

# AERODUCT®

## Aviation Ducting and Hose Products



**HBD/Thermoid, Inc.**

# GENERAL AVIATION PRODUCTS

## Aeroduct Ducting

Aeroduct wire-supported ducting, in its various forms and constructions, provides the most versatile type of ducting in the industry. It's suitable for permanent or temporary installations to meet many different applications. Aeroduct aircraft ducting is manufactured with fiberglass fabrics, impregnated with neoprene or silicone rubber compounds, that's developed for flame resistance and high temperature applications.

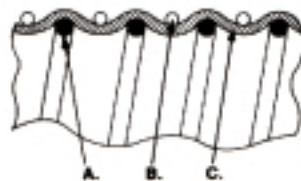


### SCAT

SCAT ducting is recommended for use in conducting extremely cold or hot air where temperatures range from  $-65^{\circ}\text{F}$  to  $+550^{\circ}\text{F}$ . It is lightweight and extremely flexible. This ducting minimizes waste since short sections, which are normally unusable, can be joined together to form a continuous length. It is not recommended for negative pressure applications.

#### Construction:

- A. Support - Copper-coated or bronze-plated spring-steel-wire helix.
- B. Cover - Woven fiberglass fabric impregnated with silicone rubber. Standard length - 11 feet.
- C. Cord - Fiberglass cord coated with silicone.



### SCAT DUCTING (Red)

### TECHNICAL DATA

Inside Diameter (inches)*	2	3	4	5	6
Weight (pounds per foot)	.19	.29	.38	.48	.58
Inside Bend Radius (inches)	.50	.75	1.0	1.25	1.50
Length Required for 180° Bend (inches)	8	12	16	20	24
Minimum Burst Pressure (psig)	102	88	69	57	41
Internal Working Pressure (psig)	26	22	17	14	10
Maximum Leakage (cfm/ft. at working pressure)	.010	.015	.020	.025	.030
Crush Resistance (pounds per foot)	400	320	290	240	200
Axial Tensile Strength (pounds)	375	535	660	870	900
Retracted Length (inches per foot)	3.5	3.5	2.8	2.1	2.0
Operating Temperature Range	$-65^{\circ}\text{F}$ to $+550^{\circ}\text{F}$				

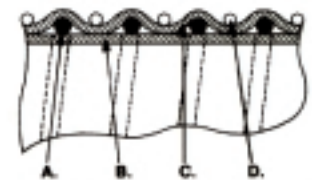
### SCEET

SCEET ducting is ideal for use in conducting extremely cold or hot air at temperatures ranging from  $-80^{\circ}\text{F}$  to  $+550^{\circ}\text{F}$ , and for conveying fumes. This ducting is highly flexible and can be easily installed around obstructions and sharp bends. It has less air friction loss than similar nonlined ducting. SCEET ducting is not recommended for applications involving liquids or highly abrasive materials, or for negative pressure applications.

#### Construction:

- A. Support - Copper-coated or bronze-plated spring-steel-wire helix bonded between the liner and cover material.
- B. Liner - Fiberglass fabric impregnated and coated with silicone rubber.
- C. Cover - Fiberglass fabric impregnated and coated with silicone rubber.

- D. Cord - Fiberglass cord coated with silicone. Standard length - 11 feet.



### SCEET DUCTING (Red)

### TECHNICAL DATA

Inside Diameter (inches)*	2	3	4	5	6
Weight (pounds per foot)	.20	.33	.44	.55	.66
Inside Bend Radius (inches)	.75	1.0	1.25	1.50	1.75
Length Required for 180° Bend (inches)	10	14	19	24	28
Minimum Burst Pressure (psig)	165	142	125	76	68
Internal Working Pressure (psig)	42	35	31	19	17
Maximum Leakage (cfm/ft. at working pressure)	.016	.024	.032	.040	.048
Crush Resistance (pounds per foot)	400	320	290	240	200
Axial Tensile Strength (pounds)	525	680	860	900+	900+
Retracted Length (inches per foot)	4.5	4.5	4	3.5	3.5
Operating Temperature Range	$-80^{\circ}\text{F}$ to $+550^{\circ}\text{F}$				

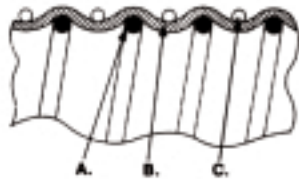
# Aeroduct Ducting

## CAT

CAT is an extremely lightweight, highly flexible, low pressure ducting that's suitable for conveying fumes and air. It is not recommended for handling liquids or highly abrasive materials, or for negative pressure applications. Short lengths can be easily joined together to form a continuous length.

### Construction:

- A. Support - Copper-coated or bronze-plated spring-steel-wire helix.
- B. Cover - Fiberglass fabric impregnated and coated with neoprene rubber.
- C. Cord - Fiberglass cord impregnated with neoprene rubber. Standard length - 10 feet.



### CAT DUCTING (Black)

### TECHNICAL DATA

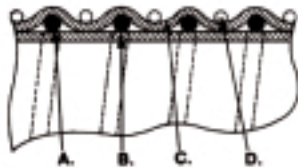
Inside Diameter (inches)	2	3	4	5	6	7	8	10	12
Weight (pounds per foot)	.15	.23	.31	.39	.47	.55	.63	.78	.95
Inside Bend Radius (inches)	.50	.75	1.00	1.25	1.50	1.75	2.00	2.23	2.50
Length Required for 180° Bend (inches)	8	12	16	20	24	28	32	39	46
Minimum Burst Pressure (psig)	120	105	85	58	44	30	26	16	10
Internal Working Pressure (psig)	30	26	21	14.5	11	7.5	6.5	4	2.5
Maximum Leakage (cfm/ft. at working pressure)	.030	.045	.060	.075	.090	.105	.120	.135	.150
Crush Resistance (pounds per foot)	400	320	290	240	200	190	145	105	60
Axial Tensile Strength (pounds)	425	575	700	900	900	900	900	900	900
Retracted Length (inches per foot)	3.5	3.5	3.5	2.5	2.0	2.0	2.0	2.0	2.0
Operating Temperature Range	-65°F to +350°F								

## CEET

CEET ducting is recommended for use in hot or cold air applications and for conveying fumes. The fabric liner on the inside diameter of the ducting allows the air to flow smoothly, even in tight bends. Thus, CEET has less air friction loss than ducting which is unlined. It is not recommended for conveying liquids or highly abrasive materials, or for negative pressure applications.

### Construction:

- A. Support - Copper-coated or bronze-plated spring-steel-wire helix.
- B. Liner - Woven fiberglass fabric impregnated and coated with neoprene rubber.
- C. Cover - Woven fiberglass fabric impregnated and coated with neoprene rubber.
- D. Cord - Fiberglass cord impregnated with neoprene rubber. Standard length - 10 feet.



### CEET DUCTING (Black)

### TECHNICAL DATA

Inside Diameter (inches)	2	3	4	5	6	7	8	10	12
Weight (pounds per foot)	.22	.35	.47	.58	.69	.81	.92	1.15	1.35
Inside Bend Radius (inches)	.75	1.10	1.25	1.50	1.75	2.00	2.25	3.00	4.00
Length Required for 180° Bend (inches)	10	14	19	24	28	32	38	50	60
Minimum Burst Pressure (psig)	185	160	144	84	76	48	43	38	22
Internal Working Pressure (psig)	46	40	36	21	19	12	9.5	6.5	5.5
Maximum Leakage (cfm/ft. at working pressure)	.020	.030	.040	.050	.060	.070	.080	.100	.120
Crush Resistance (pounds per foot)	400	320	290	240	200	190	145	105	60
Axial Tensile Strength (pounds)	550	720	900+	900+	900+	900+	900+	900+	900+
Retracted Length (inches per foot)	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Operating Temperature Range	-65°F to +350°F								

## Aeroduct MIL-DTL 6000 Oil and Coolant Hose

Inside and out, Aeroduct MIL-DTL 6000 is designed to handle the effects of oil, alcohol, coolant, and water. The tube is oil resistant with a black cover reinforced with high strength mildew resistant yarns. It withstands extreme temperature conditions from -40°F to +250°F. Aeroduct MIL-DTL 6000 meets or exceeds U.S. military specs, plus it's lightweight, flexible and easy to handle, making it the perfect hose for hard to get to spots in tight engine compartments.



I.D.		O.D.		Minimum Burst		Weight	
In.	MM.	In.	MM.	PSIG	MPa	Lbs./Ft.	gm/cm
¼	6.4	.594	15.1	1000	6.9	.14	2.1
⅜	7.9	.656	16.7	1000	6.9	.16	2.4
½	9.5	.719	18.3	1000	6.9	.18	2.7
⅝	12.7	.844	21.4	1000	6.9	.22	3.3
¾	15.9	.969	24.6	1000	6.9	.26	3.9
⅞	19.1	1.094	27.8	1000	6.9	.27	4.0
1	22.2	1.219	31.0	1000	6.9	.33	4.9
1	25.4	1.344	34.1	1000	6.9	.36	5.4
1¼	31.8	1.688	42.9	800	5.5	.52	7.7
1½	38.1	1.938	49.2	800	5.5	.60	8.9
1¾	44.5	2.188	55.6	600	4.1	.68	10.1
2	50.8	2.438	61.9	600	4.1	.80	11.9
2½	63.5	2.938	74.9	400	2.8	1.01	15.0
3	76.2	3.438	87.3	400	2.8	1.16	17.3
3½	88.9	4.000	101.6	350	2.8	1.38	20.5
4	101.6	4.500	114.3	300	2.8	1.56	23.2

## Aeroduct Sleevings

Sleevings can be produced using an unlimited variety of materials and rubber compounds. Specially fabricated flame-resistant fiberglass that's impregnated with neoprene or silicone rubbers are the most common materials used in manufacturing sleevings. Other basic fabrics such as nylon or cotton are available.

Aeroduct Sleevings is excellent for use as a non-metallic conduit to protect cables and electric wiring. It can be hand crushed during installation and will shape to square or rectangular rigid tube ends. Its installation features include: compensation for misalignment during installation; dampens and absorbs vibration; provides for deflection; and absorbs longitudinal expansion contraction which is prevalent in metal tubing.

### LORA SLEEVING, Neoprene - Impregnated Fiberglass

Inside Diameter (inches)	2	3	4	5	6	7	8	10	12
Weight (pounds per foot)	.17	.25	.34	.42	.52	.62	.72	.92	1.12
Burst Pressure (psig)	205	150	126	100	80	62	49	39	32
Internal Working Pressure (psig)	52	37	31	25	20	15	12	9.5	8
Leakage (cfm/ft. at working pressure)	.016	.024	.032	.040	.048	.056	.064	.080	.096
Axial Tensile Strength (pounds)	1000 pounds plus								
Operating Temperature Range	-65°F to +350°F								
Standard Length	5 feet								

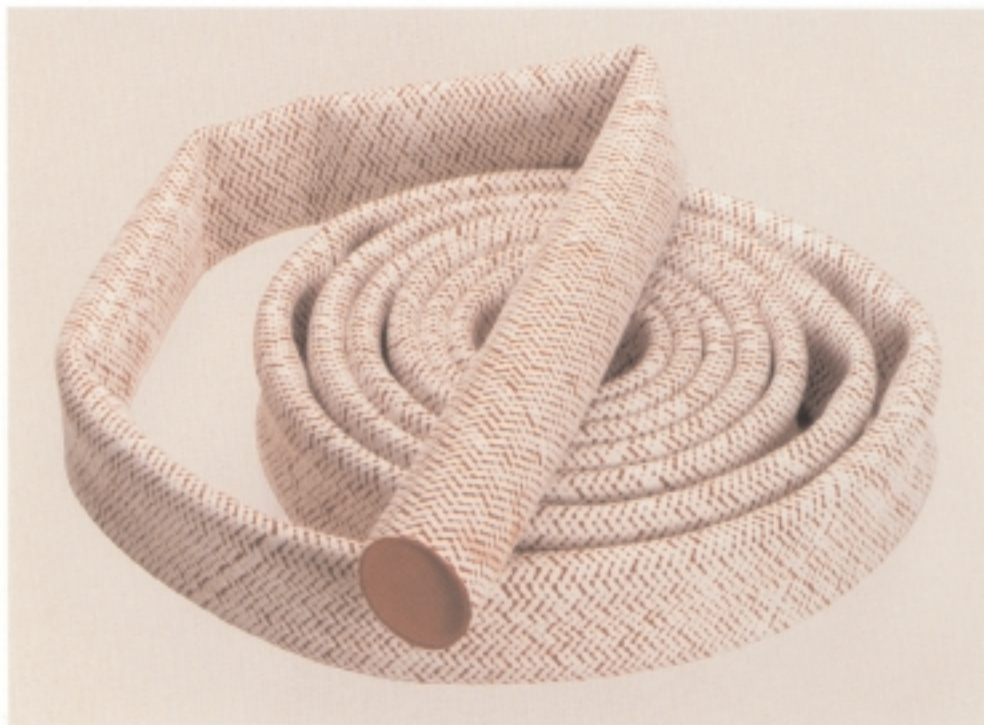
### SLOT SLEEVING, Silicone - Impregnated Fiberglass

Inside Diameter (inches)	2	3	4	5	6	7	8	10	12
Weight (pounds per foot)	.36	.52	.70	.88	1.06	1.21	1.40	1.76	2.0
Burst Pressure (psig)	400	240	220	140	110	63	32	24	16
Internal Working Pressure (psig)	100	60	56	36	28	16	8	6	4
Leakage (cfm/ft. at working pressure)	.001	.0015	.002	.0025	.0048	.0055	.0064	.008	.012
Axial Tensile Strength (pounds)	1000 pounds plus								
Operating Temperature Range	-80°F to +550°F								
Standard Length	5 feet								

# GROUND SUPPORT PRODUCTS

## Aeroduct Jet Starter Hose and Scuffer Jackets

Aeroduct Jet Starter Hose features a specially compounded silicone rubber tube that withstands temperatures up to 500°F and as low as -80°F. Light enough to be handled easily by one person, the hose construction features a synthetic yarn reinforcement that assures high burst strength (400 PSI and higher), dimensional stability, and maximum flexibility. Plus, it's resistant to heat, solvents, mildew, and fuels. In addition, replaceable lenoweave or open-braided scuffer jackets extend service life and provide an extra measure of abrasion-resistance and durability by shielding the jet starter duct from the damage that often results from being dragged and scuffed over concrete ramps and runways.



### CONSTRUCTION:

PRESSURE HOSE - P/N 10H09

1. Hose liner is a smooth, seamless, non-flaking specially compounded silicone rubber that withstands temperatures up to +500°F and as low as -80°F.
2. Hose reinforcement is synthetic yarn for burst strength greater than 400 psi. Resistant to heat, solvents, mildew and fuels.

NOTE: Construction insures each strand of yarn is integrally lock-bonded to the silicone tube.

### DATA:

PRESSURE HOSE

Inside Diameter.....	3-1/2"
Wall Thickness.....	3/16" ± 1/32"
Weight per Foot.....	1.1 Pounds
High Temperature.....	+500°F
Low Temperature.....	-80°F
Burst Strength.....	Over 450 psig
Maximum Static Load.....	2000 Pounds
Proof Pressure Tested.....	All lengths tested at 200 psig at Chanute.
Lengths.....	To 60 ft.

All data based on controlled tests and may be changed without notice.

## Scuffer Jackets

Aeroduct replaceable scuffer jackets protect the hose from damage caused by dragging and scuffing over concrete ramps and runways. Low profile scuffer strip minimizes hang-up on equipment or ramps.

**LENOWEAVE JACKET** - P/N 50859 consists of closely woven, treated fabric with extruded abrasion resistant rubber vulcanized in a spiral to the lenoweave.

**OPEN BRAIDED JACKET** - P/N 1106 features synthetic yarn with extruded abrasion resistant rubber vulcanized in a spiral to the braided jacket.

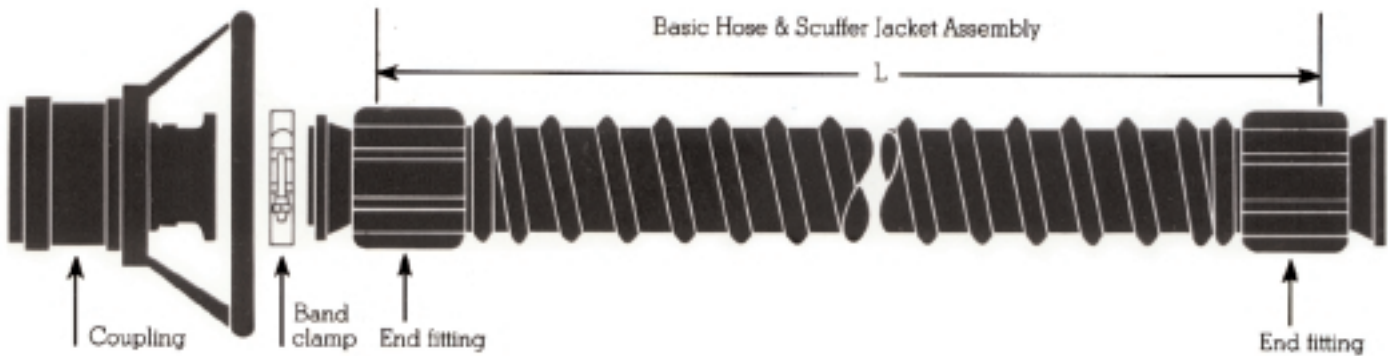


Aeroduct Jet Starter Hose and Scuffer Jackets may be ordered in assemblies by part or in any combination of the hose and jacket. The assembly may also be furnished with end fittings as required. Hose will be inserted into scuffer jacket at our location.

Assembly P/N	Basic Hose P/N	Scuffer Jacket P/N
51180	10H09	50859
1170	10H09	1106

# Aeroduct Jet Starter Hose and Scuffer Jackets—Assembly

Assembly - With end fittings and couplings as required.



SHOW P/N AND ORDER CODE:    00000    00    00    00

Basic Assembly P/N —————>

Length dimension L in feet  
(end fittings/couplings excluded) —————>

End fitting code one end —————>

End fitting code opposite end —————>

## End Fittings

**MALE:** Reattachable P/N 9142  
(order code 04) P/N 9142 mates  
with end-fitting P/N 9132

**FEMALE:** Reattachable P/N 9132  
(order code 02) mates with P/N  
9142 using V-Band clamp



P/N 9142 Male Fitting  
(Female Fitting P/N  
9132 not shown)



P/N 1158  
V-Band clamp  
Use to mate P/N 9132  
to 9142



## Aeroduct Pre-Conditioned Air System Ducting

Perfect for moving large volumes of hot or cold conditioned air, Aeroduct PCA System Ducting features a rugged, two-ply, yellow vinyl-coated fabric with moisture proof insulation between plies. An abrasive resistant scuff strip is included for additional wear resistance. Zippers and velcro strips are included on cuffed ends to permit attachment of additional sections to form longer lengths.

PCA System Ducting is constructed without wire reinforcement so it can be flattened and rolled up for easy storage when not in use. These flat air ducts are available in 8", 10", 12" and 14" inside diameters, and up to 25 foot lengths. It handles a temperature range of -40°F to +275°F.

Tapered adapters are also available in 10", 12", and 14" ID's on one end and are reduced over a 2 foot length to 8" I.D. on the opposite end. These adapters include zipper and velcro on the large I.D. that allows attachment to the corresponding PCA System flat duct and handling strap for easy transport. Also, included is a polyrod helix reinforcement for additional support.



I.D. (In.)	Length/Ft.	Part Number
8	10	AD1594N-8-10
8	20	AD1594N-8-20
8	25	AD1594N-8-25
10	10	AD1594N-10-10
10	20	AD1594N-10-20
10	25	AD1594N-10-25
12	10	AD1594N-12-10
12	20	AD1594N-12-20
12	25	AD1594N-12-25
14	10	AD1594N-14-10
14	20	AD1594N-14-20
14	25	AD1594N-14-25

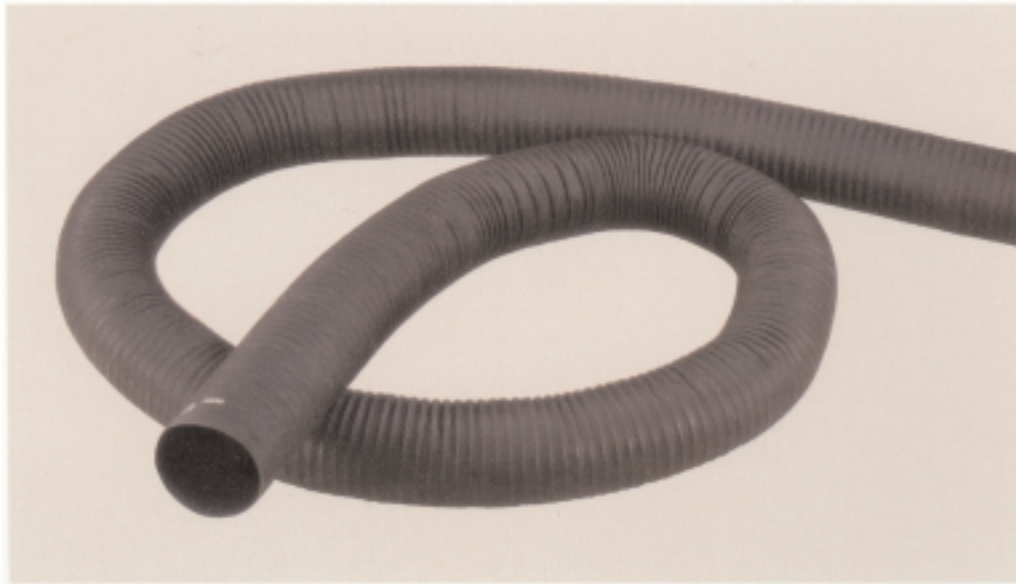
Other sizes and lengths available upon request.

Tapered Adapter Part Numbers		
I.D. (In.)	Length (In.)	Part Number
10 to 8	24	AD1812N
12 to 8	24	AD1672N
14 to 8	24	AD1595N

# Aeroduct Lavatory Dump Hose

## Tuftex® CD

Tuftex CD is used by major airlines as a lavatory dump hose. Available in the standard 4" I.D. size, this hose is extra-durable and lightweight with a smooth, vulcanized rubber liner, and external corrugation for maximum flexibility and ease of handling.



### Tuftex CD Construction:

- A. Single-wire helix.
- B. Single-ply fabric, impregnated with neoprene rubber.
- C. Liner of single-ply .032-inch rubber provides a smooth bore.



### Tuftex CD Technical Data:

- Temperature Range: -40°F to +250°F
- Color: Black
- Diameters: 4" I.D. Std. (Other diameters available on request.)
- Lengths: 20 feet (Shorter lengths available on request.)
- Cuffs: Soft cuffs available for easy clamping/installation.

Other sizes and lengths available upon request.

# AERODUCT CUSTOM BUILT PRODUCTS

Aeroduct custom built products can be constructed in a virtually unlimited variety of shapes or configurations. Almost any requirement of temperature, pressures, flexibility, and leakage can be met.

The Chanute Operations originally served the aircraft industry, and met its exacting requirements of precise engineering, close tolerances, and high-quality standards. These same requirements are now being fulfilled for other original-equipment manufacturers and users who depend on ducting of superior quality and reliability. Engineers at Chanute are experts in the design and construction of specialized ducting needed for the most severe or unusual applications.

Custom built ducting can be bonded to metal flanges, brackets, or other components, using an extensive range of available materials. A superior method of bonding is used on all Aeroduct ducting to insure longer part life and continuous outstanding performance.

The engineering staff at Chanute is well known for its many innovations in advanced ducting design and development. Our leadership in this field is indicated by the vast number of individual products designed for and supplied to OEM's. Our consultants are available to advise you on all your special ducting requirements, and our engineers are here to design whatever you need, and Chanute Operations' personnel will produce it.

The various product photos illustrate some of the flexible and rigid/semi-rigid products designed and produced at the Chanute Operations.

**FLEXIBLE PRODUCTS:** Those products which remain flexible in their finished stage but may include metal flanges, etc. built into the ducting.

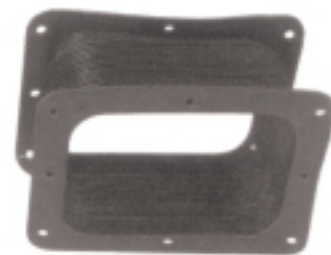
**RIGID/SEMI-RIGID PRODUCTS:** Are those products made from combinations of rigid and flexible materials integrally manufactured into a single unit.



Pressure Boot - gear cover



Ordnance: Fuel Coupling



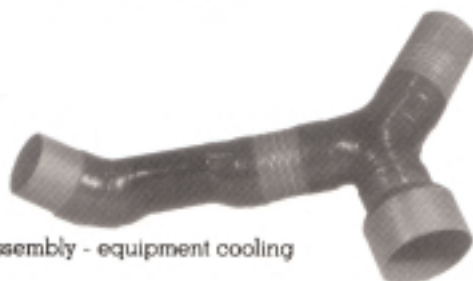
Motor Cooling Boot - duct - convoluted



Supercharger Air Intake - compound offset - semi-rigid



Electronic Compartment Cooling Duct



Duct Assembly - equipment cooling



Fuel Vent Line Offset - fuel coupling



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