
					.170		208084-4	208006-4	745051-4	745071-4
					.250		208084-6	208006-6	745051-6	745071-6
					.125		208084-1	208006-1	745051-1	745071-1
					.170		208084-3	208006-3	745051-3	745071-3
					.250		208084-5	208006-5	745051-5	745071-5
15 (2)	.989 25.12	.278 7.06	1.312 33.32	1.556 39.52	.125	A	208085-2	208007-2	745052-2	745072-2
					.170		208085-4	208007-4	745052-4	745072-4
					.250		208085-6	208007-6	745052-6	745072-6
					.125		208085-1	208007-1	745052-1	745072-1
					.170		208085-3	208007-3	745052-3	745072-3
					.250		208085-5	208007-5	745052-5	745072-5
25 (3)	1.529 38.84	.274 6.96	1.852 47.04	2.103 53.42	.125	A	208086-2	208008-2	745053-2	745073-2
					.170		208086-4	208008-4	745053-4	745073-4
					.250		208086-6	208008-6	745053-6	745073-6
					.125		208086-1	208008-1	745053-1	745073-1
					.170		208086-3	208008-3	745053-3	745073-3
					.250		208086-5	208008-5	745053-5	745073-5
37 (4)	2.177 55.3	.272 6.91	2.500 63.5	2.744 69.7	.125	A	208087-2	208009-2	745054-2	745074-2
					.170		208087-4	208009-4	745054-4	745074-4
					.250		208087-6	208009-6	745054-6	745074-6
					.125		208087-1	208009-1	745054-1	745074-1
					.170		208087-3	208009-3	745054-3	745074-3
					.250		208087-5	208009-5	745054-5	745074-5
50 (5)	2.074 52.68	.333 8.46	2.406 61.11	2.650 67.31	.125	A	208088-2	208010-2	745055-2	745075-2
					.170		208088-4	208010-4	745055-4	745075-4
					.250		208088-6	208010-6	745055-6	745075-6
					.125		208088-1	208010-1	745055-1	745075-1
					.170		208088-3	208010-3	745055-3	745075-3
					.250		208088-5	208010-5	745055-5	745075-5

*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .170 [4.32] post length is for recommended pc board thicknesses of .093 [2.36] and .125 [3.18]. .250 [6.35] post length is for special applications.

- Notes:**
1. All plug assemblies are preloaded with size 20 DF posted pin contacts.
 2. Unshaded parts in illustrations above are not included with these connectors. They are to be supplied by the Customer or, where applicable, purchased separately from AMP using the part nos. specified.
 3. It is recommended that these connectors be secured with appropriate hardware to a pc board and/or panel.
 4. For pc board hole pattern specifications, see page 64.
 5. Male screw retainers (page 86) are used as mating hardware with 4-40 female screwlocks.

HDP-20 All-Plastic Connectors with .026 [0.66] Dia. Straight Posted Contacts (for Pc Board Mounting)

DUPLEX PLATING AVAILABLE:

Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

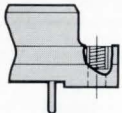
Receptacle Assemblies



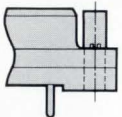
With Integral Standoff



Without Integral Standoff



With Integral Standoff and 4-40
Threaded Inserts (See page 37
for typical application.)



With Integral Standoff and 4-40
Fixed Female Screwlocks (See
page 37 for typical applications.)

Material and Finish:

Housing—Black Thermoplastic,
94V-0 Rated

Threaded Inserts—Brass; unplated

Female Screwlocks—Brass; Nickel
plated

Socket Contacts (Posted)—Phosphor
Bronze; plated as follows:

A—Gold flash over .000050 [0.00127
nickel on entire contact, with addition-
al .000030 [0.00076] gold on mating
end for length of .100 [2.54] min.

B—Gold flash over .000030 [0.00076]
nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Plugs:

HDP-20—pages 26, 28, 30-31 & 34-35

HDF-20—page 42

HDJ-20—pages 44, 46 & 47

HDE-20—page 50

Pc Board Mounting—page 64

Mating/Panel Mounting—page 66

Accessories:

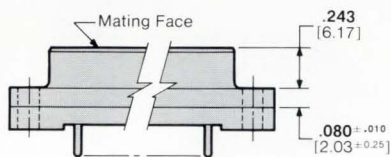
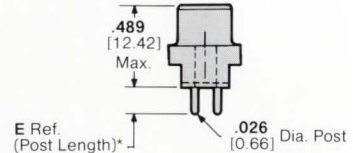
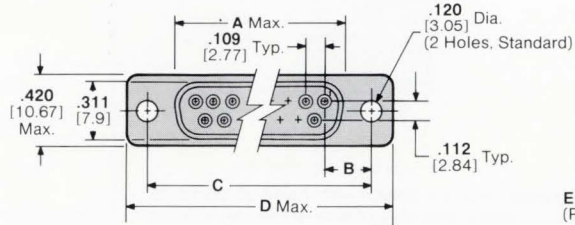
Connector Savers—page 67

Plug/Receptacle Adapters—page 69

Mating Hardware—pages 87 thru 89,
92 & 93

Keying Plug—page 95

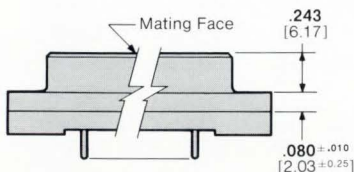
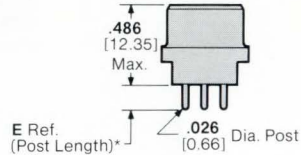
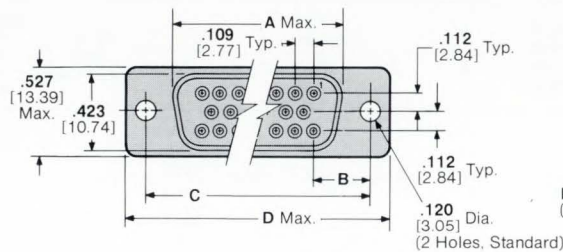
9, 15, 25 and 37 Positions



*Post Length (E) equals:
.125 [3.18]
.170 [4.32]
.250 [6.35]

Without Integral Standoff

50 Positions



*Post Length (E) equals:
.125 [3.18]
.170 [4.32]
.250 [6.35]

Without Integral Standoff

*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .170 [4.32] post length is for recommended pc board thicknesses of .093 [2.36] and .125 [3.18]; .250 [6.35] post length is for special applications.

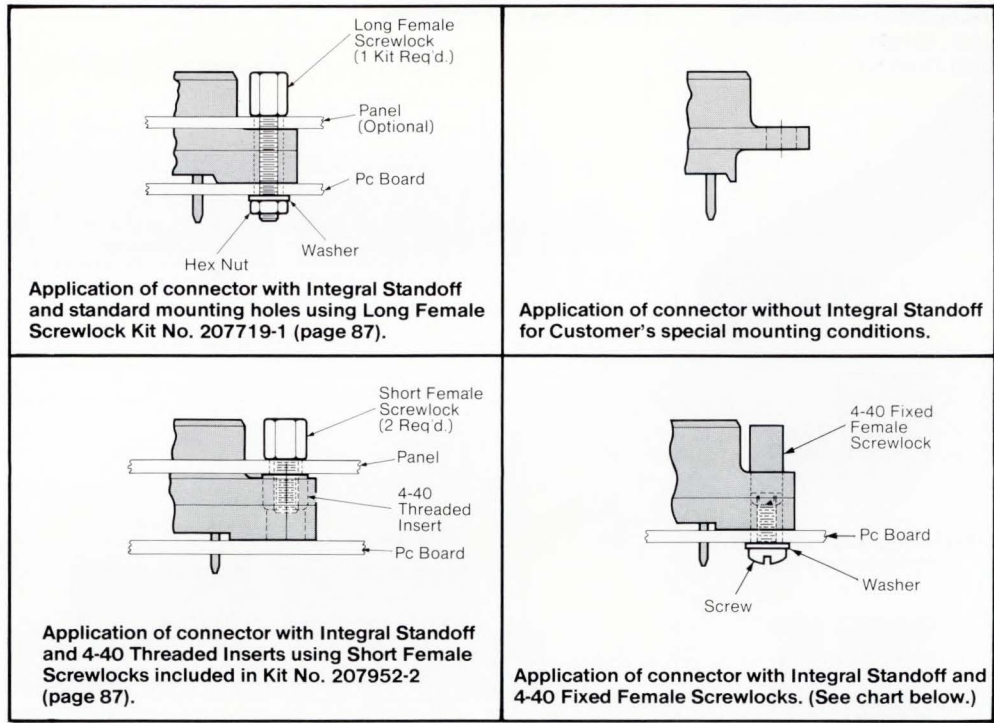
- Notes:**
1. All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
 2. For pc board hole pattern specifications, see page 64.
 3. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.

DUPLEX PLATING AVAILABLE:

Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

Dimensioning:

All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Chart contains dimensions in inches over
millimetres.



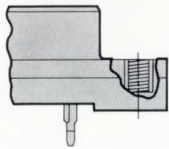
No. of Contact Positions (Shell Size)	Dimensions					Contact Finish (Plating Code)	Receptacle Assembly Part No. (Without Integral Standoff)	Receptacle Assembly Part No. (with Integral Standoff)										
	A	B	C	D	E*			With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks								
9 (1)						A	.125	208079-4	207826-4	207841-4	745076-4							
							.170	208079-6	207826-6	207841-6	745076-6							
							.250	208079-8	207826-8	207841-8	745076-8							
							.125	208079-3	207826-3	207841-3	745076-3							
							.170	208079-5	207826-5	207841-5	745076-5							
							.250	208079-7	207826-7	207841-7	745076-7							
							.125	208080-4	207827-4	745057-4	745077-4							
							.170	208080-6	207827-6	745057-6	745077-6							
							.250	208080-8	207827-8	745057-8	745077-8							
							.125	208080-3	207827-3	745057-3	745077-3							
15 (2)						B	.170	208080-5	207827-5	745057-5	745077-5							
							.250	208080-7	207827-7	745057-7	745077-7							
							.125	208081-4	207828-4	745058-4	745078-4							
							.170	208081-6	207828-6	745058-6	745078-6							
							.250	208081-8	207828-8	745058-8	745078-8							
							.125	208081-3	207828-3	745058-3	745078-3							
							.170	208081-5	207828-5	745058-5	745078-5							
							.250	208081-7	207828-7	745058-7	745078-7							
							.125	208082-4	207829-4	745059-4	745079-4							
							.170	208082-6	207829-6	745059-6	745079-6							
25 (3)						A	.250	208082-8	207829-8	745059-8	745079-8							
							.125	208082-3	207829-3	745059-3	745079-3							
							.170	208082-5	207829-5	745059-5	745079-5							
							.250	208082-7	207829-7	745059-7	745079-7							
							.125	208083-4	207830-4	745060-4	745080-4							
							.170	208083-6	207830-6	745060-6	745080-6							
							.250	208083-8	207830-8	745060-8	745080-8							
							.125	208083-3	207830-3	745060-3	745080-3							
							.170	208083-5	207830-5	745060-5	745080-5							
							.250	208083-7	207830-7	745060-7	745080-7							
37 (4)						B	.125	208083-4	207830-4	745060-4	745080-4							
							.170	208083-6	207830-6	745060-6	745080-6							
							.250	208083-8	207830-8	745060-8	745080-8							
							.125	208083-3	207830-3	745060-3	745080-3							
							.170	208083-5	207830-5	745060-5	745080-5							
							.250	208083-7	207830-7	745060-7	745080-7							
							50 (5)						A	.125	208083-4	207830-4	745060-4	745080-4
														.170	208083-6	207830-6	745060-6	745080-6
														.250	208083-8	207830-8	745060-8	745080-8
														.125	208083-3	207830-3	745060-3	745080-3
.170	208083-5	207830-5	745060-5	745080-5														
.250	208083-7	207830-7	745060-7	745080-7														

*.125 [3.18] post length is for recommended pc board thickness of .062 [1.57]; .170 [4.32] post length is for recommended pc board thicknesses of .093 [2.36] and .125 [3.18]. .250 [6.35] post length is for special applications.

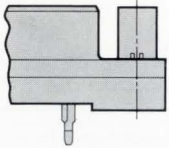
- Notes:**
1. All receptacle assemblies are preloaded with size 20 DF posted socket contacts.
 2. Unshaded parts in illustrations above are not included with these connectors. They are to be supplied by the Customer or, where applicable, purchased separately from AMP using the part nos. specified.
 3. It is recommended that these connectors be secured with appropriate hardware to a pc board and/or panel.
 4. For pc board hole pattern specifications, see page 64.
 5. Male screw retainers (page 86) are used as mating hardware with 4-40 female screwlocks.

**HDP-20 All-Plastic Connectors
with Straight Posted ACTION PIN Contacts
(for Pc Board Mounting)**

**Receptacle Assemblies
(Low, Medium and High Profile)**



**With Integral Standoff and
4-40 Threaded Inserts**



**With Integral Standoff and
4-40 Fixed Female Screwlocks**

Material and Finish:
Housing—Black Thermoplastic,
94V-0 Rated

Threaded Inserts—Brass; unplated

Female Screwlocks—Brass; Nickel
plated

ACTION PIN Contacts—Copper Alloy,
duplex plated as follows:

A—.000030 [0.00076] gold on mating
end, bright tin or bright tin-lead
on ACTION PIN post surface, with
entire contact underplated .000050
[0.00127] nickel.

B—Gold flash on mating end, bright tin or
bright tin-lead on ACTION PIN post
surface, with entire contact under-
plated .000050 [0.00127] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Mateable Plugs:

HDP-20—pages 26, 28, 30-31 & 34-35

HDF-20—page 42

HDJ-20—pages 44, 46 & 47

HDE-20—page 50

Pc Board Mounting—page 64

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67

Plug/Receptacle Adapters—page 69

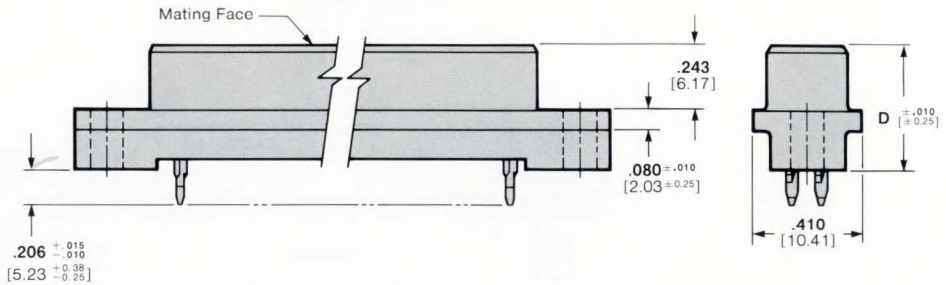
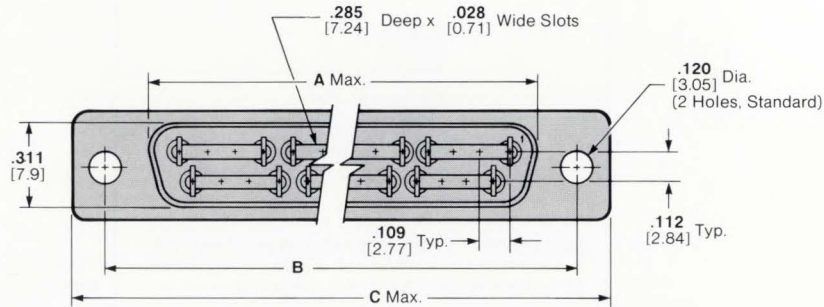
Mating Hardware—pages 87 thru 89,
92 & 93

Keying Plug—page 95

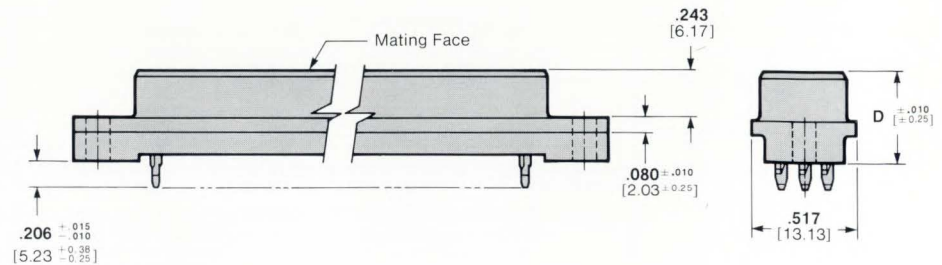
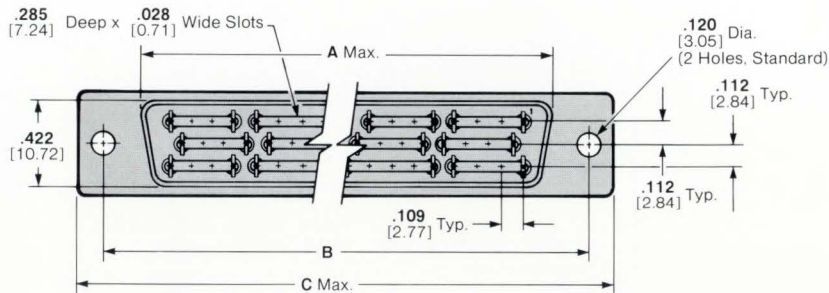


**Insertion/Extraction Tool
No. 91261-1 (includes
Insertion Tip No. 543133-1,
Extraction Tip No. 126961-2)**

9, 15, 25 and 37 Positions



50 Positions



Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

For .093 to .125 [2.36 to 3.18] Thick Pc Boards

No. of Contact Positions (Shell Size)	Dimensions				Profile	Contact Finish (Plating Code)	Receptacle Assembly Part No.			Seating Tooling Part No.
	A	B	C	D			With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks	
9 (1)	.648 16.46	.984 24.99	1.221 31.01	.395	Low	B	745335-1	745379-1	745454-1	91164-1
				10.03	Low	A	745335-2	745379-2	745454-2	
				.479	Medium	B	745511-1	745516-1	745521-1	91164-2
				12.17	Medium	A	745511-2	745516-2	745521-2	
				.695	High	B	745450-1	745463-1	745455-1	91164-3
				17.65	High	A	745450-2	745463-2	745455-2	
15 (2)	.976 24.79	1.312 33.32	1.546 39.27	.395	Low	B	745336-1	745380-1	745456-1	91165-1
				10.03	Low	A	745336-2	745380-2	745456-2	
				.695	High	B	745451-1	745464-1	745457-1	91165-3
				17.65	High	A	745451-2	745464-2	745457-2	
				.395	Low	B	208069-1	745381-1	745458-1	91163-1
				10.03	Low	A	208069-2	745381-2	745458-2	
25 (3)	1.514 38.46	1.852 47.04	2.095 53.21	.479	Medium	B	745513-1	745518-1	745523-1	91163-2
				12.17	Medium	A	745513-2	745518-2	745523-2	
				.695	High	B	208089-1	745465-1	745031-1	91163-3
				17.65	High	A	208089-2	745465-2	745031-2	
				.395	Low	B	745337-1	745382-1	745459-1	91166-1
				10.03	Low	A	745337-2	745382-2	745459-2	
37 (4)	2.162 54.92	2.500 63.5	2.737 69.52	.695	High	B	745452-1	745466-1	745460-1	91166-3
				17.65	High	A	745452-2	745466-2	745460-2	
				.395	Low	B	745338-1	745383-1	745461-1	91167-1
				10.03	Low	A	745338-2	745383-2	745461-2	
				.695	High	B	745453-1	745467-1	745462-1	91167-3
				17.65	High	A	745453-2	745467-2	745462-2	

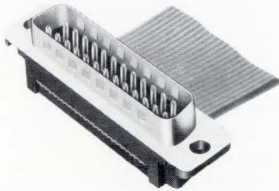
For .062 [1.57] Thick Pc Boards

No. of Contact Positions (Shell Size)	Dimensions				Profile	Contact Finish (Plating Code)	Receptacle Assembly Part No.			Seating Tooling Part No.
	A	B	C	D			With Standard Mounting Holes	With Threaded Inserts	With Fixed Female Screwlocks	
9 (1)	.648 16.46	.984 24.99	1.221 31.01	.395	Low	B	745586-1	745601-1	745616-1	91164-1
				10.03	Low	A	745586-2	745601-2	745616-2	
				.479	Medium	B	745591-1	745606-1	745621-1	91164-2
				12.17	Medium	A	745591-2	745606-2	745621-2	
				.695	High	B	745596-1	745611-1	745626-1	91164-3
				17.65	High	A	745596-2	745611-2	745626-2	
15 (2)	.976 24.79	1.312 33.32	1.546 39.27	.395	Low	B	745587-1	745602-1	745617-1	91165-1
				10.03	Low	A	745587-2	745602-2	745617-2	
				.695	High	B	745597-1	745612-1	745627-1	91165-3
				17.65	High	A	745597-2	745612-2	745627-2	
				.395	Low	B	745588-1	745603-1	745618-1	91163-1
				10.03	Low	A	745588-2	745603-2	745618-2	
25 (3)	1.514 38.46	1.852 47.04	2.095 53.21	.479	Medium	B	745593-1	745608-1	745623-1	91163-2
				12.17	Medium	A	745593-2	745608-2	745623-2	
				.695	High	B	745598-1	745613-1	745628-1	91163-3
				17.65	High	A	745598-2	745613-2	745628-2	
				.395	Low	B	745589-1	745604-1	745619-1	91166-1
				10.03	Low	A	745589-2	745604-2	745619-2	
37 (4)	2.162 54.92	2.500 63.5	2.737 69.52	.695	High	B	745599-1	745614-1	745629-1	91166-3
				17.65	High	A	745599-2	745614-2	745629-2	
				.395	Low	B	745590-1	745605-1	745620-1	91167-1
				10.03	Low	A	745590-2	745605-2	745620-2	
				.695	High	B	745600-1	745615-1	745630-1	91167-3
				17.65	High	A	745600-2	745615-2	745630-2	

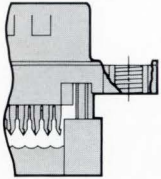
Notes: 1. All receptacle assemblies are preloaded with straight posted ACTION PIN socket contacts.
2. For pc board hole pattern specifications, see page 64.
3. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 female screwlocks.
4. Insertion/Extraction Tool No. 91261-1 is used to remove and install straight posted ACTION PIN socket contacts. Consult AMP Incorporated for replacement contact nos.

AMP-LATCH HDF-20 Low Profile Metal-Shell Connectors (for Round Conductor Flat Ribbon Cable)

Plug Assemblies (with Grounding Indents)



(Housing and Cover are
Preassembled);
Strain Relief—Not
Shown—is Separate.)



With 4-40 Threaded Inserts

Material and Finish:

Front Shell—Steel; Tin plated

Housing, Cover & Strain Relief—Black
Thermoplastic, 94V-0 Rated

Threaded Inserts—Brass; unplated

Pin Contacts—Phosphor Bronze;
duplex plated .000030 [0.00076] gold on
mating end, .000100-.000200 [0.00254-
0.00508] bright tin or bright tin-lead on
termination end, with entire contact
underplated .000050 [0.00127] nickel

Reference Information:

Applicable Specifications—page 5
Cavity Identification—page 5

Application Tooling—pages 60-61

Mateable Receptacles:

HDP-20—pages 7, 10-11, 13, 16-17,
19, 21, 23 & 24

HDF-20—page 41

HDE-20—page 49

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67

Plug/Receptacle Adapters—page 68

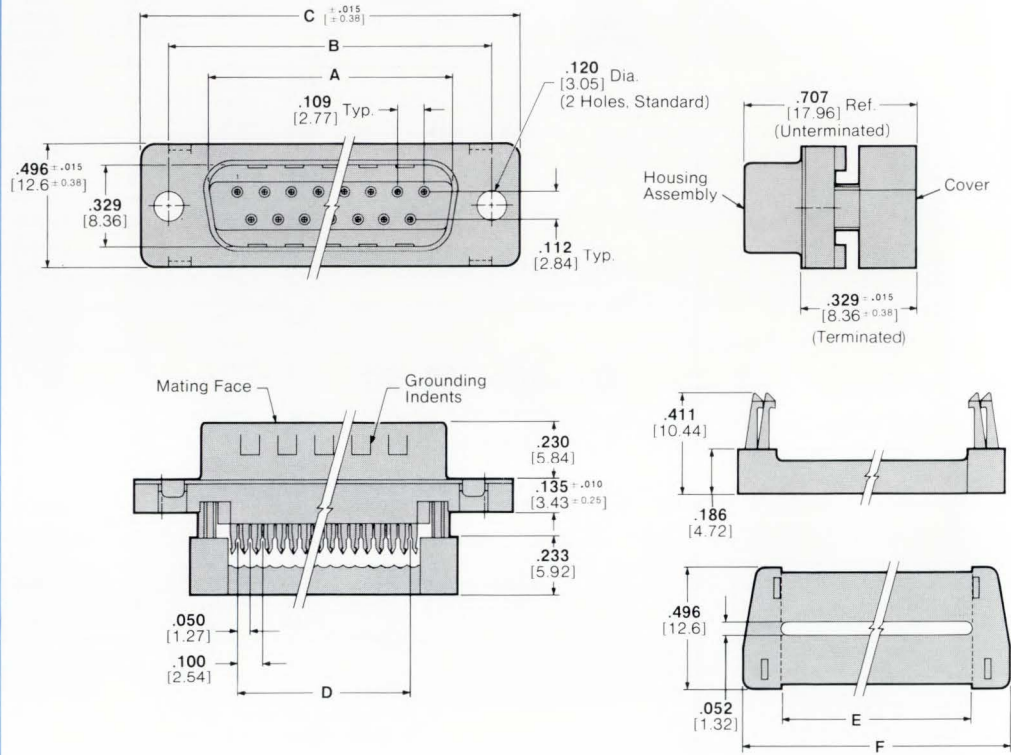
Shielding Kits—pages 84-85

Mating Hardware—pages 87 thru 89,
92 & 93

RFI Gaskets—page 94

Commoning Strip—page 95

9, 15, 25 and 37 Positions



Strain Relief

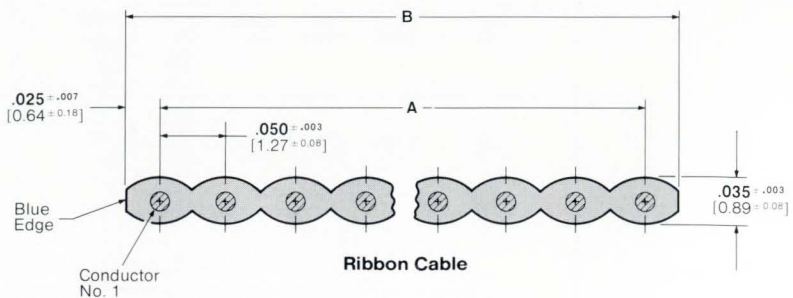
No. of Contact Positions (Shell Size)	Dimensions						Strain Relief Part No.	Plug Assembly Part No.			
	A	B	C	D	E	F		Without Strain Relief		With Strain Relief	
								With Standard Mounting Holes	With Threaded Inserts	With Standard Mounting Holes	With Threaded Inserts
9 (1)	.666 16.92	.984 24.99	1.216 30.89	.400 10.16	.480 12.19	.759 19.28	747275-4	747306-4	747043-4	747307-4	747308-4
15 (2)	.994 25.25	1.312 33.32	1.541 39.14	.700 17.78	.780 19.81	1.087 27.61	747275-3	747306-3	747043-3	747307-3	747308-3
25 (3)	1.534 38.96	1.852 47.04	2.090 53.09	1.200 30.48	1.280 32.51	1.623 41.22	747275-2	747306-2	747043-2	747307-2	747308-2
37 (4)	2.183 55.45	2.500 63.5	2.732 69.39	1.800 45.72	1.880 47.75	2.275 57.78	747275-1	747306-1	747043-1	747307-1	747308-1

Notes: 1. All plug assemblies are supplied with housing assembly and cover preassembled (shown above).

2. Strain reliefs must be purchased separately; they are packaged unassembled.

3. These plug assemblies terminate flat ribbon cable with conductors on .050 [1.27] centers and in sizes 30 AWG [0.05 mm²] solid, 28 AWG [0.08-0.09 mm²] solid or stranded and 26 AWG [0.12-0.15 mm²] solid.

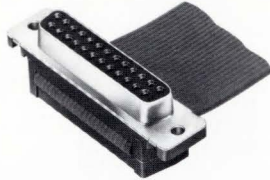
4. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 threaded inserts.



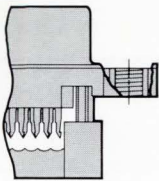
A dimension tolerances are: ± 0.10 [± 0.25] for cable sizes 9 thru 34 positions,
 ± 0.15 [± 0.38] for cable sizes 36 thru 60 positions.
B dimension tolerances are: ± 0.24 [± 0.61] for cable sizes 9 thru 34 positions,
 ± 0.29 [± 0.74] for cable sizes 36 thru 60 positions.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

Receptacle Assemblies



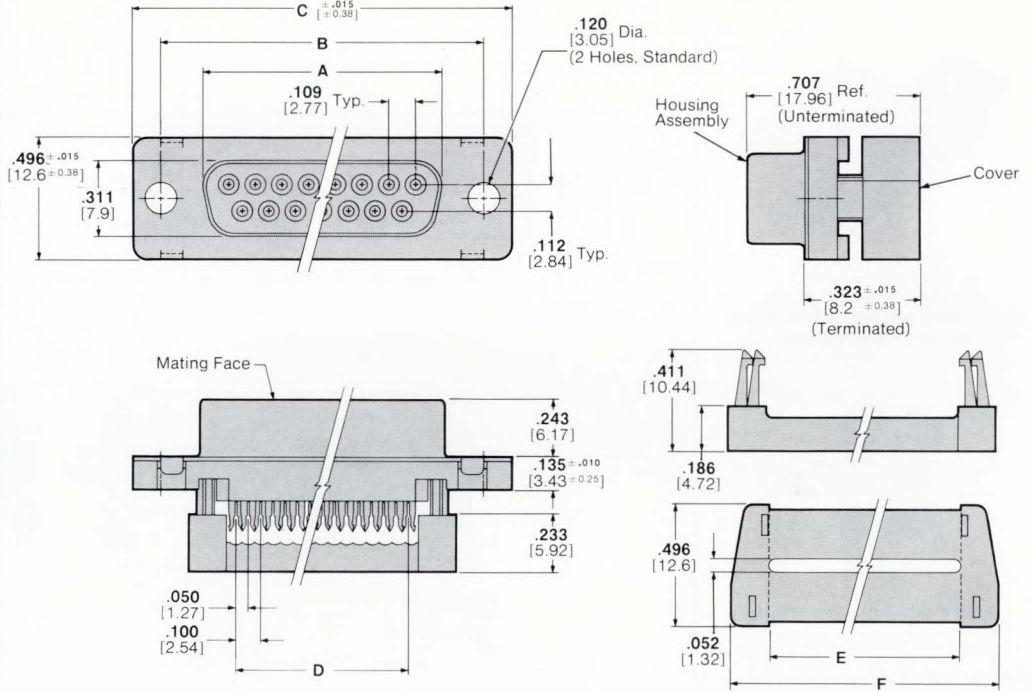
(Housing and Cover are Preassembled; Strain Relief is Separate.)



With 4-40 Threaded Inserts

Material and Finish:
Front Shell—Steel; Tin plated
Housing, Cover & Strain Relief—Black Thermoplastic, 94V-0 Rated
Threaded Inserts—Brass; unplated
Socket Contacts—Phosphor Bronze; duplex plated .000030 [0.00076] gold on mating end, .000100-.000200 [0.00254-.00508] bright tin or bright tin-lead or: termination end, with entire contact underplated .000050 [0.00127] nickel
Reference Information:
 Applicable Specifications—page 5
 Cavity Identification—page 5
 Application Tooling—pages 60-61
Mateable Plugs:
 HDP-20—pages 6, 8-9, 12, 14-15, 18, 20 & 22
 HDF-20—page 40
 HDE-20—page 48
Mating/Panel Mounting—page 66
Accessories:
 Connector Savers—page 67
 Plug/Receptacle Adapters—page 68
 Shielding Kits—pages 84-85
 Mating Hardware—pages 87 thru 89, 92 & 93
 RFI Gaskets—page 94
 Keying Plug—page 95

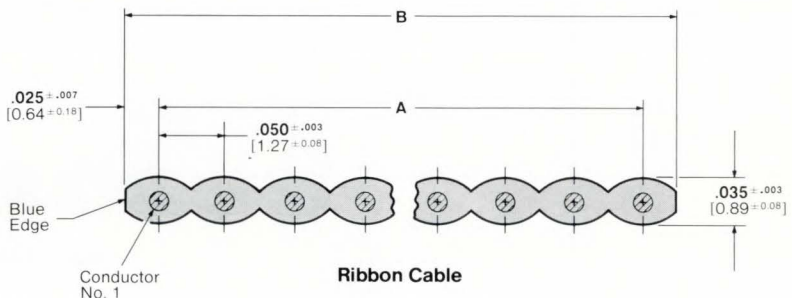
9, 15, 25 and 37 Positions



Strain Relief

No. of Contact Positions (Shell Size)	Dimensions						Strain Relief Part No.	Receptacle Assembly Part No.			
	A	B	C	D	E	F		Without Strain Relief		With Strain Relief	
								With Standard Mounting Holes	With Threaded Inserts	With Standard Mounting Holes	With Threaded Inserts
9 (1)	.643 16.33	.984 24.99	1.216 30.89	.400 10.16	.480 12.19	.759 19.28	747275-4	747303-4	747052-4	747304-4	747305-4
15 (2)	.971 24.66	1.312 33.32	1.541 39.14	.700 17.78	.780 19.81	1.087 27.61	747275-3	747303-3	747052-3	747304-3	747305-3
25 (3)	1.511 38.38	1.852 47.04	2.090 53.09	1.200 30.48	1.280 32.51	1.623 41.22	747275-2	747303-2	747052-2	747304-2	747305-2
37 (4)	2.159 54.84	2.500 63.5	2.732 69.39	1.800 45.72	1.880 47.75	2.275 57.78	747275-1	747303-1	747052-1	747304-1	747305-1

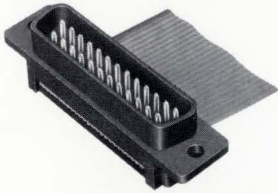
- Notes:**
- All receptacle assemblies are supplied with housing assembly and cover preassembled (shown above).
 - Strain reliefs must be purchased separately; they are packaged unassembled.
 - These receptacle assemblies terminate flat ribbon cable with conductors on .050 [1.27] centers and in sizes 30 AWG [0.05 mm²] solid, 28 AWG [0.08-0.09 mm²] solid or stranded and 26 AWG [0.12-0.15 mm²] solid.
 - Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 threaded inserts.



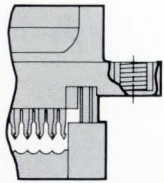
A dimension tolerances are: ± 0.010 [±0.25] for cable sizes 9 thru 34 positions, ± 0.015 [±0.38] for cable sizes 36 thru 60 positions.
B dimension tolerances are: ± 0.024 [±0.61] for cable sizes 9 thru 34 positions, ± 0.029 [±0.74] for cable sizes 36 thru 60 positions.

AMP-LATCH HDF-20 Low Profile All-Plastic Connectors (for Round Conductor Flat Ribbon Cable)

Plug Assemblies



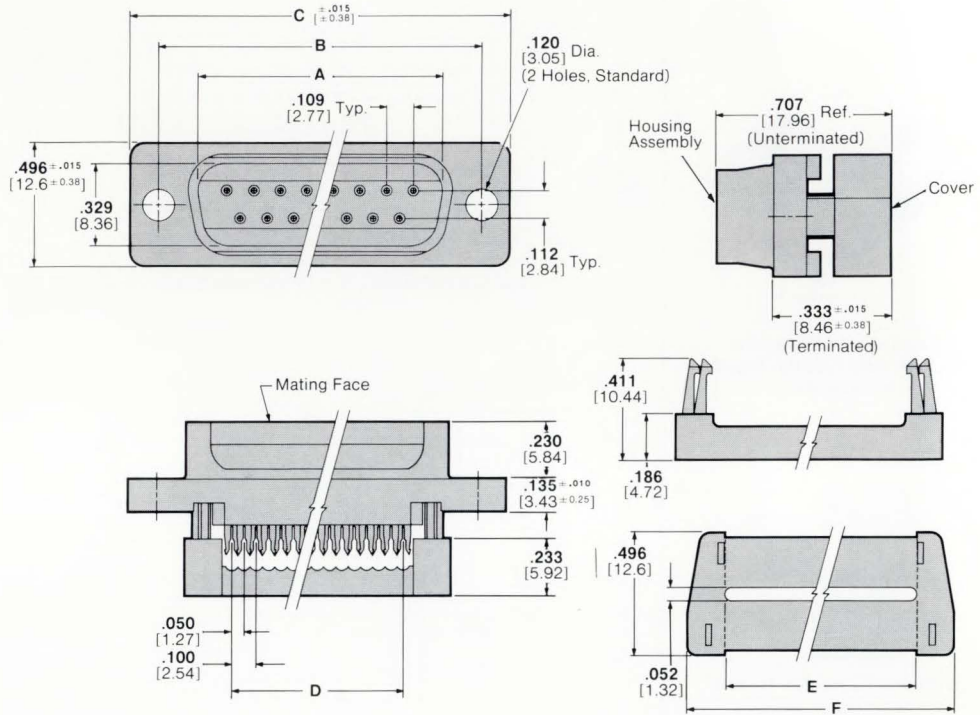
(Housing and Cover are Preassembled; Strain Relief-Not Shown—is Separate.)



With 4-40 Threaded Inserts

Material and Finish:
Housing, Cover & Strain Relief—Black Thermoplastic, 94V-0 Rated
Threaded Inserts—Brass; unplated
Pin Contacts—Phosphor Bronze; duplex plated .000030 [0.00076] gold on mating end, .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel
Reference Information:
 Applicable Specifications—page 5
 Cavity Identification—page 5
 Application Tooling—pages 60-61
 Matable Receptacles:
 HDP-20—pages 25, 27, 29, 32-33 & 36 thru 39
 HDF-20—page 43
 HDJ-20—page 44
 HDE-20—page 51
 Mating/Panel Mounting—page 66
Accessories:
 Connector Savers—page 67
 Plug/Receptacle Adapters—page 69
 Mating Hardware—pages 87 thru 89, 92 & 93
 Commoning Strip—page 95

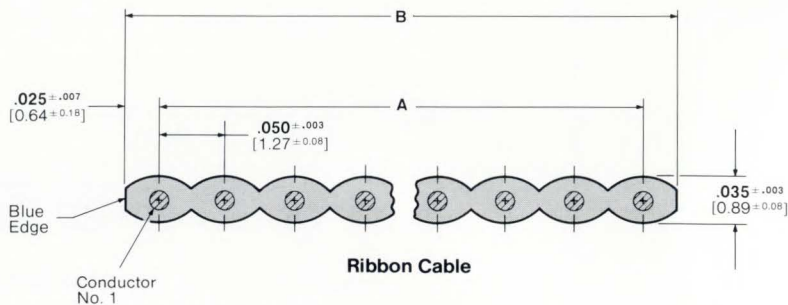
9, 15, 25 and 37 Positions



Strain Relief

No. of Contact Positions (Shell Size)	Dimensions						Strain Relief Part No.	Plug Assembly Part No.			
	A	B	C	D	E	F		Without Strain Relief		With Strain Relief	
								With Standard Mounting Holes	With Threaded Inserts	With Standard Mounting Holes	With Threaded Inserts
9 (1)	.666 16.92	.984 24.99	1.216 30.89	.400 10.16	.480 12.19	.759 19.28	747275-4	747321-4	747053-4	747322-4	747323-4
15 (2)	.994 25.25	1.312 33.32	1.541 39.14	.700 17.78	.780 19.81	1.087 27.61	747275-3	747321-3	747053-3	747322-3	747323-3
25 (3)	1.534 38.96	1.852 47.04	2.090 53.09	1.200 30.48	1.280 32.51	1.623 41.22	747275-2	747321-2	747053-2	747322-2	747323-2
37 (4)	2.183 55.45	2.500 63.5	2.732 69.39	1.800 45.72	1.880 47.75	2.275 57.78	747275-1	747321-1	747053-1	747322-1	747323-1

- Notes:**
- All plug assemblies are supplied with housing assembly and cover preassembled (shown above).
 - Strain reliefs must be purchased separately; they are packaged unassembled.
 - These plug assemblies terminate flat ribbon cable with conductors on .050 [1.27] centers and in sizes 30 AWG [0.05 mm²] solid, 28 AWG [0.08-0.09 mm²] solid or stranded and 26 AWG [0.12-0.15 mm²] solid.
 - Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 threaded inserts.



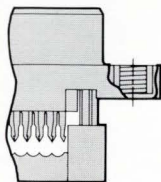
A dimension tolerances are: ±.010 [±0.25] for cable sizes 9 thru 34 positions, ±.015 [±0.38] for cable sizes 36 thru 60 positions.
B dimension tolerances are: ±.024 [±0.61] for cable sizes 9 thru 34 positions, ±.029 [±0.74] for cable sizes 36 thru 60 positions.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

Receptacle Assemblies



(Housing and Cover are Preassembled; Strain Relief is Separate.)



With 4-40 Threaded Inserts

Material and Finish:

Housing, Cover & Strain Relief—Black Thermoplastic, 94V-0 Rated

Threaded Inserts—Brass; unplated

Socket Contacts—Phosphor Bronze; duplex plated .000030 [0.00076] gold on mating end, .000100-.000200 [0.00254-.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Application Tooling—pages 60-61

Mateable Plugs:

HDP-20—pages 26, 28, 30-31 & 34-35

HDF-20—page 42

HDJ-20—pages 44, 46 & 47

HDE-20—page 50

Mating/Panel Mounting—page 66

Accessories:

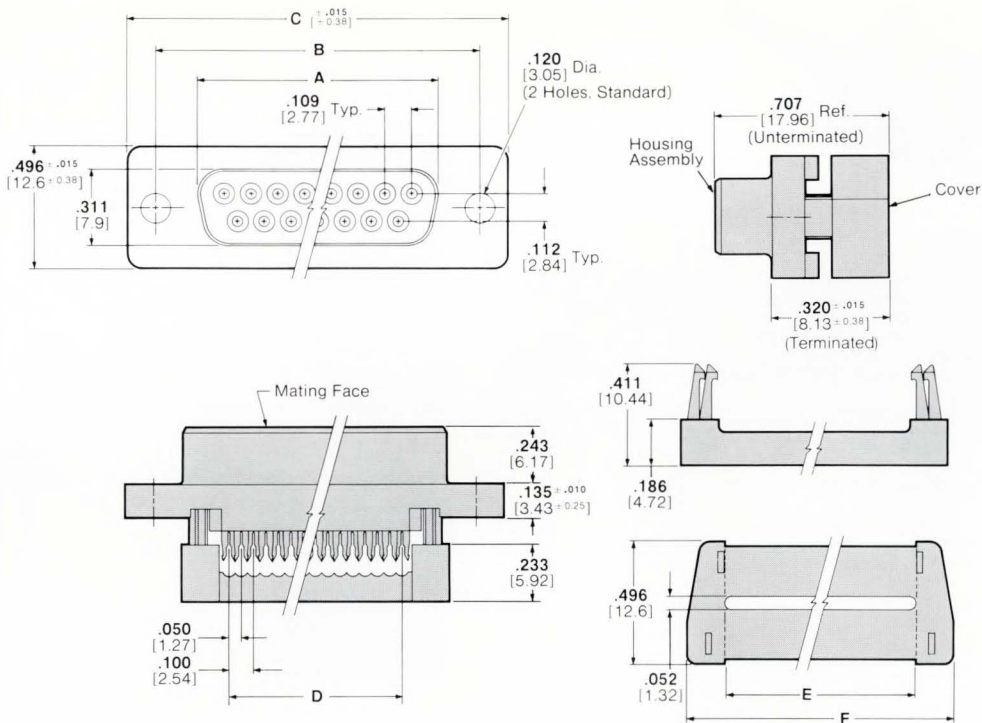
Connector Savers—page 67

Plug/Receptacle Adapters—page 69

Mating Hardware—pages 87 thru 89, 92 & 93

Keying Plug—page 95

9, 15, 25 and 37 Positions



Strain Relief

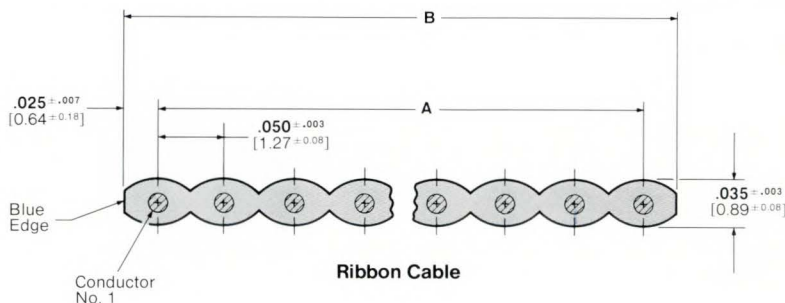
No. of Contact Positions (Shell Size)	Dimensions						Strain Relief Part No.	Receptacle Assembly Part No.			
	A	B	C	D	E	F		Without Strain Relief		With Strain Relief	
								With Standard Mounting Holes	With Threaded Inserts	With Standard Mounting Holes	With Threaded Inserts
9 (1)	.643 16.33	.984 24.99	1.216 30.89	.400 10.16	.480 12.19	.759 19.28	747275-4	747318-4	747051-4	747319-4	747320-4
15 (2)	.971 24.66	1.312 33.32	1.541 39.14	.700 17.78	.780 19.81	1.087 27.61	747275-3	747318-3	747051-3	747319-3	747320-3
25 (3)	1.511 38.38	1.852 47.04	2.090 53.09	1.200 30.48	1.280 32.51	1.623 41.22	747275-2	747318-2	747051-2	747319-2	747320-2
37 (4)	2.159 54.84	2.500 63.5	2.732 69.39	1.800 45.72	1.880 47.75	2.275 57.78	747275-1	747318-1	747051-1	747319-1	747320-1

Notes: 1. All receptacle assemblies are supplied with housing assembly and cover preassembled (shown above).

2. Strain reliefs must be purchased separately; they are packaged unassembled.

3. These receptacle assemblies terminate flat ribbon cable with conductors on .050 [1.27] centers and in sizes 30 AWG [0.05 mm²] solid, 28 AWG [0.08-0.09 mm²] solid or stranded and 26 AWG [0.12-0.15 mm²] solid.

4. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 threaded inserts.



A dimension tolerances are: ±.010 [±0.25] for cable sizes 9 thru 34 positions, ±.015 [±0.38] for cable sizes 36 thru 60 positions.
B dimension tolerances are: ±.024 [±0.61] for cable sizes 9 thru 34 positions, ±.029 [±0.74] for cable sizes 36 thru 60 positions.

HDJ-20 All-Plastic Jacketed Cable Connectors (for Crimp Snap-In Contacts)

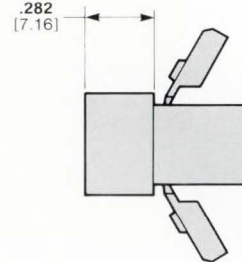
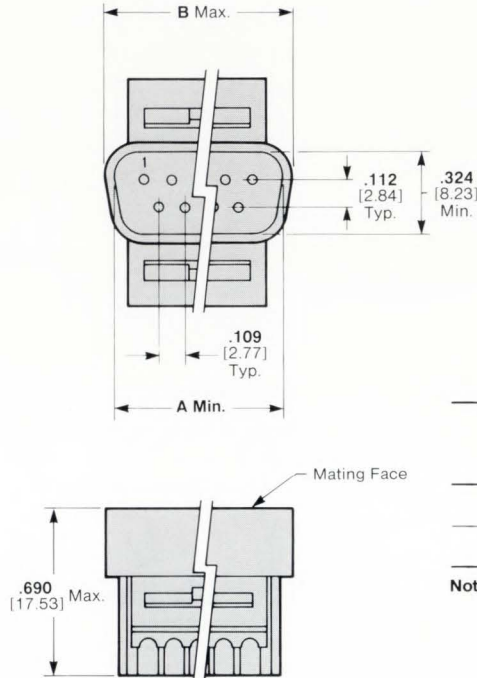
Plug Housings



Material: Black Thermoplastic, 94V-2 Rated

Reference Information:
 Applicable Specifications—page 5
 Cavity Identification—page 5
 Contacts, 20 DF (Precision Formed)—page 55
 Application Tooling (for 20 DF contacts)—page 59
 Matable Receptacles:
 HDP-20—pages 25, 27, 29, 32-33 & 36 thru 39
 HDF-20—page 43
 HDJ-20—page 44 (below)
 HDE-20—page 51
 Mating/Panel Mounting—page 66
 Accessories: (Commoning Strip)—page 95

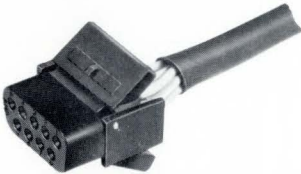
9 and 15 Positions



No. of Contact Positions (Shell Size)	Dimensions		Plug Part No.
	A	B	
9 (1)	.661 16.79	.757 19.23	745032-1
15 (2)	.989 25.12	1.080 27.43	745870-1

Note: These plug housings accept size 20 DF pin contacts (tin plated), **Part No. 1-66507-4** for 28-24 AWG [0.08-0.2 mm²] wire sizes and **Part No. 1-66506-4** for 24-20 AWG [0.2-0.6 mm²] wire sizes. For computer applications, AMP recommends the use of gold plated pin contacts. (See pages 55 and 56.)

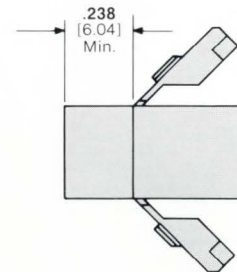
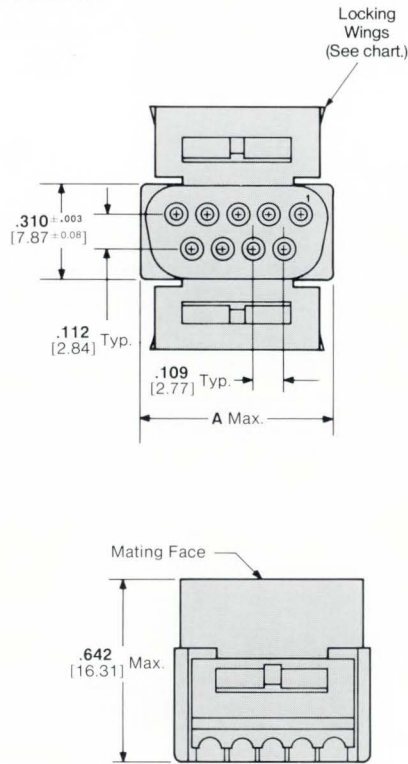
Receptacle Housings



Material: Black Thermoplastic, 94V-2 Rated

Reference Information:
 Applicable Specifications—page 5
 Cavity Identification—page 5
 Contacts, 20 DF (Precision Formed)—page 55
 Application Tooling (for 20 DF Contacts)—page 59
 Matable Plugs:
 HDP-20—pages 26, 28, 30-31 & 34-35
 HDF-20—page 42
 HDJ-20—page 44 (above), 46 & 47
 HDE-20—page 50
 Mating/Panel Mounting—page 66
 Accessories: (Keying Plug)—page 95

9 and 15 Positions



No. of Contact Positions (Shell Size)	Dimension A	Receptacle Part No.	
		Without Locking Wings	With Locking Wings
9 (1)	.642 16.31	207752-1	207752-3
15 (2)	.975 24.77	—	745329-1

Note: These receptacle housings accept size 20 DF socket contacts (tin plated), **Part No. 1-66505-4** for 28-24 AWG [0.08-0.2 mm²] wire sizes and **Part No. 1-66504-4** for 24-20 AWG [0.2-0.6 mm²] wire sizes. For computer applications, AMP recommends the use of gold plated socket contacts. (See pages 55 and 56.)



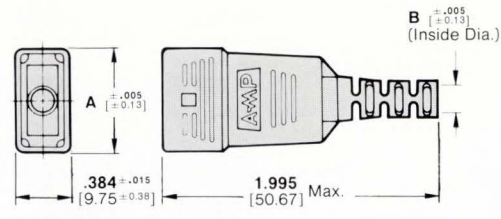
Strain Relief (for 9 Position only)
Material: Steel
Part No. 61831-1
(for .150 [3.81] Max. Ins. Dia.)

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

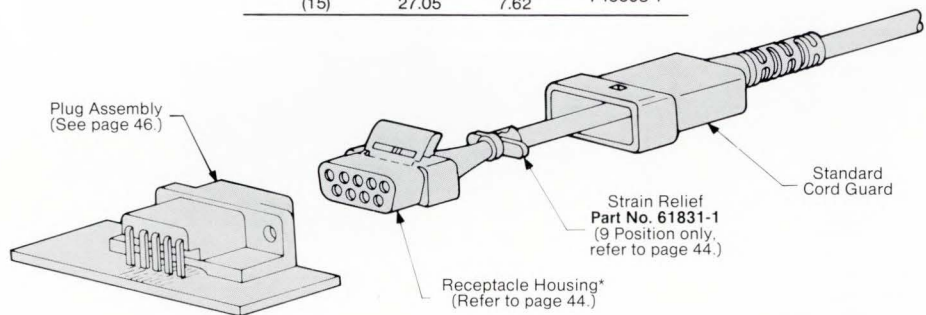
Standard Cord Guards

Material: Black Thermoplastic,
94V-2 Rated

9 and 15 Positions



Shell Size (No. of Contact Positions)	Dimensions		Cord Guard Part No.
	A	B	
1 (9)	.739 18.77	.234 5.94	207753-1
2 (15)	1.065 27.05	.300 7.62	745503-1



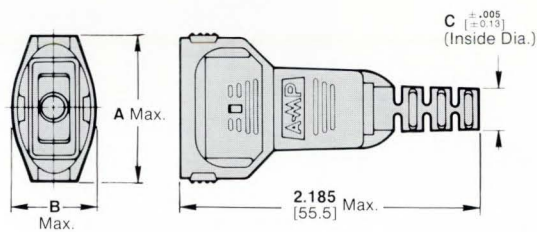
*Standard Cord Guards also can be used on plug housings (page 44)

Typical application of HDJ-20 Jacketed Cable Connector using Standard Cord Guard

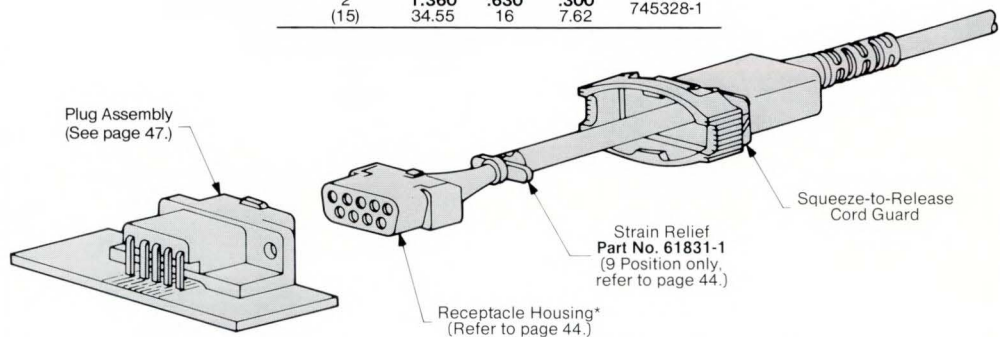
Squeeze-to-Release Cord Guards

Material: Black Thermoplastic,
94V-2 Rated

9 and 15 Positions



Shell Size (No. of Contact Positions)	Dimensions			Cord Guard Part No.
	A	B	C	
1 (9)	1.055 26.8	.620 15.75	.200 5.08	745002-3
			.265 6.73	745002-2
2 (15)	1.360 34.55	.630 16	.300 7.62	745328-1

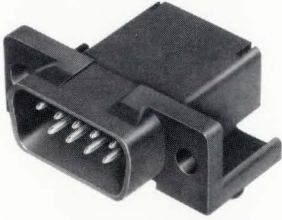


*Squeeze-to-Release Cord Guards also can be used on plug housings (page 44).

Typical application of HDJ-20 Jacketed Cable Connector using Squeeze-to-Release Cord Guard

HDP-20 All-Plastic Plug Assemblies with Right-Angle Posted Contacts (for Pc Board Mounting with Panel Lock)

Plug Assemblies (for Standard Cord Guards)



Material and Finish:

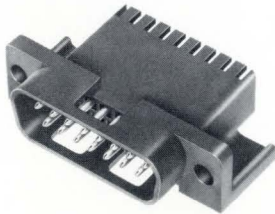
Housing—Black Thermoplastic,
94V-2 Rated

Pin Contacts (Posted)—Brass; duplex
plated as follows:

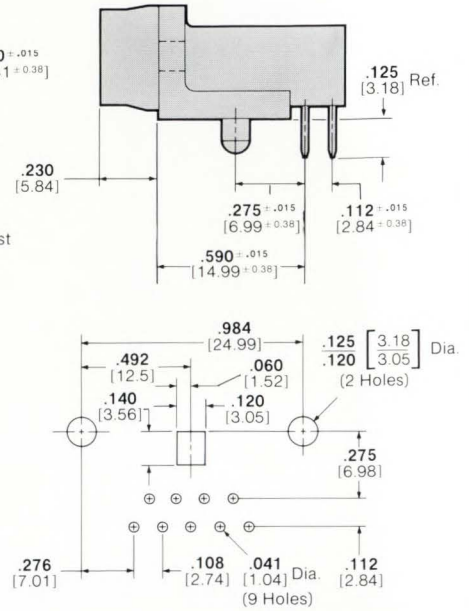
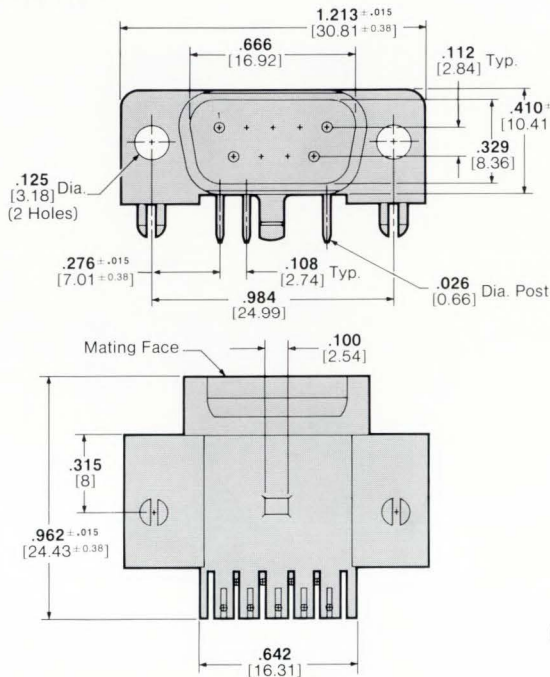
- A**—.000030 [0.00076] gold on mating
end for length of .150 [3.81] min.,
000100-.000200 [0.00254-0.00508]
bright tin or bright tin-lead on termina-
tion end, with entire contact under-
plated .000050 [0.00127] nickel
- B**—Gold flash on mating end for length of
.150 [3.81] min., .000100-.000200
[0.00254-0.00508] bright tin or bright
tin-lead on termination end, with
entire contact underplated .000050
[0.00127] nickel

Reference Information:

- Applicable Specifications—page 5
- Cavity Identification—page 5
- Mateable Receptacles:
HDP-20—pages 25, 27, 29, 32-33 &
36 thru 39
- HDF-20—page 43
- HDJ-20—page 44
- HDE-20—page 51
- Mating/Panel Mounting—page 66
- Accessories: (Commoning Strip)—
page 95

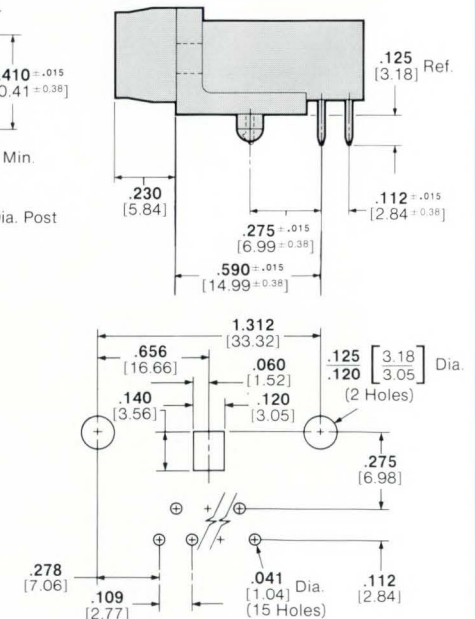
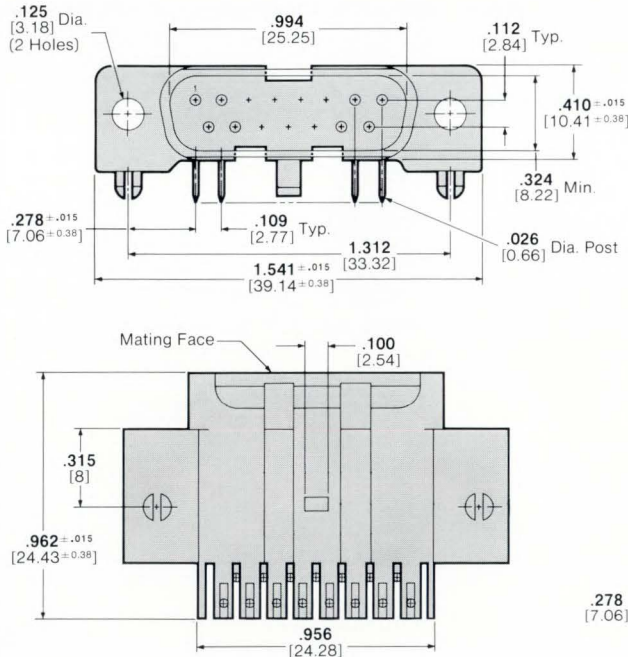


9 Positions



Recommended Pc Board Hole Pattern (Punch from Connector Side only)

15 Positions



Recommended Pc Board Hole Pattern

No. of Contact Positions (Shell Size)	Contact Finish (Plating Code)	Plug Assembly Part No.
9	A	747109-3
	B	747109-2
15	A	745871-3
	B	745871-2

Note: These plug assemblies are preloaded with size 20 DF posted pin contacts.

DUPLEX PLATING AVAILABLE:

Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

Dimensioning:

All dimensions in inches and millimetres.
Values in brackets are metric equivalents.

**Plug Assemblies
(for Squeeze-to-Release
Cord Guards)**



Material and Finish:

Housing & Post Spacer—Black Thermo-
plastic, 94V-2 Rated

Pin Contacts (Posted)—Brass; plated as
follows:

A—Gold flash over .000050 [0.00127]
nickel on entire contact, with addition-
al .000030 [0.00076] gold on mating
end for length of .150 [3.81] min.

B—Gold flash over .000030 [0.00076]
nickel

Reference Information:

Applicable Specifications—page 5
Cavity Identification—page 5

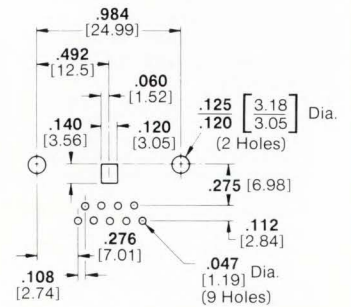
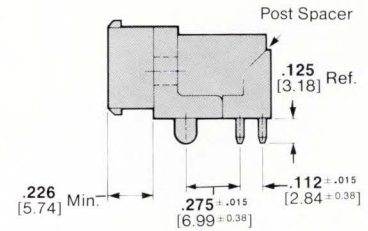
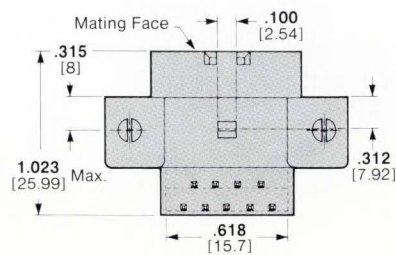
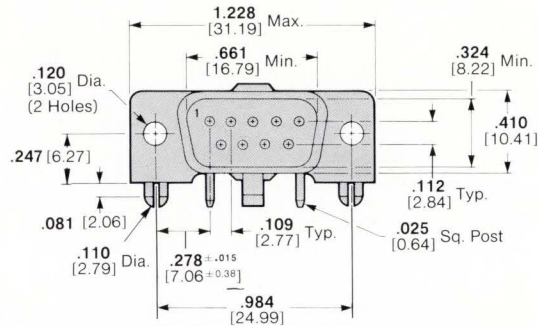
Mateable Receptacles:

HDP-20—pages 25, 27, 29, 32-33 &
36 thru 39
HDF-20—page 43
HDJ-20—page 44
HDE-20—page 51

Mating/Panel Mounting—page 66

Accessories: (Commoning Strip)—
page 95

9 Positions



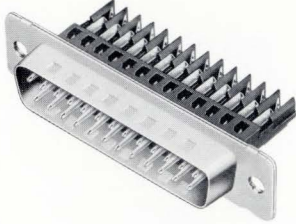
**Recommended PC Board Hole Pattern
(Punch from Connector Side only)**

No. of Contact Positions (Shell Size)	Contact Finish (Plating Code)	Plug Assembly Part No.
9	A	745001-2
(1)	B	745001-3

Note: These plug assemblies are preloaded with size 20 DF posted pin contacts.

HDE-20 Metal-Shell Connectors

Plug Assemblies



Material and Finish:

Shell—Steel; Tin plated

Insert—Black Thermoplastic, 94V-0 Rated

Pin Contacts—Phosphor Bronze; duplex plated as follows:

A—.000030 [0.00076] gold on mating end for length of .150 [3.81] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

B—Gold flash on mating end for length of .150 [3.81] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000030 [0.00076] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Contacts:

Insulation Displacement Crimp (Replacement)—page 57

Crimp Snap-In (Interchangeable)—page 57

Application Tooling:

for Crimp Snap-In Contacts—page 59

for Insulation Displacement Crimp

Contacts—pages 62-63

Mateable Receptacles:

HDP-20—pages 7, 10-11, 13, 16-17,

19, 21, 23 & 24

HDF-20—page 41

HDE-20—page 49

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67

Plug/Receptacle Adapters—page 68

Cable Clamp Assemblies—pages 74,

76 thru 78, 80 & 81

Slide-On Back Covers—page 75

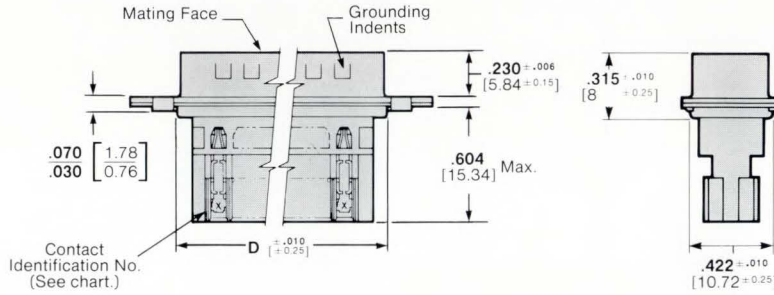
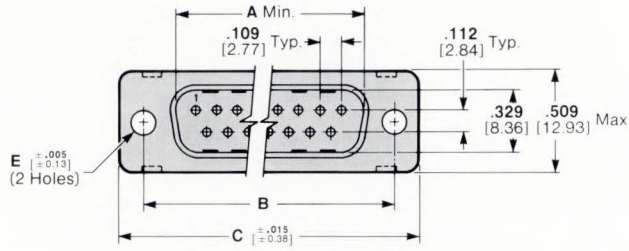
Mating Hardware—pages 86 thru 89,

92 & 93

RFI Gaskets—page 94

Commoning Strip—page 95

9, 15, 25 and 37 Positions



No. of Contact Positions (Shell Size)	Dimensions					Contact Finish (Plating Code)	Plug Assembly Part No.		
	A	B	C	D	E		Contact Identification No. 1	Contact Identification No. 2	Contact Identification No. 3
	for 30-26 AWG (0.05-0.15mm ²) Wire			for 26-22 AWG (0.12-0.4mm ²) Wire			for 22-20 AWG (0.3-0.6mm ²) Wire		
9 (1)	.661 16.79	.984 24.99	1.213 30.81	.759 19.28	.120 3.05	A	745492-1	745492-2	745492-3
					.151 3.84	B	745492-4	745492-5	745492-6
	.120 3.05	.151 3.84	A	745492-7	745492-8	745492-9			
				B	1-745492-0	1-745492-1	1-745492-2		
15 (2)	.989 25.12	1.312 33.32	1.541 39.14	1.083 27.51	.120 3.05	A	745494-1	745494-2	745494-3
					.151 3.84	B	745494-4	745494-5	745494-6
	.120 3.05	.151 3.84	A	745494-7	745494-8	745494-9			
				B	1-745494-0	1-745494-1	1-745494-2		
25 (3)	1.529 38.84	1.852 47.04	2.088 53.04	1.625 41.28	.120 3.05	A	745496-1	745496-2	745496-3
					.151 3.84	B	745496-4	745496-5	745496-6
	.120 3.05	.151 3.84	A	745496-7	745496-8	745496-9			
				B	1-745496-0	1-745496-1	1-745496-2		
37 (4)	2.177 55.3	2.500 63.5	2.729 69.32	2.272 57.71	.120 3.05	A	745498-1	745498-2	745498-3
					.151 3.84	B	745498-4	745498-5	745498-6
	.120 3.05	.151 3.84	A	745498-7	745498-8	745498-9			
				B	1-745498-0	1-745498-1	1-745498-2		

Notes: 1. All plug assemblies are preloaded with insulation displacement crimp pin contacts. Contacts accept a max. wire insulation thickness of .015 [0.38] and a max. wire insulation dia. of .060 [1.52].

2. HDE-20 connectors are designed for terminating solid or stranded (7-strand) wire.

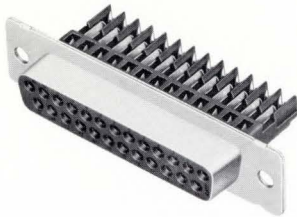
3. Extraction Tool No. 91232-1 is used to remove pin contacts.

4. A 19-position plug assembly is available, see page 54.

5. Selectively loaded connectors are available for RS-232 equipment application, consult AMP Incorporated.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

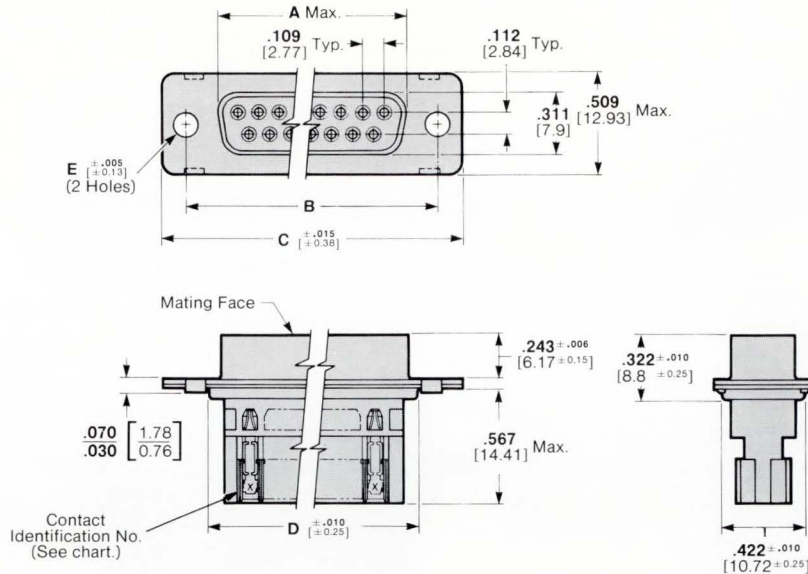
Receptacle Assemblies



Material and Finish:
Shell—Steel; Tin plated
Insert—Black Thermoplastic, 94V-0 Rated
Socket Contacts—Phosphor Bronze; duplex plated as follows:
A—.000030 [0.00076] gold on mating end for length of .100 [2.54] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel
B—Gold flash on mating end for length of .100 [2.54] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000030 [0.00076] nickel

Reference Information:
Applicable Specifications—page 5
Cavity Identification—page 5
Contacts:
Insulation Displacement Crimp (Replacement)—page 57
Crimp Snap-In (Interchangeable)—page 57
Application Tooling:
for Crimp Snap-In Contacts—page 59
for Insulation Displacement Crimp Contacts—pages 62-63
Matable Plugs:
HDP-20—pages 6, 8-9, 12, 14-15, 18, 20 & 22
HDF-20—page 40
HDE-20—page 48
Mating/Panel Mounting—page 66
Accessories:
Connector Savers—page 67
Plug/Receptacle Adapters—page 68
Cable Clamp Assemblies—pages 74, 76 thru 78, 80 & 81
Slide-On Back Covers—page 75
Mating Hardware—pages 86 thru 89, 92 & 93
RFI Gaskets—page 94
Keying Plug—page 95

9, 15, 25 and 37 Positions

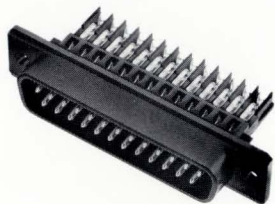


No. of Contact Positions (Shell Size)	Dimensions					Contact Finish (Plating Code)	Receptacle Assembly Part No.		
	A	B	C	D	E		Contact Identification No. 1	Contact Identification No. 2	Contact Identification No. 3
	for 30-26 AWG (0.05-0.15mm ²) Wire			for 26-22 AWG (0.12-0.4mm ²) Wire			for 22-20 AWG (0.3-0.6mm ²) Wire		
9 (1)	.648	.984	1.213	.759	.120	A	745491-1	745491-2	745491-3
	16.46	24.99	30.81	19.28	3.05	B	745491-4	745491-5	745491-6
15 (2)	.976	1.312	1.541	1.083	.151	A	745491-7	745491-8	745491-9
	24.8	33.32	39.14	27.51	3.84	B	1-745491-0	1-745491-1	1-745491-2
25 (3)	1.516	1.852	2.088	1.625	.120	A	745493-1	745493-2	745493-3
	38.51	47.04	53.04	41.28	3.05	B	745493-4	745493-5	745493-6
37 (4)	2.164	2.500	2.729	2.272	.151	A	745493-7	745493-8	745493-9
	54.97	63.5	69.32	57.71	3.84	B	1-745493-0	1-745493-1	1-745493-2
					.120	A	745495-1	745495-2	745495-3
					3.05	B	745495-4	745495-5	745495-6
					.151	A	745495-7	745495-8	745495-9
					3.84	B	1-745495-0	1-745495-1	1-745495-2
					.120	A	745497-1	745497-2	745497-3
					3.05	B	745497-4	745497-5	745497-6
					.151	A	745497-7	745497-8	745497-9
					3.84	B	1-745497-0	1-745497-1	1-745497-2

Notes: 1. All receptacle assemblies are preloaded with insulation displacement crimp socket contacts. Contacts accept a max. wire insulation thickness of .015 [0.38] and a max. wire insulation dia. of .060 [1.52].
2. HDE-20 connectors are designed for terminating solid or stranded (7-strand) wire.
3. Extraction Tool No. 91232-1 is used to remove socket contacts.
4. Selectively loaded connectors are available for RS-232 equipment application, consult AMP Incorporated.

HDE-20 All-Plastic Connectors

Plug Assemblies



Material and Finish:

Housing—Black Thermoplastic, 94V-0 Rated

Pin Contacts—Phosphor Bronze; duplex plated as follows:

A—.000030 [0.00076] gold on mating end for length of .150 [3.81] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

B—Gold flash on mating end for length of .150 [3.81] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000030 [0.00076] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Contacts:

Insulation Displacement Crimp

(Replacement)—page 57

Crimp Snap-In (Interchangeable)—

page 57

Application Tooling:

for Crimp Snap-In Contacts—page 59

for Insulation Displacement Crimp

Contacts—pages 62-63

Mateable Receptacles:

HDP-20—pages 25, 27, 29, 32-33 & 36 thru 39

HDF-20—page 43

HDJ-20—page 44

HDE-20—page 51

Mating/Panel Mounting—page 66

Accessories:

Connector Savers—page 67

Plug/Receptacle Adapters—page 69

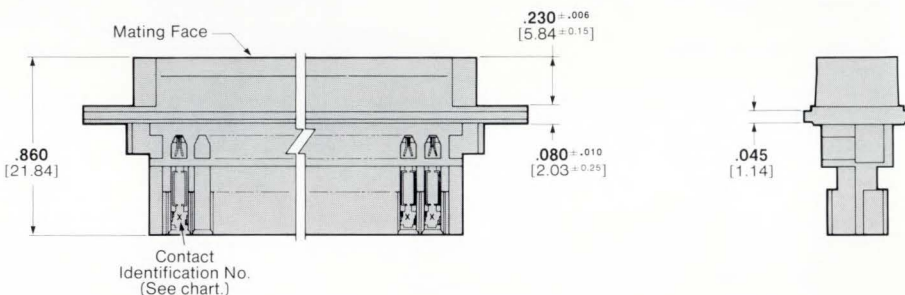
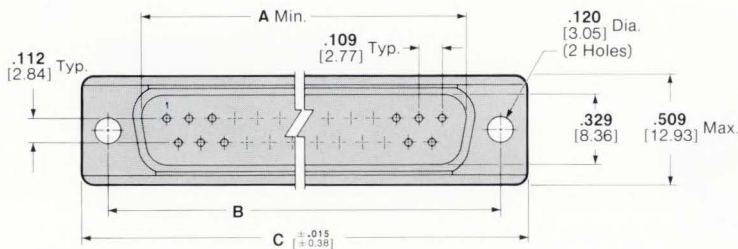
Cable Clamp Assemblies—pages 74 & 76 thru 78

Slide-On Back Covers—page 75

Mating Hardware—pages 86 thru 89, 92 & 93

Commoning Strip—page 95

9, 15, 25 and 37 Positions



No. of Contact Positions (Shell Size)	Dimensions			Contact Finish (Plating Code)	Plug Assembly Part No.		
					Contact Identification No. 1	Contact Identification No. 2	Contact Identification No. 3
					for 30-26 AWG (0.05-0.15mm ²) Wire	for 26-22 AWG (0.12-0.4mm ²) Wire	for 22-20 AWG (0.3-0.6mm ²) Wire
9 (1)	.661 16.79	.984 24.99	1.213 30.81	A	745203-1	745203-2	745203-3
				B	745203-4	745203-5	745203-6
15 (2)	.989 25.12	1.312 33.32	1.541 39.14	A	745207-1	745207-2	745207-3
				B	745207-4	745207-5	745207-6
25 (3)	1.529 38.84	1.852 47.04	2.088 53.04	A	745211-1	745211-2	745211-3
				B	745211-4	745211-5	745211-6
37 (4)	2.177 55.3	2.500 63.5	2.729 69.32	A	745215-1	745215-2	745215-3
				B	745215-4	745215-5	745215-6

- Notes:**
1. All plug assemblies are preloaded with insulation displacement crimp pin contacts. Contacts accept a max. wire insulation thickness of .015 [0.38] and a max. wire insulation dia. of .060 [1.52].
 2. HDE-20 connectors are designed for terminating solid or stranded (7-strand) wire.
 3. Extraction Tool No. 91232-1 is used to remove pin contacts.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

Receptacle Assemblies



Material and Finish:

Housing—Black Thermoplastic, 94V-0 Rated

Socket Contacts—Phosphor Bronze; duplex plated as follows:

- A**—.000030 [0.00076] gold on mating end for length of .100 [2.54] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel
- B**—Gold flash on mating end for length of .100 [2.54] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000030 [0.00076] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Contacts:

- Insulation Displacement Crimp (Replacement)—page 57
- Crimp Snap-In (Interchangeable)—page 57

Application Tooling:

- for Crimp Snap-In Contacts—page 59
- for Insulation Displacement Crimp Contacts—pages 62-63

Mateable Plugs:

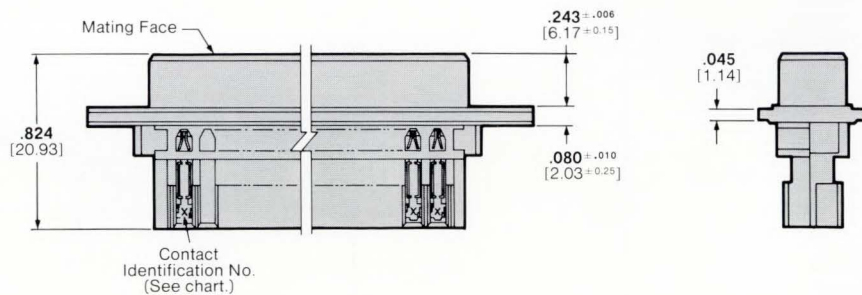
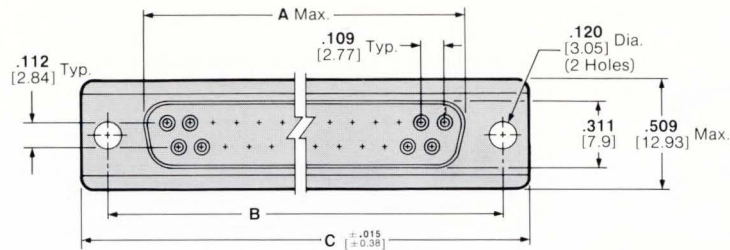
- HDP-20—pages 26, 28, 30-31 & 34-35
- HDF-20—page 42
- HDJ-20—pages 44, 46 & 47
- HDE-20—page 50

Mating/Panel Mounting—page 66

Accessories:

- Connector Savers—page 67
- Plug/Receptacle Adapters—page 69
- Cable Clamp Assemblies—pages 74 & 76 thru 78
- Slide-On Back Covers—page 75
- Mating Hardware—pages 86 thru 89, 92 & 93
- Keying Plug—page 95

9, 15, 25 and 37 Positions



No. of Contact Positions (Shell Size)	Dimensions		Contact Finish (Plating Code)	Receptacle Assembly Part No.			
				Contact Identification No. 1	Contact Identification No. 2	Contact Identification No. 3	
				for 30-26 AWG (0.05-0.15mm ²) Wire	for 26-22 AWG (0.12-0.4mm ²) Wire	for 22-20 AWG (0.3-0.6mm ²) Wire	
9 (1)	.648 16.46	.984 24.99	1.213 30.81	A	745201-1	745201-2	745201-3
				B	745201-4	745201-5	745201-6
15 (2)	.976 24.8	1.312 33.32	1.541 39.14	A	745205-1	745205-2	745205-3
				B	745205-4	745205-5	745205-6
25 (3)	1.516 38.51	1.852 47.04	2.088 53.04	A	745209-1	745209-2	745209-3
				B	745209-4	745209-5	745209-6
37 (4)	2.164 54.97	2.500 63.5	2.729 69.32	A	745213-1	745213-2	745213-3
				B	745213-4	745213-5	745213-6

- Notes:**
1. All receptacle assemblies are preloaded with insulation displacement crimp socket contacts. Contacts accept a max. wire insulation thickness of .015 [0.38] and a max. wire insulation dia. of .060 [1.52].
 2. HDE-20 connectors are designed for terminating solid or stranded (7-strand) wire.
 3. Extraction Tool **No. 91232-1** is used to remove socket contacts.

Special Metal-Shell Connectors

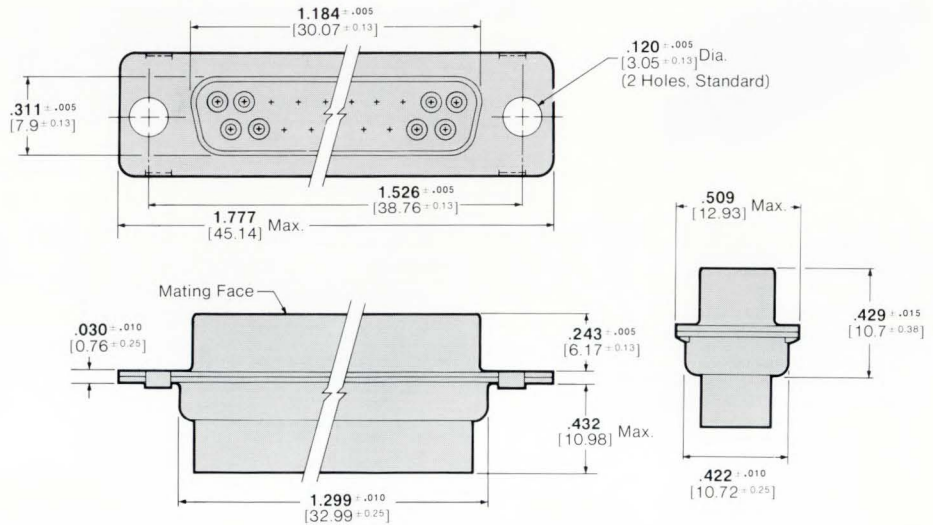
**HDP-20 Receptacle
(for Snap-In Contacts)**



Part No. 745772-1

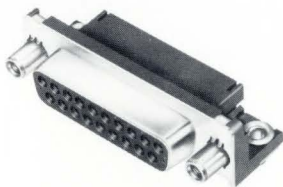
Material and Finish:
Shell—Steel; Tin plated
Insert—Black Thermoplastic, 94V-0 Rated
Reference Information:
 Applicable Specifications—page 5
 Cavity Identification—page 5
Contacts:
 20 DF (Precision Formed)—
 pages 55 & 56
 20 DM (Screw-Machined)—page 58
Application Tooling:
 for 20 DF Contacts—page 59
 for 20 DM Contacts—page 58
Mateable Plugs:
 HDE-20—page 54
Accessories:
 Mating Hardware—pages 86, 87,
 92 & 93
 Standoff Bushings—page 95
 Keying Plug—page 95

19 Positions



Note: This HDP-20 receptacle accepts size 20 DF and 20 DM socket contacts.

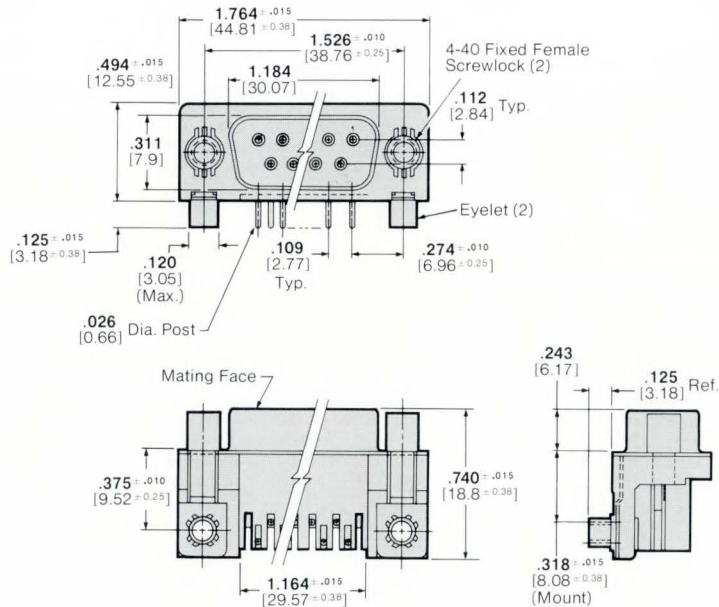
**HDP-20 Receptacle
Assembly
(with .026 [0.66] Dia.
Right-Angle Posted
Contacts)—318 Mount**



Part No. 745971-1

Material and Finish:
Front Shell—Steel; Tin plated
Housing—Black Thermoplastic, 94V-0 Rated
Eyelets—Brass; Tin plated
Female Screwlocks—Brass; Nickel plated
Socket Contacts (Posted)—Phosphor Bronze; duplex plated .000015 [0.00038] gold on mating end for length of .100 [2.54] min., .000100-.000200 [0.00254-.000508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel
Reference Information:
 Applicable Specifications—page 5
 Cavity Identification—page 5
Mateable Plug:
 HDE-20—page 54
Accessories:
 Mating Hardware—pages 86, 87,
 92 & 93
 Keying Plug—page 95

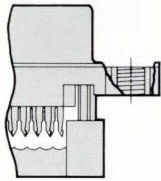
19 Positions



Notes: 1. This HDP-20 receptacle assembly is preloaded with size 20 DF posted socket contacts.
 2. Recommended pc board thickness is .093 [2.37] max.
 3. Male screw retainers (page 86) are used as mating hardware for 4-40 female screwlocks.

AMP-LATCH HDF-20 Low Profile Receptacle Assemblies

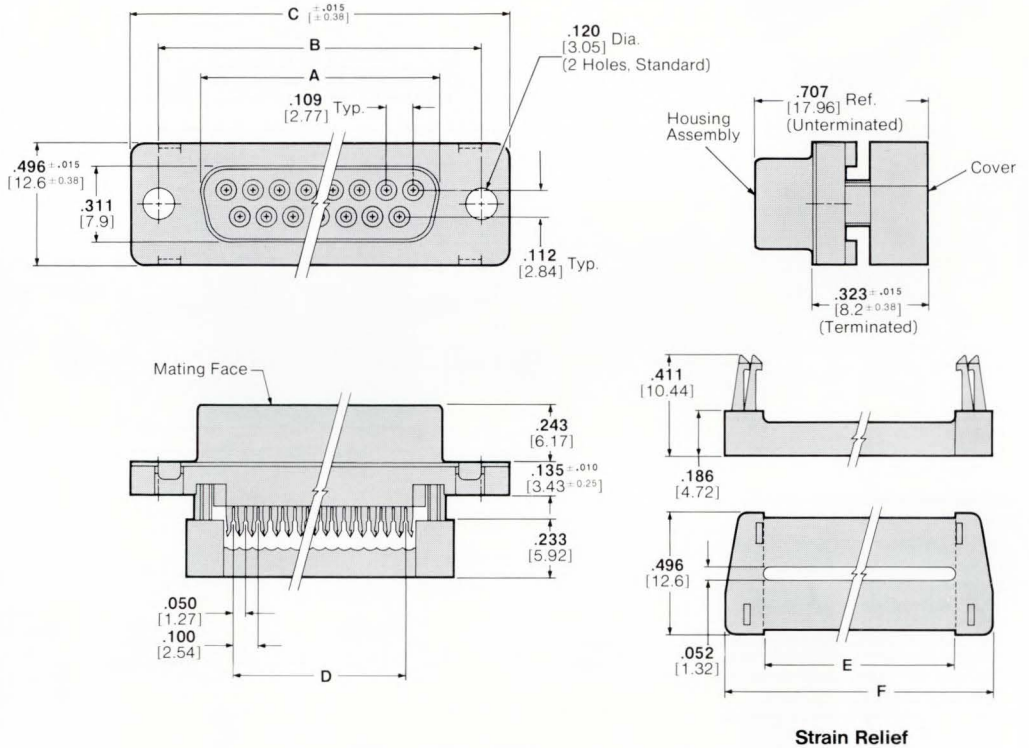
(Includes Housing
and Cover, Preassembled;
Strain Relief is Separate.)



With 4-40 Threaded Inserts

Material and Finish:
Front Shell—Steel; Tin plated
Housing, Cover & Strain Relief—Black Thermoplastic, 94V-0 Rated
Threaded Inserts—Brass; unplated
Socket Contacts—Phosphor Bronze; duplex plated, 000030 [0.00076] gold on mating end, 000100-000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel
Reference Information:
 Applicable Specifications—page 5
 Cavity Identification—page 5
 Mating Plug:
 HDE-20—page 54
Accessories:
 Mating Hardware—pages 86, 87, 92 & 93
 Keying Plug—page 95

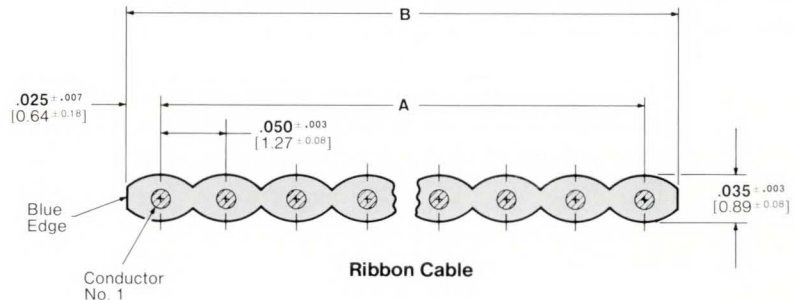
19 Positions



Strain Relief

No. of Contact Positions (Shell Size)	Dimensions						Strain Relief Part No.	Receptacle Assembly Part No.			
	A	B	C	D	E	F		Without Strain Relief		With Strain Relief	
								With Standard Mounting Holes	With 4-40 Threaded Inserts	With Standard Mounting Holes	With 4-40 Threaded Inserts
19	1.140 [28.96]	1.526 [38.76]	1.764 [44.81]	.900 [22.86]	.980 [24.89]	1.287 [32.69]	747275-5	747303-5	747052-5	747304-5	747305-5

- Notes:** 1. All receptacle assemblies are supplied with housing assembly and cover preassembled (shown above).
 2. Strain reliefs must be purchased separately; they are packaged unassembled.
 3. These receptacle assemblies terminate flat ribbon cable with conductors on .050 [1.27] centers and in sizes 30 AWG [0.05 mm²] solid, 28 AWG [0.08-0.09 mm²] solid or stranded and 26 AWG [0.12-0.15 mm²] solid.
 4. Male screw retainers (page 86) are used as mating hardware for connectors with 4-40 threaded inserts.



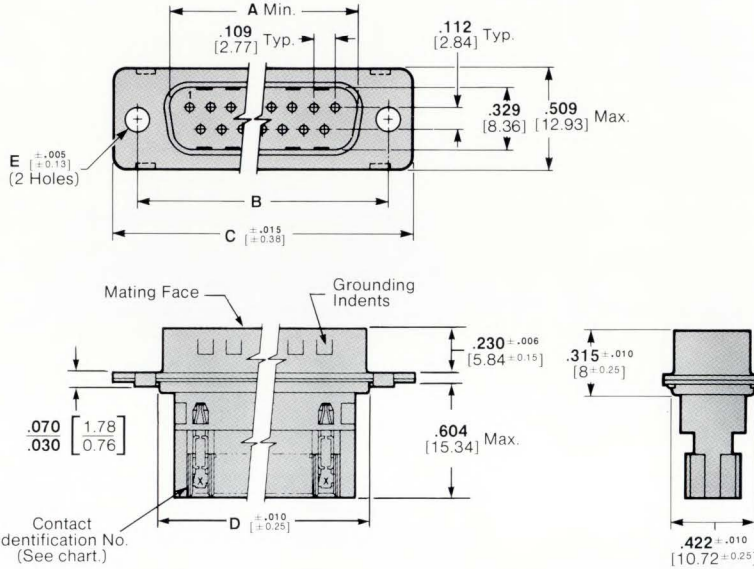
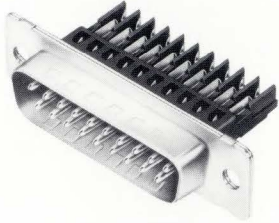
- A** dimension tolerances are: ±.010 [±0.25] for cable sizes 9 thru 34 positions, ±.015 [±0.38] for cable sizes 36 thru 60 positions.
B dimension tolerances are: ±.024 [±0.61] for cable sizes 9 thru 34 positions, ±.029 [±0.74] for cable sizes 36 thru 60 positions.

Special Metal-Shell Connectors

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Chart contains dimensions in inches and
millimetres.

HDE-20 Plug Assemblies

19 Positions



Material and Finish:

Shell—Steel; Tin plated

Insert—Black Thermoplastic, 94V-0 Rated

Pin Contacts—Phosphor Bronze; duplex plated as follows:

A—.000030 [0.00076] gold on mating end for length of .150 [3.81] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

B—Gold flash on mating end for length of .150 [3.81] min., .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000030 [0.00076] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Contacts:

Insulation Displacement Crimp (Replacement)—page 57

Crimp Snap-In (Interchangeable)—page 57

Application Tooling:

for Crimp Snap-In Contacts—page 59

for Insulation Displacement Crimp Contacts—pages 62-63

Mateable Receptacles

HDP-20—page 52

HDF-20—page 53

Accessories:

Mating Hardware—pages 86, 87, 92 & 93

Commoning Strip—page 95

No. of Contact Positions	Dimensions					Contact Finish (Plating Code)*	Plug Assembly Part No.		
	A	B	C	D	E		Contact Identification No. 1	Contact Identification No. 2	Contact Identification No. 3
	for 30-26 AWG (0.05-0.15mm ²) Wire			for 26-22 AWG (0.12-0.4mm ²) Wire			for 22-20 AWG (0.3-0.6mm ²) Wire		
19	1.203	1.526	1.762	1.299	.120	A	745664-1	745664-2	745664-3
	30.56	38.76	44.75	32.99	3.05	B	745664-4	745664-5	745664-6
					.151	A	745664-7	745664-8	745664-9
					3.84	B	1-745664-0	1-745664-1	1-745664-2

*For other plating thicknesses, consult AMP Incorporated.

Notes: 1. All plug assemblies are preloaded with insulation displacement crimp pin contacts. Contacts accept a max. wire insulation thickness of .015 [0.38] and a max. wire insulation dia. of .060 [1.52].

2. Extraction Tool No. 91232-1 is used to remove pin contacts.

3. HDE-20 connectors are designed for terminating solid or stranded (7-strand) wire.

HD-20 Connector Contacts, Precision Formed

DUPLEX PLATING AVAILABLE:
Gold on mating end,
tin on termination end.
Consult AMP Incorporated.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

Crimp Type Contacts, Snap-In

Contact Size 20 DF,
Pin Diameter .040 [1.02]

Material:

Pin—Brass

Socket—Phosphor Bronze

Finish:

A—Gold flash over .000050 [0.00127] nickel on entire contact, with additional .000030 [0.00076] gold on mating end for length of .150 [3.81] min. (pin); .100 [2.54] min. (socket)

B—Gold flash over .000030 [0.00076] nickel

C—.000050 [0.00127] gold over .000100 [0.00254] copper

Reference Information:

Applicable Specifications—page 5

Connectors used with:

HDP-20 Metal-Shell—pages 6, 7 & 52

HDJ-20 All-Plastic—page 44

Application Tooling—page 59



Insertion/Extraction Tools for Crimp Type contacts:

No. 91067-3—28-24 AWG [0.08-0.2 mm²] Wire Size Range
Insertion Replacement Tip

No. 126195-3

Extraction Replacement Tip

No. 126195-5

No. 91067-2—24-20 AWG [0.2-0.6 mm²] Wire Size Range
Insertion Replacement Tip

No. 126195-3

Extraction Replacement Tip

No. 126195-4



Single-Ended Insertion Tool for Crimp Type contacts:

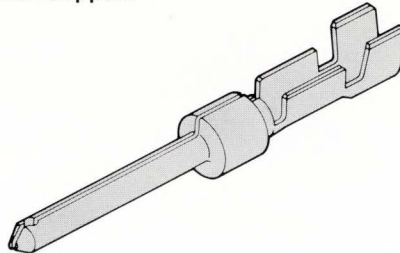
No. 91234-1—28-18 AWG [0.08-0.9 mm²] Wire Size Range



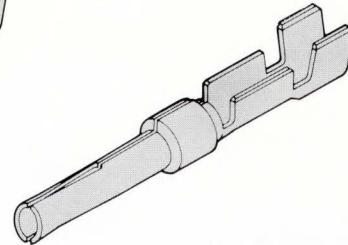
Single-Ended Extraction Tools for Crimp Type contacts:

No. 91235-2—28-24 AWG [0.08-0.2 mm²] Wire Size Range
No. 91235-1—24-20 AWG [0.02-0.6 mm²] Wire Size Range

With Insulation Support



Pin



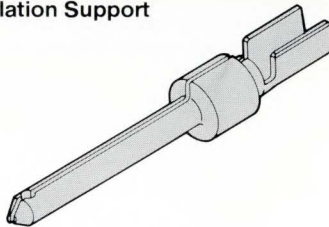
Socket

Wire Size Range AWG	[mm ²]	Ins. Dia. Max.)	Contact Finish (Plating Code)	Strip Form Contact No.		Loose Piece Contact No.		Tooling No.		Color Code (Loose Piece)
				Pin	Socket	Pin	Socket	Strip Form Miniature Applicator	Loose Piece Hand Tool	
28-24	0.08-0.2	.040 1.02	C	66507-2	66505-2	66507-8	66505-8	466423*	90302-1	Blue Dot
				66507-3	66505-3	66507-9	66505-9	466901-1**	90312-1	
28-24	0.08-0.2	.060 1.52	A	66682-2	66683-2	66682-4	66683-4	466758-2* or 466963-1**	90374-1	Black Dot
				66507-4	66505-4	1-66507-0	1-66505-0	466423* or 466901-1**	90302-1 or 90312-1	
26-22	0.12-0.4	.050 1.27	A	745254-2	745253-2	745254-6	745253-6	567036*	90406-1	Yellow Dot
				745254-3	745253-3	745254-7	745253-7			
24-20	0.02-0.6	.060 1.52	C	66506-2	66504-2	66506-8	66504-8	466422*	90302-1	Red Dot
				66506-3	66504-3	66506-9	66504-9	466900-1**	90312-1	
24-20	0.02-0.6	.060 1.52	A	66506-2	66504-2	66506-8	66504-8	466422*	90302-1	Red Dot
				66506-3	66504-3	66506-9	66504-9	466900-1**	90312-1	

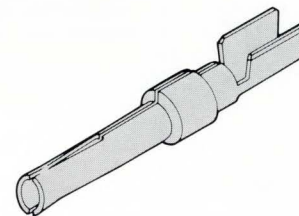
*These miniature applicators are for use in the following AMP machines shown on page 59: (-1) for the AMPOMATOR machine; and (-2) for AMP-O-ELECTRIC Machine **No. 565435-5**.

These applicators are for use in the AMP-O-MATIC Side Feed Stripper/Crimper Machine **No. 463345-1, shown on page 59.

Without Insulation Support



Pin



Socket

Wire Size Range AWG	[mm ²]	Ins. Dia. Max.)	Contact Finish (Plating Code)	Strip Form Contact No.		Loose Piece Contact No.		Tooling No.		Color Code (Loose Piece)
				Pin	Socket	Pin	Socket	Strip Form Miniature Applicator	Loose Piece Hand Tool	
28-24	0.08-0.2	.068 1.73	A	205310-2	205311-3	205310-8	205311-9	466506* or 466903-1**	90265-1	Blue Dot
				205310-4	205311-4	1-205310-0	1-205311-0			
24-20	0.2-0.6	.068 1.73	A	205202-2	205201-3	205202-4	205201-5	466505* or 466902-1**	90265-1	Red Dot
				205202-6	205201-6	205202-7	205201-7			
22-18	0.3-0.9	.068 1.73	A	745229-2	745230-2	745229-4	745230-4	567033*	90405-1	Green Dot
				745229-5	745230-5	745229-7	745230-7			

*These miniature applicators are for use in the following AMP machines shown on page 59: (-1) for the AMPOMATOR machine; and (-2) for AMP-O-ELECTRIC Machine **No. 565435-5**.

These applicators are for use in the AMP-O-MATIC Side Feed Stripper/Crimper Machine **No. 463345-1, shown on page 59.

HD-20 Connector Contacts, Precision Formed

Dimensioning:
All dimensions in inches and millimetres. Values in brackets are metric equivalents. Chart contains dimensions in inches over millimetres.

Insulation Piercing Socket Contact, Snap-In

Contact Size 20 DF,
Pin Diameter .040 [1.02]

Material: Phosphor Bronze
Finish: .000100-.000200 [0.00254-0.00508] Tin

Reference Information:
Applicable Specifications—page 5
Connectors used with:
HDP-20 Metal-Shell—pages 6, 7 & 52
HDJ-20 All-Plastic—page 44
Application Tooling—page 59

.025 [0.64] Sq. Post Type Contacts, Snap-In

Contact Size 20 DF,
Pin Diameter .040 [1.02]

Material:
Pin—Brass
Socket—Phosphor Bronze

Finish:
A—Gold flash over .000050 [0.00127] nickel on entire contact, with additional .000030 [0.00076] gold on mating end for length of .150 [3.81] min. (pin); .100 [2.54] min. (socket)
B—Gold flash over .000030 [0.00076] nickel

Reference Information:
Applicable Specifications—page 5
Connectors used with:
HDP-20 Metal-Shell—pages 6, 7 & 52



Insertion/Extraction Tools for Insulation Piercing, Posted and Solder Cup Contacts (See Notes.)

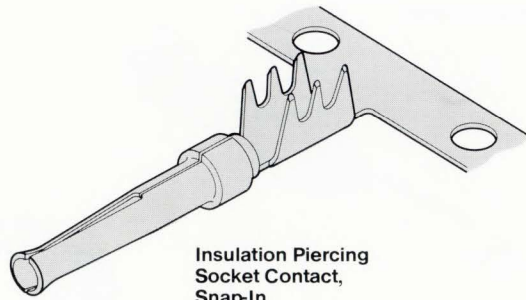
Solder Cup Contacts, Snap-In (for 18 AWG [0.9 mm²] Max. Wire)

Contact Size 20 DF,
Pin Diameter .040 [1.02]

Material:
Pin—Brass
Socket—Phosphor Bronze

Finish:
A—Gold flash over .000050 [0.00127] nickel on entire contact, with additional .000030 [0.00076] gold on mating end for length of .150 [3.81] min. (pin); .100 [2.54] min. (socket)

Reference Information:
Applicable Specifications—page 5
Connectors used with:
HDP-20 Metal-Shell—pages 6, 7 & 52

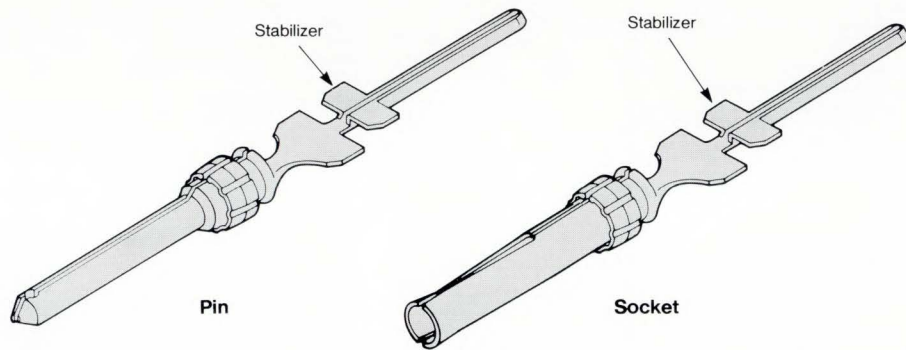


Insulation Piercing Socket Contact, Snap-In

Wire Size Range		Ins. Dia. (Max.)	Strip Form Contact No.	Miniature Applicator
AWG	[mm ²]			
26-22	0.12-0.4	.055 1.4	745811-2	567101-2*

*This miniature applicator is for use in the AMP machines shown on page 59.

Note: Insertion/Extraction Tools are used to install and remove socket contact. Refer to page 55.



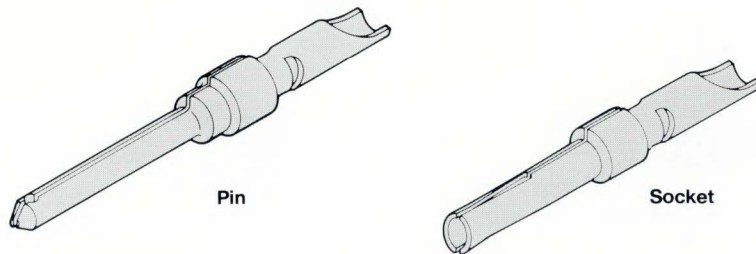
Pin

Socket

Contact Finish (Plating Code)	Loose Piece Contact No.							
	.125 [3.18] Post Length*		.188 [4.78] Post Length*		.425 [10.8] Post Length*		.651 [16.54] Post Length*	
	Pin	Socket	Pin	Socket	Pin	Socket	Pin	Socket
A	1-66481-7	1-66482-7	3-66481-5	3-66482-5	1-66481-9	1-66482-9	2-66481-1	2-66482-1
B	1-66481-6	1-66482-6	3-66481-4	3-66482-4	1-66481-8	1-66482-8	2-66481-0	2-66482-0

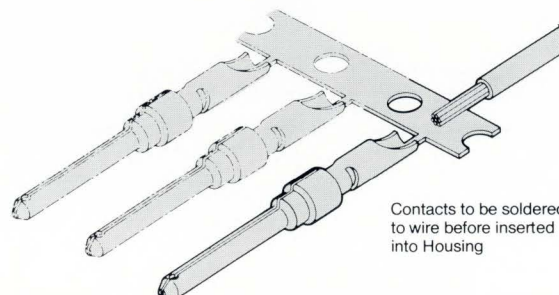
*Length of post extending from rear of HDP-20 metal-shell connector.

Note: Insertion/Extraction Tool No. 91083-2 is used to install and remove all posted contacts.



Pin

Socket



Contacts to be soldered to wire before inserted into Housing

Strip Form Contact No.		Loose Piece Contact No.	
Pin	Socket	Pin	Socket
66570-2	66569-2	66570-3	66569-3

Note: Insertion/Extraction Tool No. 91067-2 is used to install and remove all solder cup contacts. Use Insertion Replacement Tip No. 126195-3 and Extraction Replacement Tip No. 126195-4.

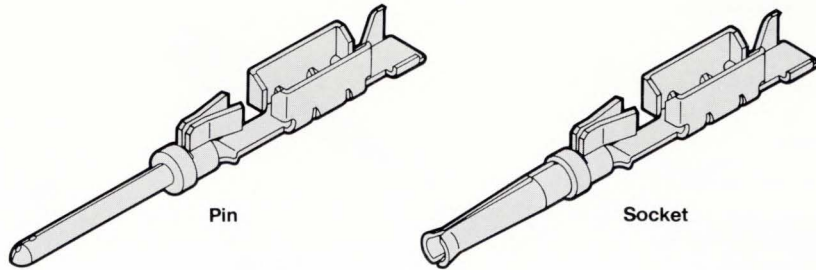
HDE-20 Connector Contacts, Precision Formed

Dimensioning:
All dimensions in inches and millimetres. Values in brackets are metric equivalents. Charts contain dimensions in inches over millimetres.

Replacement Contacts, Insulation Displacement Crimp

Material: Phosphor Bronze
Finish: Duplex plated as follows
A-.000030 [0.00076] Gold on mating end for length of .150 [3.81] min. (pin) or .100 [2.54] min. (socket), .000100-.000200 [0.00254-0.00508] bright tin on termination end, with entire contact underplated. .000050 [0.00127] nickel
B-Gold flash on mating end for length of .150 [3.81] min. (pin) or .100 [2.54] min. (socket), .0001000-.000200 [0.00254-0.00508] bright tin on termination end, with entire contact underplated. .000030 [0.00076] nickel

Reference Information:
Application Specifications—page 5
Connectors used with:
HDE-20 Metal-Shell—pages 48 & 49
HDE-20 All-Plastic—pages 50 & 51
Application Tooling—pages 62 & 63



AWG	Wire Size Range		Ins. Dia. (Max)	Contact Finish (Plating Code)	Loose Piece Contact No.	
	[mm ²]	Code ¹			Pin	Socket
30-26	0.05-0.15	1	.060 1.52	A	745930-3	745931-3
				B	745930-5	745931-5
26-22	0.12-0.4	2	.060 1.52	A	745888-3	745890-3
				B	745888-5	745890-5
22-20	0.3-0.6	3	.060 1.52	A	745887-3	745889-3
				B	745887-5	745889-5

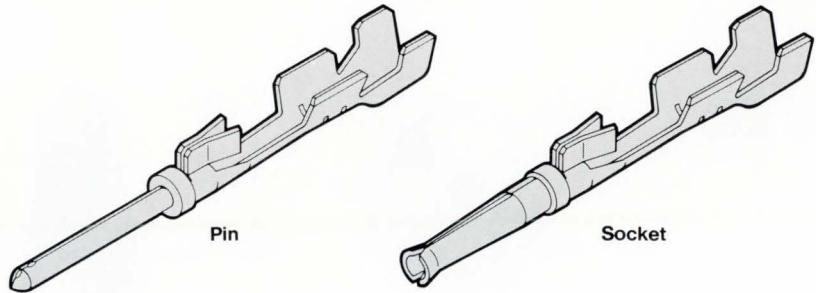
¹A code indicating accepted wire size range is stamped inside insulation crimp barrel of each contact. Contacts accept a max. wire insulation thickness of .015 [0.38] and a max. wire insulation dia. of .060 [1.52].

- Notes:** 1. Extraction Tool No. **91232-1** is used to remove pin and socket contacts.
2. HDE-20 connector contacts are designed for terminating solid or stranded (7-strand) wire.

Interchangeable Contacts, Crimp Snap-In

Material: Phosphor Bronze
Finish:
A-Duplex plated .000030 [0.00076] gold on mating end for length of .150 [3.81] min. (pin) or .100 [2.54] min. (socket), .000100-.000200 [0.00254-0.00508] bright tin on termination end, with entire contact underplated. .000050 [0.00127] nickel
B-Duplex plated gold flash on mating end for length of .150 [3.81] min. (pin) or .100 [2.54] min. (socket), .000100-.000200 [0.00254-0.00508] bright tin on termination end, with entire contact underplated. .000030 [0.00076] nickel
C-Gold flash over .000030 [0.00076] nickel on entire contact
D-Gold flash over .000030 [0.00076] nickel on entire contact, selectively plated with additional .000030 [0.00076] gold on mating end for length of .150 [3.81] min. (pin) or .100 [2.54] min. (socket)

Reference Information:
Application Specifications—page 5
Connectors used with:
HDE-20 Metal-Shell—pages 48 & 49
HDE-20 All-Plastic—pages 50 & 51
Application Tooling—page 59



AWG	Wire Size Range		Ins. Dia. (Max)		Contact Finish (Plating Code)	Loose Piece Contact No.		Hand Tool No.
	[mm ²]	Code ¹	Single Wire	Two Wires		Pin	Socket	
26-22	0.12-0.4	4	.054 1.37	.039 0.99	A	745266-3	745269-3	90398-1
					B	745266-7	745269-7	
					C	745266-5	745269-5	
					D	745266-9	745269-9	
22-18	0.3-0.9	3	.075 1.91	.054 1.37	A	745267-3	745270-3	90399-1
					B	745267-7	745270-7	
					C	745267-5	745270-5	
					D	745267-9	745270-9	

¹A code indicating accepted wire size range is stamped inside insulation crimp barrel of each contact.

Note: Extraction Tool No. **91232-1** is used to remove pin and socket contacts.

HD-20 Connector Contacts, Screw-Machined and Application Tooling

Dimensioning:
All dimensions in inches and millimetres. Values in brackets are metric equivalents. Chart contains dimensions in inches over millimetres.

Crimp Type Contacts, Snap-In

Contact Size 20 DM,
Pin Diameter .040 [1.02]

Material and Finish:

Pin Body—Copper Alloy, plated .000050 [0.00127] gold over .000100 [0.00254] copper

Socket Body—Beryllium Copper, plated .000050 [0.00127] gold over .000100 [0.00254] copper

Socket Sleeve—Passivated Stainless Steel

Reference Information:

Applicable Specifications—page 5

Connectors used with:

HDP-20 Metal-Shell—pages 6, 7 & 52

Application Tooling—shown below



Insertion/Extraction Tools for Screw-Machined Contacts, Crimp Type:

AMP No. 91067-2,
Military No. M81969/1-02

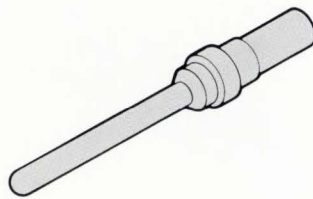
Insertion Replacement tip

No. 126195-3

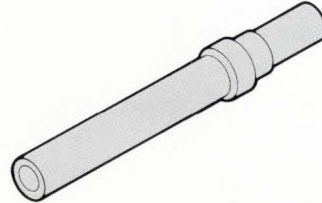
Extraction Replacement Tip

No. 126195-4

Application Tooling for Screw Machined Contacts

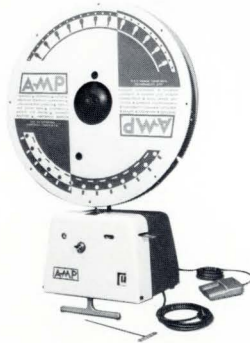


Pin
M39029/64-369
(Supersedes M24308/11-1)



Socket
M39029/63-368
(Supersedes M24308/10-1)

Wire Size Range AWG	Ins. Dia. [mm ²]	Ins. Dia. (Max.)	Contact Configuration	Tape Mounted Contacts		Loose Piece Contacts		Hand Tool	
				AMP Part No.	Military Part No. (M39029/)	AMP Part No.	Tool No. (M22520/)	Positioner No. (M22520/)	
24-20	0.2-0.6	.068 1.73	Pin	205089-2	64-369	205089-1	02-01	2-08	
			Socket	205090-2	63-368	205090-1			



**AMP-TAPEMATIC Stripper/
Crimper Machine No. 599406-6**
(Funnel No. 125905-1 for
Size 20 DM Contacts)

The AMP-TAPEMATIC Stripper/Crimper Machine strips wire and applies an 8-indent crimp termination per MIL-C-22520. The machine terminates screw-machined pin and socket contacts which are tape mounted and reel fed. It offers production rates of up to 1200 finished leads per hour, provides overall lower applied costs and maintains the highest degree of termination reliability.



**Hand Crimping Tool
No. M22520/2-01**

This standard military-type hand tool terminates screw-machined pins and sockets to wire with an 8-indent M22520/2 crimp. It is ideally suited for prototype, field maintenance and other applications where volume production is not a factor.

AMP Incorporated does not sell hand tool M22520/2-01. However, it can be purchased from either one of the following companies:

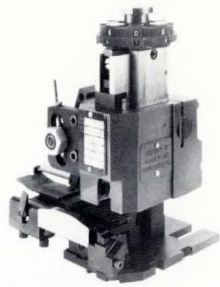
Buchanan Electrical Products Corp.
1065 Floral Avenue
Union, NJ 07083
Phone: (201) 289-8200

Daniels Manufacturing Corp.
6103 Anno Ave.
Orlando, FLA 32809
Phone: (800) 327-2432

Application Tooling for Precision Formed, Crimp Snap-In Contacts

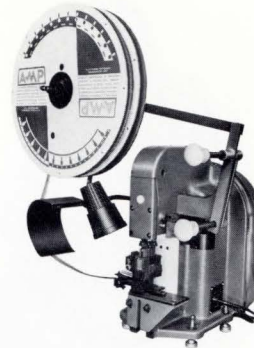
Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.

This tooling is used for terminating crimp snap-in contacts shown on pages 55 thru 57.



Quick-Change Miniature Applicators

provide flexible operation for the AMPOMATOR and AMP-O-LECTRIC Machines. These applicators can be changed in minutes, with the crimping height on both terminal barrel and insulation support for a given wire size simply "dialed in". All adjustments are made rapidly, with no major interruptions in production. Unique control circuits protect every machine part and visual indicators aid in adjustment and operation.



The AMP-O-LECTRIC Terminating Machine

is capable of applying contacts at rates up to 1,500 per hour and more depending on operator dexterity.

This machine is electrically powered and bench mounted and can be readily moved to any location where an electric power supply is available.

For high application rates, ease of maintenance and servicing and for highest reliability at low applied cost, the AMP-O-LECTRIC machine has proven itself to be an excellent addition to any circuit production operation.



The AMP-O-MATIC Side Feed Stripper/Crimper Machine

automatically strips and terminates wire in a single operation. The machine is a portable bench-mounted unit which can apply a wide range of open barrel, side-feed strip contacts. Minimum lead length is only 1.5 [38] and wire sizes from 32-14 AWG [0.03-2 mm²] may be terminated in this machine at production rates of up to 1200 terminations per hour.

Hand Tools

AMP hand tools are ideal for small production, prototype and experimental applications. They are used for terminating precision formed pins and sockets to wire and feature the CERTI-CRIMP ratchet device to assure perfectly formed crimps, time after time.



No. 90312-1 for Size 20 DF Contact with Insulation Support



Nos. 90302-1 and 90406-1 for Size 20 DF Contacts with Insulation Support

Nos. 90265-1 and 90405-1 for Size 20 DF Contacts without Insulation Support

No. 90374-1 (Special) for Size 20 DF Contacts with Insulation Support

Nos. 90398-1 and 90399-1 for Interchangeable, Crimp Snap-In Contacts



The AMPOMATOR Automatic Lead Making Machine

is considered the epitome of all AMP automatic tooling. This machine not only crimps contacts to wire, but handles the wire every step of the way—from reel to finished lead.

With the AMPOMATOR Machine, you can produce up to 5,700 doubly terminated leads per hour—11,400 terminations in all—depending on lead length and wire size. Lead and strip length are completely adjustable, as is operating speed. Quick-change, miniature applicators with dial type settings facilitate wire and contact changeover with no significant production downtime. In addition, the machine is fully protected against malfunction damage by fail-safe control circuitry.

Application Tooling for AMP-LATCH HDF-20 Connector Contacts (One-Step Termination)

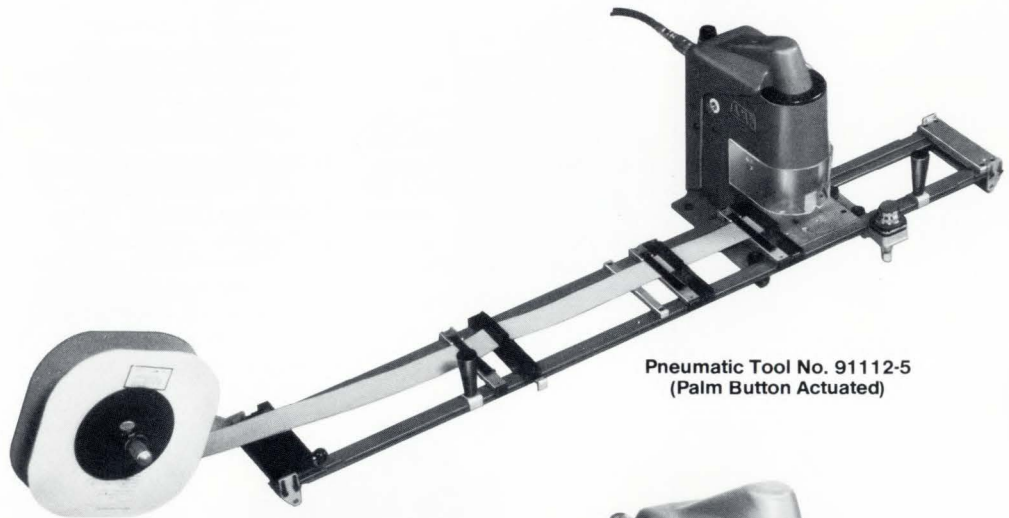
These application tools are designed for one-step termination of AMP-LATCH HDF-20 low profile connectors to planar, ground plane and shielded/jacketed ribbon cable with round conductors on .050 [1.27] centers. A complete set of tooling consists of a tool (manual or pneumatic) and a termination die set which includes both upper and lower tooling and a connector locator kit. The connector locator kit provides adjustments for accommodating the various sizes of connectors.



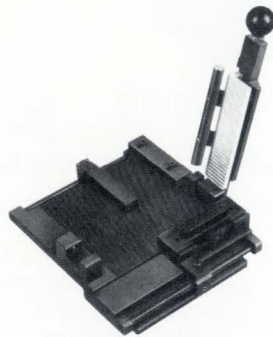
**Pneumatic Tool
No. 91112-2**



**Manual Tool
No. 91085-2**



**Pneumatic Tool No. 91112-5
(Palm Button Actuated)**



**Typical Termination Die Set
for HDF-20 Low Profile Connectors**



**Pneumatic Tool No. 91112-3
(Auto-Cycle)**

Note: All manual and pneumatic tools are shown with termination die sets. The tool nos. however, do not include the die sets. Die sets must be purchased separately. See chart on page 61.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.

Ribbon Cable Style to be Terminated	Type of Termination	Termination Die Set (See Note 1.)		Tooling Kit			Termination Tool Used in		Connector Page Reference
		Die Set No.	Applicable Instruction Sheet No.	Connector Locator Kit No.	Upper Tool Kit No.	Applicable Instruction Sheet No.	Pneumatic Tool No.	Manual Tool No.	
Planar and Ground Plane	End-of-Cable and Daisy Chain	91257-1	6893	543170-1	126850-1	6590	91112-2	91085-2	40 thru 43, 53
Planar	Daisy Chain Only	91250-1	6842	—	—	—	91112-5	91085-2	40 thru 43, 53
Planar	Daisy Chain Only	91250-2	6842	—	—	—	91112-2	—	40 thru 43, 53
Planar	End-of-Cable and Daisy Chain	91240-2	6731	543139-1	—	6731	91112-3*	91085-2	40 thru 43, 53
Shielded/Jacketed	End-of-Cable Only	91248-1	9011	543190-1	126850-1	9117	91112-2	91085-2	40, 41
Shielded/Jacketed (Hardware)	End-of-Cable Only	91249-1	6845	—	—	—	—	91085-2	84, 85

*Conversion Kit No. 543160-1 is available, allowing any one-step termination die set to be used in Pneumatic (Auto-Cycle) Tool No. 91112-3.

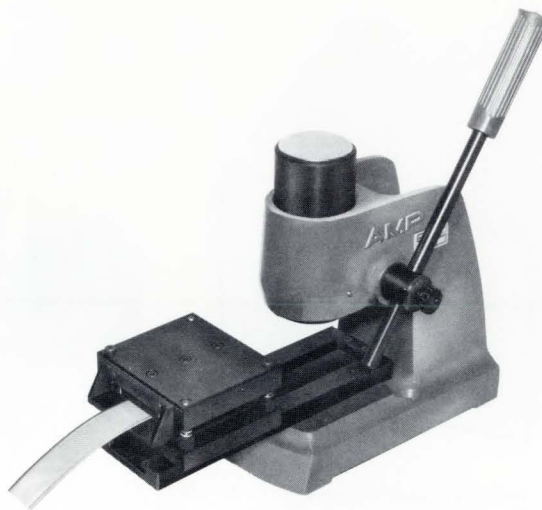
- Notes:**
1. Each Termination Die Set No. includes the Tooling Kit (Connector Locator Kit and Upper Tool Kit) listed for that particular die set. Connector Locator and Upper Tool Kits may be purchased separately for conversion or replacement.
 2. In one-step termination, cable is terminated to connector housing and fluted cover is installed during the termination cycle.
 3. For terminating shielded/jacketed cable, an additional operation is required to terminate the shielding hardware to the cable shield.
 4. Complete information on available AMP ribbon cable styles is provided in AMP Literature No. 82-664.



**Cable Cutter
No. 91220-1**

Cable trimmers are used in Manual Tool No. 91085-2 and are designed to trim the edges of ground plane ribbon cable for termination. Each cable trimmer consists of a small or large tooling holder and the appropriate cable cutting tool.

Conversion kits are available, allowing customers to purchase one cable trimmer and only the cable cutting tool needed to trim other cable sizes within the same tooling holder size. All cable trimmers and conversion kits are listed in the chart at the right.



Ground Plane Cable Trimmer

Cable Size (No. of Conductors)	Tooling Holder Size	Cable Trimmer Part No.	Conversion Kit No.
14	Small	91146-1	126811-1
16		91146-2	126811-2
20		91146-3	126811-3
26		91146-4	126811-4
30		91146-5	126811-5
34	Large	91146-6	126811-6
40		91146-7	126811-7
50		91146-8	126811-8

Note: Each Conversion Kit includes a Locator Plate and Left and Right Cutting Rails for trimming the specific cable size listed. These kits are interchangeable only with the Cable Trimmers having the appropriately sized Tooling Holder (Small or Large)

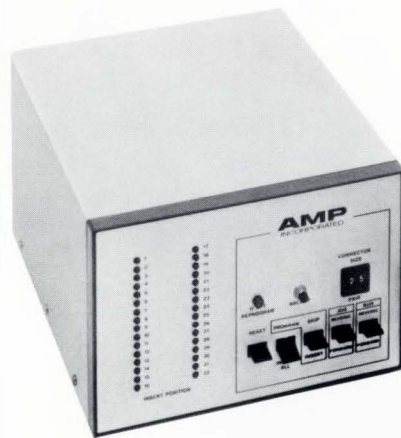
Application Tooling for HDE-20 Connector Contacts (Insulation Displacement Crimp)

This family of mass termination tooling is used for terminating the insulation displacement crimp contacts in HDE-20 connectors shown on pages 48, 51 and 54. For more details, consult the nearest AMP Sales Engineer, or write AMP Incorporated, Harrisburg, Pa. with your specific requirements.

This compact all-electric bench machine is designed to simplify as well as optimize the termination of discrete wire. Actuation of a foot switch triggers the crimping cycle, then advances the connector to the next position. This feature assures proper positioning of the conductor by allowing the operator to handle the wire with both hands. Also, a manual indexing feature allows contacts to be skipped where selective loading is required.



Single Lead Terminator No. 58020-1 for 30-20 AWG [0.05-0.6 mm²] Wire

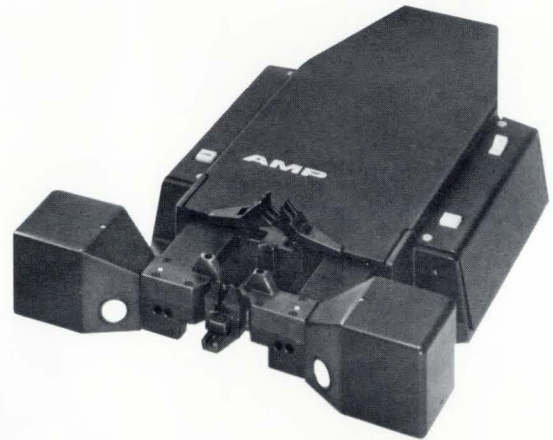


Jacketed Cable Terminator for 30-20 AWG [0.05-0.6 mm²] Wire

Applicator Module:
No. 231297-1
 for 90° Cable Dress
No. 231298-1
 for 180° Cable Dress

Control Module No. 231016-4

Note: A 25 ft. [7.62 m] long sample of jacketed cable is required with a customer's order.



A modified version of the CHAMPOMATOR machine, this tool terminates HDE-20 connectors to round jacketed cable at a rate of two wires per cycle. The tool can be easily programmed to sequentially insert and skip any combination of contact positions. Also, the tool is self-indexing and is available with 90° and 180° harness termination capabilities.

Dimensioning:
All dimensions in inches and millimetres
unless specified otherwise.
Values in brackets are metric equivalents.

Termination Die Set No. 91255-1 is used in Manual Tool No. 91085-2 for terminating HDE-20 metal-shell and all-plastic connectors to jacketed cable in a two-step operation. The termination die set is comprised of both upper and lower tooling, including a connector locator that provides adjustments for accommodating 9, 15, 25 and 37 position HDE-20 connectors.

Termination Die Set No. 91262-1 is also available and is used in Pneumatic (Auto-Cyle) Tool No. 91112-3.



**Manual Tool No. 91085-2 with
Termination Die Set No. 91255-1**

Note: Manual Tool No. 91085-2 is shown with Termination Die Set No. 91255-1. However, the tooling no. does not include the termination die set. The die set must be purchased separately.



**Self-Indexing Manual
Pistol Grip Tool No. 91230-1
for 30-20 AWG
[0.05-0.6 mm²] Wire**



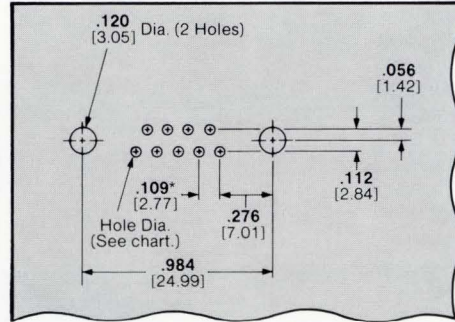
**Self-Indexing Pneumatic
Pistol Grip Tool No. 91231-1
for 30-20 AWG
[0.05-0.6 mm²] Wire**

These sequential termination tools are designed for production as well as servicing applications. Each tool, either manually operated or pneumatically powered, can terminate any wire size within the 30-20 AWG [0.05-0.6 mm²] wire range. Wires are inserted into the tool one at a time, then crimped individually during each termination cycle.

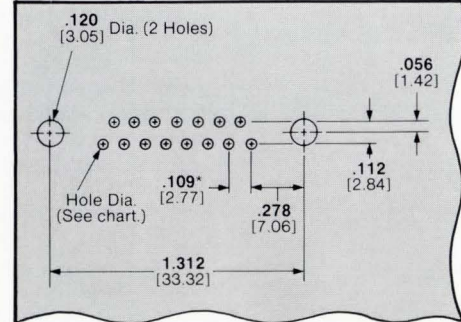
Pc Board Mounting Specifications

For Straight Posted Connectors

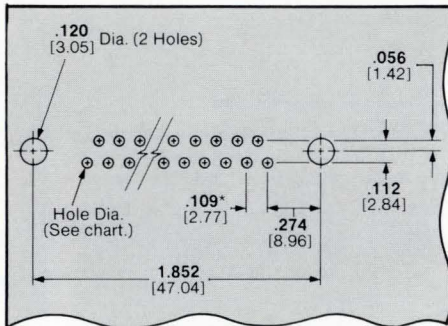
Pc board hole patterns for HDP-20 metal-shell and all-plastic straight posted connectors are presented on this page.



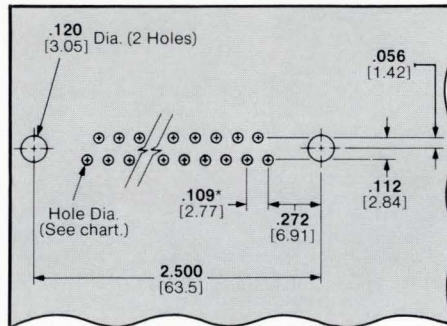
9 Positions (Shell Size 1)



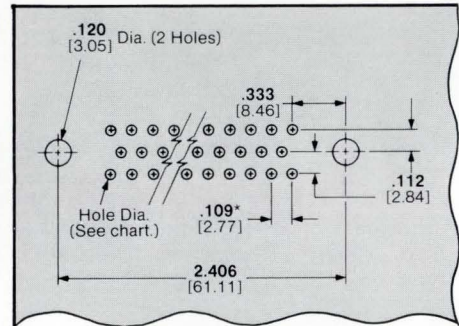
15 Positions (Shell Size 2)



25 Positions (Shell Size 3)



37 Positions (Shell Size 4)



50 Positions (Shell Size 5)

*The .109 [2.77] dimension is non-cumulative.

Note: Pc board layouts illustrated above serve as a guide only; they are not to be used for actual design or construction of customer equipment. Consult AMP Incorporated for detailed pc board layout requirements.

Connector Style	Connector Size (No. of Contact Pos.)	Hole Dia.	Page Reference
HDP-20 Metal Shell: with .025 [0.64] Sq. Posts	9, 15, 25, 37, 50	.047 1.19	8 thru 11
HDP-20 Metal-Shell: with .026 [0.66] Dia. Posts	9, 15, 25, 37	.041 1.04	12, 13
HDP-20 Metal-Shell: with ACTION PIN Posts	9, 15, 25, 37	.043/.036 1.09/0.91	24
HDP-20 All-Plastic: with .040 [1.02] Dia. Posts	9, 15, 25, 37, 50	.055 1.4	30 thru 33
HDP-20 All-Plastic: with .026 [0.66] Dia. Posts	9, 15, 25, 37, 50	.041 1.04	34 thru 37
HDP-20 All-Plastic with ACTION PIN Posts	9, 15, 25, 37, 50	.043/.036 1.09/0.91	38, 39

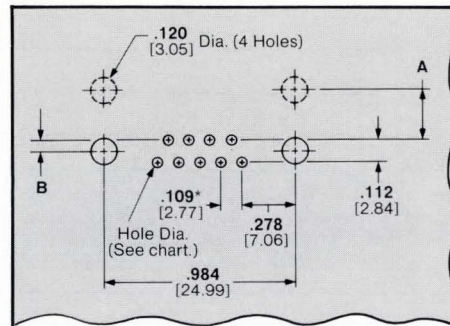
Note: Refer to individual pages covering each connector style for recommended pc board thicknesses.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

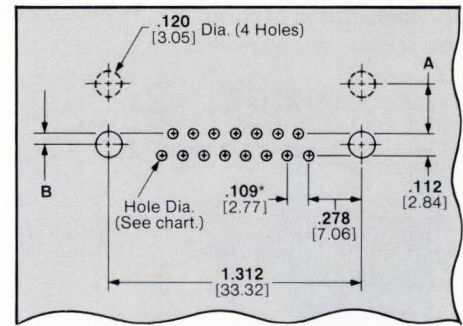
For Right-Angle Posted Connectors

Pc board hole patterns for HDP-20 metal-shell and all-plastic right-angle posted connectors are presented on this page.

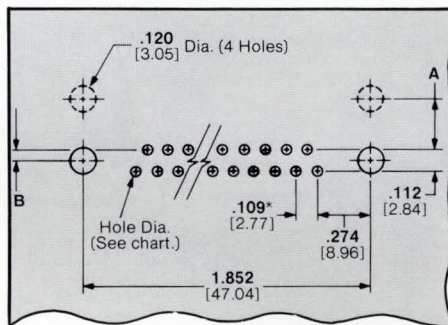
Pc board hole patterns for HDJ-20 right-angle posted connectors are presented on the individual pages covering these connectors (pages 46 and 47).



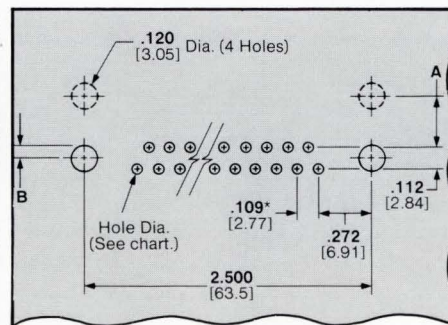
9 Positions (Shell Size 1)



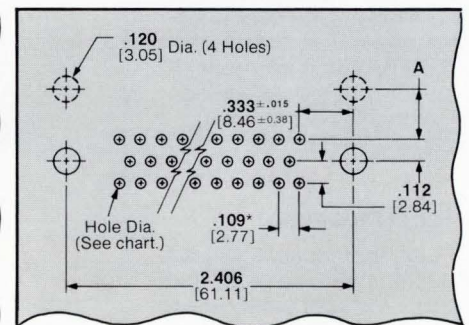
15 Positions (Shell Size 2)



25 Positions (Shell Size 3)



37 Positions (Shell Size 4)



50 Positions (Shell Size 5)

*The .109 [2.77] dimension is non-cumulative.

Note: Pc board layouts illustrated above serve as a guide only; they are not to be used for actual design or construction of customer equipment. Consult AMP Incorporated for detailed pc board layout requirements.

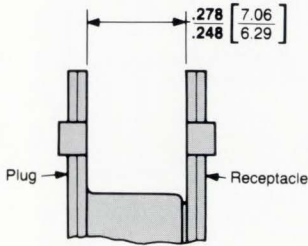
Connector Style	Connector Size (No. of Contact Pos.)	Dimensions		Hole Dia.	Page Reference
		A	B		
HDP-20 Metal-Shell: with .026 [0.66] Dia. Posts -590 Mount (Long Mounting Flange)	9, 15, 25, 37	—	.040 1.02	.041 1.04	14 thru 17
HDP-20 Metal-Shell: with .026 [0.66] Dia. Posts -590 Mount (Short Mounting Flange)	9, 15, 25, 37	.275 6.99	—	.041 1.04	14 thru 17
HDP-20 Metal-Shell: with .025 [0.64] Sq. Posts -545 Mount	9, 15, 25, 37 50	.275 6.99 .275/.219 6.99/5.56	.056 1.42 —	.047 1.19	18, 19
HDP-20 Metal-Shell: with .025 [0.64] Sq. Posts -454 Mount	9, 15, 25, 37	.185 4.7	.056 1.42	.047 1.19	20, 21
HDP-20 Metal-Shell: with .026 [0.66] Dia. Posts -318 Mount	9, 15, 25, 37	—	.056 1.42	.041 1.04	22, 23
HDP-20 All-Plastic: with .025 [0.64] Sq. Posts -590 Mount	9, 15, 25, 37, 50	.275 6.99	.056 1.42	.047 1.19	28, 29
HDP-20 All-Plastic: with .026 [0.66] Dia. Posts -478 Mount	9, 15, 25, 37	.163 4.14	.056 1.42	.041 1.04	26, 27
HDP-20 All-Plastic: with .026 [0.66] Dia. Posts -318 Mount	9, 15, 25, 37	—	.056 1.42	.041 1.04	25

Note: Refer to individual pages covering each connector style for recommended pc board thicknesses.

Plug/Receptacle Mating and Panel Mounting Specification

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Chart contains dimensions in inches over millimetres.

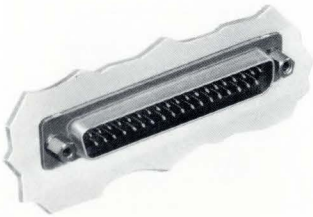
Plug/Receptacle Mating



The .278/.248 [7.06/6.29] dimension is required to assure full mating of connector halves. This dimension must be taken into consideration when determining the method of mounting, panel thickness, etc.

Panel Mounting

Plugs and receptacles can be mounted to a panel from either the front or rear, using a variety of accessory hardware. Typical examples are shown below. For shielding applications, RFI gaskets are available. See page 94 for details.

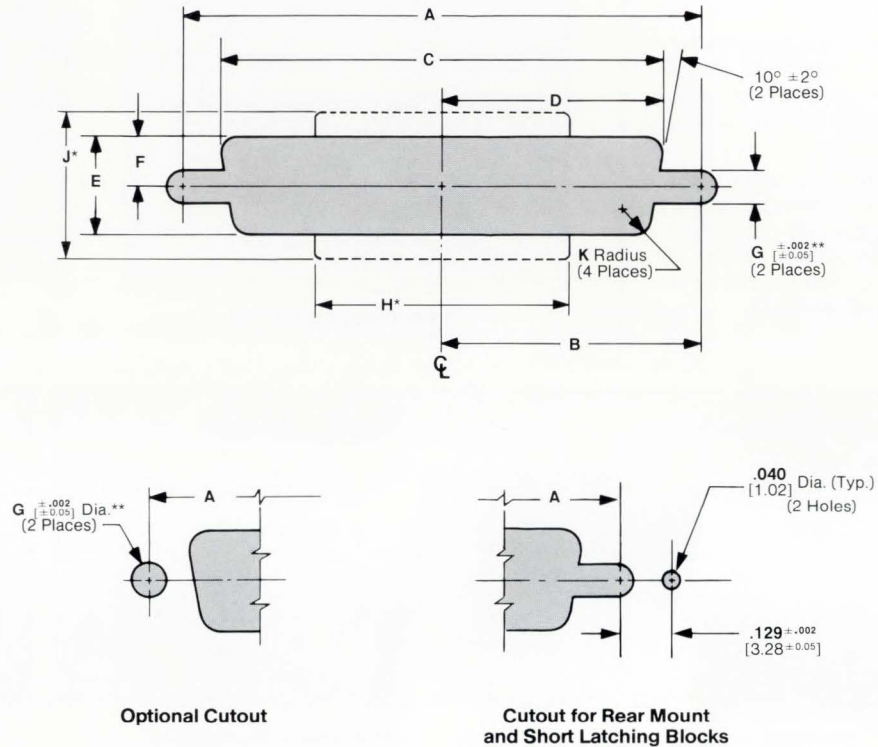


Typical Front-Panel Mounted AMPLIMITE Plug



Typical Rear-Panel Mounted AMPLIMITE Receptacle

Panel Cutouts



Shell Size (No. of Contact Pos.)	Mounting Method		Dimensions									
	Front/Rear Panel	With/Without Floating Bushing	A	B	C	D	E	F	G	H*	J*	K
1 (9)	Front	With			.906 23.01	.453 11.51	.545 13.84	.273 6.93	.088 2.24	.382 9.7	.662 16.81	.083 2.11
		Without			.874 22.2	.437 11.1	.513 13.03	.257 6.53	.120 3.05	.350 8.89	.630 16	
	Rear	With	.984 24.99	.492 12.5	.838 21.29	.419 10.64	.481 12.22	.241 6.12	.088 2.24	.332 8.43	.662 16.81	.132 3.35
		Without			.806 20.47	.403 10.24	.449 11.4	.225 5.72	.120** 3.05	.300 7.62	.630 16	
2 (15)	Front	With			1.234 31.34	.617 15.67	.545 13.84	.273 6.93	.088 2.24	.735 18.67	.662 16.81	.083 2.11
		Without			1.202 30.53	.601 15.27	.513 13.03	.257 6.53	.120 3.05	.673 17.09	.630 16	
	Rear	With	1.312 33.32	.656 16.66	1.166 29.62	.583 14.81	.481 12.22	.241 6.12	.088 2.24	.655 16.64	.662 16.81	.132 3.35
		Without			1.134 28.8	.567 14.4	.449 11.4	.225 5.72	.120** 3.05	.623 15.82	.630 16	
3 (25)	Front	With			1.775 45.09	.888 22.56	.545 13.84	.273 6.93	.088 2.24	1.247 31.67	.662 16.81	.083 2.11
		Without			1.743 44.27	.872 22.15	.513 13.03	.257 6.53	.120 3.05	1.215 30.86	.630 16	
	Rear	With	1.852 47.04	.926 23.52	1.706 43.33	.853 21.67	.481 12.22	.241 6.12	.088 2.24	1.197 30.4	.662 16.81	.132 3.35
		Without			1.674 42.52	.837 21.26	.449 11.4	.225 5.72	.120** 3.05	1.165 29.59	.630 16	
4 (37)	Front	With			2.423 61.17	1.212 30.78	.545 13.84	.273 6.93	.088 2.24	1.895 48.13	.662 16.81	.083 2.11
		Without			2.391 60.73	1.196 30.38	.513 13.03	.257 6.53	.120 3.05	1.863 47.32	.630 16	
	Rear	With	2.500 63.5	1.250 31.75	2.354 59.79	1.177 29.9	.481 12.22	.241 6.12	.088 2.24	1.845 46.86	.662 16.81	.132 3.35
		Without			2.326 59.08	1.163 29.54	.449 11.4	.225 5.72	.120** 3.05	1.813 46.05	.630 16	
5 (50)	Front	With			2.329 59.16	1.165 29.59	.655 16.64	.328 8.33	.088 2.24	1.800 45.72	.772 19.61	.083 2.11
		Without			2.297 58.34	1.149 29.18	.623 15.82	.312 7.92	.120 3.05	1.768 44.91	.740 18.8	
	Rear	With	2.406 61.11	1.203 30.56	2.250 57.15	1.125 28.58	.587 14.91	.294 7.47	.088 2.24	1.740 44.2	.772 19.61	.132 3.35
		Without			2.218 56.34	1.109 28.17	.555 14.1	.278 7.06	.120** 3.05	1.718 43.64	.740 18.8	

*Panel cutout configuration with H and J dimensions provides clearance for mounting connectors with cable clamp assemblies.
**G dimension is .190 ± .002 [4.83 ± 0.05] when posted connectors with fixed female screwlocks are rear-panel mounted.

Accessories

AMP-LATCH Connector Savers

AMP-LATCH Connector Savers are throw-away subminiature D adapters designed to save wear of connectors that are used in applications requiring a high cycle life, such as test equipment.

Material and Finish:

Front Metal Shell—Steel; Tin plated

Housing—Black Thermoplastic, 94V-0 Rated

Cover—Black Thermoplastic, 94V-0 Rated; Nickel plated (Metal-Shell Versions), unplated (All-Plastic Versions)

Hardware—Steel; Zinc plated

Contacts—Phosphor Bronze; duplex plated .000030 [0.00076] gold on mating end, .000100-.000200 [0.00254-.000508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Connectors used with:

HDP-20 Metal-Shell—pages 6 thru 24

HDP-20 All-Plastic—pages 25 thru 39

HDF-20 Metal-Shell—pages 40 & 41

HDF-20 All-Plastic—pages 42 & 43

HDE-20 Metal-Shell—pages 48 & 49

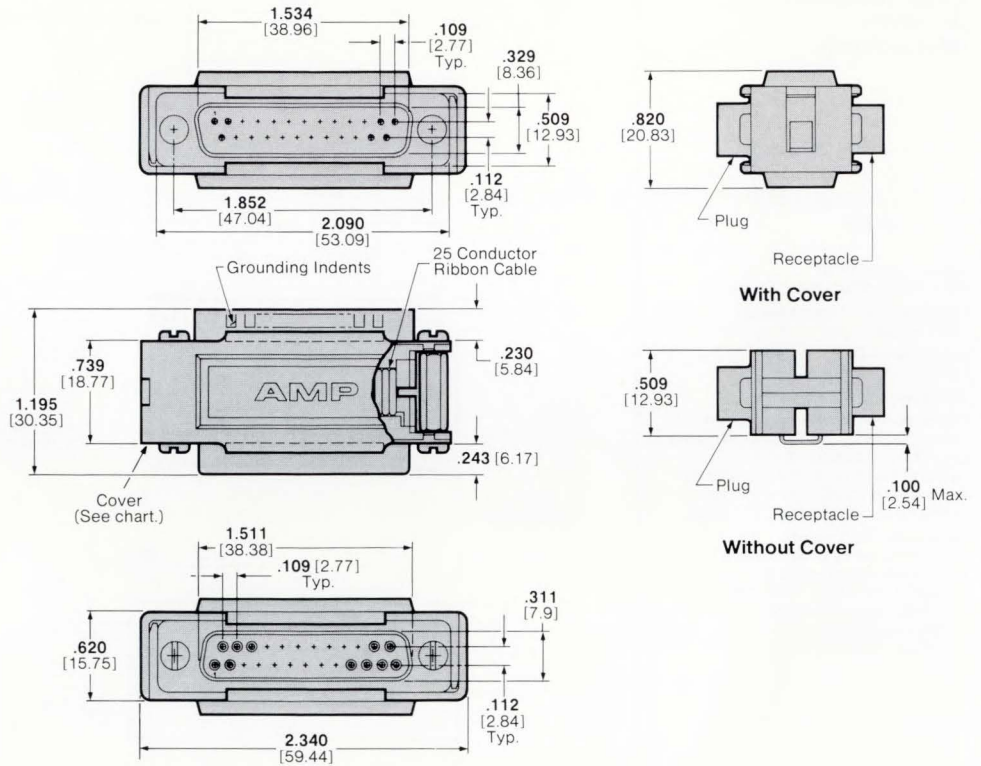
HDE-20 All-Plastic—pages 50 & 51

Connector Saver Style	Connector Saver Part No.	
	Without Cover	With Cover
Metal-Shell	747123-1	747122-1*
All-Plastic	747121-1	747120-1*

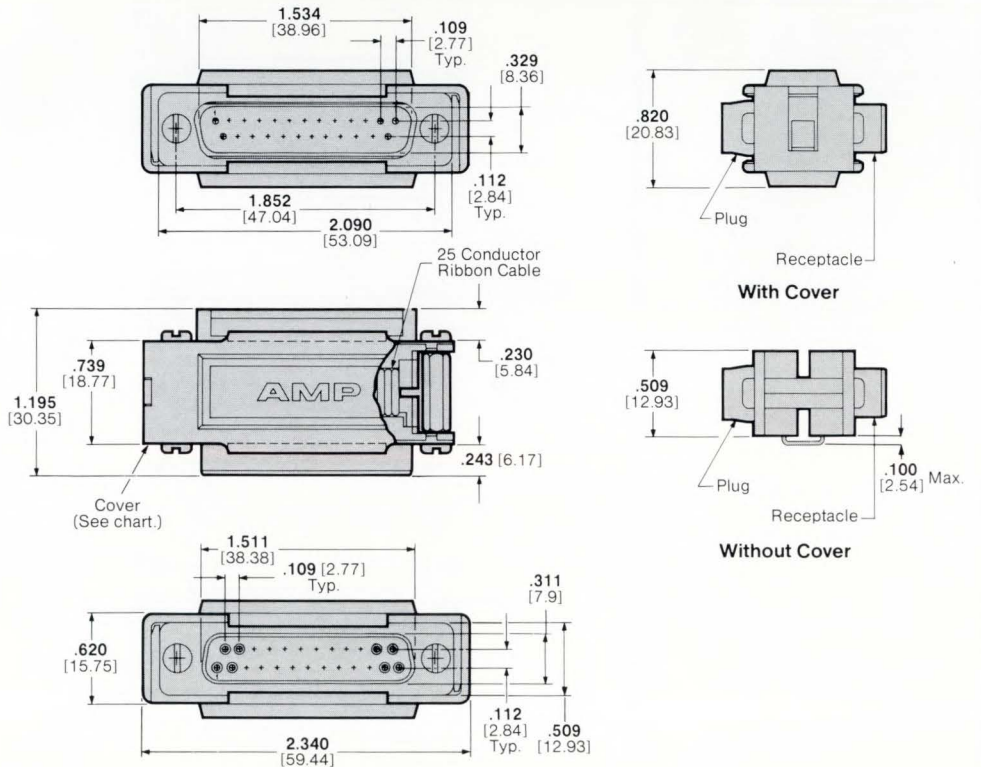
*Covers are nickel plated for metal-shell versions and unplated for all-plastic versions.

Note: All parts are packaged unassembled.

25 Positions (Metal-Shell)



25 Positions (All-Plastic)



Dimensioning:

All dimensions in inches and millimetres. Values in brackets are metric equivalents.

Accessories

AMP-LATCH Plug/Receptacle Adapters (Metal-Shell)

AMP-LATCH Plug/Receptacle Adapters provide a quick and easy method of changing the gender of plugs and receptacles.

Material and Finish:

Front Metal Shell—Steel; Tin plated

Housing—Black Thermoplastic, 94V-0 Rated

Cover—Black Thermoplastic, 94V-0 Rated; Nickel plated

Hardware—Steel; Zinc plated

Contacts—Phosphor Bronze; duplex plated .000030 [0.00076] gold on mating end, .000100-.000200 [0.00254-0.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

Reference Information:

Applicable Specifications—page 5

Cavity Identification—page 5

Connectors used with (Metal-Shell):

HDP-20—pages 6 thru 24

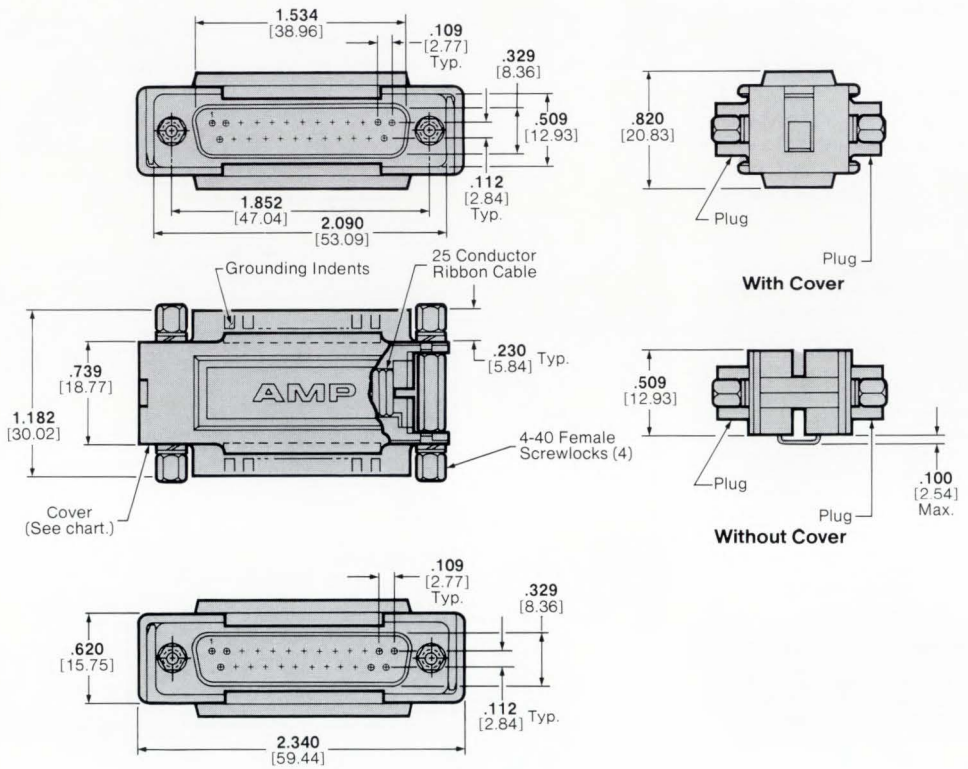
HDF-20—pages 40 & 41

HDE-20—pages 48 & 49

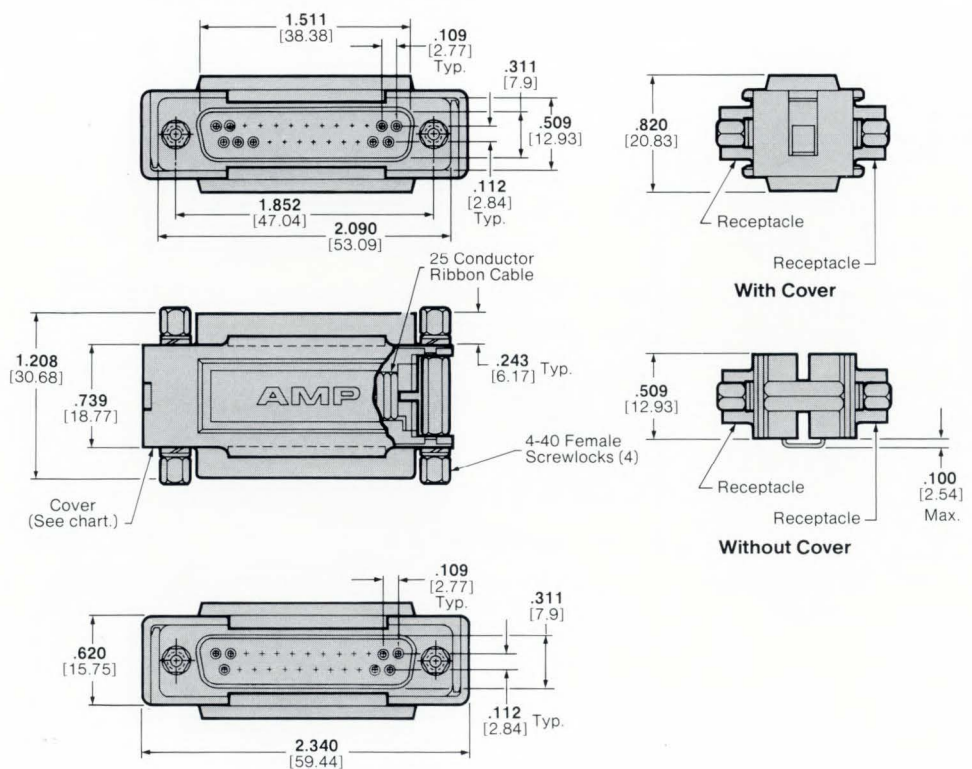
Adapter Configuration	Adapter Part No.	
	Without Cover	With Cover
Plug Assembly	747118-1	747117-1
Receptacle Assembly	747114-1	747112-1

Note: All parts are packaged unassembled.

25 Positions (Plug Assembly)



25 Positions (Receptacle Assembly)



Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.

AMP-LATCH Plug/Receptacle Adapters (All-Plastic)

Material and Finish:
Housing & Cover—Black Thermoplastic, 94V-0 Rated

Hardware—Steel; Zinc plated

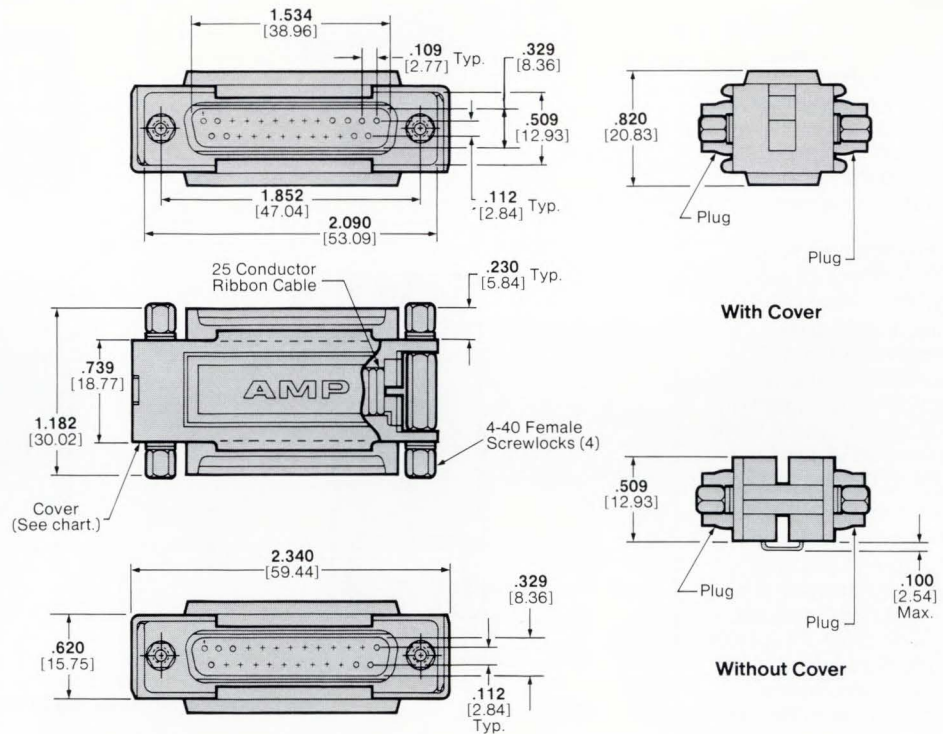
Contacts—Phosphor Bronze; duplex plated .000030 [0.00076] gold on mating end, .000100-.000200 [0.00254-.00508] bright tin or bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel

Reference Information:
Applicable Specifications—page 5
Cavity Identification—page 5
Connectors used with (All-Plastic):
HDP-20—pages 25 thru 39
HDF-20—pages 42 & 43
HDE-20—pages 50 & 51

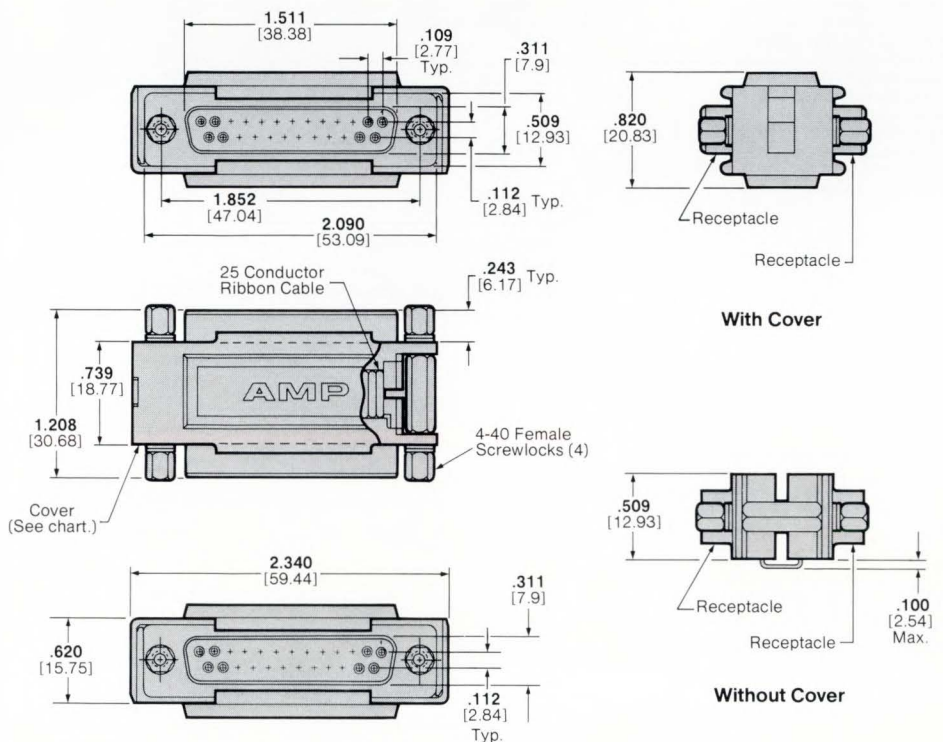
Adapter Configuration	Adapter Part No.	
	Without Cover	With Cover
Plug Assembly	747116-1	747115-1
Receptacle Assembly	747113-1	747119-1

Note: All parts are packaged unassembled.

25 Positions (Plug Assembly)



25 Positions (Receptacle Assembly)



Accessories

Straight/45° Exit Cable Clamp Assemblies (One Piece)

Straight/45° Exit Cable Clamp Assemblies can be used on either a plug or receptacle and will not interfere with commonly used hardware, such as Male Screw Retainers, Female Screwlocks or Spring Latches and Latching Blocks. Their hinged construction allows easy assembly to a harness. Also, the straight or 45° angle of cable exit is achieved by merely positioning the Cable Support Gate for the desired angle prior to installing the assembly onto the plug or receptacle.

Cable clamp assemblies are available in kits with appropriate hardware for convenient plug/receptacle mating. See page 71 for kits with Male Screw Retainers and for kits with Spring Latches and Latch Blocks.

Material and Finish:

Cable Clamp Housing—Black Thermoplastic, textured finish

Gates—Black Thermoplastic

Pan Head Screws, 6-32 Set Screw and 6-32 Square Nut—Zinc plated Steel

Reference Information:

Applicable Specifications—page 5

Connectors used with (Metal-Shell):

HDP-20—pages 6 & 7

Other Accessory Capabilities:

Male Screw Retainers—page 86

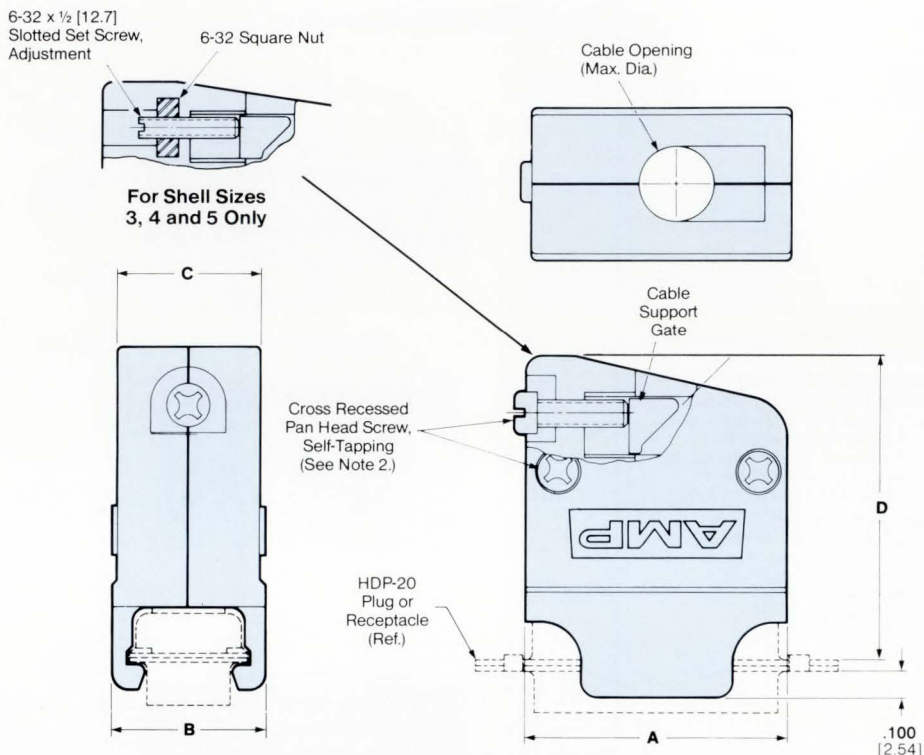
Female Screwlocks—page 87

Locking Post Assemblies—page 88

Slide Latch Assemblies—page 89

Spring Latch (One Piece)—page 90

Latching Blocks—pages 92 & 93



Short Cable Clamp Assembly Shown

Shell Size (No. of Contact Pos.)	Dimensions				Cable Dia. (Max.)	Short Cable Clamp Assembly Part No.		Standard Cable Clamp Assembly Part No.	
	A	B	C	D		Individual	Bulk Packed*	Individual	Bulk Packed*
1 (9)	.750 19.05	.620 15.75	—	1.625 41.28	.256 6.5	—	—	205729-1	205729-3
2 (15)	1.073 27.25	.620 15.75	.580 14.73	1.250 31.75	.320 8.13	206393-1	206393-3	—	—
			—	1.625 41.28	.320 8.13	—	—	205730-1	205730-3
3 (25)	1.615 41.02	.620 15.75	.580 14.73	1.250 31.75	.420 10.67	206390-1	206390-3	—	—
			—	1.625 41.28	.420 10.67	—	—	205718-1	205718-4
4 (37)	2.263 57.48	.620 15.75	—	1.625 41.28	.490 12.45	—	—	205731-1	205731-3
			—	1.625 41.28	.600 15.24	—	—	205732-1	205732-3

*Each part is individually bulk packed for multiple assembly orders.

Notes: 1. All parts are packaged unassembled.

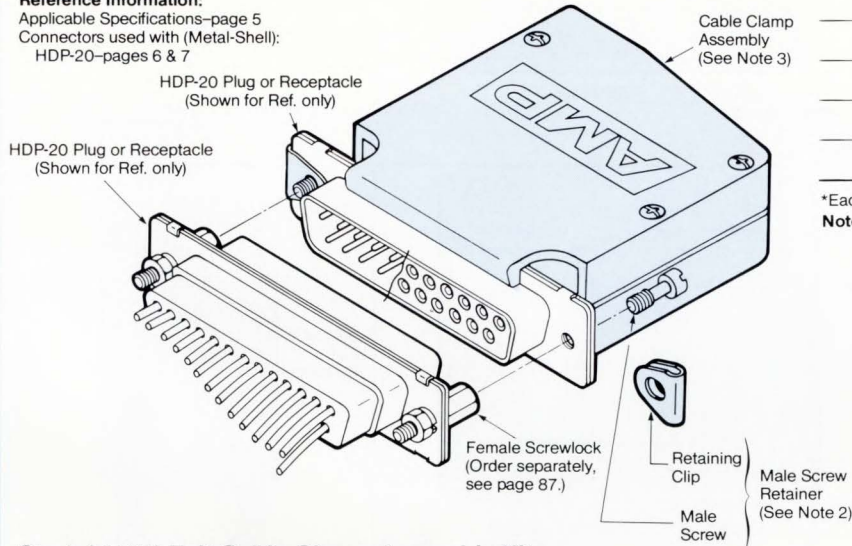
2. Quantity of cross recessed pan head screws supplied with cable clamp assembly varies with shell size.

3. Cable clamp assemblies are available in kits with male screw retainers and with spring latches and latching blocks (page 71).

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Chart contains dimensions in inches over millimetres.

Straight/45° Exit Cable Clamp Assembly Kits with Male Screw Retainers

Reference Information:
Applicable Specifications—page 5
Connectors used with (Metal-Shell):
HDP-20—pages 6 & 7



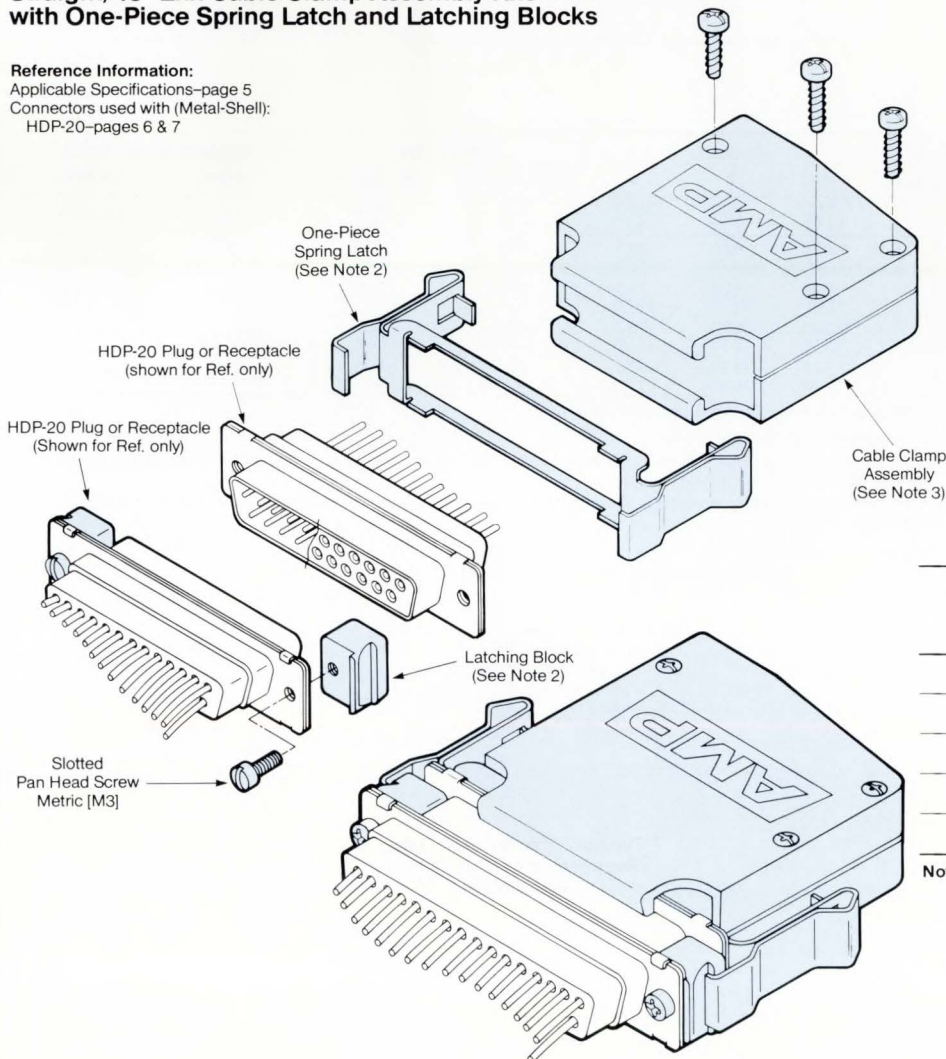
Shell Size (No. of Contact Pos.)	Short Cable Clamp Assembly Kit No.		Standard Cable Clamp Assembly Kit No.	
	Individual	Bulk Packed*	Individual	Bulk Packed*
1 (9)	—	—	206478-1	2-206478-0
2 (15)	1-206478-1	2-206478-5	206478-2	2-206478-1
3 (25)	1-206478-2	2-206478-6	206478-3	2-206478-2
4 (37)	—	—	206478-4	2-206478-3
5 (50)	—	—	206478-5	2-206478-4

*Each part is individually bulk packed for multiple kit orders.

- Notes:**
1. All parts are packaged unassembled.
 2. Each kit is comprised of a cable clamp assembly and male screw retainer hardware (2 each). Male screw retainers are also available in kit form, see page 86.
 3. For ordering cable clamp assemblies separately, refer to page 70.

Straight/45° Exit Cable Clamp Assembly Kits with One-Piece Spring Latch and Latching Blocks

Reference Information:
Applicable Specifications—page 5
Connectors used with (Metal-Shell):
HDP-20—pages 6 & 7



Shell Size (No. of Contact Pos.)	Short Cable Clamp Assembly Kit No.	
	with Spring Latch	with Spring Latch and Latching Blocks
1 (9)	745008-1	745005-1
2 (15)	745008-2	745005-2
3 (25)	745008-3	745005-3
4 (37)	745008-4	745005-4
5 (50)	745008-5	745005-5

Notes: 1. All parts are packaged unassembled.

2. Each kit is comprised of a cable clamp assembly and a one-piece spring latch or combination spring latch and latching blocks (2 each) with slotted pan head metric [M3] screws. One-piece spring latches and latching blocks with slotted pan head metric screws [M3] may be purchased separately, see pages 90, 92 and 93.
3. For ordering cable clamp assemblies separately, refer to page 70.

Accessories

Straight/90° Exit Cable Clamp Assemblies (One Piece)

Straight/90° Exit Cable Clamp Assemblies can be used on either a plug or receptacle and will not interfere with commonly used hardware, such as Male Screw Retainers, Female Screwlocks or Spring Latches and Latching Blocks. Their hinged construction allows easy assembly to a harness. Also, cable openings are provided for straight and 90° cable exit. The specific angle of cable exit is achieved by removing the Blank Gate from the desired opening, positioning the cable through the opening and inserting the proper Cable Support Gate for the cable diameter of the connector. Sufficient Cable Support Gates are supplied with each cable clamp assembly to achieve adjustable clamping over a wide range of cable diameters. The Cable Support Gates also are interchangeable for both the straight and 90° cable exit openings.

Cable clamp assemblies are available in kits with appropriate hardware for convenient plug/receptacle mating. See page 73 for kits with Male Screw Retainers and for kits with Spring Latches and Latching Blocks.

Material and Finish:

Cable Clamp Housing—Black Thermoplastic, textured finish

Gates—Black Thermoplastic

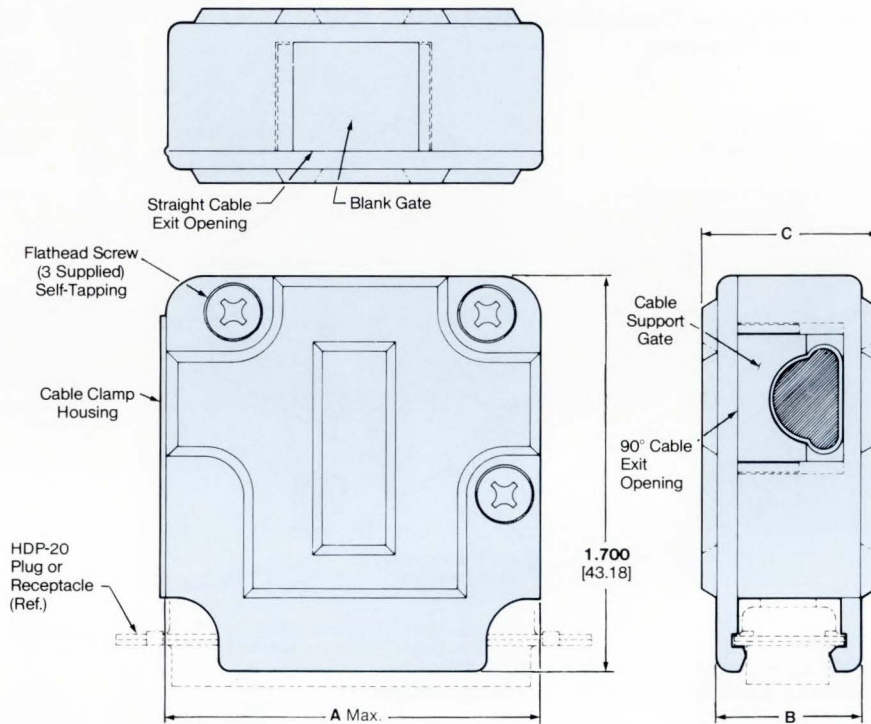
Flat Head Screws—Black Zinc plated Steel

Reference Information:

Applicable Specifications—page 5
Connectors used with (Metal-Shell):
HDP-20—pages 6 & 7

Other Accessory Capabilities:

Male Screw Retainers—page 86
Female Screwlocks—page 87
Locking Post Assemblies—page 88
Slide Latch Assemblies—page 89
Spring Latch (One Piece)—page 90
Latching Blocks—pages 92 & 93



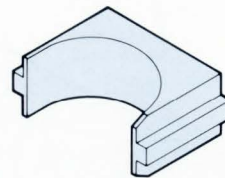
Shell Size (No. of Contact Pos.)	Dimensions			Cable Dia. (Max.)		Cable Clamp Assembly Part No.	
	A	B	C	Straight Cable Exit	90° Cable Exit	Individual	Bulk Packed*
1 (9)	.755 19.18	.620 15.75	.620 15.75	.250 6.35	.250 6.35	207467-1	207467-2
2 (15)	1.073 27.25	.620 15.75	.620 15.75	.325 8.26	.325 8.26	207470-1	207470-2
3 (25)	1.615 41.02	.620 15.75	.750 19.05	.500 12.7	.500 12.7	207345-1	207345-2
4 (37)	2.263 57.48	.620 15.75	.750 19.05	.675 17.15	.500 12.7	207473-1	207473-2
5 (50)	2.173 55.19	.730 18.54	.860 21.84	.500 12.7	.500 12.7	207476-1	207476-2

*Each part is individually bulk packed for multiple assembly orders.

Notes: 1. All parts are packaged unassembled.

2. Cable diameter is adjustable by changing cable support gates. Use the flat side of cable support gates for discrete wire, and the semi-circle side for jacketed cable.

3. Cable clamp assemblies are available in kits with male screw retainers and with spring latches and latching blocks (page 73).

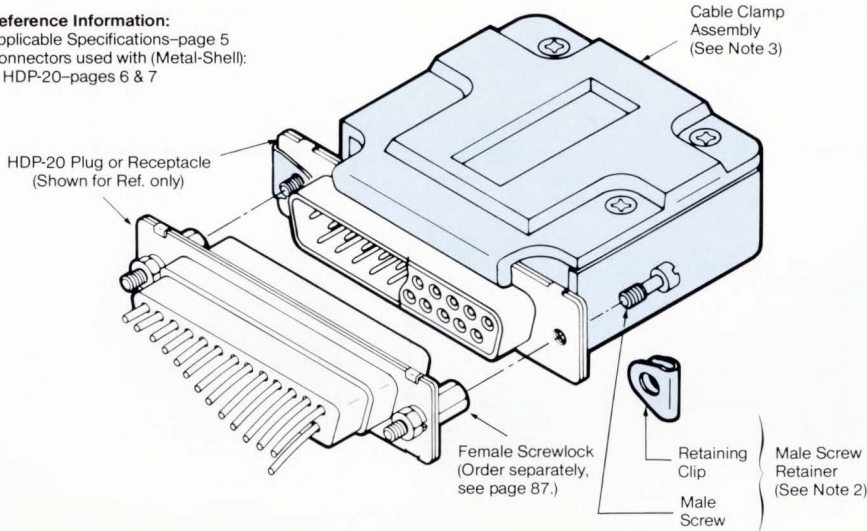


**Typical Cable Support Gate
(Supplied with Cable Clamp
Assemblies)**

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Chart contains dimensions in inches over millimetres.

Straight/90° Exit Cable Clamp Assembly Kits with Male Screw Retainers

Reference Information:
Applicable Specifications—page 5
Connectors used with (Metal-Shell):
HDP-20—pages 6 & 7



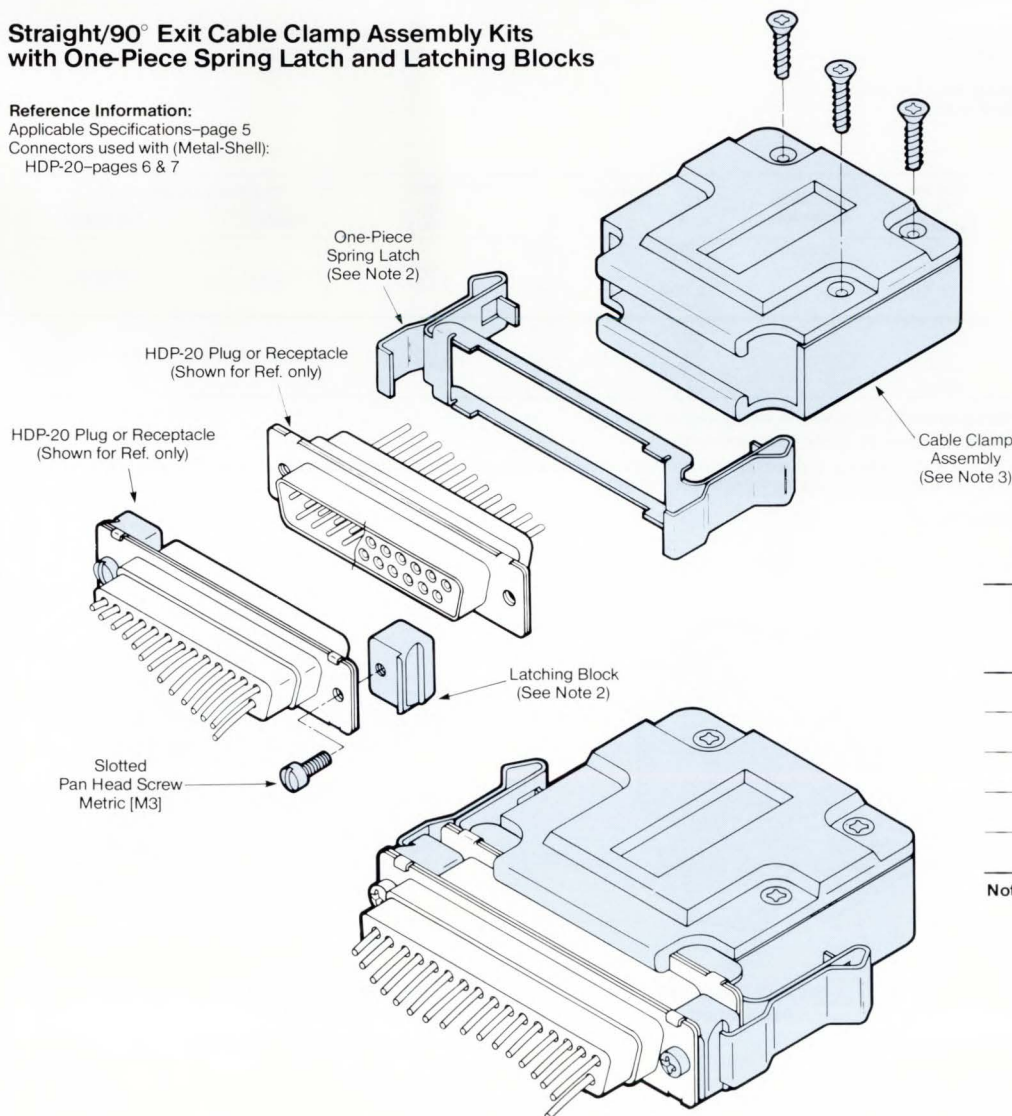
Shell Size (No. of Contact Pos.)	Cable Clamp Assembly Kit No.	
	Individual	Bulk Packed*
1 (9)	207908-1	207908-2
2 (15)	207908-4	207908-5
3 (25)	207908-7	207908-8
4 (37)	1-207908-0	1-207908-1
5 (50)	1-207908-3	1-207908-4

*Each part is individually bulk packed for multiple kit orders.

- Notes:** 1. All parts are packaged unassembled.
2. Each kit is comprised of a cable clamp assembly and male screw retainer hardware (2 each). Male screw retainers are also available in kit form, see page 86.
3. For ordering cable clamp assemblies separately, refer to page 72.

Straight/90° Exit Cable Clamp Assembly Kits with One-Piece Spring Latch and Latching Blocks

Reference Information:
Applicable Specifications—page 5
Connectors used with (Metal-Shell):
HDP-20—pages 6 & 7



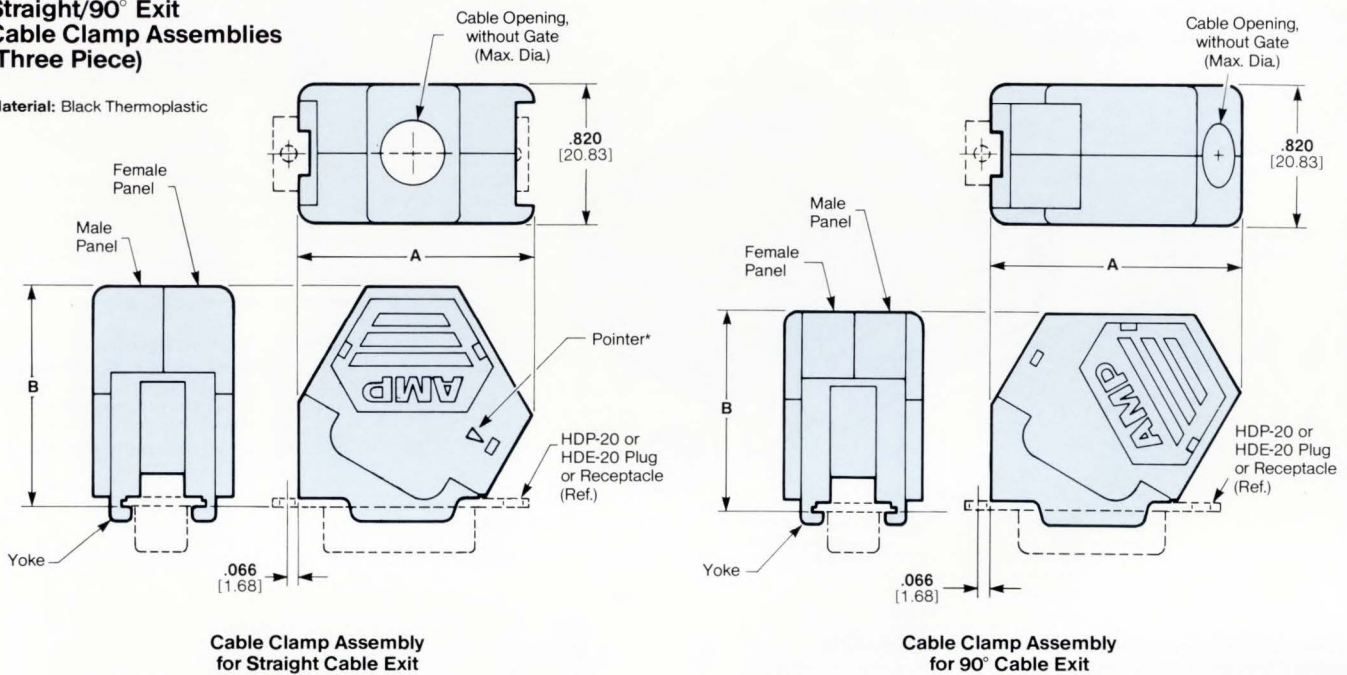
Shell Size (No. of Contact Pos.)	Short Cable Clamp Assembly Kit No.	
	with Spring Latch	with Spring Latch and Latching Blocks
1 (9)	745009-1	745006-1
2 (15)	745009-2	745006-2
3 (25)	745009-3	745006-3
4 (37)	745009-4	745006-4
5 (50)	745009-5	745006-5

- Notes:** 1. All parts are packaged unassembled.
2. Each kit is comprised of a cable clamp assembly and a one-piece spring latch or combination spring latch and latching blocks (2 each) with slotted pan head metric [M3] screws. One-piece spring latches and latching blocks with slotted pan head metric [M3] screws may be purchased separately, see pages 90, 92 and 93.
3. For ordering cable clamp assemblies separately, refer to page 72.

Accessories

Straight/90° Exit Cable Clamp Assemblies (Three Piece)

Material: Black Thermoplastic

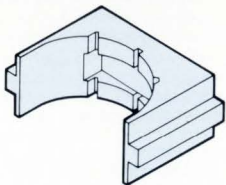


*Pointer indicates slots on Female Panel are to be used for disassembly with screwdriver.

Straight/90° Exit Cable Clamp Assemblies can be used on a plug or receptacle and will not interfere with commonly used mating hardware. Their three-piece construction allows easy assembly to a cable harness. Also, the same cable clamp components are used for both straight and 90° cable exit applications. This is accomplished by simply positioning the Male and Female Panels on the Yoke for the desired angle.

Reference Information:

Applicable Specifications—page 5
Connectors used with:
HDP-20 Metal-Shell—pages 6 & 7
HDE-20 Metal-Shell—pages 48 & 49
HDE-20 All-Plastic—pages 50 & 51
Other Accessory Capabilities:
Male Screw Retainers—page 86
Female Screwlocks—page 87
Locking Post Assemblies—page 88
Slide Latch Assemblies—page 89
Latching Blocks—pages 92 & 93



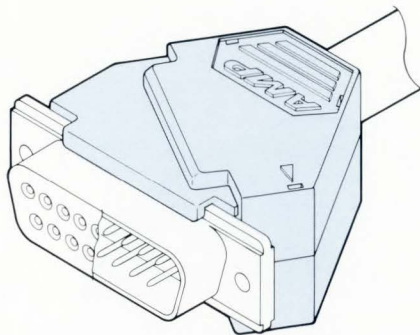
Typical Cable Support Gate (Supplied with Cable Clamp Assemblies)

Shell Size (No. of Contact Pos.)	Cable Clamp Configuration	Dimensions		Cable Dia. (Max.)	Cable Clamp Assembly Kit No.	
		A	B		Individual	Bulk Packed*
3 (25)	Straight Exit	1.906 48.41	1.672 42.47	.550 13.97	745306-1	745306-2
	90° Exit	2.066 52.48	1.396 35.46			
4 (37)	Straight Exit	2.424 61.57	1.820 46.23	.750 19.05	745311-1	745311-2
	90° Exit	2.638 67.01	1.596 40.54			

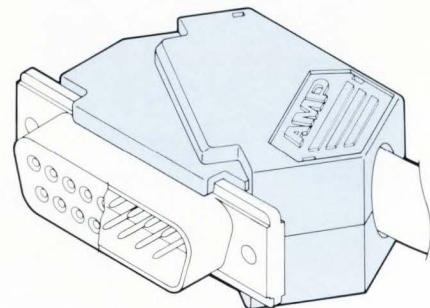
*Each part is individually bulk packed for multiple kit orders.

Notes: 1. All parts are packaged unassembled.

2. Each cable clamp assembly includes a yoke, male panel, female panel and four cable support gates. The cable diameter is adjustable by changing the cable support gates.



Straight Cable Exit Application



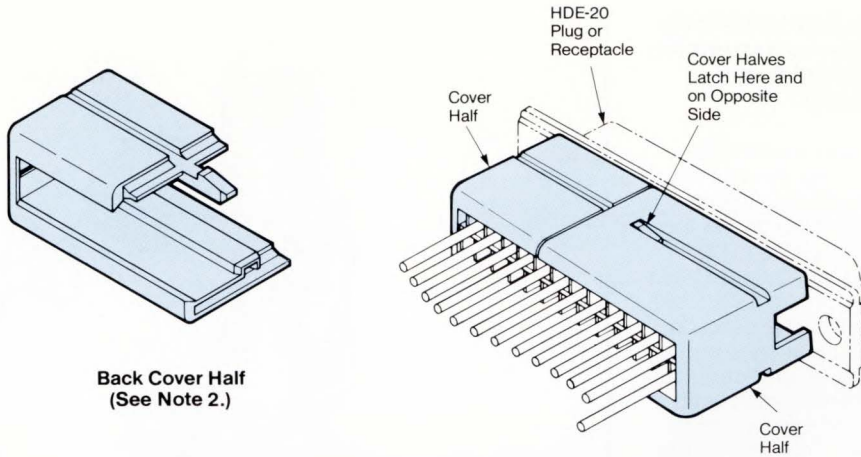
90° Cable Exit Application

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

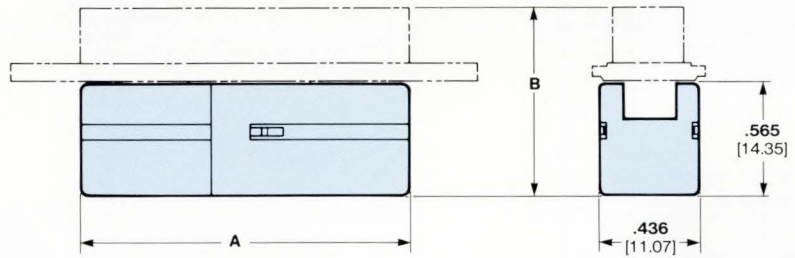
Slide-On Back Covers

Material: Black Thermoplastic

Reference Information:
Applicable Specifications—page 5
Connectors used with:
HDE-20 Metal-Shell—pages 48 & 49
HDE-20 All-Plastic—pages 50 & 51
Other Accessory Capabilities:
RFI/EMI Metal Shields (Straight & 90°
Exit)—pages 80 & 81
Male Screw Retainers—page 86
Female Screwlocks—page 87
Locking Post Assemblies—page 88
Slide Latch Assemblies—page 89
Latching Blocks—pages 92 & 93



Back Cover Half
(See Note 2.)



Shell Size (No. of Contact Pos.)	For Plug Assemblies		For Receptacle Assemblies		Back Cover Kit No.	
	Dimensions		Dimensions		Individual	Bulk Packed*
	A	B	A	B		
1 (9)	.610 15.49	.937 23.8	.610 15.49	.902 22.91	745530-1	745530-5
2 (15)	.934 23.72	.937 23.8	.934 23.72	.902 22.91	745530-2	745530-6
3 (25)	1.482 37.64	.937 23.8	1.482 37.64	.902 22.91	745530-3	745530-7
4 (37)	2.134 54.2	.937 23.8	2.134 54.2	.902 22.91	745530-4	745530-8

*Each part is individually bulk packed for multiple kit orders.

Notes: 1. All parts are packaged unassembled.

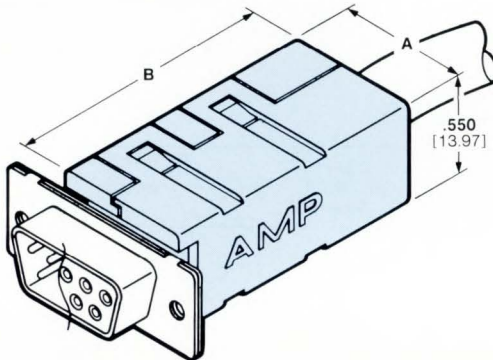
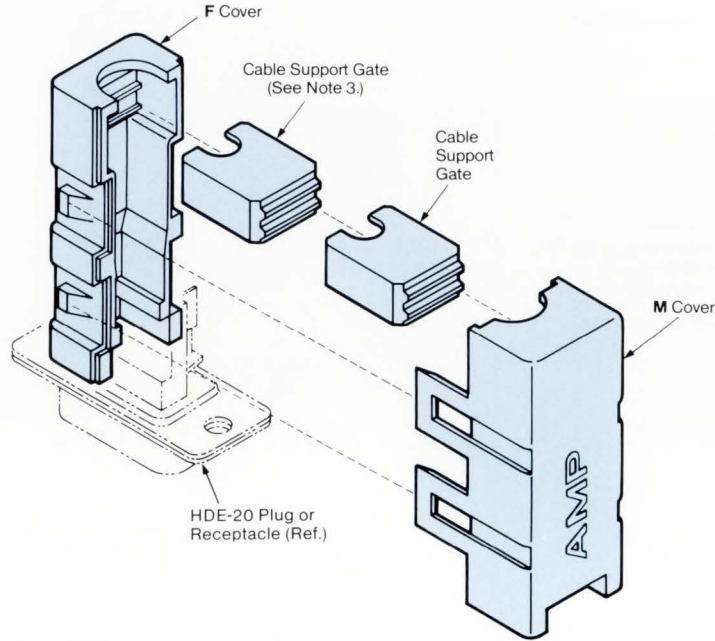
2. Each slide-on back cover kit includes two identical cover halves which snap together over the connector.

Accessories

Straight Exit Low Profile Cable Clamp Assemblies for Jacketed Cable (Two Piece)

Straight Exit Low Profile Cable Clamp Assemblies feature a two-piece construction which allows the two cover halves to be snapped together; no hardware is required for assembly. They can be used on HDE-20 metal-shell and all-plastic plugs or receptacles and will not interfere with commonly used mating hardware. Sufficient Cable Support Gates are supplied with each cable clamp assembly kit to achieve adjustable clamping over a wide range of jacketed cable diameters.

Material: Black Thermoplastic
Reference Information:
 Applicable Specifications—page 5
 Connectors used with:
 HDE-20 Metal-Shell—pages 48 & 49
 HDE-20 All-Plastic—pages 50 & 51
 Other Accessory Capabilities:
 Male Screw Retainers—page 86
 Female Screwlocks—page 87
 Locking Post Assemblies—page 88
 Slide Latch Assemblies—page 89
 Latching Blocks—pages 92 & 93



Shell Size (No. of Contact Pos.)	Dimensions			Cable Dia. (Max.)	Cable Clamp Assembly Kit No.	
	A	When used on Plug	When used on Receptacle		Individual	Bulk Packed*
1 (9)	.732 18.59	1.582 40.18	1.533 38.94	.330 8.38	745547-1	745547-2
2 (15)	1.056 26.82	1.582 40.18	1.533 38.94	.425 10.8	745553-1	745553-2
3 (25)	1.604 40.74	1.700 43.18	1.651 41.94	.550 13.97	745560-1	745560-2

*Each part is individually bulk packed for multiple kit orders.

- Notes:** 1. All parts are packaged unassembled.
 2. Each kit is comprised of two cover halves (F and M) and an assortment of cable support gates.
 3. Cable support gate must be used as shown for small diameter cable.

Dimensioning:
 All dimensions in inches and millimetres.
 Values in brackets are metric equivalents.
 Charts contain dimensions in inches over millimetres.

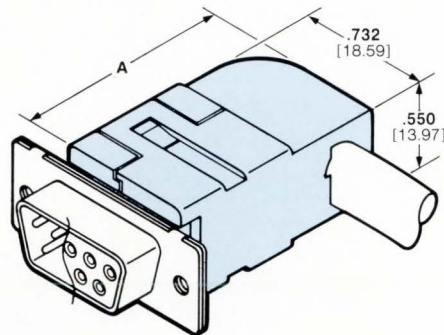
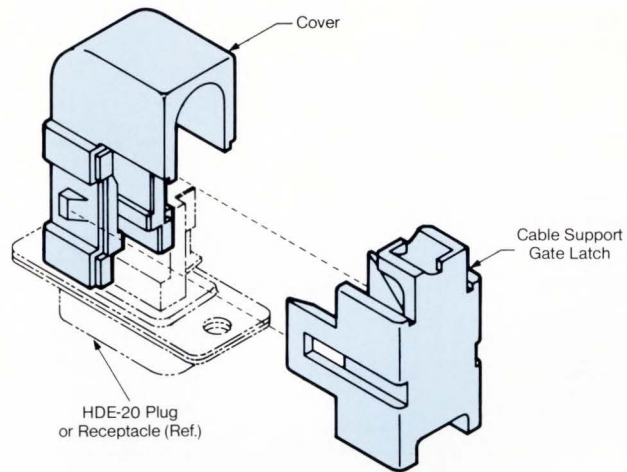
90° Exit Low Profile Cable Clamp Assemblies for Jacketed Cable (Two Piece)

The 90° Low Profile Cable Clamp Assembly features a two-piece construction and the same snap-together design as the straight exit version shown on page 76. It also can be used on an HDE-20 metal-shell or all-plastic plug or receptacle and will not interfere with commonly used mating hardware. The design of the Cable Support Gate Latch allows the latch to accommodate a specific range of jacketed cable diameters. Several sizes of latches are supplied with each cable clamp assembly kit to achieve adjustable clamping over a wide range of cable diameters.

Material: Black Thermoplastic

Reference Information:

- Applicable Specifications—page 5
- Connectors used with:
 - HDE-20 Metal-Shell—pages 48 & 49
 - HDE-20 All-Plastic—pages 50 & 51
- Other Accessory Capabilities:
 - Male Screw Retainers—page 86
 - Female Screwlocks—page 87
 - Locking Post Assemblies—page 88
 - Slide Latch Assemblies—page 89
 - Latching Blocks—pages 92 & 93



Shell Size (No. of Contact Pos.)	Dimension A		Cable Dia. (Max.)	Cable Clamp Assembly Kit No.	
	When used on Plug	When used on Receptacle		Individual	Bulk Packed*
1 (9)	1.290 32.77	1.241 31.52	.330 8.38	745550-1	745550-2

*Each part is individually bulk packed for multiple kit orders.

- Notes:**
1. All parts are packaged unassembled.
 2. Each kit is comprised of a cover half and an assortment of cable support gate latches.

Accessories

Straight/90° Exit Cable Clamp Assemblies (Two Piece)

Material and Finish:

Cable Clamp Housing—Gray Thermoplastic

Saddle Washers & 4-40 Mounting Screws—Zinc Plated Steel

4-40 Housing Screws & Hex Nuts—Steel

Reference Information:

Applicable Specifications—page 5

Connectors used with:

HDP-20 Metal-Shell—pages 6 & 7

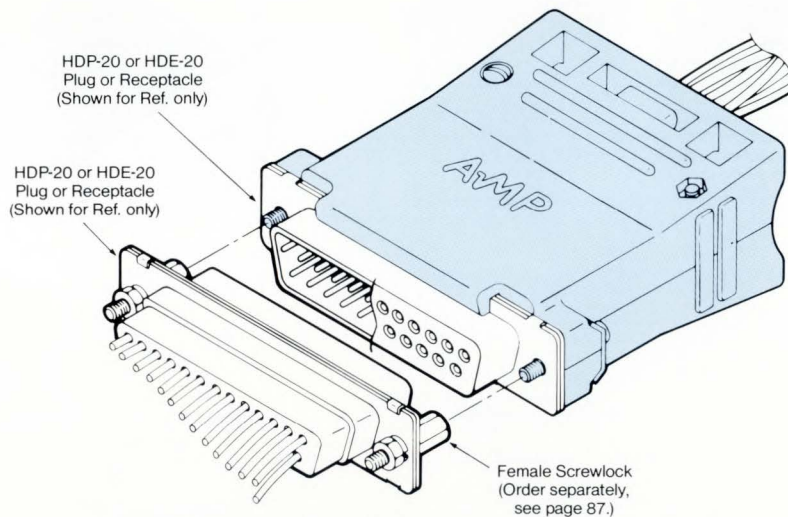
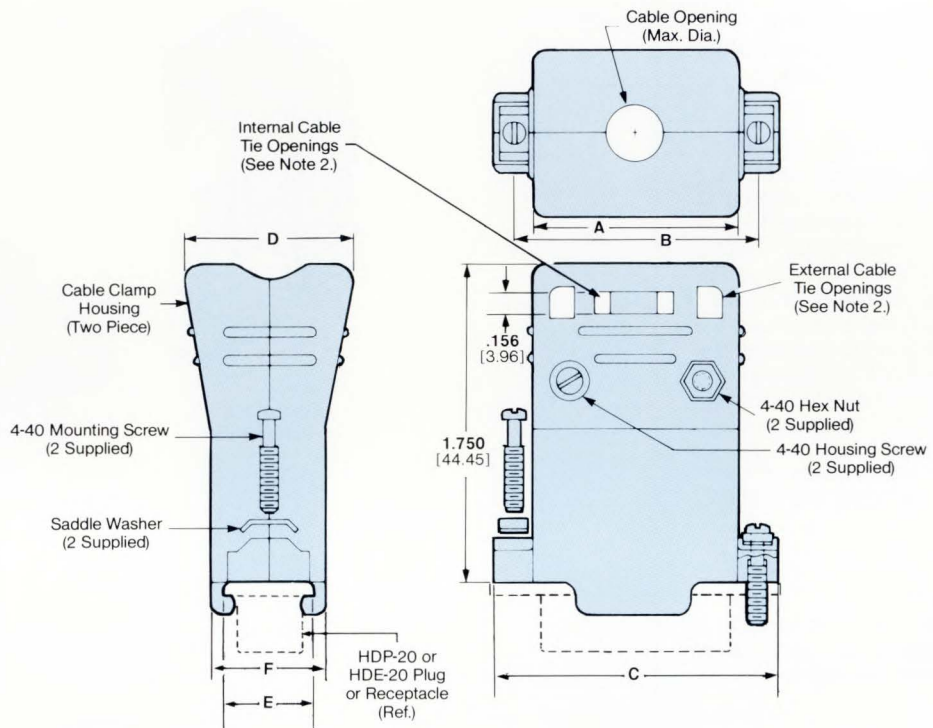
HDE-20 Metal-Shell—pages 48 & 49

HDE-20 All-Plastic—pages 50 & 51

Other Accessory Capabilities:

Slide-On Back Covers—page 75

Spring Latch (Two-Piece)—page 90



Typical Application of Two-Piece Straight/90° Exit Cable Clamp Assembly

Shell Size (No. of Contact Pos.)	Dimensions						Cable Dia. (Max.)	Cable Clamp Assembly Part No.	
	A	B	C	D	E	F		Individual	Bulk Packed*
2 (15)	1.115 28.32	1.312 33.32	1.550 39.37	.826 20.98	.500 12.7	.620 15.75	.350 8.89	206471-1	206471-2
3 (25)	1.655 42.04	1.852 47.04	2.090 53.09	.826 20.98	.500 12.7	.620 15.75	.335 8.51	206472-1	206472-2
4 (37)	2.302 58.47	2.500 63.5	2.738 69.55	.826 20.98	.500 12.7	.620 15.75	.460 11.68	745134-1	745134-2
5 (50)	2.208 56.08	2.406 61.11	2.644 67.16	.938 23.83	.612 15.54	.732 18.59	.675 17.15	745081-1	745081-2
							.775 19.69	745082-1	745082-2

*Each part is individually bulk packed for multiple assembly orders.

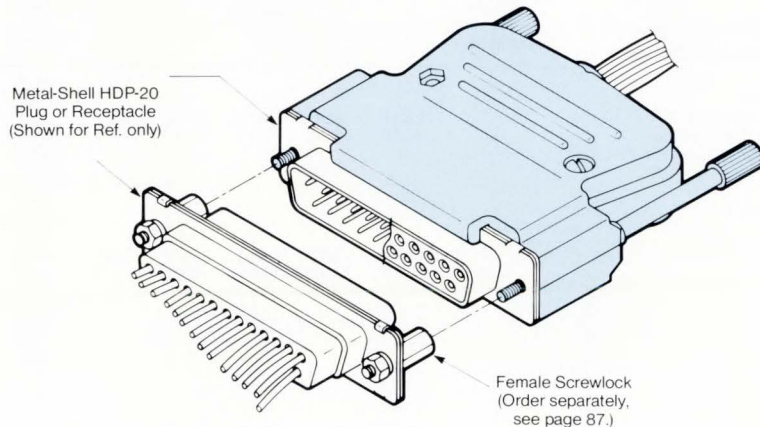
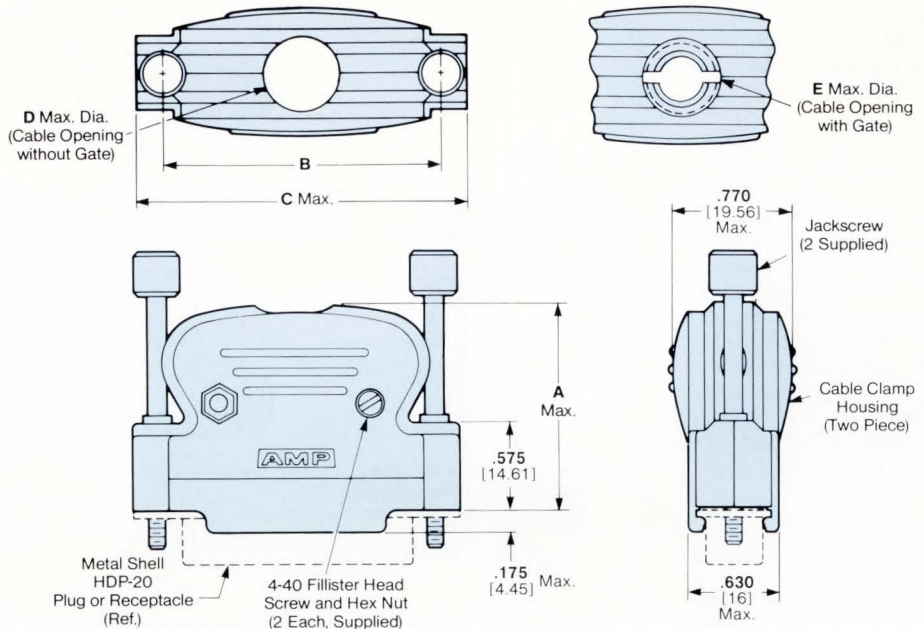
Notes: 1. All parts are packaged unassembled.

2. Straight or 90° cable exit is achieved by inserting AMP-TY Cable Ties through cable tie openings and clamping the cable to one housing half only.

Straight Exit Dataphone Cable Clamp Assembly (Two Piece)

Material and Finish:
Cable Clamp Housing—Black Thermo-plastic
4-40 Fillister Head Screws & Hex Nuts—Clear Zinc plated Steel
Jackscrews—Black Zinc plated Steel
Reference Information:
 Applicable Specifications—page 5
 Connectors used with (Metal-Shell):
 HDP-20—pages 6 & 7

Dimensioning:
 All dimensions in inches and millimetres. Values in brackets are metric equivalents. Charts contain dimensions in inches over millimetres.



Shell Size (No. of Contact Pos.)	Dimensions			D Max. Cable Dia. (without Gate)	E Max. Cable Dia. (with Gate)	Cable Gate Identification*	Thread Size	Cable Clamp Assembly Kit No.	
	A	B	C						
2 (15)	1.312 33.32	1.312 33.32	1.575 40	.400 10.16	.200 5.08	2A	M3 (Metric)	745122-1	
					.260 6.6	2B			
					.320 8.13	2C			
					.200 5.08	2A			4-40
					.260 6.6	2B			
					.320 8.13	2C			
3 (25)	1.421 36.09	1.852 47.04	2.115 53.72	.500 12.7	.250 6.35	3A	M3 (Metric)	745121-1	
					.340 8.64	3B			
					.420 10.67	3C			
					.250 6.35	3A			4-40
					.340 8.64	3B			
					.420 10.67	3C			

*Molded-in identification (as shown in chart above) is provided on cable support gates to facilitate proper selection with regards to shell size and maximum acceptable cable diameter.

- Notes:** 1. All parts are packaged unassembled.
 2. Cable diameter is adjustable by changing cable support gates.

Accessories

Straight Exit RFI/EMI SHIELDS for Jacketed Cable (Two Piece)

This RFI/EMI shield allows cable to be fully prepared and terminated to the connector before the shield is installed. During installation, the shield of the jacketed cable is folded back and compressed into the cable opening of the RFI/EMI shield. For greater cable support and/or shielding effectiveness, split-ring and crimp ferrules are available (pages 82 and 83).

Material and Finish:

Metal Shield—Zinc Alloy, plated Bright Nickel over Bright Copper

Metal Plated Plastic Shield—Thermoplastic; fully plated or selectively plated (inside only) Bright Nickel over Bright Copper

Fillister Head Screws—Stainless Steel

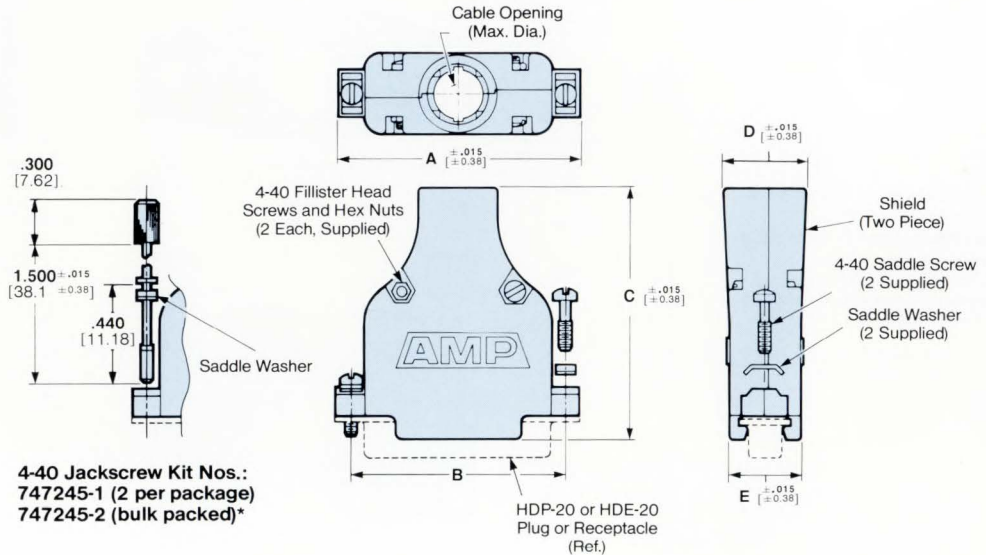
Saddle Washers, Screws & Hex Nuts—Zinc plated Steel

Reference Information:

Applicable Specifications—page 5
Connectors used with (Metal-Shell):
HDP-20 (Tin plated only)—pages 6 & 7
HDE-20 (Tin plated only)—pages 48 & 49

Other Accessory Capabilities:

Slide-On Back Covers—page 75
Spring Latch (Two-Piece)—page 90



4-40 Jackscrew Kit Nos.:
747245-1 (2 per package)
747245-2 (bulk packed)*

Shell Size (No. of Contact Pos.)	Dimensions					Cable Dia. (Max.)	Metal Shield Assembly Part No.	Metal-Plated Plastic Shield Assembly Part No.	
	A	B	C	D	E			Fully Plated	Selectively Plated
1 (9)	1.215	.984	1.910	.550	.620	.200 5.08	745171-2	745854-5	747264-5
	30.86	24.99	48.51	13.97	15.75	.250 6.35	745171-1	745854-3	747264-3
						.370 9.4	745171-5	745854-1	747264-1
						.225 5.72	745172-3	747099-7	747265-7
						.300 7.62	745172-2	747099-5	747265-5
						.375 9.53	745172-1	747099-3	747265-3
2 (15)	1.545	1.312	1.910	.620	.620	.430 10.92	1-745172-3	747099-1	747265-1
	39.24	33.32	48.51	15.75	15.75	.280 7.11	745173-5	745833-9	747266-9
						.350 8.89	745173-4	745833-7	747266-7
						.430 10.92	745173-3	745833-5	747266-5
						.480 12.19	745173-2	745833-3	747266-3
						.530 13.46	745173-1	745833-1	747266-1
3 (25)	2.090	1.852	1.920	.680	.620	.350 8.89	745174-5	747100-9	747267-9
	53.09	47.04	48.77	17.27	15.75	.425 10.8	745174-4	747100-7	747267-7
						.500 12.7	745174-3	747100-5	747267-5
						.575 14.61	745174-2	747100-3	747267-3
						.650 16.51	745174-1	747100-1	747267-1
						.375 9.53	745175-6	1-747098-1	1-747268-1
4 (37)	2.738	2.500	1.920	.800	.620	.450 11.43	745175-5	747098-9	747268-9
	69.55	63.5	48.77	20.32	15.75	.525 13.34	745175-4	747098-7	747268-7
						.600 15.24	745175-3	747098-5	747268-5
						.675 17.15	745175-2	747098-3	747268-3
						.750 19.05	745175-1	747098-1	747268-1

*Each part is individually bulk packed for multiple kit orders.

Notes: 1. All parts are packaged unassembled.

2. Jackscrews must be purchased separately.

3. Split-ring and crimp ferrules are shown on pages 82 and 83.

90° Exit RFI/EMI Metal Shields for Jacketed Cable (Two Piece)

This RFI/EMI shield allows cable to be fully prepared and terminated to the connector before the shield is installed. During installation, the shield of the jacketed cable is folded back and compressed into the cable opening of the RFI/EMI shield. For greater cable support and/or shielding effectiveness, split-ring and crimp ferrules are available (pages 82 and 83).

Material and Finish:

Metal Shield—Zinc Alloy, plated Bright Nickel over Bright Copper

Pan Head Screws & Slide Latch Screws—Zinc plated Steel

One-Piece Slide Latch—Zinc plated Steel

Reference Information:

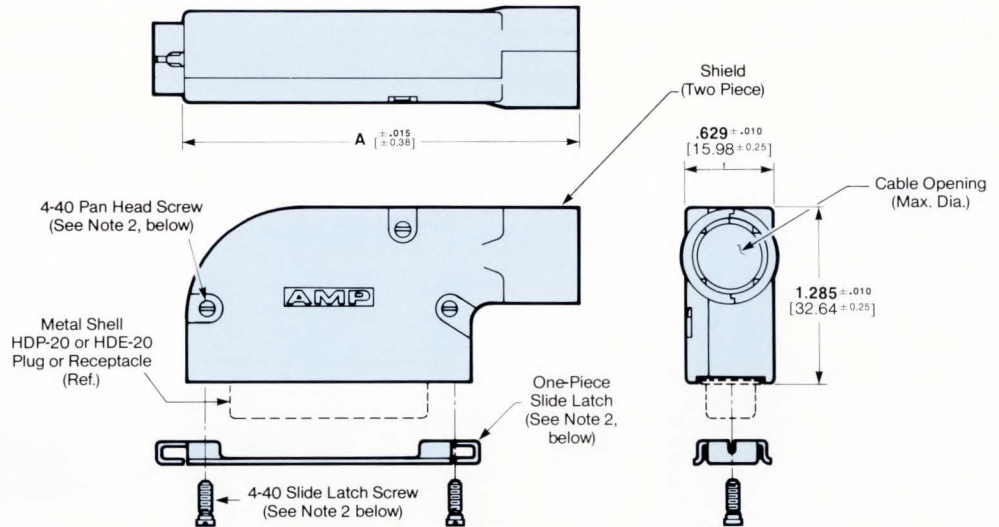
Applicable Specifications—page 5

Connectors used with (Metal-Shell):

HDP-20 (Tin plated only)—pages 6 & 7
HDE-20 (Tin plated only)—pages 48 & 49

Other Accessory Capabilities:

Slide-On Back Covers—page 75



Shell Size (No. of Contact Pos.)	Dimension A	Cable Dia. (Max.)	Shield Kit No.
2 (15)	2.310 58.67	.225 5.72	745652-4
		.300 7.62	745652-3
		.375 9.53	745652-2
		.430 10.92	745652-1
3 (25)	2.850 72.39	.280 7.11	745653-5
		.350 8.89	745653-4
		.430 10.92	745653-3
		.480 12.19	745653-2
		.530 13.46	745653-1

Notes: 1. All parts are packaged unassembled.

2. Each kit is comprised of a two-piece shield with three pan head screws and a slide latch with two 4-40 slide latch screws. Slide latch assemblies may be purchased separately in kit form, see page 89.

3. Split-ring and crimp ferrules are shown on pages 82 and 83.

Dimensioning:

All dimensions in inches and millimetres. Values in brackets are metric equivalents.

Charts contain dimensions in inches over millimetres.

Accessories

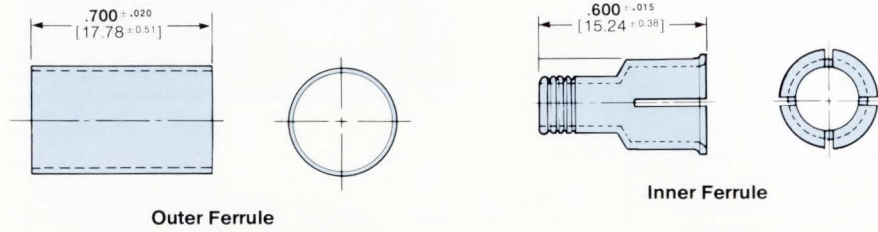
Crimp Ferrules (for Braided Cable Shield)

Material and Finish:

Outer Ferrule—Copper, plated .000100 [0.00254] min. Bright Tin

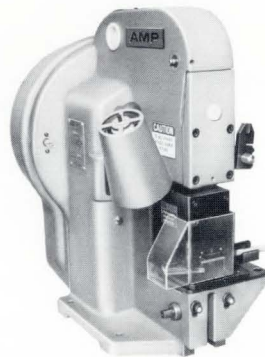
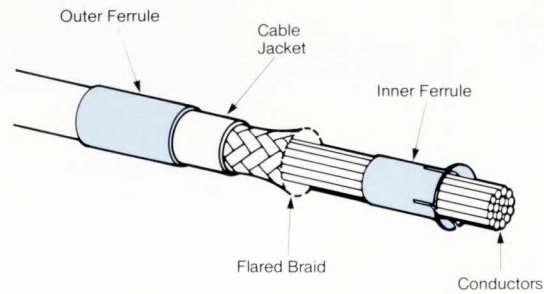
Inner Ferrule—Brass, .023 [0.58] thick; plated .000050 [0.00127] Bright Tin over .000030 [0.00076] Bright Nickel

Note: Crimp ferrules are for use with braided shields only.



Outer Ferrule

Inner Ferrule



AMP-O-LECTRIC Terminating Machine
No. 565435-5, with Applicator
No. 812407-1 and Die Set No. 813809-□
(See page 83 for dash nos.)

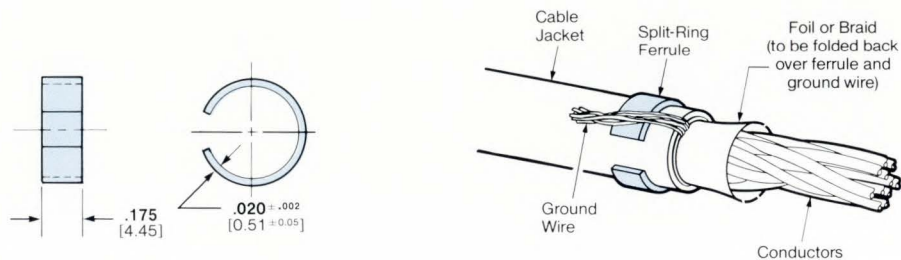


AMP Hand Tool No. 91239-□ (Dash nos. for the hand tool are the same as those listed in the chart (page 83) for the Hand Tool Die Sets.)

Split-Ring Ferrules (for Foil or Braided Cable Shield)

Material: Aluminum

Note: Split-ring ferrules cannot be used with outer and inner ferrules. Split-ring ferrules are suitable for both foil and braided shields.



Accessories

Shielding Kit for AMP-LATCH HDF-20 Low Profile Connector (25 Position)

This shielding kit provides terminations for 25-conductor shielded/jacketed planar ribbon cable. Each kit includes a front and rear shield, two hermaphroditic strain relief covers and a 25-position (shell size 3) AMP-LATCH low profile metal-shell plug or receptacle.

A one-step TERMI-FOIL connector crimp is used for terminating all points around the cable shield. After termination, the strain relief cover halves are simply snapped into place. Refer to pages 60 and 61 for details on the termination tooling.

Material and Finish:

Front & Rear Shields—Aluminum Killed Steel, .012 [0.3] thick; plated .000200-.000400 [0.00508-0.01016] Bright Tin over .000050-.000200 [0.00127-.000508] Copper

Strain Relief Cover—Black Thermoplastic, 94V-0 Rated

Reference Information:

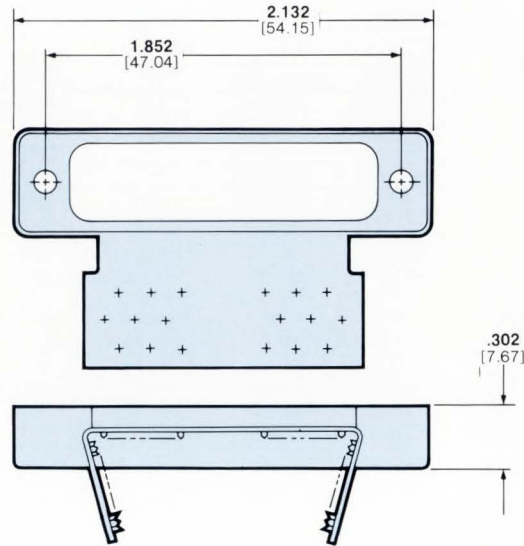
Applicable Specifications—page 5
Connectors used with (Metal-Shell):
HDF-20—pages 40 & 41
Application Tooling—pages 60 & 61

Shielding Kit No.	
with HDF-20 Plug	with HDF-20 Receptacle
746677-2*	746678-2*

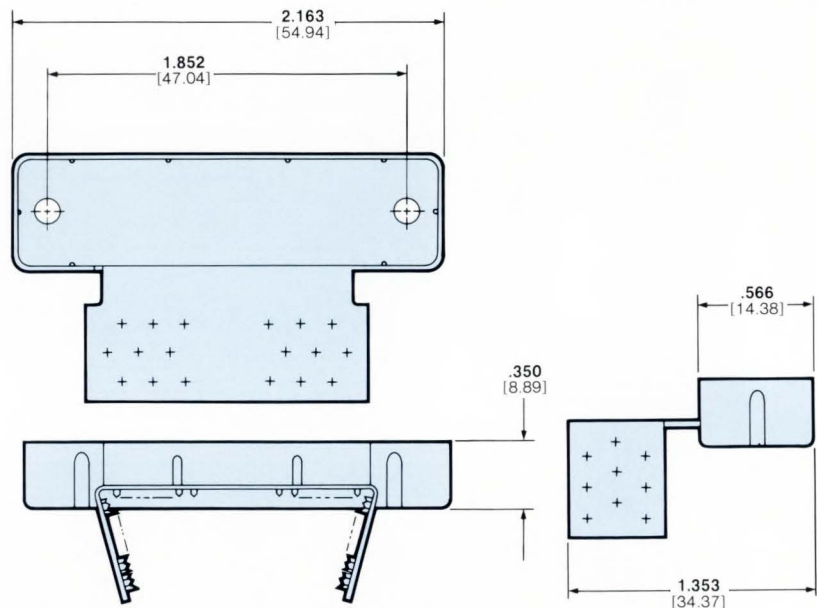
*Each part is individually bulk packed for multiple kit orders.

- Notes:**
- Specifications on HDF-20 plug and receptacle supplied with shielding kits are presented on pages 40 and 41.
 - Other shielding kit sizes can be made available, consult AMP Incorporated.

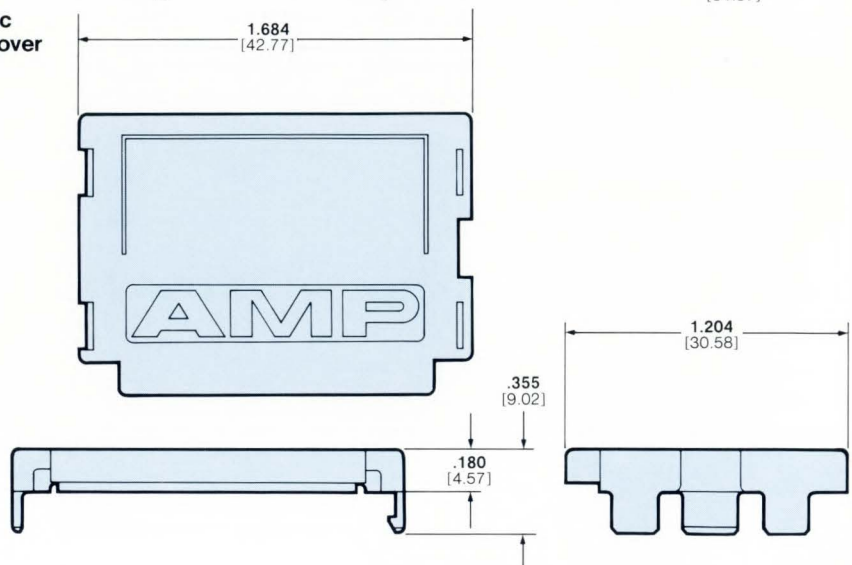
Front Shield



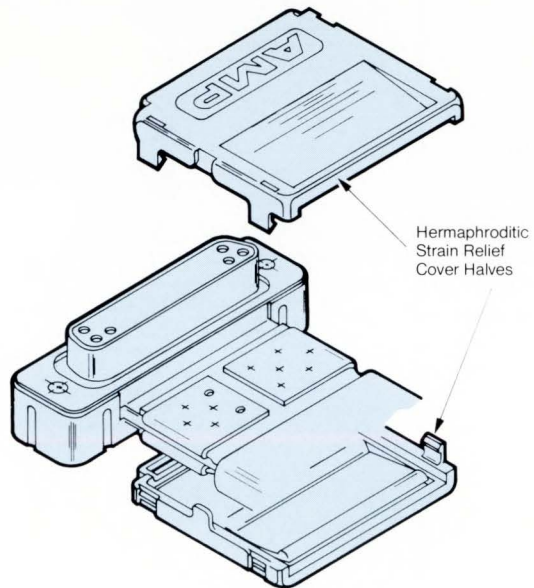
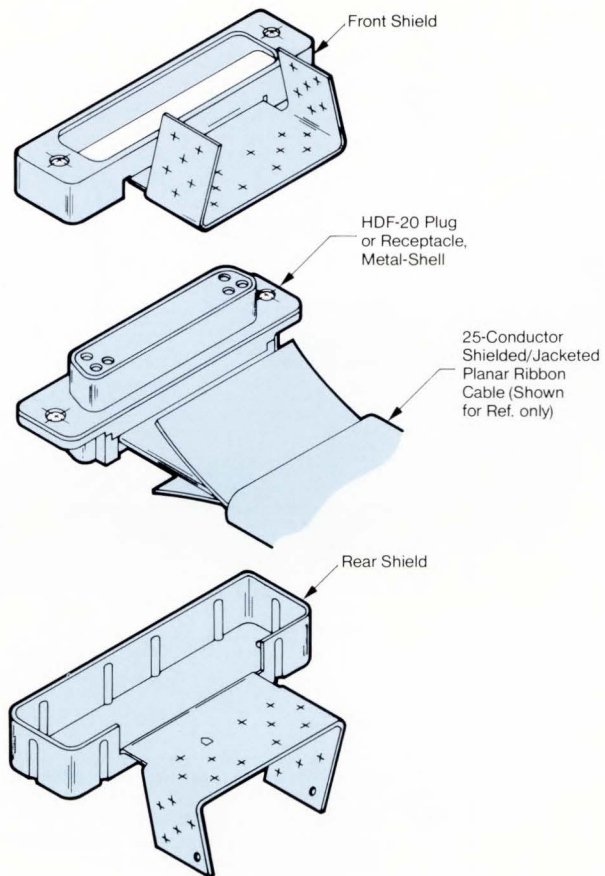
Rear Shield



Hermaphroditic Strain Relief Cover



Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.



Note: Shields and covers are supplied unassembled.

Accessories

Male Screw Retainers for Metal-Shell Connectors (HDP-20, HDE-20)

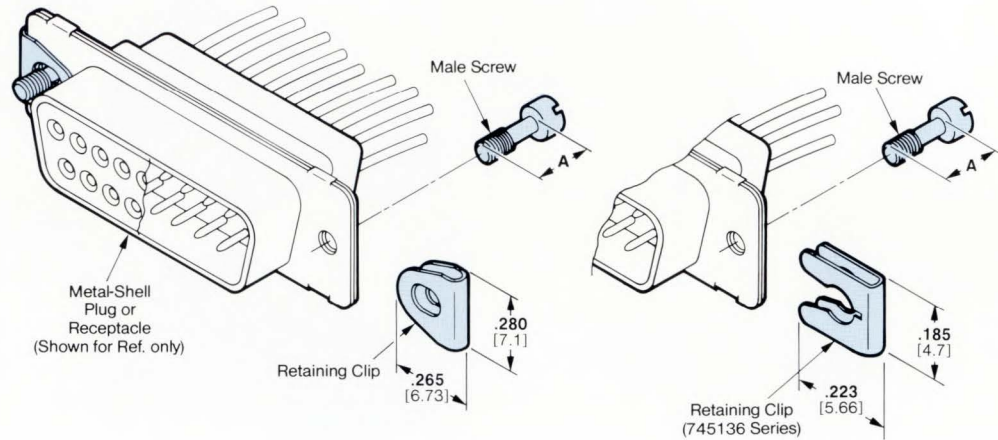
Material and Finish:

Male Screw—Steel; Zinc plated (Clear or Yellow Chromate)

Retaining Clip—Steel, .012 [0.3] thick; Aluminum coated or Stainless Steel**

Reference Information:

Applicable Specifications—page 5
Connectors used with (Metal-Shell):
HDP-20—pages 6, 7 & 52
HDE-20—pages 48, 49 & 54



Male Screw Finish	Thread Size	Dimension A	Male Screw Retainer Kit No.	
			Individual	Bulk Packed*
Yellow Chromate	4-40	.250 6.35	205980-1	205980-3
		.200 5.08	745136-1**	745136-2**
	M3 (Metric)	.250 6.35	207871-1	207871-2
		.250 6.35	205980-4	205980-5
Clear Chromate	4-40	.200 5.08	745136-3**	745136-4**

*Each part is individually bulk packed for multiple kit orders.

**Retaining clips are stainless steel for Male Screw Retainer Series 745136.

Notes: 1. All parts are packaged unassembled.

- Each kit is comprised of two male screws and two retaining clips. Male screw retainers are also furnished as part of cable clamp assembly kits (pages 71 and 73).
- Male screw retainers mate with female screwlocks (page 87) and with HDP-20 metal-shell connectors featuring 4-40 threaded inserts or female screwlocks (pages 12 thru 24).
- Retaining clips must be assembled onto connector flanges with threaded hole toward wire side of connector.

Male Screw Retainers for All-Plastic Connectors (HDE-20)

Material and Finish:

Male Screw—Steel; Zinc plated (Yellow Chromate)

Retaining Clip—Steel, .012 [0.3] thick; Aluminum coated

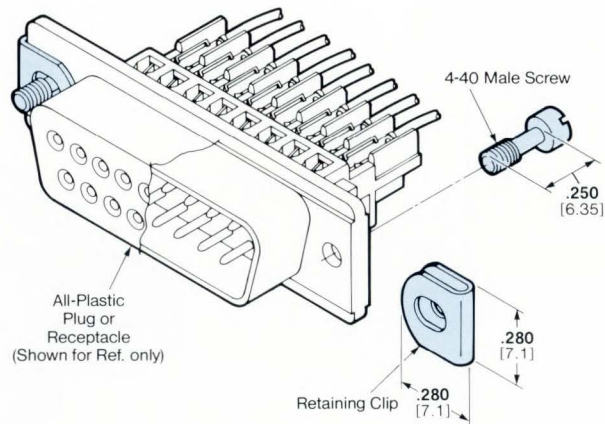
Kit Nos.:

745647-1 (two assemblies per package)
745647-2 (bulk packed)*

*Each part is individually bulk packed for multiple kit orders.

Reference Information:

Applicable Specifications—page 5
Connectors used with (All-Plastic):
HDE-20—pages 50 & 51



Notes: 1. All parts are packaged unassembled.

- Each kit is comprised of two 4-40 male screws, and two retaining clips.
- Male screw retainers mate with female screwlocks (page 87) and with HDP-20 all-plastic connectors featuring integral standoffs with 4-40 threaded inserts and with female screwlocks (pages 25 thru 39).
- Retaining clips must be assembled onto connector flanges with threaded hole toward wire side of connector.

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

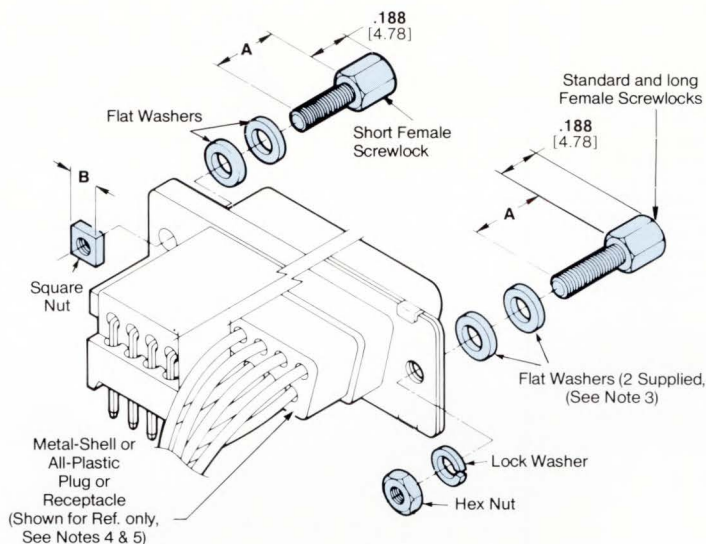
Female Screwlocks for Metal-Shell and All-Plastic Connectors (HDP-20, HDF-20)

Material and Finish:
All Parts—Cold Rolled Steel; Zinc plated (Clear or Yellow Chromate)

Reference Information:
Applicable Specifications—page 5
Connectors used with:
HDP-20 Metal-Shell—pages 6 thru 24 & 52
HDP-20 All-Plastic—pages 25 thru 39
HDF-20 Metal-Shell—pages 40, 41 & 53
HDF-20 All-Plastic—pages 42 & 43



Nut Driver, Part No. 811262-1
(Used for assembling female screwlocks to connector flange)



Dimensions		Thread Size	Finish	Short Female Screwlock	Kit No.			
A	B				Standard Female Screwlock Individual	Bulk Packed*	Long Female Screwlock Individual	Bulk Packed*
.250 6.35	.250 6.35	4-40	Yellow Chromate	207952-1	—	—	—	—
			Clear Chromate	207952-3	—	—	—	—
	.350 8.89	4-40	Yellow Chromate	207952-2	—	—	—	—
			Clear Chromate	207952-4	—	—	—	—
.312 7.92	—	4-40	Yellow Chromate	—	205817-1	205817-2	—	—
			Clear Chromate	—	205817-3	205817-4	—	—
	—	M3 (Metric)	Yellow Chromate	—	207872-1	207872-2	—	—
			Clear Chromate	—	207872-3	207872-4	—	—
.560 14.22	—	4-40	Yellow Chromate	—	—	—	207719-1	207719-2
			Clear Chromate	—	—	—	207719-3	207719-4
	—	2-56 (See Note 7.)	Yellow Chromate	—	—	—	747223-1	747223-2
			Clear Chromate	—	—	—	747223-3	747223-4

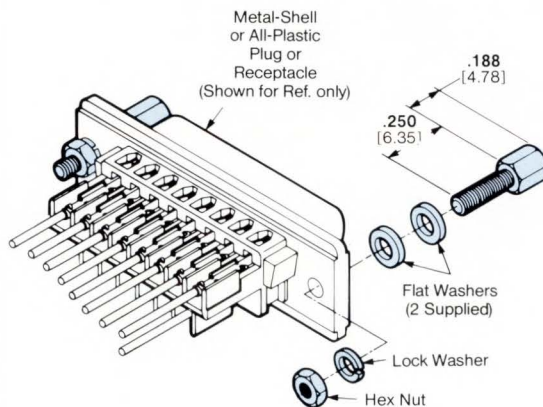
*Each part is individually bulk packed for multiple kit orders.

- Notes:**
1. All parts are packaged unassembled.
 2. Each female screwlock kit is comprised of two assemblies, as illustrated above.
 3. One or two flat washers may be required for panel thicknesses less than .060 [1.52]. Female screwlocks are not recommended for panel thicknesses greater than .060 [1.52].
 4. Standard female screwlocks can be used on any HDP-20 or HDF-20 metal-shell or all-plastic plug or receptacle.
 5. Short female screwlocks should be used on HDP-20 all-plastic right-angle plugs and receptacles; **Part Nos. 207952-1 and 207952-3** for shell sizes 1 thru 4 and **Part Nos. 207952-2 and 207952-4** for shell size 5.
 6. Long female screwlocks can be used on any HDP-20 all-plastic plug or receptacle with integral standoffs.
 7. 2-56 is the male thread size. The female thread size is 4-40.
 8. Female screwlocks with 2-56 thread size are to be used with cable clamp assemblies with mounting flanges. Female screwlocks with 4-40 and M3 (metric) thread sizes can be used with all other cable clamp assemblies.
 9. Female screwlocks mate with male screw retainers (page 86).

Female Screwlocks for Metal-Shell and All-Plastic Connectors (HDE-20)

Material and Finish:
All Parts—Cold Rolled Steel; Zinc plated (Clear or Yellow Chromate)

Reference Information:
Applicable Specifications—page 5
Connectors used with:
HDE-20 Metal-Shell—pages 48, 49 & 54
HDE-20 All-Plastic—pages 50 & 51



Finish	Female Screwlock Kit No.	
	Individual	Bulk Packed*
Yellow Chromate	745563-1	745563-2
Clear Chromate	745563-3	745563-4

*Each part is individually bulk packed for multiple kit orders.

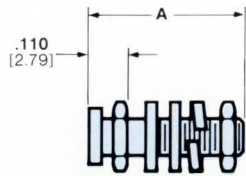
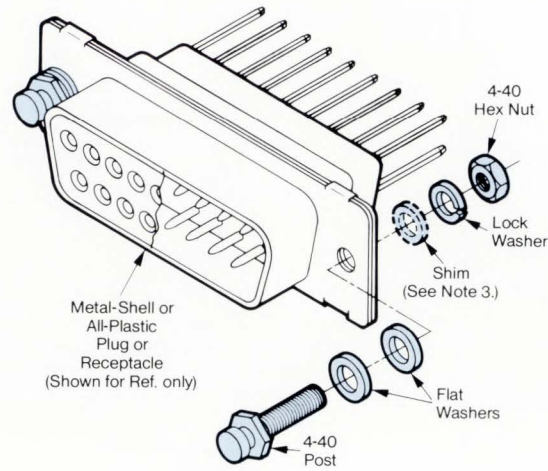
- Notes:**
1. All parts are packaged unassembled.
 2. Each kit is comprised of two complete female screwlock assemblies, as illustrated above.
 3. Female screwlocks mate with male screw retainers (page 86).

Accessories

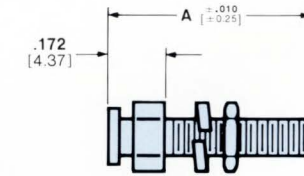
Locking Post Assemblies

Material and Finish:
All Parts—Cold Rolled Steel; Zinc plated
 (Clear or Yellow Chromate)

Reference Information:
 Applicable Specifications—page 5
 Connectors used with:
 HDP-20 Metal-Shell—pages 6 thru 24
 HDP-20 All-Plastic—pages 25 thru 39
 HDF-20 Metal-Shell—pages 40 & 41
 HDF-20 All-Plastic—pages 42 & 43
 HDE-20 Metal-Shell—pages 48 & 49
 HDE-20 All-Plastic—pages 50 & 51



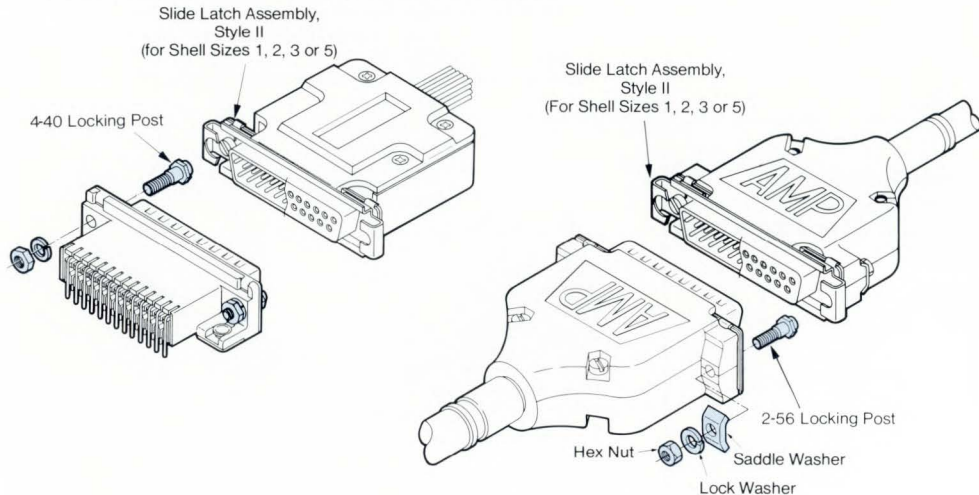
4-40 Locking Post Assembly



2-56 Locking Post Assembly

Thread Size	Locking Post Finish	Dimension A	Locking Post Assembly Kit No. (See Note 4.)	
			Individual	Bulk Packed*
4-40	Yellow Chromate	.416 10.57	206514-1	206514-3
		.560 14.22	206514-6	206514-7
2-56	Yellow Chromate	.615 15.62	747242-1	747242-2
	Clear Chromate		747242-3	747242-4

- Notes:**
1. All parts are packaged unassembled.
 2. Each kit is comprised of two complete assemblies, as illustrated above.
 3. For front panel mounting, it is recommended that a shim be used between the connector flange and panel to prevent bowing of the flange.
 4. Locking post assemblies with 2-56 thread size are to be used with cable clamp assemblies with mounting flanges. Locking post assemblies with 4-40 thread size can be used with all other cable clamp assemblies.
 5. Locking post assemblies mate with slide latch assemblies (page 89).



Typical Applications of Locking Post and Slide Latch Assemblies

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

Slide Latch Assemblies

Material and Finish:

4-40 Screws, Washers & Hex Nuts—Steel; Zinc plated (Yellow Chromate)

2-56 Screws, Washers & Hex Nuts—Steel; Zinc plated (Clear Chromate)

Slide Latch—Stainless Steel

Reference Information:

Applicable Specifications—page 5

Connectors used with:

HDP-20 Metal-Shell—pages 6 thru 24

HDP-20 All-Plastic—pages 25 thru 39

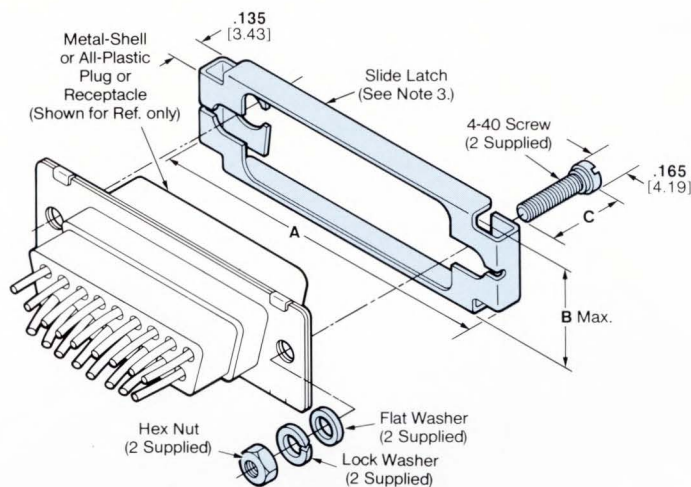
HDF-20 Metal-Shell—pages 40 & 41

HDF-20 All-Plastic—pages 42 & 43

HDE-20 Metal-Shell—pages 48 & 49

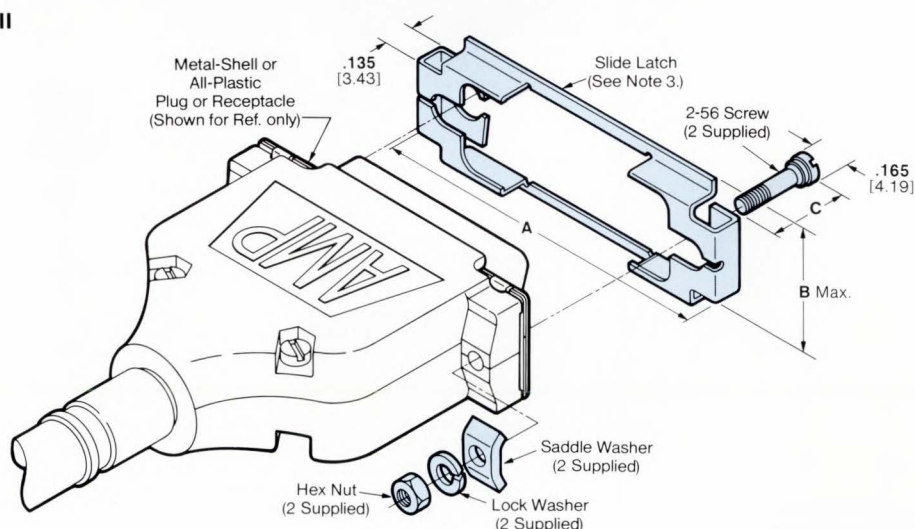
HDE-20 All-Plastic—pages 50 & 51

Style I



For Shell Sizes 1 thru 5

Style II



For Shell Sizes 1, 2, 3 and 5

Shell Size (No. of Contact Pos.)	Dimensions		Mounting Screw (See Note 4.)		Slide Latch Assembly Kit No.	
	A	B	Thread Size	C Dim.	Individual	Bulk Packed*
1 (9)	1.397 35.48	.490 12.45	4-40	.415 10.54	745404-1	745404-2
		.630 16	2-56	.542 13.77	745582-1	745582-2
2 (15)	1.725 43.82	.490 12.45	4-40	.415 10.54	747475-1	747475-2
		.630 16	2-56	.542 13.77	745583-1	745583-2
3 (25)	2.265 57.53	.490 12.45	4-40	.415 10.54	747476-1	747476-2
		.630 16	2-56	.542 13.77	745584-1	745584-2
4 (37)	2.913 73.99	.490 12.45	4-40	.415 10.54	745407-1	745407-2
		.596 15.14	4-40	.415 10.54	745408-1	745408-2
5 (50)	2.819 71.6	.730 18.54	2-56	.542 13.77	745578-1	745578-2

*Each part is individually bulk packed for multiple kit orders.

Notes: 1. All parts are packaged unassembled.

2. Each kit is comprised of a slide latch and two screws, flat washers or saddle washers (as illustrated), lock washers and hex nuts. Slide latches with 4-40 screws are also furnished as part of cable clamp assembly kits (page 81).

3. Style I slide latch assemblies cannot be used with cable clamp bodies that extend beyond the front flange of the connector. However, Style II slide latch assemblies will accommodate these cable clamp bodies.

4. Slide latch assemblies with 2-56 screws are to be used with cable clamp assemblies with mounting flanges. Slide latch assemblies with 4-40 screws can be used with all other cable clamp assemblies.

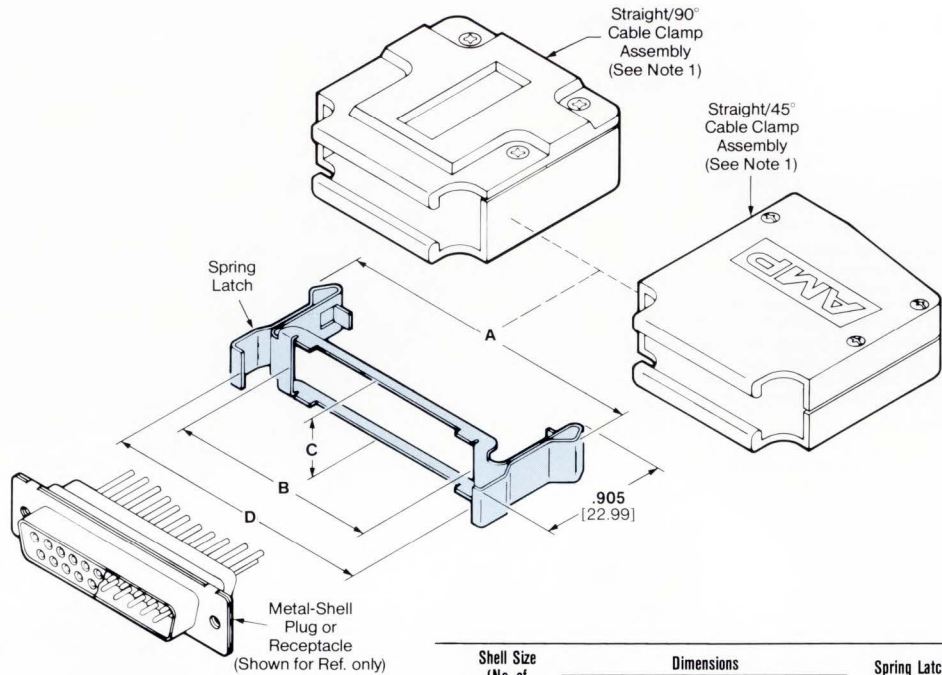
5. Slide latch assemblies mate with locking post assemblies (page 88).

Accessories

Spring Latches (One-Piece)

Material: Stainless Steel, .015 [0.38] Thick

Reference Information:
Applicable Specifications—page 5
Connectors used with (Metal-Shell):
HDP-20—pages 6 & 7



Shell Size (No. of Contact Pos.)	Dimensions				Spring Latch Part No.
	A	B	C	D	
1 (9)	1.475 37.47	.775 19.68	.470 11.94	1.215 30.86	745011-1
2 (15)	1.835 46.61	1.100 27.94	.470 11.94	1.540 39.1	745012-1
3 (25)	2.340 59.44	1.640 41.66	.470 11.94	2.080 52.83	745013-1
4 (37)	2.990 75.95	2.290 58.17	.470 11.94	2.730 69.34	745014-1
5 (50)	2.895 73.53	2.195 55.75	.585 14.86	2.635 66.93	745015-1

- Notes:**
- One-piece spring latches are also furnished as part of cable clamp assembly kits (pages 71 and 73).
 - One-piece spring latches mate with latching blocks (pages 92 and 93).

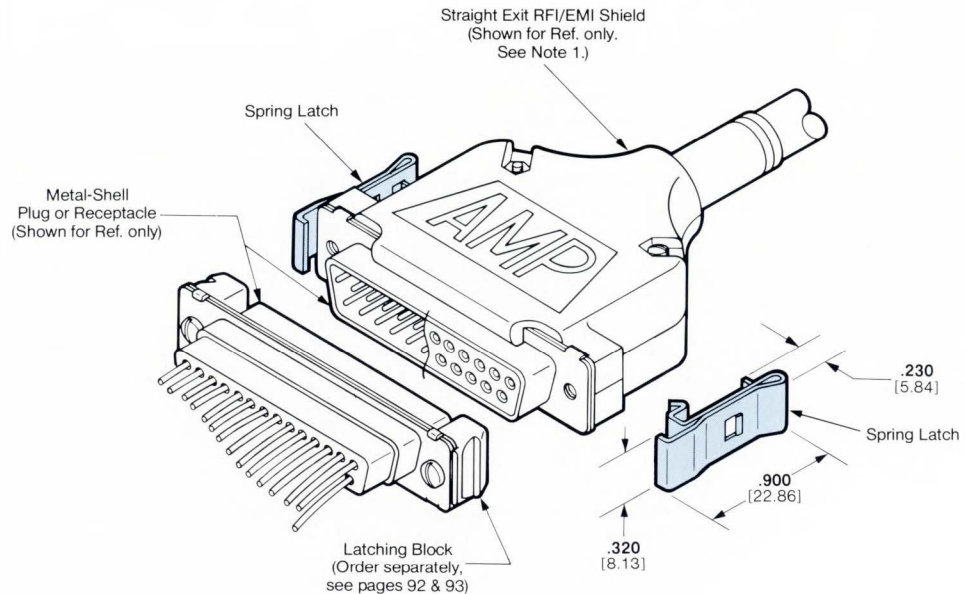
Spring Latches (Two Piece)

Material: Stainless Steel, .015 [0.38] Thick

Part Nos.:
745255-2 (two per package)
745255-3 (bulk packed)*

*Two-piece spring latches are individually bulk packed for multiple part orders.

Reference Information:
Applicable Specifications—page 5
Connectors used with (Metal-Shell):
HDP-20 (Tin Plated only)—pages 6 & 7
HDE-20 (Tin Plated only)—pages 48 & 49



Typical Application of Two-Piece Spring Latches with Straight Exit RFI/EMI Shield

- Notes:**
- Two-piece spring latches can be used with cable clamp assemblies (page 78) and RFI/EMI shields (page 80).
 - Two-piece spring latches mate with latching blocks (pages 92 and 93).

Dimensioning:
 All dimensions in inches and millimetres.
 Values in brackets are metric equivalents.
 Chart contains dimensions in inches over millimetres.

Spring Latches for Post Molded Strain Reliefs (Two Piece)

Material: Stainless Steel

Part Nos.:

745779-2 (two per package)

745779-3 (bulk packed)*

*Two-piece spring latches are individually bulk packed for multiple part orders.

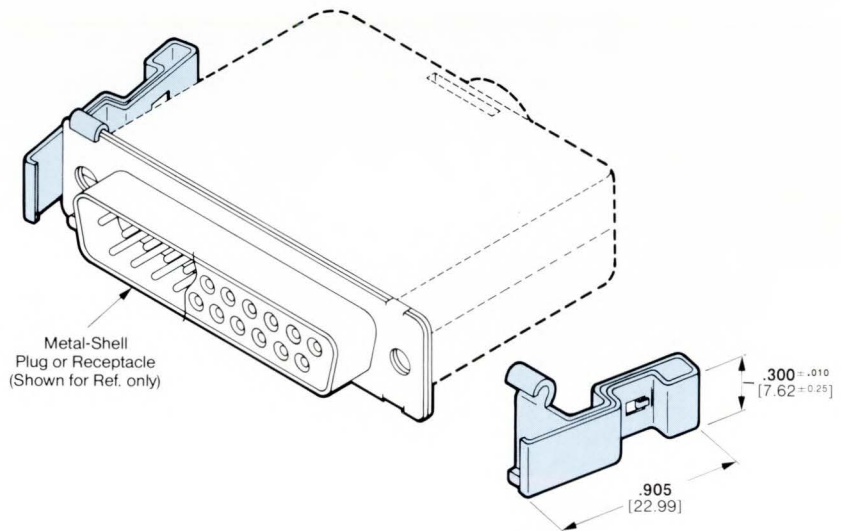
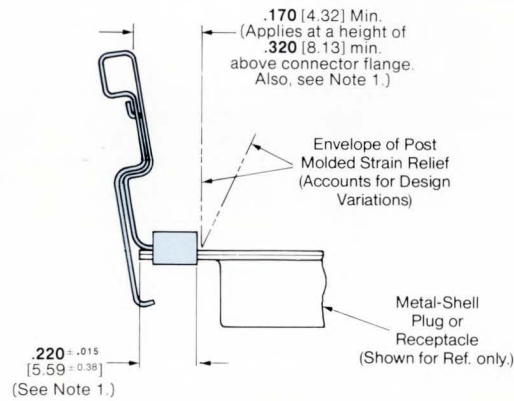
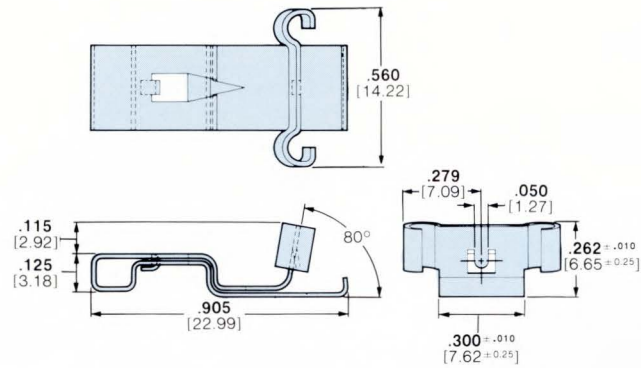
Reference Information:

Applicable Specifications—page 5

Connectors used with (Metal-Shell):

HDP-20—pages 6 & 7

HDE-20—pages 48 & 49



Typical Application of Two-Piece Spring Latches with Post Molded Strain Relief

Notes: 1. These dimensions must be maintained to assure satisfactory operation of the spring latches.
 2. Two-piece spring latches mate with latching blocks (pages 92 and 93).

Accessories

Latching Blocks with Threaded Hole

Material and Finish:
Latching Blocks—Zinc

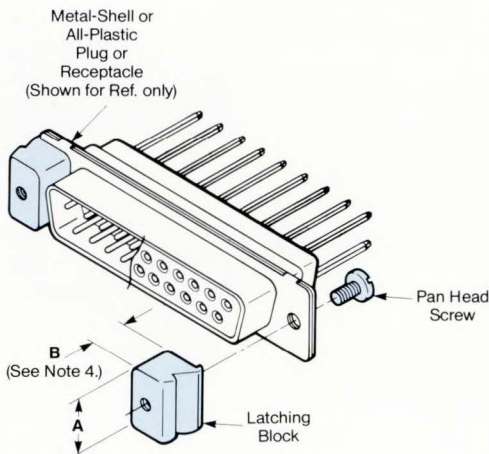
Pan Head Screws—Steel; Zinc plated
(Available for Front-Panel Latching Blocks only.)

Reference Information:

Applicable Specifications—page 5

Connectors used with:

- HDP-20 Metal-Shell—pages 6 thru 24
- HDP-20 All-Plastic—pages 25 thru 39
- HDF-20 Metal-Shell—pages 40 & 41
- HDF-20 All-Plastic—pages 42 & 43
- HDE-20 Metal-Shell—pages 48 & 49
- HDE-20 All-Plastic—pages 50 & 51
- Mating/Panel Mounting—page 66



Shell Size (No. of Contact Pos.)	Dimensions		Thread Size	Mounting Screw		Rear-Panel Latching Block Part No.		Front-Panel Latching Block Part No.		Front-Panel Latching Block Kit No.
	A	B		Length	Part No.	Individual	Bulk Packed*	Individual	Bulk Packed*	
1 thru 4 (9 thru 37)	.400 10.16	.190 4.83	M3 (Metric)	—	—	745403-1	745403-2	—	—	—
			4-40	—	—	745403-8	745403-9	—	—	—
		.220 5.59	4-40	—	—	747717-2	747717-3	—	—	—
			M3 (Metric)	6 mm	18019-1	—	—	208101-1	208101-2	745007-1
		.250 6.35	4.5 mm	3-18019-0	—	—	208101-1	208101-2	745007-3	
			4-40	.187 4.75	26853-4	—	—	208101-8	208101-9	745007-5
5 (50)	.530 13.46	.190 4.83	M3 (Metric)	—	—	745403-5	745403-6	—	—	—
			4-40	—	—	1-745403-1	1-745403-2	—	—	—
		.250 6.35	6 mm	18019-1	—	—	208101-5	208101-6	745007-2	
			4.5 mm	3-18019-0	—	—	208101-5	208101-6	745007-4	
		.187 4.75	26853-4	—	—	—	1-208101-1	1-208101-2	745007-6	
			4-40	—	—	—	—	—	—	—

*Bulk packed for multiple part orders.

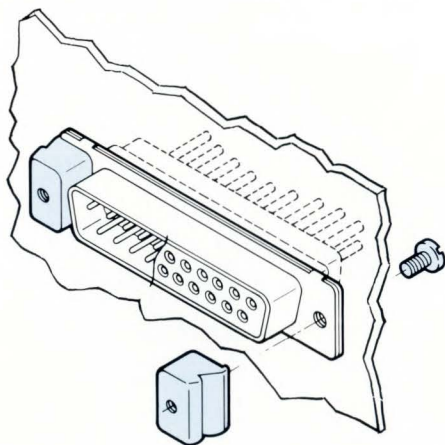
Notes: 1. All parts are packaged unassembled.

2. Individual latching blocks include two per package.

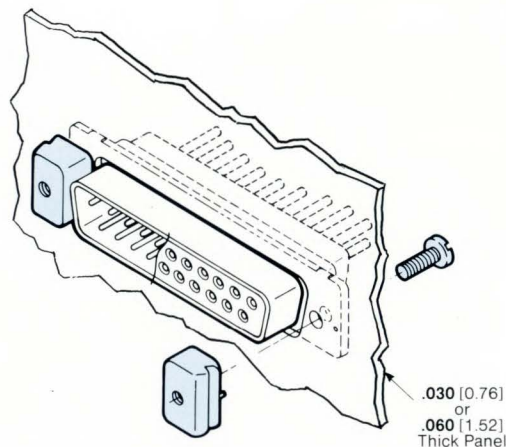
3. Each front-panel latching block kit is comprised of two latching blocks and two pan head screws of the appropriate length and thread size. Front-panel latching blocks are also furnished as part of cable clamp assembly kits (pages 71 and 73).

4. B dimension .250 [6.35] is for connector flange mounting, .220 [5.59] is for use with .030 [0.76] thick panels, and .190 [4.83] is for use with .060 [1.52] thick panels.

5. Latching blocks mate with spring latches (pages 90 and 91).



Typical Application of Front-Panel Mounted
AMPLIMITE Connector using Front-Panel Latching Blocks



Typical Application of Rear-Panel Mounted
AMPLIMITE Connector using Rear-Panel Latching Blocks

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.
Charts contain dimensions in inches over millimetres.

Latching Blocks with Slot Recess and Thru Hole

Material:—Zinc

Reference Information:

Applicable Specifications—page 5

Connectors used with:

HDP-20 Metal-Shell—pages 6 thru 24

HDP-20 All-Plastic—pages 25 thru 39

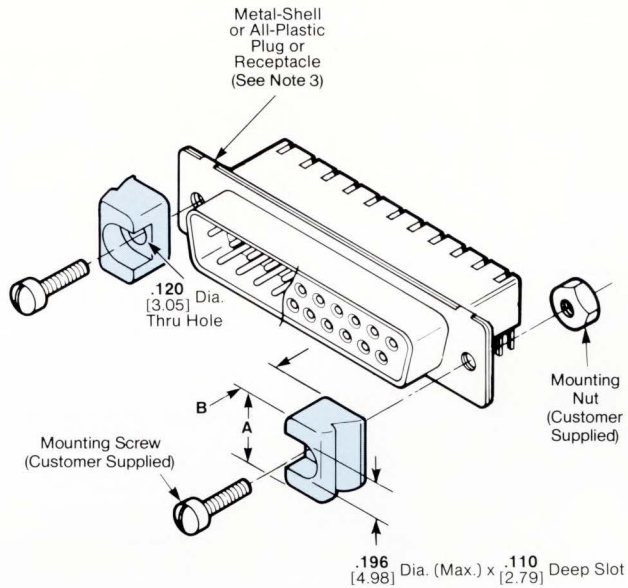
HDF-20 Metal-Shell—pages 40 & 41

HDF-20 All-Plastic—pages 42 & 43

HDE-20 Metal-Shell—pages 48 & 49

HDE-20 All-Plastic—pages 50 & 51

Mating/Panel Mounting—page 66



Shell Size (No. of Contact Pos.)	Dimensions		Panel Thickness	Rear-Panel Latching Block Part No.		Front-Panel Latching Block Part No.	
	A	B		Individual	Bulk Packed*	Individual	Bulk Packed*
1 thru 4 (9 thru 37)	.400 10.16	.160 4.06	.090 2.29	747080-1	747080-2	—	—
		.190 4.83	.060 1.52	745245-2	745245-3	—	—
		.250 6.35	—	—	—	745286-2	745286-3
5 (50)	.530 13.46	.190 4.83	.060 1.52	745245-5	745245-6	—	—
		.250 6.35	—	—	—	745286-5	745286-6

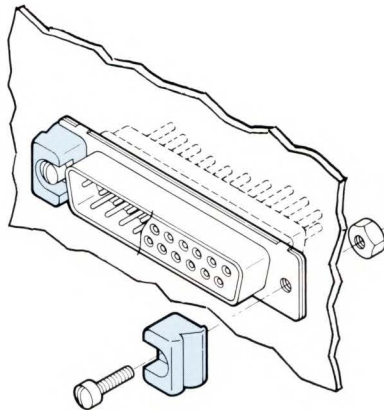
*Bulk packed for multiple part orders.

Notes: 1. Individual latching blocks include two per package

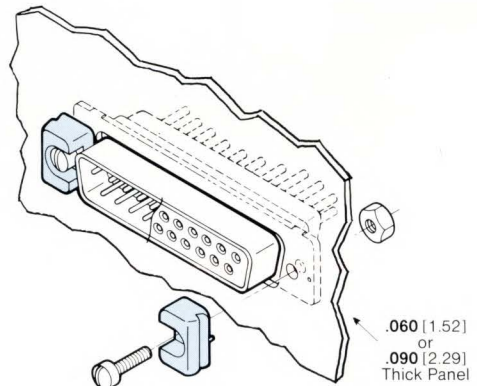
2. Mounting screws and nuts are to be supplied by Customer.

3. These latching blocks allow mounting screws to be installed thru the front of the block and to be screwed into the bracket of a right-angle connector, a fixed insert in a connector mounting flange, or a nut behind the connector mounting flange (as illustrated above).

4. Latching blocks mate with spring latches (pages 90 and 91).



**Typical Application of Front-Panel Mounted
AMPLIMITE Connector using Front-Panel Latching Blocks**



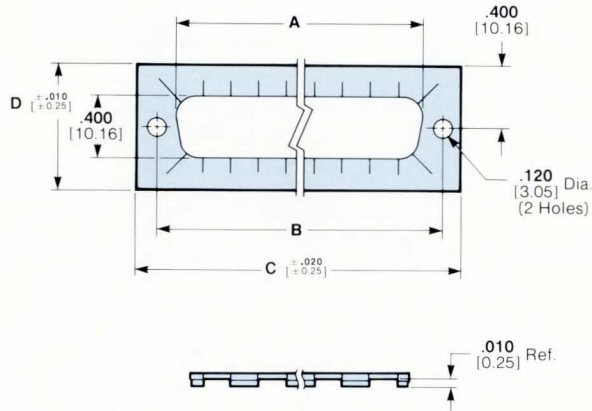
**Typical Application of Rear-Panel Mounted
AMPLIMITE Connector using Rear-Panel Latching Blocks**

Accessories

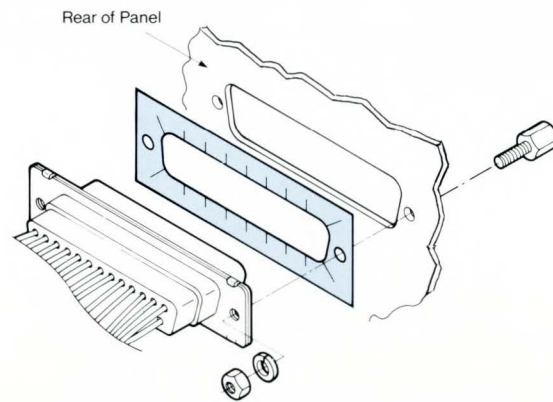
RFI Gaskets

Material and Finish:
Brass, .006 [0.15] Thick; Bright Tin plated

Reference Information:
Applicable Specifications—page 5
Connectors used with (Metal-Shell):
HDP-20 (Tin Plated only)—pages 6
thru 24
HDF-20 (Tin Plated only)—pages 40
& 41
HDE-20 (Tin Plated only)—pages 48
& 49



Shell Size (No. of Contact Pos.)	Dimensions				RFI Gasket Part No.
	A	B	C	D	
1 (9)	.746 18.95	.984 24.99	1.220 30.99	.800 20.32	747024-3
2 (15)	1.074 27.28	1.312 33.32	1.550 39.37	.800 20.32	747025-3
3 (25)	1.614 41	1.852 47.04	2.100 53.34	.800 20.32	745776-3
4 (37)	2.266 57.56	2.500 63.5	2.730 69.34	.800 20.32	745777-3
5 (50)	2.158 54.81	2.406 61.11	2.640 67.06	.900 22.86	747412-3



**Typical Application of Rear-Panel Mounted
AMPLIMITE Connector using RFI Gasket**

Standoff Bushings

Material and Finish:

Aluminum; Zinc plated (Clear)

Kit Part Nos.:

205933-2 (one bushing per package)

205933-3 (two bushings per package)

205933-4 (bulk packed)*

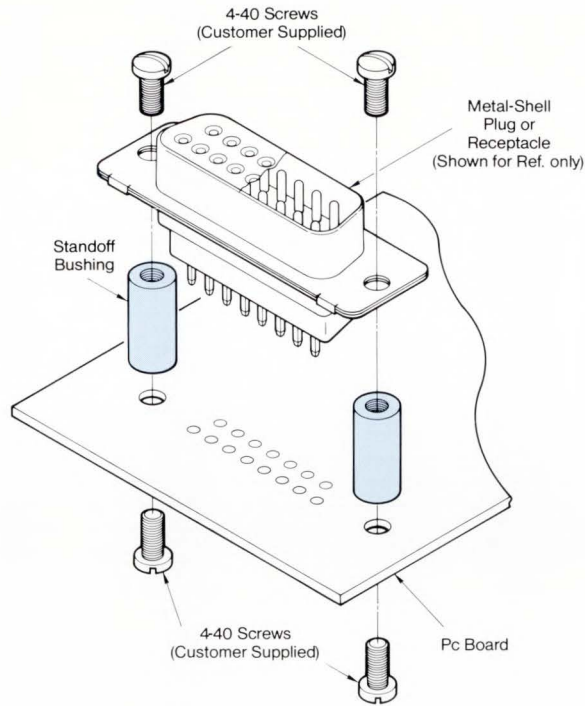
*Parts are individually bulk packed for multiple part orders.

Reference Information:

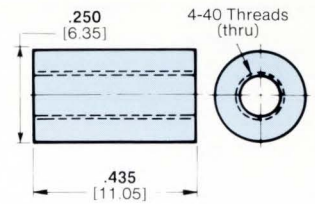
Applicable Specifications—page 5

Connectors used with (Metal-Shell):

HDP-20 (Straight Posted Contacts only)—pages 8 thru 11



Dimensioning:
All dimensions in inches and millimetres. Values in brackets are metric equivalents. Chart contains dimensions in inches over millimetres.



Commoning Strip (for Size 20 Pin Contacts)

Material and Finish:

Brass .004 [0.1] Thick; Tin plated

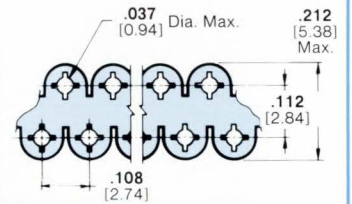
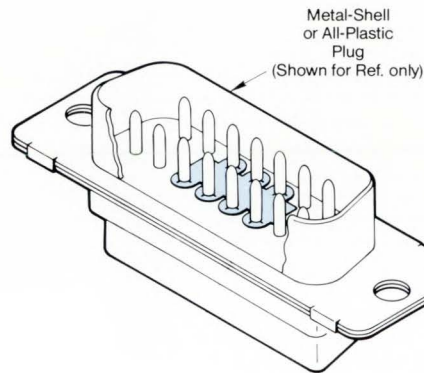
Part No. 206918-2 (continuous strip)

Reference Information:

Applicable Specifications—page 5

Connectors used with:

All HDP-20, HDF-20, HDE-20 and HDJ-20 Plugs with Pin Contacts



Note: Use punching tool to remove undesired pin commoning locations on commoning strip. Use mating receptacle to seat strip over pins in plug. Punching tool is not supplied by AMP.

Keying Plug (for Size 20 Socket Contacts)

Material: Natural Nylon

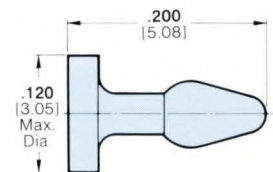
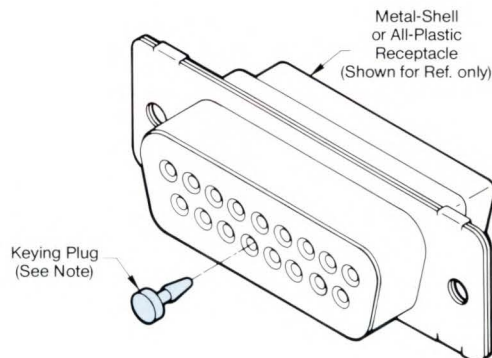
Part No. 206509-1

Reference Information:

Applicable Specifications—page 5

Connectors used with:

All HDP-20, HDF-20, HDE-20 and HDJ-20 Receptacles with Socket Contacts



Note: Keying plug is installed taper-end first into front of receptacle.

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66682	55	206978	19	745011	90	745175	80
66683	55	207089	31	745012	90	745182	9
205089	58	207090	33	745013	90	745183	11
205090	58	207300	18	745014	90	745184	9
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205202	55	207325	31	745016	31	745186	9
205203	7	207327	33	745017	33	745187	11
205204	6	207329	31	745031	39	745188	9
205205	7	207345	72	745032	44	745189	11
205206	6	207436	7	745033	19	745190	9
205207	7	207464	6	745041	31	745191	11
205208	6	207467	72	745042	31	745201	51
205209	7	207470	72	745044	31	745203	50
205210	6	207473	72	745045	31	745205	51
205211	7	207476	72	745046	33	745207	50
205212	6	207663	31	745047	33	745209	51
205310	55	207665	33	745049	33	745211	50
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205434	6	207669	33	745051	35	745215	50
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205442	7	207830	37	745060	37	745257	19
205443	7	207841	37	745061	31	745258	19
205713	11	207871	86	745062	31	745266	57
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205730	70	207908	73	745066	33	745271	25
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205733	9	208003	31	745069	33	745311	74
205734	11	208004	33	745070	33	745328	45
205735	9	208005	31	745071	35	745329	44
205736	11	208006	35	745072	35	745330	27
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205738	11	208008	35	745074	35	745336	39
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205858	19	208067	31	745080	37	745353	18
205859	18	208068	33	745081	78	745354	18
205860	19	208069	39	745082	78	745355	18
205865	18	208079	37	745085	27	745379	39
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745495	49	745781	23	747118	68	747731	26
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745503	45	745811	56	747122	67	756077	37
745508	83	745820	11	747123	67		
745511	39	745828	26	747140	24		
745513	39	745833	80	747141	24		

Technical Documents

The following is a list of technical documents covering the application, performance and maintenance of AMPLIMITE Subminiature D, HD-20 connectors and related tooling.

Product Specifications

- 108-40005 Connector, AMPLIMITE HDP-20
- 108-40012 Connector, AMP-LATCH HDF-20 (Low Profile)
- 108-40011 Connector, AMPLIMITE HDE-20
- 108-40014 Connector, AMPLIMITE, ACTION PIN Contact

Application Specifications

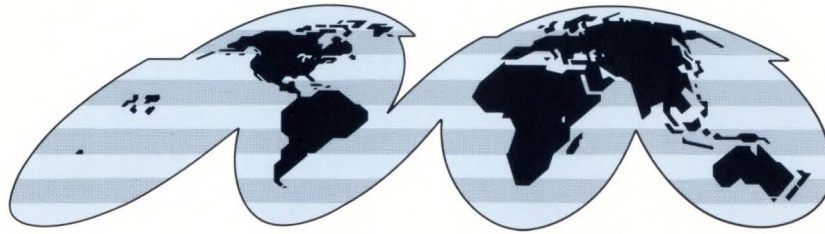
- 114-10000 Contact, 20 DF, Application of Contact, 20 DF, No-Strip Crimp, Application of
- 114-40001 Connector, HDE-20, Application of
- 114-40002 Connector, HDE-20, F Crimp, Application of
- 114-40003

Instruction Sheets

- IS 7514 HDP-20 Connectors with Crimp Type Contacts
- IS 7508 AMP Insertion/Extraction Tool 91067-3
- IS 7613 AMP Insertion/Extraction Tool 91083-2
- IS 7799 AMPLIMITE Solder Cup Contacts
- IS 7516 AMP Screw-Machined Contacts and Application Tooling
- IS 7512 Application and Maintenance of AMP Hand Crimping Tool 90265-1
- IS 7634 Application and Maintenance of AMP Hand Crimping Tool 90302-1
- IS 7694 Application and Maintenance of AMP Hand Crimping Tool 90312-1
- IS 6678 Application and Maintenance of AMP Hand Crimping Tool 91239
- IS 6609 HDP-20 Shielded Cable Clamp Kits, Straight Exit
- IS 6769 HDP-20 Shielded Cable Clamp Kits, 90° Exit
- IS 7838 HDF-20 Connectors with Size 20 Contacts
- IS 6608 HDF-20 Low Profile Connectors, One Step
- IS 7777 Manual Applicator Frame Assembly 91085-2
- IS 6893 HDF-20 Termination Tooling Assembly (Die Set) 91257-1
- IS 6731 HDF-20 Termination Tooling Assembly (Die Set) 91240-2
- IS 6842 HDF-20 Termination Tooling Assemblies (Die Sets) 91250-1 and 91250-2
- IS 9011 HDF-20 Termination Tooling Assembly (Die Set) 91248-1 for Shielded Connectors
- IS 6845 HDF-20 Termination Tooling Assembly (Die Set) 91249-1 for Shielding Hardware
- IS 6864 Conversion Kit 543160-1 for Pneumatic Applicator Frame Assembly (Auto-Cycle)
- IS 7763 Pneumatic Applicator Frame Assembly 91112-2 (Foot Pedal Actuated)
- IS 6732 Pneumatic Applicator Frame Assembly 91112-3 (Auto-Cycle)
- IS 6841 Pneumatic Applicator Frame Assembly 91112-5 (Palm Button Actuated)
- IS 6745 Applicator Die Sets 809515-1 thru 809515-4 for AMPLIMITE Crimp Ferrules
- IS 6833 Applicator Die Sets 809515-5 thru 809515-8 for AMPLIMITE Crimp Ferrules
- IS 6834 Applicator Die Sets 809515-9 thru 1-809515-2 for AMPLIMITE Crimp Ferrules
- IS 6835 Applicator Die Sets 1-809515-3 thru 1-809515-6 for AMPLIMITE Crimp Ferrules
- IS 6645 HDE-20 Metal-Shell Connectors
- IS 6621 HDE-20 All-Plastic Connectors
- IS 6631 HDE-20 Extraction Tool
- IS 6638 HDE-20 Pistol Grip Hand Tool
- IS 6656 HDE-20 Pneumatic Hand Tool
- IS 6871 HDE-20 Mass Termination Tooling
- IS 6658 HDE-20 Slide-On Back Covers
- IS 6659 HDE-20 Strain Relief, Straight/90° Exit
- IS 9030 ACTION PIN Installation Tooling, 25-Position
- IS 9031 ACTION PIN Installation Tooling; 9, 15, 37 and 50 Positions
- IS 7837 Female Screwlock Kit 205817-1 and Male Screw Retainer Kit 205980-1
- IS 7785 Locking Post Assembly Kit 206514-1 and Slide Latch Assembly Kit 206942-1
- IS 9128 AMPLIMITE Latching Blocks
- IS 9129 AMPLIMITE HDP One-Piece Spring Latches
- IS 9130 AMPLIMITE Two-Piece Spring Latches for Metal Shields
- IS 9131 AMPLIMITE Two-Piece Spring Latches for Post Molded Strain Reliefs

Military and Federal Specifications

- QQ-C-530 Beryllium Copper
- QQ-B-626 Copper Alloy
- QQ-B-750 Phosphor Bronze
- ASTM A109 Steel
- ASTM A108 Cold Rolled Steel
- MIL-C-50 Brass
- QQ-N-290 Nickel Plating
- ASTM B633 Zinc Plating (Type I or III, Class SC1)
- MIL-C-14550 Copper Plating
- MIL-G-45204 Gold Plating
- MIL-T-10727 Tin Plating



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