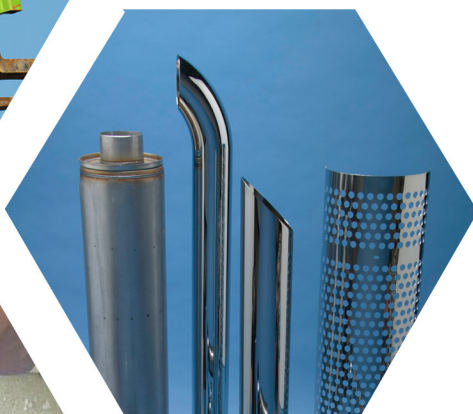




Product Catalog 2012

Your Total Exhaust Solution



Engine Control Systems

INTRODUCTION

www.enginecontrolsyste.ms.com
1-800-331-9247

your total exhaust solution

This catalogue contains all the product designs available at the time of printing. However, it is important to note that new part numbers are added to the product catalog on an ongoing basis. If you cannot find the design you are looking for, please call our customer service line at 1-800-331-9247.

OUR EXTENSIVE CAPABILITIES

A full range of Engine Control Systems products are designed to meet changing exhaust standards without sacrificing operating efficiency.

Exhaust Components & Accessories and Air Intake

- Elbows
- Clamps
- Flexible and Straight Tubing
- Muffler Shields
- Special Bent Tubes
- Air Intake Products

Emission Control Solutions

- Catalytic Converters
- Catalytic Converter Mufflers
- Add-on silencers for catalytic converters
- Catalyzed diesel particulate filter systems
- Electrically regenerated diesel particulate filter systems
- Fume Diluters

Mufflers

- Light, medium and heavy-duty trucks
- Performance vehicles
- Industrial off-road equipment

Please see the inside back cover for the fabrication standard capability chart.

NOW AND THE FUTURE

For over two decades, Engine Control Systems industry-leading expertise, couple with our supply and service capabilities, have positioned us at the forefront of the emissions control industry. With the addition of capabilities from our two newly integrated companies, we can provide a total package of innovative technical solutions for a cleaner environment and a healthier workplace.

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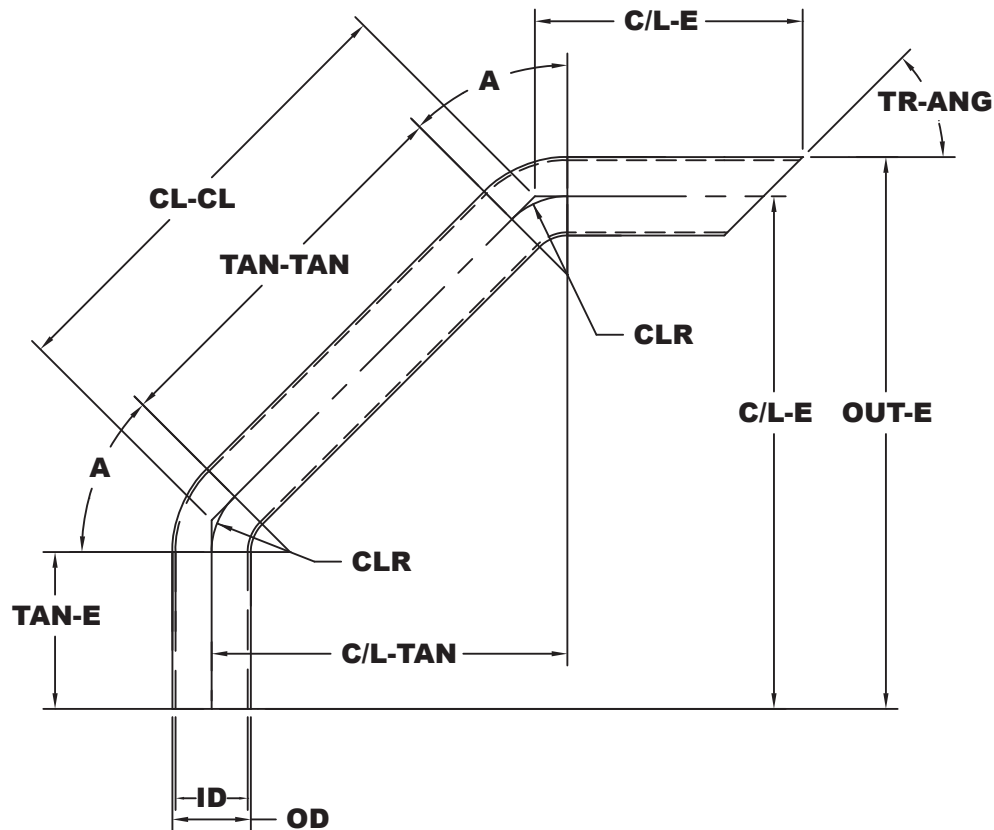
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NOTES

This image shows a full page of blank, lined paper. It features approximately 28 horizontal blue or grey lines spaced evenly apart, typical of notebook paper. The lines extend across the entire width of the page, leaving small margins at the top and bottom. There are no vertical lines, text, or other markings on the page.

CHARACTERISTIC LEGEND



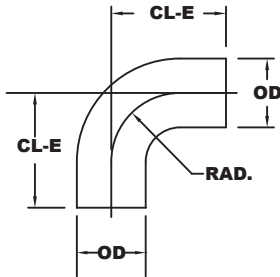
A	ANGLE
C/L-E	CENTERLINE TO END
CLR	CENTERLINE RADIUS
GA	MATERIAL THICKNESS
ID	INSIDE DIAMETER
OD	OUTSIDE DIAMETER
OUT-E	OUTSIDE TO END
TAN-TAN	TANGENT-TANGENT
TAN-E	TANGENT-END
CL-CL	CENTERLINE TO CENTERLINE
TR-ANG	TRIM ANGLE

**PLEASE CONTACT US FOR QUOTES ON CUSTOM BENDING REQUIREMENTS
304 STAINLESS STEEL PARTS AVAILABLE ON SPECIAL ORDER**



STANDARD 90 DEGREE ELBOWS

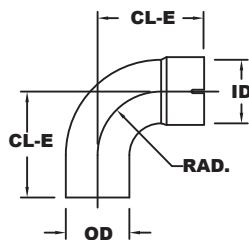
PLAIN END



MILL	CHROME	ALUMINIZED	DIA	CLR	C/L-E	ANGLE
1-200 PE	—	431-200 PE	2.0"	4.0	6.0	90
1-250 PE	—	431-250 PE	2.5"	4.0	6.50	90
—	—	431-250-12 PE	2.5"	4.0	12.0	90
1-300 PE	—	431-300 PE	3.0"	6.0	8.0	90
1-350 PE	—	431-350 PE	3.5"	7.0	9.0	90
1-400 PE	—	431-400 PE	4.0"	8.0	11.0	90
1-416 PE	401-416 PE	431-416 PE	4.0"	8.0	16.0	90
1-508 PE	401-508 PE	431-508 PE	5.0"	8.0	12.0	90
1-512 PE	401-512 PE	431-512 PE	5.0"	10.0	14.5	90
1-515 PE	401-515 PE	431-515 PE	5.0"	8.0	15.0	90
1-518 PE	401-518 PE	431-518 PE	5.0"	8.0	18.0	90
1-617 PE	401-617 PE	431-617 PE	6.0"	10.0	17.0	90

STANDARD 90 DEGREE ELBOWS

EXPANDED & SLOTTED

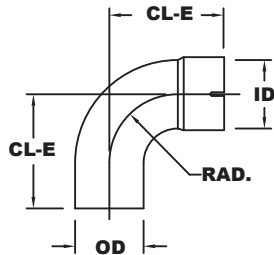


MILL	CHROME	ALUMINIZED	DIA	CLR	C/L-E	ANGLE
1-200	—	431-200	2.0"	4.0	6.0	90
1-250	—	431-250	2.5"	4.0	6.50	90
1-300	—	431-300	3.0"	6.0	8.0	90
1-350	—	431-350	3.5"	7.0	9.0	90
1-400	—	431-400	4.0"	8.0	11.0	90
—	—	431-410	4.0"	6.0	10.0	90
1-416	—	431-416	4.0"	8.0	16.0	90
1-508	401-508	431-508	5.0"	8.0	12.0	90
1-512	—	431-512	5.0"	10.0	14.5	90
1-515	—	431-515	5.0"	8.0	15.0	90
1-518	401-518	431-518	5.0"	8.0	18.0	90
1-617	401-617	431-617	6.0"	10.0	17.0	90

PLEASE CONTACT US FOR QUOTES ON CUSTOM BENDING REQUIREMENTS

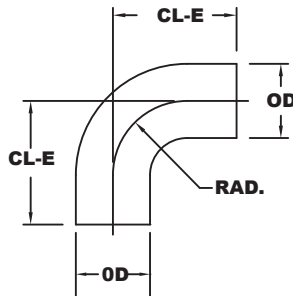
304 STAINLESS STEEL PARTS AVAILABLE ON SPECIAL ORDER

SHORT RADIUS 90 DEG ELBOWS E & S



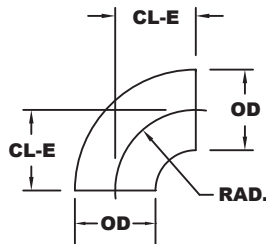
MILL	CHROME	ALUMINIZED	DIA	CLR	CL/E	ANGLE
4-202	—	434-202	2.0"	2.0"	4.0"	90
4-252	—	434-252	2.5"	2.5"	5.0"	90
4-302	—	434-302	3.0"	3.0"	5.0"	90
4-352	—	434-352	3.5"	3.5"	5.5"	90
4-402	404-402	434-402	4.0"	4.0"	6.0"	90
4-446	—	434-446	4.0"	4.0"	10.0,8.0	90
4-503	404-503	434-503	5.0"	5.5"	7.5"	90
4-509	—	434-509	5.0"	5.5"	10.0"	90
4-515	404-515	434-515	5.0"	5.5"	15.0"	90
4-518	404-518	434-518	5.0"	5.5"	18.0"	90
4-604	404-604	434-604	6.0"	6.0"	10.0	90

SHORT RADIUS 90 DEGREE ELBOWS PLAIN END



MILL	CHROME	ALUMINIZED	DIA	CLR	CL/E	ANGLE
4-202 PE	—	434-202 PE	2.0"	2.0"	4.0"	90
4-252 PE	—	434-252 PE	2.5"	2.5"	5.0"	90
4-302 PE	—	434-302 PE	3.0"	3.0"	5.0"	90
4-352 PE	—	434-352 PE	3.5"	3.5"	5.5"	90
4-402 PE	404-402 PE	434-402 PE	4.0"	4.0"	6.0"	90
4-446 PE	—	434-446 PE	4.0"	4.0"	10.0,8.0	90
4-503 PE	404-503 PE	434-503 PE	5.0"	5.5"	7.5"	90
4-509 PE	—	434-509 PE	5.0"	5.5"	10.0"	90
4-515 PE	—	434-515 PE	5.0"	5.5"	15.0"	90
4-518 PE	—	434-518 PE	5.0"	5.5"	18.0"	90
4-604 PE	404-604 PE	434-604 PE	6.0"	6.0"	10.0	90

SHORT RADIUS ELBOWS



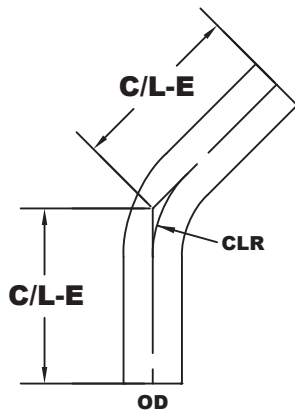
MILL	CHROME	ALUMINIZED	DIA	CLR	CL/E	ANGLE
3-200	—	433-200	2.0"	2.0"	2.0"	90
3-250	—	433-250	2.5"	2.5"	2.5"	90
3-300	—	433-300	3.0"	3.0"	3.0"	90
3-350	—	433-350	3.5"	3.5"	3.5"	90
3-400	—	433-400	4.0"	4.0"	4.0"	90
3-500	—	433-500	5.0"	5.5"	5.5"	90
3-600	—	433-600	6.0"	6.0"	6.0"	90
3-700	—	—	7.0"	9.0"	9.0"	90
3-745	—	—	7.0"	9.0"	3.75	45
3-800	—	—	8.0"	9.875	9.875	90
3-845	—	—	8.0"	9.875	4.09"	45
3-800-8	—	—	8.0"	8.0"	8.0"	90
3-845-8	—	—	8.0"	8.0"	3.31"	45
3-1090	—	—	10.0"	11.0"	11.0"	90
3-1045	—	—	10.0"	11.0"	4.56"	45
3-1000-10	—	—	10.0"	10.0"	10.0"	90
3-1045-10	—	—	10.0"	10.0"	4.14"	45
3-1200-12	—	—	12.0"	12.0"	12.0"	90
3-1245-12	—	—	12.0"	12.0"	5.0"	45

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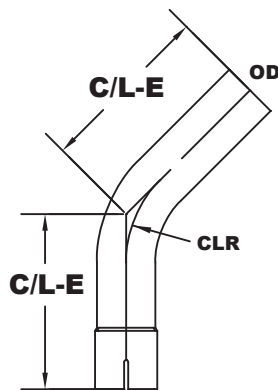
STANDARD 45 DEGREE ELBOWS

PLAIN END



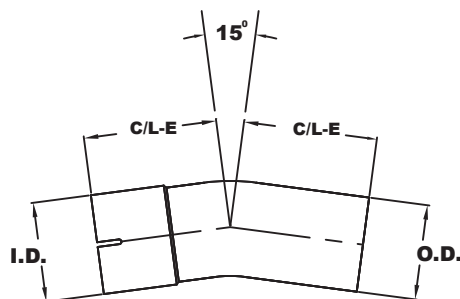
MILL	CHROME	ALUMINIZED	DIA	CLR	C/L-E	ANGLE
2-245 PE	—	432-245 PE	2.0"	4.0	6.0	45
2-2545 PE	—	432-2545 PE	2.5"	4.0	6.0	45
2-345 PE	—	432-345 PE	3.0"	6.0	6.0	45
2-3545 PE	—	432-3545 PE	3.5"	7.0	7.0	45
2-445 PE	—	432-445 PE	4.0"	8.0	6.0	45
—	402-445-8 PE	432-445-8 PE	4.0"	8.0	8.0	45
2-5458 PE	—	432-5458 PE	5.0"	8.0	6.3	45
2-5458-14 PE	402-5458-14 PE	432-5458-14 PE	5.0"	8.0	14.0	45
2-645 PE	402-645 PE	432-645 PE	6.0	10.0	10.0	45

EXPANDED & SLOTTED



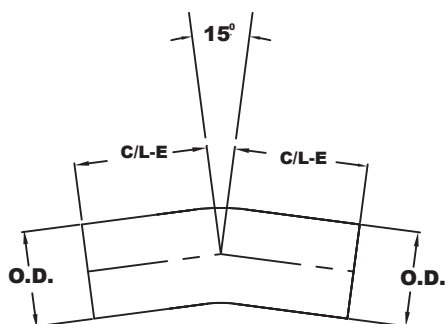
MILL	CHROME	ALUMINIZED	DIA	CLR	C/L-E	ANGLE
2-245	—	432-245	2.0"	4.0	6.0	45
2-2545	—	432-2545	2.5"	4.0	6.0	45
2-345	—	432-345	3.0"	6.0	6.0	45
2-3545	—	432-3545	3.5"	7.0	7.0	45
2-445	402-445	432-445	4.0"	8.0	6.0	45
—	—	432-445-8	4.0"	8.0	8.0	45
—	402-445-12	432-445-12	4.0"	6.0	12.0	45
2-5458	—	432-5458	5.0"	8.0	6.3	45
2-5458-14	402-5458-14	432-5458-14	5.0"	8.0	14.0	45
2-645	402-645	432-645	6.0	10.0	10.0	45

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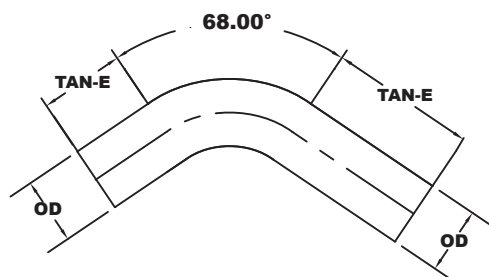
STANDARD 15 DEGREE ELBOWS E & S

MILL	ALUMINIZED	O.D.	I.D.	C/L-E	RAD.
2-4015	432-4015	4"	4.03"	6"	8"
2-5015	432-5015	5"	5.03"	6"	8"



STANDARD 15 DEG ELBOWS PLAIN END

MILL	ALUMINIZED	O.D.	C/L-E	RAD.
2-4015PE	432-4015PE	4"	6"	8"
2-5015PE	432-5015PE	5"	6"	8"



STANDARD 68 DEG ELBOWS

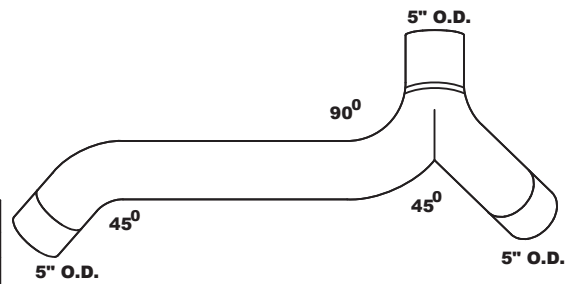
MILL	CHROME	ALUMINIZED	O.D.	TAN-E
1-568 PE	401-568 PE	431-568 PE	5"	4" & 5"

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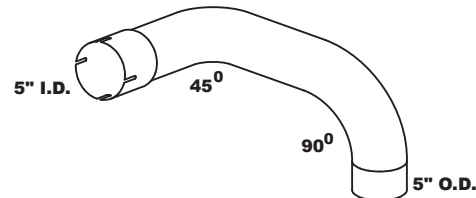


KENWORTH ELBOWS

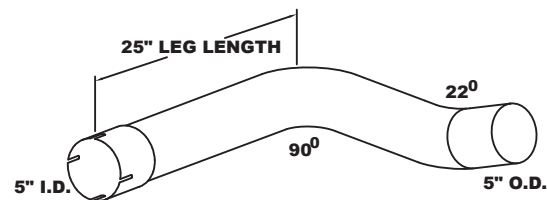
INTERCHANGE K180-14766		
MILL	ALUMINIZED	CHROME
1-589045	431-589045	401-589045



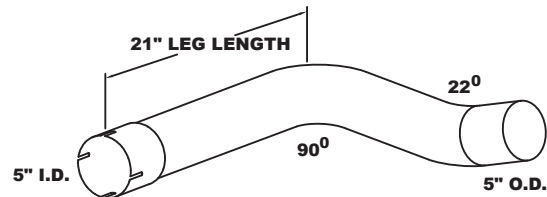
INTERCHANGE K180-14764 L OR R		
MILL	ALUMINIZED	CHROME
4-45545 L OR R	434-45545 L OR R	404-45545 L OR R



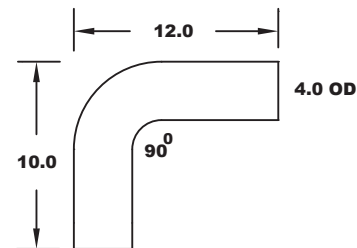
INTERCHANGE K180-12953 L OR R		
MILL	ALUMINIZED	CHROME
1-5823 L OR R	431-5823 L OR R	401-5823 L OR R



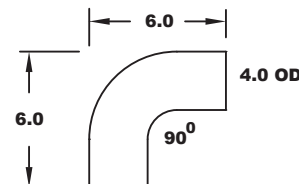
INTERCHANGE K180-10742 L OR R		
MILL	ALUMINIZED	CHROME
1-5822 L OR R	431-5822 L OR R	401-5822 L OR R



INTERCHANGE K180-11496		
MILL	ALUMINIZED	CHROME
4-446 PE	434-446 PE	404-446 PE



INTERCHANGE		
MILL	ALUMINIZED	CHROME
4-402 PE	434-402 PE	404-402 PE

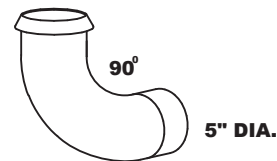


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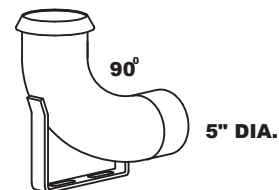


FREIGHTLINER ELBOWS

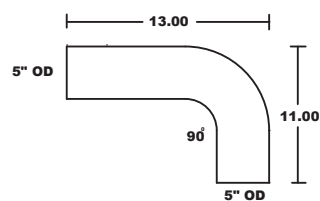
INTERCHANGE FL04-9831-002		
MILL	ALUMINIZED	CHROME
4-545	434-545	404-545



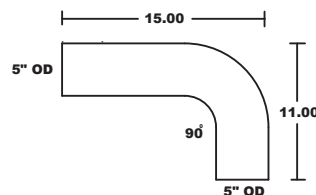
INTERCHANGE FLO4-9829-000		
MILL	ALUMINIZED	CHROME
4-544	434-544	404-544



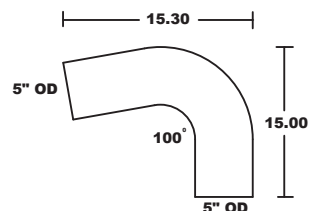
INTERCHANGE FL04-9586-13		
MILL	ALUMINIZED	CHROME
4-4313 PE	434-4313 PE	404-4313 PE



INTERCHANGE FL04-9586-15		
MILL	ALUMINIZED	CHROME
4-4315 PE	434-4315 PE	404-4315 PE



INTERCHANGE FL04-12099		
MILL	ALUMINIZED	CHROME
4-5100 PE	434-5100 PE	404-5100 PE

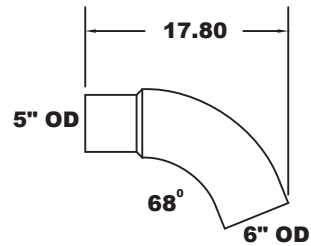


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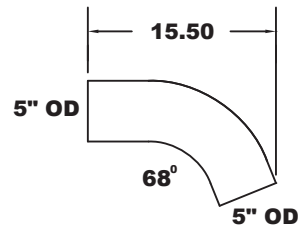


PETERBILT ELBOWS

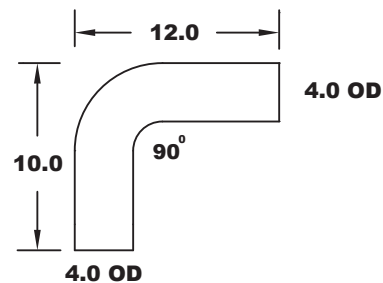
INTERCHANGE		
MILL	ALUMINIZED	CHROME
1-5668 PE	431-5668 PE	401-5668 PE



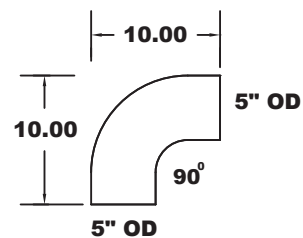
INTERCHANGE 14-1726		
MILL	ALUMINIZED	CHROME
1-568 PE	431-568 PE	401-568 PE



INTERCHANGE 14-08527		
MILL	ALUMINIZED	CHROME
4-446 PE	434-446 PE	404-446 PE



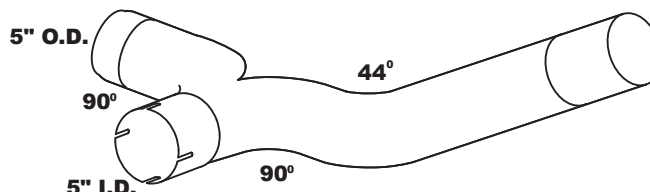
INTERCHANGE 14-08525		
MILL	ALUMINIZED	CHROME
4-503 PE	434-503 PE	404-503 PE



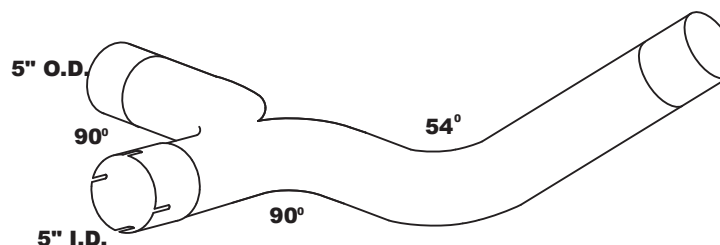
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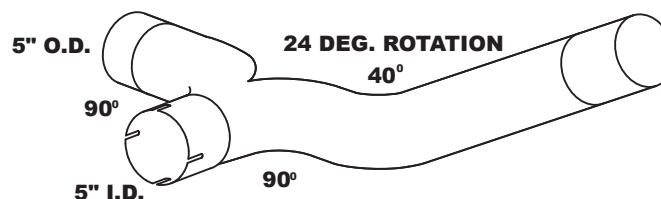
PETERBILT Y PIPES



INTERCHANGE 14-04055		
MILL	ALUMINIZED	CHROME
1-59044Y	431-59044Y	401-59044Y

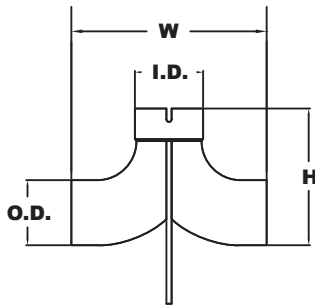


INTERCHANGE 14-12308		
MILL	ALUMINIZED	CHROME
1-59054Y	431-59054Y	401-59054Y

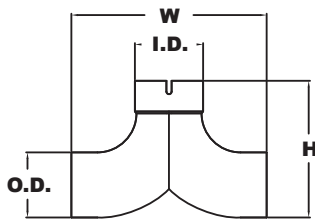


INTERCHANGE 14-13055		
MILL	ALUMINIZED	CHROME
1-5904026Y	431-5904026Y	401-5904026Y

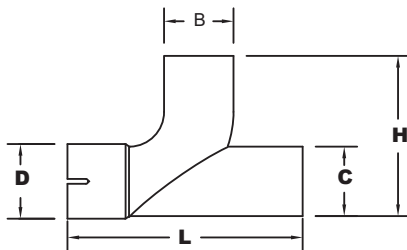
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**SPLIT T PIPE
WITH SUPPORT BRACKET**

MILL	CHROME	ALUMINIZED	W	H	ID	OD
16-404	4016-404	4316-404	12"	10"	4.03	4.00
16-555	4016-555	4316-555	15"	10.75"	5.03	5.00
16-5530	4016-5530	4316-5530	30"	15"	5.03	5.00

**SPLIT T PIPE
WITHOUT SUPPORT BRACKET**

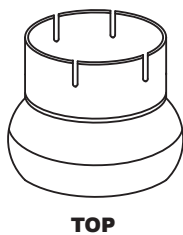
MILL	CHROME	ALUMINIZED	W	H	ID	OD
16-400	4016-400	4316-400	12"	10"	4.03	4.00
16-500	4016-500	4316-500	15"	10.5"	5.03	5.00

**SPLIT PIPES**

MILL	CHROME	ALUMINIZED	B	C	D	L	H
16-449011	4016-449011	4316-449011	4.0	4.0	4.03	12.0	9.0
16-559016	4016-559016	4316-559016	5.0	5.0	5.03	15.0	11.0

TILT CAP CONNECTORS

- WEAR PLATE ON BOTH PIECES WILL DOUBLE SERVICE LIFE
- WILL NOT SCORE OR SEIZE
- LINES UP QUICKLY AND POSITIVELY, SEALS PROPERLY.

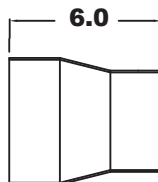
**TILT CAP CONNECTORS**

MILL	DESCRIPTION
90-410	4 INCH TOP E/S
90-510	5 INCH TOP E/S
90-411	4 INCH TOP PE
90-511	5 INCH TOP PE
90-420	4 INCH BOTTOM E/S
90-520	5 INCH BOTTOM E/S
90-420 PE	4 INCH BOTTOM PE
90-520 PE	5 INCH BOTTOM PE

PLEASE CONTACT US FOR QUOTES ON CUSTOM BENDING REQUIREMENTS
304 STAINLESS STEEL PARTS AVAILABLE ON SPECIAL ORDER



REDUCING COUPLERS ID ENDS ARE EXPANDED & SLOTTED



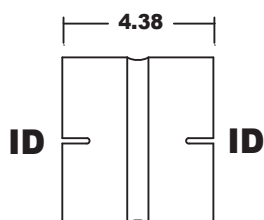
SERIES	SIZE	MILL	ALUMINIZED
2.50 TO 3.00	2.53 ID TO 3.00 ID	15-253	4315-253
	2.53 ID TO 3.00 OD	15-253-1	4315-253-1
	2.50 OD TO 3.03 ID	15-253-2	4315-253-2
	2.50 OD TO 3.00 OD	15-253-3	4315-253-3
3.00 TO 3.50	3.03 ID TO 3.53 ID	15-335	4315-335
	3.03 ID TO 3.50 OD	15-335-1	4315-335-1
	3.00 OD TO 3.53 ID	15-335-2	4315-335-2
	3.00 OD TO 3.50 OD	15-335-3	4315-335-3
3.00 TO 4.00	3.03 ID TO 4.03 ID	15-340	4315-340
	3.03 ID TO 4.00 OD	15-340-1	4315-340-1
	3.00 OD TO 4.03 ID	15-340-2	4315-340-2
	3.00 OD TO 4.00 OD	15-340-3	4315-340-3
3.50 TO 3.50	3.53 ID TO 4.03 ID	15-354	4315-354
	3.53 ID TO 4.00 OD	15-354-1	4315-354-1
	3.50 OD TO 4.03 ID	15-354-2	4315-354-2
	3.50 OD TO 4.00 OD	15-354-3	4315-354-3
4.00 TO 5.00	4.03 ID TO 5.03 ID	15-450	4315-450
	4.03 ID TO 5.00 OD	15-450-1	4315-450-1
	4.00 OD TO 5.03 ID	15-450-2	4315-450-2
	4.00 OD TO 5.00 OD	15-450-3	4315-450-3
5.00 TO 6.00	5.03 ID TO 6.03 ID	15-560	4315-560
	5.03 ID TO 6.00 OD	15-560-1	4315-560-1
	5.00 OD TO 6.03 ID	15-560-2	4315-560-2
	5.00 OD TO 6.00 OD	15-560-3	4315-560-3

PLEASE CONTACT US FOR QUOTES ON CUSTOM BENDING REQUIREMENTS
304 STAINLESS STEEL PARTS AVAILABLE ON SPECIAL ORDER



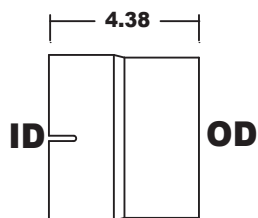
STRAIGHT TUBE COUPLERS

ID ENDS ARE EXPANDED & SLOTTED



ID-ID

MILL	ALUMINIZED	ID
13-902	4313-902	2.03
13-925	4313-925	2.53
13-903	4313-903	3.03
13-935	4313-935	3.53
13-904	4313-904	4.03
13-905	4313-905	5.03
13-906	4313-906	6.03



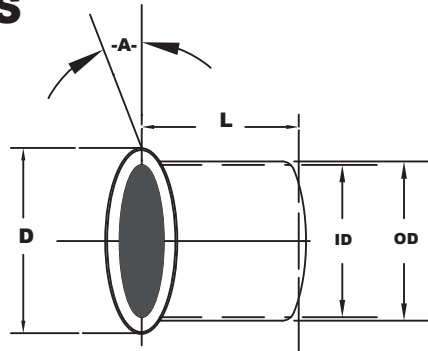
ID-OD

MILL	ALUMINIZED	ID	OD
14-020	4314-020	2.03	2.00
14-025	4314-025	2.53	2.50
14-030	4314-030	3.03	3.00
14-035	4314-035	3.53	3.50
14-040	4314-040	4.03	4.00
14-050	4314-050	5.03	5.00
14-060	4314-060	6.03	6.00

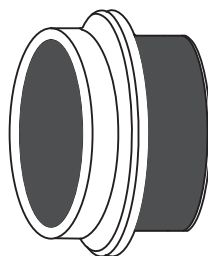
PLEASE CONTACT US FOR QUOTES ON CUSTOM BENDING REQUIREMENTS
304 STAINLESS STEEL PARTS AVAILABLE ON SPECIAL ORDER



FLARED FLANGES



MILL	ALUMINIZED	V-BAND CLAMP	D	L	A	OD	ID	MFG. REF NO.
88-300	4388-300	88-306	3.62	1.50	20 DEG		3.03	DIESEL MANIFOLD
88-302	4388-302	88-306	3.50	3.50	45 DEG	3.0		D.D. 53 SERIES
88-350	4388-350	88-356	4.25	1.50	20 DEG		3.53	5108831
88-352	4388-352	88-407	4.00	3.50	20 DEG	3.50		CAT 3208-T
88-353	4388-353	88-419	4.00	5.00	45 DEG	3.50		DETROIT DIESEL
88-400	4388-400	88-462	4.625	1.50	20 DEG		4.03	5138321DD-8.2
88-415	4388-415	88-479	4.780	1.50	20 DEG		4.03	5138321
88-413	4388-413	88-469	4.50	5.0	45 DEG	4.0		250 CUMMINS
88-503	4388-503	88-506	5.750	3.00	20 DEG	5.0		T-50 TURBO
88-504	4388-504	88-569	5.50	5.0	45 DEG	5.0		CUMMINS
88-505	4388-505	88-569	5.50	3.0	22 DEG	5.0		CUMMINS
88-510	4388-510	88-569	5.60	3.50	20 DEG	5.00	5.03	DD5140347
88-512	4388-512	88-506	5.75	12.00	20 DEG	4.0 -5.0		T-50 TURBO



DETROIT DIESEL TURBO EXHAUST

PART NUMBER 88-487 MACHINED TURBO FLANGE
FOR USE WITH DDA ENGINES WITH 4" OR 5" EXHAUST
4" SYSTEM REQUIRES USE OF (14-040 OR 13-904)
REPLACES DDA PART NUMBER 5101814 IN 5"
REPLACES DDA PART NUMBER 5132633 IN 4"

PART NUMBER	V-BAND CLAMP	TURBO APPLICATIONS
88-487	88-516	ALL SCHWITZER DDA TURBOS AIREASEARCH TV8101 T1865 T18A40

**STRAIGHT EXTENSION STACK****SQUARE CUT-PLAIN END**

CHROME	ALUMINIZED	DIA	LENGTH
40-324	4310-324	3 INCH	24"
40-348	4310-348	3 INCH	48"
40-3524	4310-3524	3.5 INCH	24"
40-3548	4310-3548	3.5 INCH	48"
40-418	4310-418	4 INCH	18"
40-424	4310-424	4 INCH	24"
40-436	4310-436	4 INCH	36"
40-460	4310-460	4 INCH	60"
40-524	4310-524	5 INCH	24"
40-536	4310-536	5 INCH	36"
40-548	4310-548	5 INCH	48"
40-560	4310-560	5 INCH	60"
40-660	4310-660	6 INCH	60"

STRAIGHT EXTENSION STACK**SQUARE CUT- EXPANDED & SLOTTED**

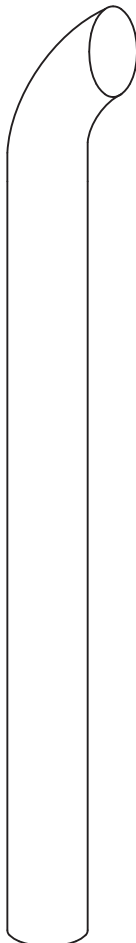
CHROME	ALUMINIZED	DIA	LENGTH
4011-324	4311-324	3 INCH	24"
4011-336	4311-336	3 INCH	36"
4011-3524	4311-3524	3.5 INCH	24"
4011-3536	4311-3536	3.5 INCH	36"
4011-418	4311-418	4 INCH	18"
4011-424	4311-424	4 INCH	24"
4011-448	4311-448	4 INCH	48"
4011-460	4311-460	4 INCH	60"
4011-518	4311-518	5 INCH	18"
4011-524	4311-524	5 INCH	24"
4011-536	4311-536	5 INCH	36"
4011-548	4311-548	5 INCH	48"
4011-560	4311-560	5 INCH	60"
4011-624	4311-624	6 INCH	24"

PLEASE CONTACT US FOR QUOTES ON CUSTOM BENDING REQUIREMENTS
304 STAINLESS STEEL PARTS AVAILABLE ON SPECIAL ORDER



CURVED EXTENSION STACK

PLAIN END



CHROME	ALUMINIZED	DIA	LENGTH
4017-318	4317-318	3 INCH	18"
4017-324	4317-324	3 INCH	24"
4017-3524	4317-3524	3.5 INCH	24"
4017-3536	4317-3536	3.5 INCH	36"
4017-418	4317-418	4 INCH	18"
4017-424	4317-424	4 INCH	24"
4017-436	4317-436	4 INCH	36"
4017-448	4317-448	4 INCH	48"
4017-460	4317-460	4 INCH	60"
4017-518	4317-518	5 INCH	18"
4017-524	4317-524	5 INCH	24"
4017-536	4317-536	5 INCH	36"
4017-548	4317-548	5 INCH	48"
4017-560	4317-560	5 INCH	60"
4017-572	_____	5 INCH	72"
4017-596	_____	5 INCH	96"
4017-624	4317-624	6 INCH	24"
4017-648	4317-648	6 INCH	48"
4017-660	4317-660	6 INCH	60"

PLEASE CONTACT US FOR QUOTES ON CUSTOM BENDING REQUIREMENTS
304 STAINLESS STEEL PARTS AVAILABLE ON SPECIAL ORDER


**CURVED EXTENSION STACK
EXPANDED & SLOTTED**


CHROME	ALUMINIZED	DIA	LENGTH
4012-318	4312-318	3 INCH	18"
4012-324	4312-324	3 INCH	24"
4012-336	4312-336	3 INCH	36"
4012-348	4312-348	3 INCH	48"
4012-3518	4312-3518	3.5 INCH	18"
4012-3536	4312-3536	3.5 INCH	36"
4012-3548	4312-3548	3.5 INCH	48"
4012-412	4312-412	4 INCH	12"
4012-418	4312-418	4 INCH	18"
4012-424	4312-424	4 INCH	24"
4012-436	4312-436	4 INCH	36"
4012-448	4312-448	4 INCH	48"
4012-460	4312-460	4 INCH	60"
4012-472	—————	4 INCH	72"
4012-484	—————	4 INCH	84"
4012-496	—————	4 INCH	96"
4012-512	—————	5 INCH	12"
4012-518	4312-518	5 INCH	18"
4012-524	4312-524	5 INCH	24"
4012-536	4312-536	5 INCH	36"
4012-548	4312-548	5 INCH	48"
4012-560	4312-560	5 INCH	60"
4012-572	—————	5 INCH	72"
4012-584	—————	5 INCH	84"
4012-596	—————	5 INCH	96"
4012-5108	—————	5 INCH	108"
4012-5120	—————	5 INCH	120"
4012-624	4312-624	6 INCH	24"
4012-648	4312-648	6 INCH	48"
4012-660	4312-660	6 INCH	60"
4012-672	—————	6 INCH	72"
4012-696	—————	6 INCH	96"

PLEASE CONTACT US FOR QUOTES ON CUSTOM BENDING REQUIREMENTS
304 STAINLESS STEEL PARTS AVAILABLE ON SPECIAL ORDER



PLAIN END

STRAIGHT EXTENSION STACK MITRE CUT

CHROME	DIA	LENGTH
420-418	4 INCH	18"
420-436	4 INCH	36"
420-524	5 INCH	24"
420-536	5 INCH	36"
420-548	5 INCH	48"
420-560	5 INCH	60"
420-636	6 INCH	36"
420-660	6 INCH	60"

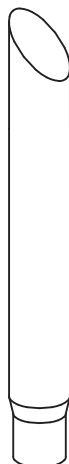


EXPANDED & SLOTTED

STRAIGHT EXTENSION STACK MITRE CUT

CHROME	DIA	LENGTH
4211-424	4 INCH	24"
4211-524	5 INCH	24"
4211-536	5 INCH	36"
4211-572	5 INCH	72"
4211-584	5 INCH	84"
4211-596	5 INCH	96"
4211-648	6 INCH	48"
4211-696	6 INCH	96"
4211-6108	6 INCH	108"

PLEASE CONTACT US FOR QUOTES ON CUSTOM BENDING REQUIREMENTS
304 STAINLESS STEEL PARTS AVAILABLE ON SPECIAL ORDER



CURVED REDUCED EXTENSION STACK ONE PIECE-NO WELDS-CHROME PLATED

EXPANDED & SLOTTED

CHROME	DIA	LENGTH
4012-5648	6 INCH TO 5 INCH ID	48"
4012-5660	6 INCH TO 5 INCH ID	60"
4012-5684	6 INCH TO 5 INCH ID	84"
4012-5696	6 INCH TO 5 INCH ID	96"
4012-56108	6 INCH TO 5 INCH ID	108"
4012-56120	6 INCH TO 5 INCH ID	120"

STRAIGHT REDUCED MITRE CUT EXTENSION STACK ONE PIECE-NO WELDS-CHROME PLATED PLAIN END

CHROME	DIA	LENGTH
420-5648	6 INCH TO 5 INCH OD	48"
420-5660	6 INCH TO 5 INCH OD	60"

STRAIGHT REDUCED MITRE CUT EXTENSION STACK ONE PIECE-NO WELDS-CHROME PLATED EXPANDED & SLOTTED

CHROME	DIA	LENGTH
4211-5672	6 INCH TO 5 INCH ID	72"
4211-5696	6 INCH TO 5 INCH ID	96"
4211-56108	6 INCH TO 5 INCH ID	108"
4211-56120	6 INCH TO 5 INCH ID	120"

PLEASE CONTACT US FOR QUOTES ON CUSTOM BENDING REQUIREMENTS
304 STAINLESS STEEL PARTS AVAILABLE ON SPECIAL ORDER



■ PRECISION BALANCED VANE ASSEMBLY

(Meets engine manufacturers exhaust specifications)

■ BRONZE BUSHING AND BEARING

(Long life and trouble free operation)

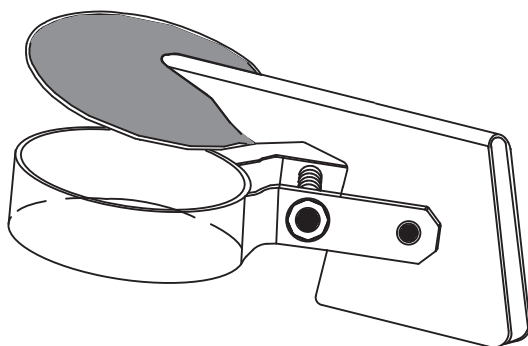
■ DUEL VANE COUNTERBALANCE

(Rugged anti warp design)

■ WELDED LID ASSEMBLY

(Stands up under severe usage)

■ HEAVY DUTY PLATING THROUGHOUT



STANDARD

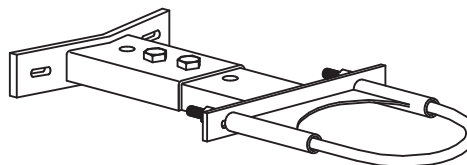
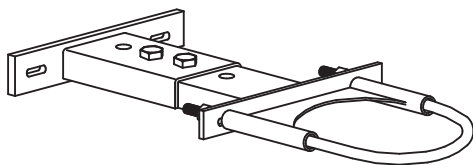
ZINC	CHROME	SIZE
9-150		1.50"
9-175		1.75"
9-200		2.00"
9-225		2.25
9-250		2.50"
9-275		2.75"
9-300		3.00"
9-350		3.50"
9-400	409-400	4.00"
9-450		4.50"
9-500	409-500	5.00"
9-525		5.25"
9-550		5.50"
9-575		5.75"
9-600		6.00"
9-6625		6.625"
9-800		8.00"

SILENT STYLE

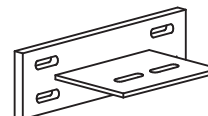
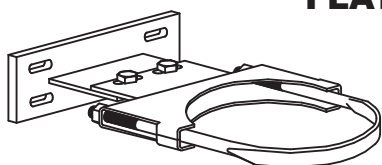
ZINC	SIZE
9-300 SL	3.00"
9-350 SL	3.50"
9-400 SL	4.00"
9-500 SL	5.00"
9-600 SL	6.00"

PLEASE CONTACT US FOR QUOTES ON CUSTOM BENDING REQUIREMENTS

304 STAINLESS STEEL PARTS AVAILABLE ON SPECIAL ORDER

**FLAT-52-SERIES ZINC PLATED****CURVED -51-SERIES ZINC PLATED**

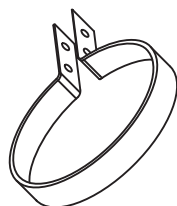
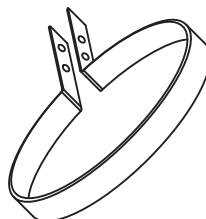
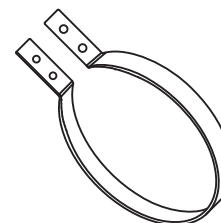
PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
58-52-4	4" FLAT	58-51-4	4" CURVED
58-52-5	5" FLAT	58-51-5	5" CURVED
58-52-6	6" FLAT	58-51-6	6" CURVED

FLAT-53-SERIES CHROME PLATED**ASSEMBLY****DETAIL 1****DETAIL 2**

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
58-53-4	4" FLAT	58-53-4 D1	4" FLAT	58-53-D2	MOUNTING BASE
58-53-5	5" FLAT	58-53-5 D1	5" FLAT		
58-53-6	6" FLAT	58-53-6 D1	6" FLAT		

UNIVERSAL MUFFLER MOUNTING BRACKET.

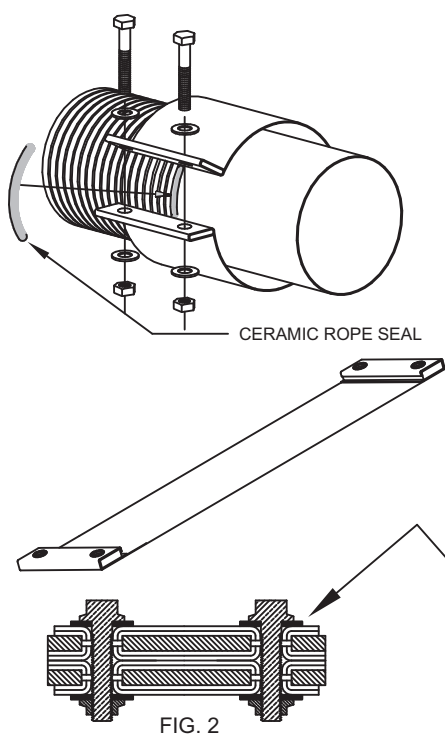
PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
350-047	6" ROUND	350-054	11" ROUND
350-048	7" ROUND	350-055	12" ROUND
350-049	8" ROUND	350-056	8" X 11" HORIZONTAL OVAL
350-050	8.5" ROUND	350-057	10" X 15" VERTICLE OVAL
350-051	9" ROUND	350-058	10" X 15" HORIZONTAL OVAL
350-052	10" ROUND	350-059	8" X 11" VERTICLE OVAL

**ROUND****HORIZONTAL OVAL****VERTICLE OVAL**



Sealmaster Clamps

- SEALMASTER CLAMPS CAN BE USED TO CONNECT OVERLAPPING ID FLEXIBLE METAL HOSE TO OD METAL TUBING OR TO JOIN SLOTTED OR UNSLOTTED OD TUBING TO ID TUBING.
- THE SEALMASTER CLAMP DESIGN PROVIDES SUPERIOR STRENGTH AND DURABILITY WHILE ENSURING A TIGHT WELL SEALED JOINT.



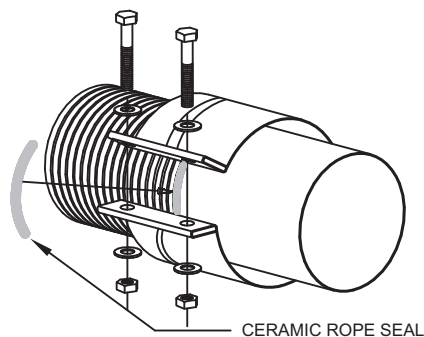
HIGH STRENGTH FORMED GROMMETS FLARED INTO THE DRAW BAR PROVIDE EXCEPTIONAL STRENGTH AND DURABILITY FOR DRAWING THE 24 GA. STAINLESS STEEL BAND AROUND THE WORKPIECE.

FLAT BAND STYLE

STAINLESS	ALUMINIZED	SIZE
66-150	66-150 AL	1.50
66-200	66-200 AL	2.00
66-225	66-225 AL	2.25
66-250	66-250 AL	2.50
66-275	66-275 AL	2.75
66-300	66-300 AL	3.00
66-350	66-350 AL	3.50
66-400	66-400 AL	4.00
66-500	66-500 AL	5.00
66-600	66-600 AL	6.00
66-800	66-800 AL	8.00
66-1000	66-1000 AL	10.00

PREFORMED BAND CLAMPS

STAINLESS	ALUMINIZED	SIZE
66-300PF	66-300 PFAL	3.00
66-350PF	66-350 PFAL	3.50
66-400PF	66-400 PFAL	4.00
66-500PF	66-500 PFAL	5.00
66-600PF	66-600 PFAL	6.00

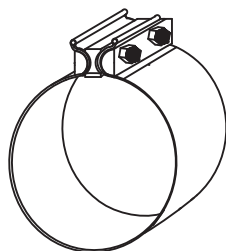
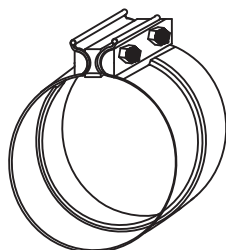




Torc-Tite™ WIDE BAND CLAMPS

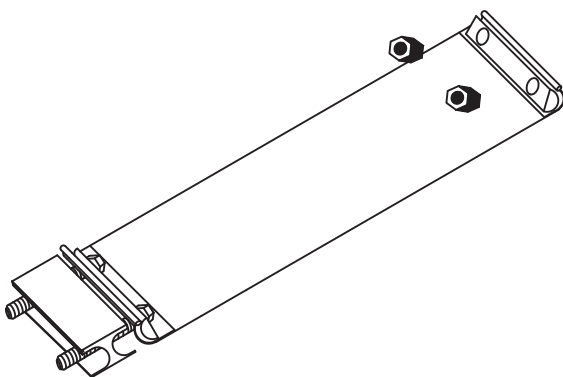
Torc-Tite preformed clamps provide a strong tightly sealed joint without the need for extra gaskets.

Available in lap joint or butt joint applications.



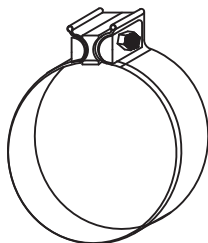
Torc-Tite™ Wide Band Clamps

ALUMINIZED STAINLESS		JOINT	SIZE
4367-200	67-200	LAP JOINT	2.0"
4367-225	67-225	LAP JOINT	2.25"
4367-250	67-250	LAP JOINT	2.50"
4367-275	67-275	LAP JOINT	2.75"
4367-300	67-300	LAP JOINT	3.00"
4367-350	67-350	LAP JOINT	3.50"
4367-400	67-400	LAP JOINT	4.00"
4367-450	67-450	LAP JOINT	4.50"
4367-500	67-500	LAP JOINT	5.00"
4367-600	67-600	LAP JOINT	6.00"
4368-350	68-350	BUTT JOINT	3.50"
4368-400	68-400	BUTT JOINT	4.00"
4368-450	68-450	BUTT JOINT	4.50"
4368-500	68-500	BUTT JOINT	5.00"
4368-600	68-600	BUTT JOINT	6.00"



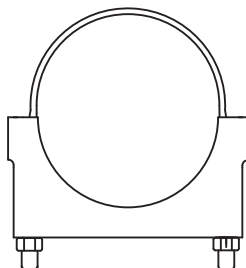
EasySeal™ Flat Band Clamp

STAINLESS	SIZE	
65-400	4.00"	
65-500	5.00"	



AccuSeal™ Clamps

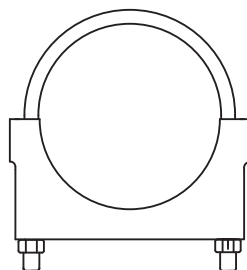
ALUMINIZED STAINLESS	SIZE	
4369-200	69-200	2.0"
4369-225	69-225	2.25"
4369-250	69-250	2.50"
4369-275	69-275	2.75"
4369-300	69-300	3.00"
4369-350	69-350	3.50"
4369-400	69-400	4.00"
4369-450	69-450	4.50"
4369-500	69-500	5.00"
4369-600	69-600	6.00"



HEAVY-DUTY FLAT U-BOLT CLAMPS

Provides a superior seal on all standard installations of elbows, stacks and couplers. .3125 oversize

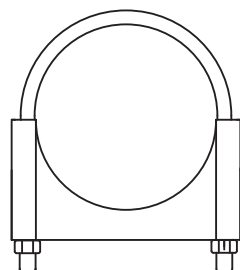
MILL	CHROME	ZINC	SIZE
6-230	406-230	426-230	3"
6-235	406-235	426-235	3.5"
6-240	406-240	426-240	4"
6-250	406-250	426-250	5"
6-260	406-260	426-260	6"



HEAVY-DUTY ROUND U-BOLT CLAMPS

Rugged .3125" oversize for easier installation with exhaust couplers (both straight and flexible). rolled threads for extra long life, strength and ease of installation.

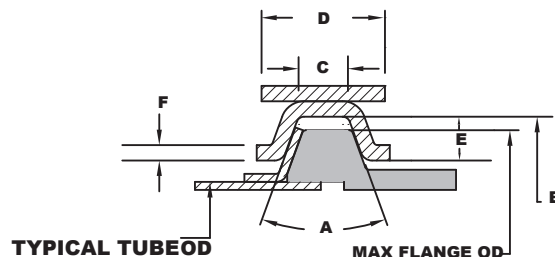
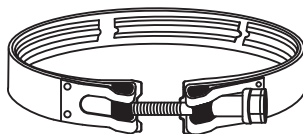
MILL	ZINC	SIZE
6-3150	426-3150	1.5
6-3175	426-3175	1.75
6-320	426-320	2"
6-3225	426-3225	2.25"
6-325	426-325	2.5"
6-3275	426-3275	2.75"
6-330	426-330	3"
6-335	426-335	3.5"
6-340	426-340	4"
6-350	426-350	5"



HEAVY-DUTY GUILLOTINE SADDLE CLAMPS

Precision formed metal clamps .375 u-bolt

MILL	ZINC	SIZE
6-530	426-530	3"
6-535	426-535	3.5"
6-540	426-540	4"
6-550	426-550	5"

**STAINLESS STEEL, V-BAND TYPE FOR USE WITH LIPPED FLANGES.**

TYPICAL TUBE OD

MAX FLANGE OD

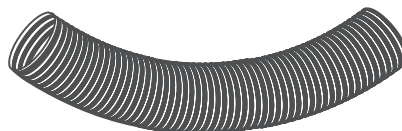
TUBE OD	PART NUMBER	APPLICATION	A	B	C	D	E	F	MAX FLANGE OD
2.50"	88-375	FORD 370 & 429 E5HZ-5A231	40°	3.88	.400	1.00	.355	.125	3.75
2.50"	88-287	DD 8.2T-8920206	40°	2.88	.207	.75	.28	.050	2.75
2.75"	88-313	CUMMINS B	40°	3.22	.262	.85	.14	.050	3.13
3.0"	88-365	FORD D9HT-51210-DA	40°	3.87	.425	.88	.31	.075	3.65
3.0"	88-306	DD 6V71	40°	3.82	.207	.88	.28	.080	3.70
3.0"	88-316	CUMMINS V903	40°	3.88	.400	.88	.28	.050	3.76
3.12"	88-384	OE MUFFLER	40°	3.96	.207	.88	.28	.080	3.84
3.50"	88-403	CUMMINS C	40°	4.12	.262	.67	.14	.050	4.03
3.50"	88-407	CAT 3208T	40°	4.19	.400	.88	.28	.050	4.07
3.50"	88-419	IH DT466 & CONNECTOR ENDS	40°	4.31	.207	.88	.28	.080	4.19
3.50"	88-356	DD8V71	40°	4.50	.207	.88	.28	.080	4.38
3.50"	88-414	CUMMINS VT555	40°	4.25	.400	.88	.28	.050	4.14
3.50"	88-326	DD 8.2L, FORD EOHT58281-BA	40°	4.00	.210	.88	.18	.075	3.78
4.0"	88-401	DD 8.2N	40°	4.06	.162	.88	.29	.075	4.61
4.0"	88-406	12V71-6.71	40°	4.49	.207	.75	.28	.080	4.36
4.0"	88-463	CAT 3176T CUMMINS L10	40°	4.75	.400	1.00	.28	.050	4.63
4.0"	88-462	DD8.2T GM 2295978	40°	4.75	.158	.88	.31	.075	4.62
4.0"	88-482	MACK 11ME29	40°	4.94	.181	.75	.28	.062	4.82
4.0"	88-441	SWITZER 4LDE, FLE 4LH, 4LS	40°	4.50	.262	.75	.14	.050	4.41
4.0"	88-469	CONNECTOR ENDS	40°	4.81	.207	.88	.28	.080	4.69
4.0"	88-479	DD 6-71	40°	4.91	.293	1.13	.30	.090	4.79
4.0"	88-449	MACK 48RU2341	40°	4.61	.156	.75	.22	.050	4.49
4.0"	88-416	AIRESEARCH 4LF-TEO699	40°	4.30	.188	.75	.23	.050	4.38
4.87"	88-516	DD8V71T	40°	5.25	.262	.75	.14	.050	5.16
5.0"	88-456	AIRESEARCH T-1899-THO8A64	40°	5.43	.262	.75	.14	.050	5.15
5.0"	88-506	CUMMINS T50-VT50	40°	5.88	.400	.88	.28	.050	5.79
5.0"	88-569	CONNECTOR ENDS	40°	5.81	.207	.88	.28	.080	5.69
5.0"	88-575	DD 8V71 SPECIAL MANIFOLD	40°	5.87	.365	.88	.30	.050	5.75
5.0"	88-511	DD 6V71, 8V71, 12V71	40°	5.86	.293	1.125	.296	.090	5.795



CUT-AWAY VIEW



COILS AND STRAIGHT LENGTHS



WITH NARROW RIBS FOR GREATER FLEXIBILITY

ALL METAL FLEX HOSE FEATURES 4 PLY INTERLOCKED CONSTRUCTION

HEAVY WEIGHT GALVANIZED

OUR BEST SELLING GALVANIZED HOSE
UNPACKED 25' COILS OR 10' STRAIGHT LENGTHS .016 TO .019 STRIP

PART NUMBER	ID	OD REF	INSIDE BEND DIA	WEIGHT PER FT.	STRETCHED LENGTH
25-1520	1.50"	1.625"	14.0"	1.1 LB	25'
25-17520	1.75"	1.81"	16.0"	1.1 LB	25'
25-2020	2.00"	2.18"	17.0"	1.2 LB	25'
25-22520	2.25"	2.38"	18.0"	1.4 LB	25'
25-2520	2.50"	2.68"	22.0"	1.5 LB	25'
25-27520	2.75"	2.87"	25.0"	1.7 LB	25'
25-3020	3.00"	3.18"	28.0"	1.8 LB	25'
25-3020-120	3.00"	3.18"	28.0"	1.8 LB	10'
25-3520	3.50"	3.68"	32.0"	2.2 LB	25'
25-3520-120	3.50"	3.68"	32.0"	2.2 LB	10'
25-4020	4.0"	4.18"	34.0"	2.5 LB	25'
25-4020-120	4.0"	4.18"	34.0"	2.5 LB	10'
25-5020	5.0"	5.18"	45.0"	3.1 LB	25'
25-5020-120	5.0"	5.18"	45.0"	3.1 LB	10'
25-6020	6.0"	6.18"	55.0"	3.8 LB	25'
25-6020-120	6.0"	6.18"	55.0"	3.8 LB	10'

EXTRA HEAVY DUTY GALVANIZED

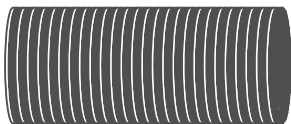
USE IN APPLICATIONS WHERE EXTRA SERVICE LIFE IS REQUIRED
UNPACKED 25' COILS OR 10' STRAIGHT LENGTHS .021 TO .024 STRIP

PART NUMBER	ID	OD REF	INSIDE BEND DIA	WEIGHT PER FT.	STRETCHED LENGTH
25-3026	3.0"	3.25"	27.0"	2.3 LB	25'
25-3026-120	3.0"	3.25"	27.0"	2.3 LB	10'
25-3526	3.50"	3.75"	32.0"	2.6 LB	25'
25-3526-120	3.50"	3.75"	32.0"	2.6 LB	10'
25-4026	4.0"	4.25"	36.0"	3.1 LB	25'
25-4026-120	4.0"	4.25"	36.0"	3.1 LB	10'
25-5026	5.0"	5.25"	45.0"	4.1 LB	25'
25-5026-120	5.0"	5.25"	45.0"	4.1 LB	10'
25-6026	6.0"	6.25"	54.0"	4.8 LB	25'
25-6026-120	6.0"	6.25"	54.0"	4.8 LB	10'
25-8026-120	8.0"	8.25"	72.0"	6.3 LB	10'
25-1026-120	10.0"	10.25"	90.0"	8.2 LB	10'

STAINLESS STEEL TYPE 304

USE IN APPLICATIONS WHERE HIGH TEMPERATURE IS A FACTOR OR MAXIMUM SERVICE LIFE IS DESIRED.
UNPACKED 25' COILS OR 10' STRAIGHT LENGTHS .016 TO .019 STRIP

PART NUMBER	ID	OD REF	INSIDE BEND DIA	WEIGHT PER FT.	STRETCHED LENGTH
302-2020	2.0"	2.16"	17.0"	1.5 LB	25'
302-2520	2.50"	2.68"	22.0"	1.6 LB	25'
302-3020	3.00"	3.18"	28.0"	1.8 LB	25'
302-3020-120	3.00"	3.18"	28.0"	1.8 LB	10'
302-3520	3.50"	3.68"	32.0"	2.2 LB	25'
302-3520-120	3.50"	3.68"	32.0"	2.2 LB	10'
302-4020	4.0"	4.18"	34.0"	2.5 LB	25'
302-4020-120	4.0"	4.18"	34.0"	2.5 LB	10'
302-5020	5.0"	5.18"	45.0"	3.1 LB	25'
302-5020-120	5.0"	5.18"	45.0"	3.1 LB	10'
302-6020	6.0"	6.18"	55.0"	3.8 LB	25'
302-6020-120	6.0"	6.18"	55.0"	3.8 LB	10'
302-8020-120	8.0"	8.16"	68.0"	4.6 LB	10'
302-1020-120	10.0"	10.16"	90.0"	6.2 LB	10'

**FLEX HOSE CUT LENGTHS**

- **FLEXIBLE METAL HOSE CUT LENGTHS ARE EASY TO INSTALL AND EASY TO STOCK.**
- **ALL CUT LENGTHS ARE TRIMMED, DEBURRED AND SPOT WELDED ON BOTH ENDS.**

EXTRA HEAVY DUTY GALVANIZED CUT LENGTHS .021 TO .024 STRIP

PART NUMBER	ID	LENGTH
25-4026-12	4.00"	12"
25-4026-18	4.00"	18"
25-4026-24	4.00"	24"
25-4026-36	4.00"	36"
25-5026-12	5.00"	12"
25-5026-18	5.00"	18"
25-5026-24	5.00"	24"
25-5026-36	5.00"	36"

HEAVY WEIGHT GALVANIZED CUT LENGTHS .016 TO .019 STRIP

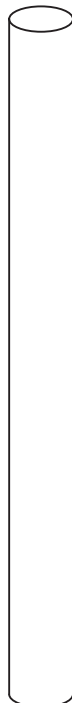
PART NUMBER	ID	LENGTH
25-4020-12	4.00"	12"
25-4020-18	4.00"	18"
25-4020-24	4.00"	24"
25-4020-36	4.00"	36"
25-5020-12	5.00"	12"
25-5020-18	5.00"	18"
25-5020-24	5.00"	24"
25-5020-36	5.00"	36"

TYPE 304 STAINLESS STEEL CUT LENGTHS .016 TO .019 STRIP

PART NUMBER	ID	LENGTH
302-4020-12	4.00"	12"
302-4020-18	4.00"	18"
302-4020-24	4.00"	24"
302-4020-36	4.00"	36"
302-5020-12	5.00"	12"
302-5020-18	5.00"	18"
302-5020-24	5.00"	24"
302-5024-36	5.00"	36"



TUBING



ALUMINUM

DURABLE, RUST RESISTANT, LIGHT WEIGHT FOR AIR INLET TUBING. FURNISHED IN 10' SECTIONS.

STEEL

EXCELLENT SERVICE LIFE ALL TUBING MEETS SAE SPEC. 1006/1008. AVAILABLE IN 10' MILL LENGTHS, SIZES UP TO 6" ARE 16 GAUGE. 7", 8" & 10" ARE 14 GAUGE. 12" IS 12 GAUGE

ALUMINIZED

ALUMINUM COATED STEEL TUBING. USE IN PLACE OF STEEL TUBING WHEN SUPERIOR CORROSION RESISTANCE IS DESIRED. THIS TUBING CANNOT BE PLATED.

STAINLESS STEEL

304 STAINLESS STEEL. 16 AND 11 GAUGE.

STEEL TUBING

PART NO.	SIZE
10-15	1.50"
10-175	1.75"
10-20	2.00"
10-225	2.25"
10-25	2.50"
10-275	2.75"
10-30	3.00"
10-35	3.50"
10-40	4.00"
10-45	4.50"
10-50	5.00"
10-55	5.50"
10-60	6.00"
10-70	7.00"
10-80	8.00"
10-10	10.00"
10-12	12.00"

ALUMINIZED TUBING

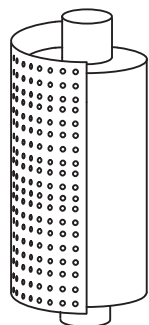
PART NO.	SIZE
4310-20	2.00"
4310-25	2.50"
4310-30	3.00"
4310-35	3.50"
4310-40	4.00"
4310-50	5.00"
4310-60	6.00"

ALUMINUM TUBING

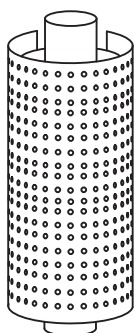
PART NO.	SIZE
27-030	3.00"
27-040	4.00"
27-050	5.00"
27-055	5.50"
27-060	6.00"
27-070	7.00"
27-080	8.00"

STAINLESS TUBING

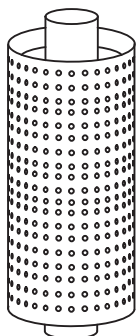
PART NO.	SIZE
10-20-065-304 SS	2.00"
10-25-065-304 SS	2.50"
10-30-065-304 SS	3.00"
10-35-065-304 SS	3.50"
10-40-065-304 SS	4.00"
10-50-065-304 SS	5.00"
10-60-065-304 SS	6.00"
10-40-125-304 SS	4.00"
10-50-125-304 SS	5.00"

**POLISHED STAINLESS STEEL MUFFLER GUARDS****180 DEG 1/2 CIRCLE**

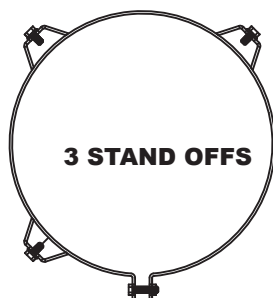
Part No.	Size	Description
57-9513-9	9"	MUFFLER GUARD ONLY
57-9513-10	10"	MUFFLER GUARD ONLY
57-9511-9	9"	MUFFLER GUARD WITH CLAMPS
57-9511-10	10"	MUFFLER GUARD WITH CLAMPS

**270 DEG 3/4 CIRCLE**

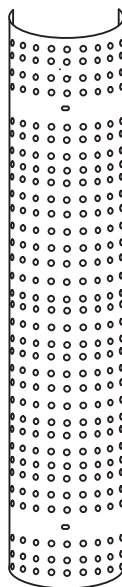
Part No.	Size	Description
57-9713-9	9"	MUFFLER GUARD ONLY
57-9713-10	10"	MUFFLER GUARD ONLY
57-9711-9	9"	MUFFLER GUARD WITH CLAMPS
57-9711-10	10"	MUFFLER GUARD WITH CLAMPS

**360 DEG FULL CIRCLE**

Part No.	Size	Description
57-9913-9	9"	MUFFLER GUARD ONLY
57-9913-10	10"	MUFFLER GUARD ONLY
57-9911-9	9"	MUFFLER GUARD WITH CLAMPS
57-9911-10	10"	MUFFLER GUARD WITH CLAMPS

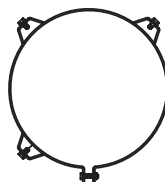
**3 STAND OFFS****4 STAND OFFS****ZINC PLATED MUFFLER GUARD CLAMPS**

Part No.	Size	Description
56-9515-9	9"	MUFFLER GUARD CLAMP 3 STAND OFFS
56-9515-9-4	9"	MUFFLER GUARD CLAMP 4 STAND OFFS
56-9515-10	10"	MUFFLER GUARD CLAMP 3 STAND OFFS
56-9515-10-4	10"	MUFFLER GUARD CLAMP 4 STAND OFFS



POLISHED STAINLESS STEEL STACK GUARDS 180 DEG 1/2 CIRCLE

Part No.	Size	Description
57-4480	4"	STACK GUARD ONLY
57-5480	5"	STACK GUARD ONLY
57-6480	6"	STACK GUARD ONLY
57-4482	4"	STACK GUARD WITH CLAMPS
57-5482	5"	STACK GUARD WITH CLAMPS
57-6482	6"	STACK GUARD WITH CLAMPS



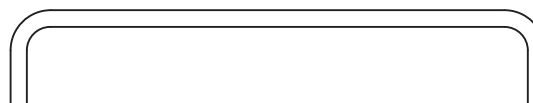
3 STAND OFFS

ZINC PLATED STACK GUARD CLAMPS (CLAMPS SOLD INDIVIDUALLY)

Part No.	Size	Description
56-9514-4	4"	4" STACK GUARD CLAMP
56-9514-5	5"	5" STACK GUARD CLAMP
56-9514-6	6"	6" STACK GUARD CLAMP

CHROME PLATED GRAB HANDLES

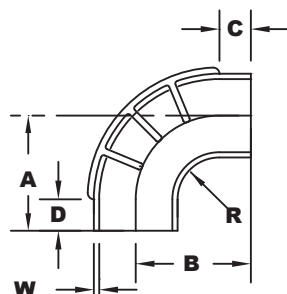
Part No.	Description
56-9818	18" GRAB HANDLE
56-9824	24" GRAB HANDLE



air intake parts



rubber elbows

1-800-331-9247

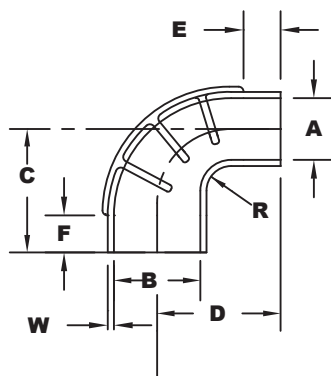
90 DEG ELBOWS

PART NUMBER	ID	A	B	C	D	R	W	CLAMP NUMBER
7-290	2.00	3.50	3.50	1.50	1.50	2.00	.22	8-20
7-22590	2.25	3.75	3.75	1.50	1.50	2.25	.22	8-225
7-2590	2.50	4.00	4.00	1.50	1.50	2.50	.25	8-25
7-390	3.00	5.25	5.25	1.75	1.50	2.00	.25	8-30
7-3590	3.50	5.50	5.50	1.75	1.50	2.00	.25	8-35
7-490	4.00	5.75	5.75	1.75	1.50	2.00	.25	8-40
7-4590	4.50	6.00	6.00	1.75	1.50	1.75	.25	8-45
7-590	5.00	6.12	6.12	1.75	1.62	1.75	.25	8-50
7-5590	5.50	6.50	6.50	1.75	1.75	1.75	.25	8-55
7-690	6.00	7.00	7.00	2.25	2.00	1.75	.25	8-60
7-790	7.00	7.56	7.56	2.25	2.00	1.75	.31	8-70
7-890	8.00	8.50	8.50	2.00	2.25	2.12	.37	8-80
7-1090	10.00	10.50	10.50	2.25	2.25	3.12	.37	8-91

ALL ELBOWS 5.5" AND OVER ARE RIBBED TO PROVIDE MAXIMUM RESISTANCE TO INTERNAL VACUUM

SHORT RADIUS 90 DEG ELBOWS

PART NUMBER	ID	A	B	C	D	R	W	CLAMP NUMBER
73-5590	5.50	6.50	6.50	1.75	1.75	1.75	.25	8-55
73-5591	5.50	8.00	6.00	1.75	1.75	1.00	.25	8-55
73-690	6.00	5.00	5.00	1.50	1.50	1.00	.25	8-60
73-691	6.00	5.00	6.50	1.50	1.50	1.00	.25	8-60



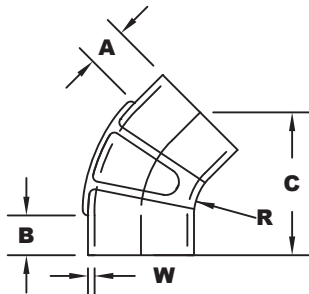
90 DEG REDUCING ELBOWS

PART NUMBER	A	B	C	D	E	F	R	W	CLAMP NUMBER
7-42590	2.50	4.00	6.50	6.50	—	—	—	—	8-275 / 8-40
7-427590	2.75	4.00	6.50	4.00	—	—	3.00	.25	8-275 / 8-40
7-43590	4.00	3.50	3.62	4.50	1.50	.500	3.00	.19	8-40 / 8-35
7-5490	4.00	5.00	5.75	6.00	—	—	3.75	.25	8-40 / 8-50
7-55590	5.50	5.00	6.50	5.20	1.20	2.50	4.00	.25	8-55 / 8-50
7-6590	5.00	6.00	7.00	6.00	1.50	1.70	1.50	.25	8-50 / 8-60
7-65590	5.50	6.00	6.75	6.75	1.75	1.75	1.75	.25	8-55 / 8-60
7-7590	5.00	7.00	7.00	6.25	1.75	2.75	1.50	.25	8-50 / 8-70
7-75590	5.50	7.00	5.75	6.25	1.50	1.50	.625	.31	8-55 / 8-70
7-7690	6.00	7.00	9.00	7.56	3.00	3.00	.500	.37	8-60 / 8-70
7-8790	7.00	8.00	8.00	8.00	2.00	2.00	4.00	.50	8-70 / 8-80

90 DEG SHORT RADIUS REDUCING ELBOWS

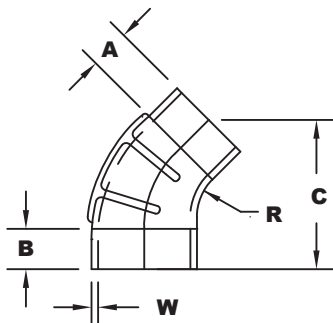
PART NUMBER	A	B	C	D	E	F	R	W	CLAMP NUMBER
73-6590	5.00	6.00	4.75	4.75	1.25	1.25	1.25	.25	8-50 / 8-60
73-65590	5.50	6.00	4.80	5.00	1.50	1.50	1.50	.25	8-55 / 8-60

45 DEGREE ELBOWS



PART NUMBER	ID	A	B	C	R	W	CLAMP NUMBER
7-22545	2.25	3.00	1.12	—	1.54	.16	8-225
7-345	3.00	1.50	1.50	5.50	2.00	.25	8-30
7-3545	3.50	1.50	1.50	5.50	2.00	.25	8-35
7-445	4.00	1.50	1.50	5.50	2.00	.25	8-40
7-545	5.00	1.62	1.62	5.25	1.75	.25	8-50
7-5545	5.50	1.75	1.75	6.25	1.75	.25	8-55
7-645	6.00	2.00	2.00	6.50	1.75	.25	8-60
7-745	7.00	2.25	2.25	8.00	1.75	.31	8-70
7-845	8.00	2.25	2.25	8.25	2.12	.37	8-80
7-1045	10.00	2.25	2.25	10.50	3.12	.37	8-91

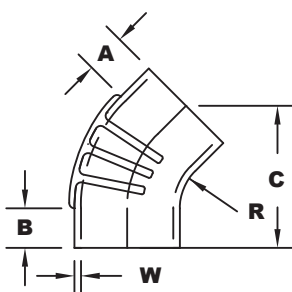
ALL ELBOWS 5.5" AND OVER ARE RIBBED TO PROVIDE MAXIMUM RESISTANCE TO INTERNAL VACUUM



45 DEGREE REDUCING ELBOWS

PART NUMBER	ID	A	B	C	R	W	CLAMP NUMBER
7-65545	5.50 X 6.00	1.75	1.75	6.50	4.87	.25	8-55 / 8-60
7-7645	6.00 X 7.00	2.00	2.00	7.38	5.56	.31	8-60 / 8-70

SPECIAL APPLICATION ELBOWS



PART NUMBER	DEG	ID	A	B	C	R	W	CLAMP NUMBER
7-422	22	4.00	1.50	1.50	4.50	1.75	.25	8-40
7-4568	68	4.50	1.50	1.50	6.75	1.75	.25	8-45
7-5522	22	5.50	1.75	1.75	5.25	1.75	.25	8-55
7-5554	54	5.50	1.75	1.75	7.75	2.50	.25	8-55
7-5568	68	5.50	1.75	1.75	8.25	4.00	.25	8-55
7-622	22	6.00	1.75	1.75	5.25	1.75	.25	8-60
7-638	38	6.00	2.30	2.30	7.25	.750	.31	8-60
7-654	54	6.00	1.50	1.50	7.50	2.50	.25	8-60
7-668	68	6.00	1.75	1.75	8.50	4.00	.25	8-60
7-722	22	7.00	1.75	1.75	5.49	5.56	.31	8-70
7-768	68	7.00	2.00	2.00	7.93	5.56	.31	8-70
7-7668	68	7.00 X 6.00	2.00	2.00	7.93	5.56	.31	8-70
7-863	63	8.00	2.00	2.00	11.00	1.25	.37	8-80

air intake

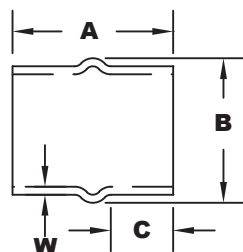
parts



Engine Control Systems

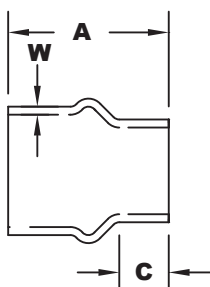
rubber hoses & reducers

1-800-331-9247



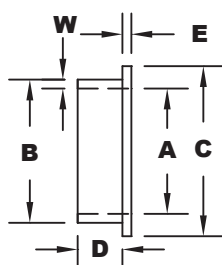
HUMP HOSE

PART NUMBER	ID	A	B	C	W	CLAMP NUMBER
7-830	3.00	5.25	4.50	2.00	2.00	8-30
7-835	3.50	5.25	5.00	2.00	.25	8-35
7-840	4.00	5.25	5.37	2.00	.25	8-40
7-844	4.50	6.00	6.00	3.00	.25	8-45
7-850	5.00	6.00	6.12	2.25	.25	8-50
7-855	5.50	6.00	7.00	2.25	.25	8-55
7-860	6.00	6.00	7-38	3.00	.25	8-60
7-870	7.00	7.00	8-50	2.50	.31	8-70
7-880	8.00	8.00	10.37	3.00	.31	8-81
7-810	10.00	6.00	11.50	2.00	.25	8-91



HUMP HOSE REDUCERS

PART NUMBER	ID	A	B	C	D	W	CLAMP NUMBER
7-325	2.50 X 3.00	6.00	4.25	2.12	3.00	.25	8-275 / 8-30
7-353	3.00 X 3.50	5.25	5.00	2.12	2.12	.25	8-30 / 8-35
7-4275	2.75 X 4.00	4.00	5.50	.750	2.25	.19	8-275 / 8-40
7-430	3.00 X 4.00	5.25	5.50	1.50	1.75	.25	8-30 / 8-40
7-435	3.50 X 4.00	5.00	5.38	1.75	2.50	.21	8-35 / 8-40
7-540	4.00 X 5.00	5.50	6.50	1.50	1.75	.25	8-40 / 8-50
7-554	4.00 X 5.50	6.00	7.00	1.87	2.00	.25	8-40 / 8-55
7-555	5.00 X 5.50	6.00	7.00	1.87	2.00	.25	8-50 / 8-55
7-650	5.00 X 6.00	6.00	7.50	1.87	2.00	.25	8-50 / 8-60
7-655	5.50 X 6.00	6.00	7.50	2.00	2.00	.25	8-55 / 8-60
7-750	5.00 X 7.00	7.00	8.50	2.25	3.50	.25	8-50 / 5-70
7-755	5.50 X 7.00	7.00	8.50	2.25	2.75	.25	8-55 / 8-70
7-760	6.00 X 7.00	5.00	8.50	1.44	1.50	.25	8-60 / 8-70
7-558	5.50 X 8.00	7.00	9.50	1.75	1.75	.25	8-55 / 8-81
7-680	6.00 X 8.00	5.00	9.50	1.38	1.50	.25	8-60 / 8-81
7-780	7.00 X 8.00	5.00	9.50	1.44	1.50	.25	8-70 / 8-81
7-108	8.00 X 10.00	6.00	11.50	1.75	2.00	.25	8-81 / 8-91



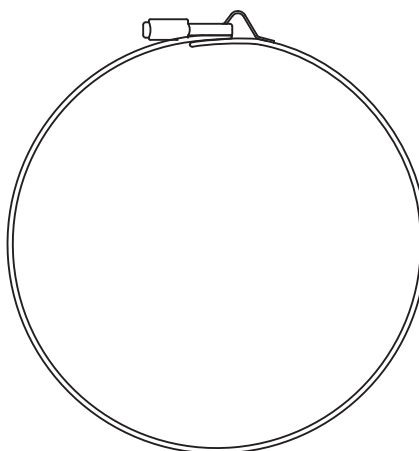
REDUCER INLET SLEEVE

PART NUMBER	A	B	C	D	E	W
7-423	3.00	4.00	4.50	1.25	.25	.50
7-4235	3.50	4.00	4.50	1.25	.25	.25
7-4524	4.00	4.50	5.00	1.50	.25	.25
7-524	4.00	5.00	5.50	1.50	.25	.50
7-5524	4.00	5.50	6.00	1.50	.25	.25
7-5245	4.50	5.00	5.50	1.50	.25	.25
7-5525	5.00	5.50	6.00	1.50	.25	.25
7-625	5.00	6.00	6.50	1.50	.25	.25
7-6255	5.50	6.00	6.50	1.50	.25	.25
7-726	6.00	7.00	7.50	1.50	.25	.50
7-827	7.00	8.00	8-50	1.50	.25	.50


AIR INLET CLAMPS

PART NUMBER	MIN DIA.	MAX DIA.
8-20	2.03"	2.34"
8-225	2.40"	2.71"
8-25	2.53"	2.84"
8-275	3.03"	3.34"
8-30	3.28"	3.59"
8-325	3.53"	3.84"
8-35	3.78"	4.09"
8-40	4.28"	4.59"
8-45	4.78"	5.09"
8-50	5.28"	5.59"
8-525	5.50"	6.15"
8-55	5.81"	6.46"
8-60	6.40"	7.05"
8-70	7.25"	7.90"
8-80	8.56"	9.22"
8-81	8.16"	8.81"
8-91	10.50"	11.15"

**PERMITS FLEXIBLE ASSEMBLY OF
 RUBBER ELBOWS AND ALUMINUM
 TUBING. FULL CLAMPING ACTION.
 STAINLESS STEEL BAND WITH EXTRA
 LONG 2.75" T-BOLT**



ELBOWS, STACKS & CONNECTORS

RAIN CAPS & CLAMPS

GUARDS & TUBING

AIR INTAKE PARTS

PERFORMANCE EXHAUST

MUFFLERS

HOOD HOOKS & FENDERS

DIESEL EXHAUST PURIFICATION

GASEOUS EXHAUST PURIFICATION

exhaust

performance

4" systems for diesel exhaust

Engine Control Systems

1-800-331-9247

ALL PERFORMANCE RETROFIT SYSTEMS INCLUDE

4" DIAMETER MANDREL BEND PIPES

16 GA ALUMINIZED STEEL

LESS BACK PRESSURE

IMPROVED PERFORMANCE

EASE OF INSTALLATION

ONE PIECE TAIL PIPE CONSTRUCTION

2001-2004 GMC/CHEVY C2500 / 3500 K2500 /3500 DIESEL ENGINE 133", 143.5" AND 157.5" CAB

66-400

66-400

66-400

66-400

GMTP 4000

4012-412

112-412

DURAMAX DOWN PIPE

CONVERTER

4310-472

D13-0122

1999- 2002 FORD F250/350 7.3 L POWER STROKE TURBO DIESEL ENGINE

66-400

66-400

66-400

66-400

66-400

FTP 4000

4012-412

112-412

FDP 4000

CONVERTER

4310-472

D13-0122

2003 DODGE RAM PICKUP 2500 / 3500 5.9L CUMMINS TURBO DIESEL ENGINE

66-400

66-400

66-400

66-400

66-400

DTP 4000

4012-412

112-412

DDP 4000-03

CONVERTER

4310-472

D13-0122

1995-2002 DODGE RAM PICKUP 5.9L CUMMINS TURBO DIESEL

66-400

66-400

66-400

66-400

66-400

DTP 4000

4012-412

112-412

DDP 4000

CONVERTER

4310-472

D13-0122

PLEASE CONTACT US FOR QUOTES ON CUSTOM BENDING REQUIREMENTS

304 STAINLESS STEEL PARTS AVAILABLE ON SPECIAL ORDER

35

**Tiedown Hooks**

Part Number	Description (length x width)
36-350	3 1/2" x 1.9"
36-500	5 1/16" x 3 1/2"
36-501*	5 1/16" x 3 1/2"
36-575	5 7/8" x 3 1/2"
36-576*	5 7/8" x 3 1/2"
36-800*	8" x 3 1/2"
36-1300	13" x 3 1/2"

* Has anti-rattle nub.

Anchor Pins

Part Number	Description (length x width)
36-015	1 5/8" Anchor Bracket
36-017	1 1/4" Anchor Bracket

Hood Hook & Battery Box Latch Kits

Part Number	Description	Contents
36-350K	5 1/16" x 3 1/2" Tiedown/Battery Box Hook Kit	1) 36-350 – 3 1/2" x 1.9" Tiedown Strap 1) 36-017 – 1 1/2" Anchor Bracket 1) 36-006 – 1 1/8" Long Hood Bracket, Stem Up 1) 36-013 – 1/4" NC x 1 1/2" HH N/Lock Nut
36-500K	5 1/16" x 3 1/2" Tiedown/Battery Box Hook Kit	1) 36-500 – 5 1/16" x 3 1/2" Tiedown Strap 1) 36-017 – 1 1/2" Anchor Bracket 1) 36-006 – 1 1/8" Long Hood Bracket, Stem Up 1) 36-013 – 1/4" NC x 1 1/2" HH N/Lock Nut
36-501K	5 1/16" x 3 1/2" Tiedown/Battery Box Hook Kit	1) 36-501 – 5 1/16" x 3 1/2" Tiedown Strap (Has anti-rattle nub) 1) 36-017 – 1 1/2" Anchor Bracket 1) 36-004 – 2 5/32" Long Hood Bracket, Stem Up 1) 36-013 – 1/4" NC x 1 1/2" HH N/Lock Nut
36-575K	5 7/8" x 3 1/2" Tiedown/Battery Box Hook Kit	1) 36-575 – 5 7/8" x 3 1/2" Tiedown Strap 1) 36-015 – 1 5/8" Anchor Bolt 1) 36-012 – 5/16" NF x 2" HH N/Lock Nut 1) 36-006 – 1 1/8" Long Hood Bracket, Stem Up
36-576K	5 1/16" x 3 1/2" Tiedown/Battery Box Hook Kit	1) 36-576 – 5 7/8" x 3 1/2" Tiedown Strap (has anti-rattle nub) 1) 36-015 – 1 5/8" Anchor Bolt 1) 36-012 – 5/16" NF x 2" HH N/Lock Nut 1) 36-002 – 2 1/16" Long Hood Bracket, Stem Down <i>Interchanges with Peterbilt Part No. 23-02233</i>
36-800K	8" x 3 1/2" Tiedown Hood Hook Kit	1) 36-800 – 8" x 3 1/2" Tiedown Strap 1) 36-015 – 1 5/8" Anchor Bolt 1) 36-004 – 2 5/32" Long Hood Bracket, Stem Up 1) 36-012 – 5/16" NF x 2" HH N/Lock Nut <i>Interchanges with Peterbilt Part No. 23-02700 and Freightliner Part No. N31-01073-00</i>
36-1300K	13" x 3 1/2" Tiedown Hood Hook Kit	1) 36-1300 – 13" x 3 1/2" Tiedown Strap 1) 36-015 – 1 5/8" Anchor Bolt 1) 36-004 – 2 5/32" Long Hood Bracket, Stem Up 1) 36-012 – 5/16" NF x 2" HH N/Lock Nut

Hood Brackets

Part Number	Description (length x width)
36-001	Stem Up Bracket, 1 1/8" Long
36-002	Stem Down Bracket, 2 1/16" Long
36-003	Stem Down with Slot, 2 1/16" Long
36-004	Stem Up, 2 5/32" Long
36-005	Stem Flat, 3 1/4" Long
36-006	Stem Up, 1 1/8" Long

Bolts & Nuts/Hardware

Part Number	Description (length x width)
36-012	5/16" NF x 2" HH N/Lock-Nut
36-013	1/4" NC x 1 1/2" HH N/Lock-Nut

hardware parts

hooks and latches



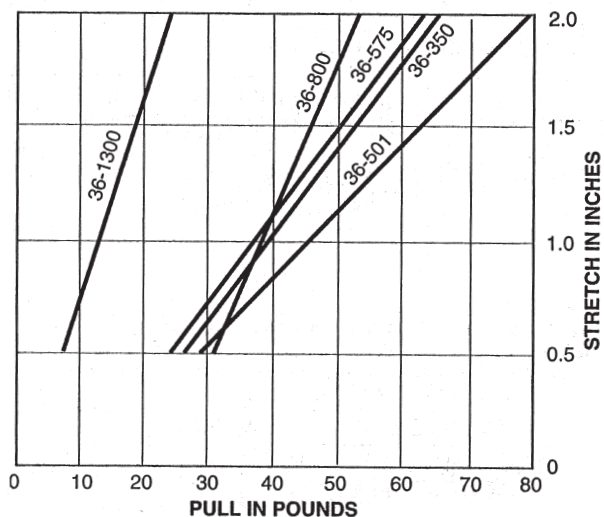
Engine Control Systems

1-800-331-9247

Rubber Hooks

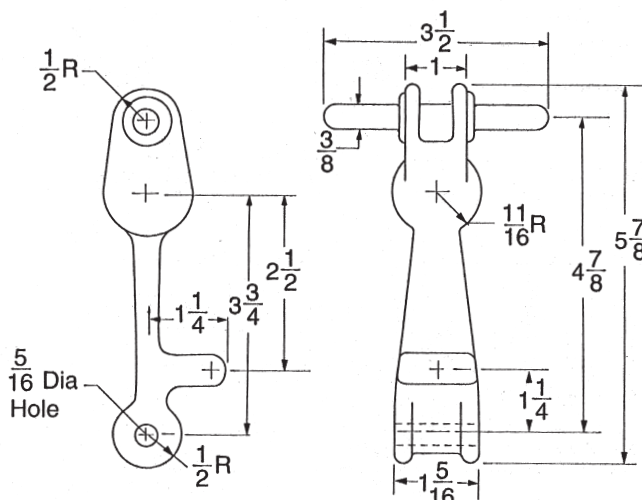
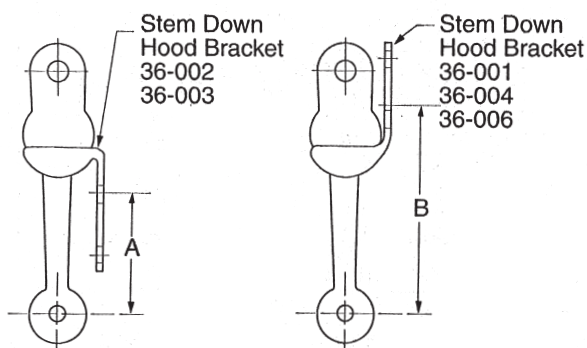
Determine stretch or holding force required from the load deflection chart. Add zero-stretch dimension (A or B) to locate hood bracket in relation to anchor bracket.

Load Deflection Chart

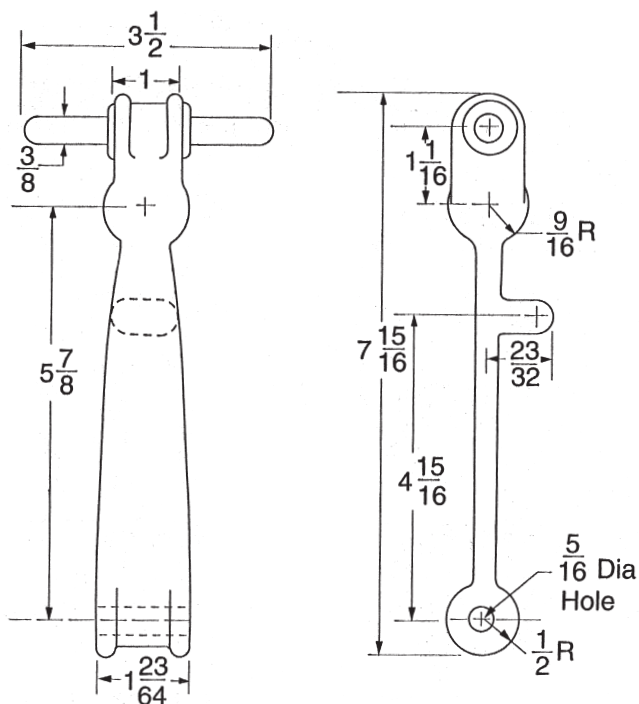


Zero Stretch Dimensions

Hood Hook	36-002	36-001	36-004	36-006
36-350	A = 1 1/16	B = 2 3/8	B = 2 3/8	B = 4 13/16
36-500	A = 2	B = 3 3/16	B = 3 3/16	B = 6
36-501	A = 2	B = 3 3/16	B = 3 3/16	B = 6
36-575	A = 2 5/8	B = 3 7/8	B = 3 7/8	B = 6 11/16
36-576	A = 2 5/8	B = 3 7/8	B = 3 7/8	B = 6 11/16
36-800	A = 4 3/4	B = 6 1/16	B = 6 1/16	B = 8 5/8
36-1300	A = 10 5/8	B = 11 3/4	B = 11 3/4	B = 14 19/32



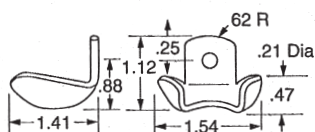
Stock No. 36-576, with anti-rattle nub. Our standard model. Especially suited to fasten truck hoods and heavy duty applications



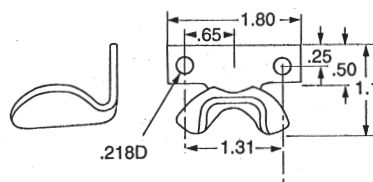
Stock No. 36-800, with anti-rattle nub.



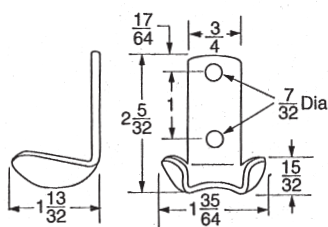
Metal Hardware



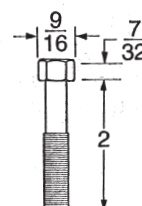
Hood Bracket
Stock No. 36-001
Short stem-up type,
12 gauge zinc-plated
steel. Use with
all hooks.



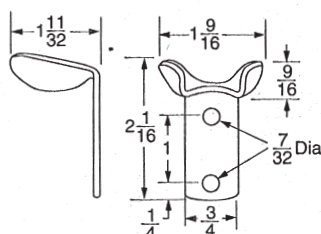
Hood Bracket
Stock No. 36-006
Short stem-up type,
13 gauge zinc-plated
steel. Use with
all hooks.



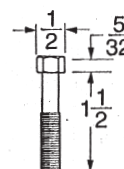
Hood Bracket
Stock No. 36-004
Stem-up type,
12 gauge zinc-plated
steel. Use with
all hooks.



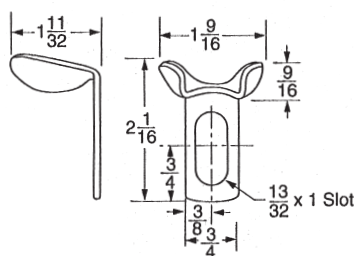
Anchor Bolts
Stock No. 36-012
5/16 NF x 2 HH
Cad. Pl. Bolt
W/Self-Locking Nut.
Use with Nos.
36-576, 36-575, 36-800
and 36-1300.



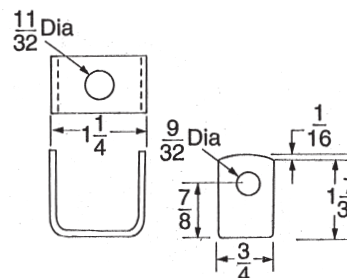
Hood Bracket
Stock No. 36-002
Stem-down type,
12 gauge zinc-plated
steel. Use with
all hooks.



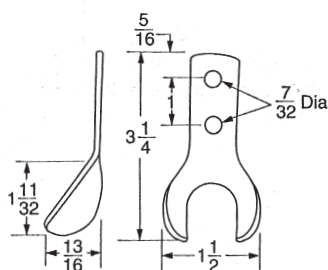
Anchor Bolts
Stock No. 36-013
1/4 NC x 1 1/2 HH
Cad. Pl. Bolt
W/Self-Locking Nut.
Use with Nos.
36-501, 36-500,
and 36-350.



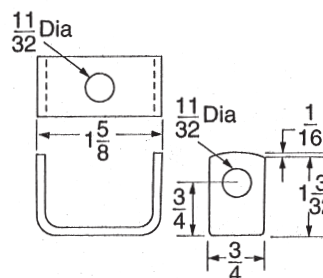
Hood Bracket
Stock No. 36-003
Stem-down type with
slot, Zinc-plated
12-gauge steel.
Use with all hooks.



Anchor Bracket
Stock No. 36-017
11 gauge zinc-plated
steel. Use with Nos.
36-576, 36-575, 36-
800 and 36-1300.



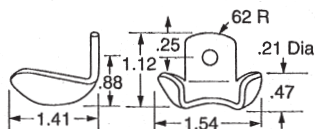
Hood Bracket
Stock No. 36-005
Stem-flat type,
12 gauge zinc-plated
steel. Use with
all hooks.



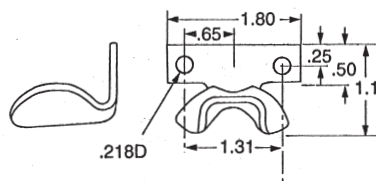
Anchor Bracket
Stock No. 36-015
14 gauge zinc-plated
steel. Use with Nos.
36-501, and 36-350.



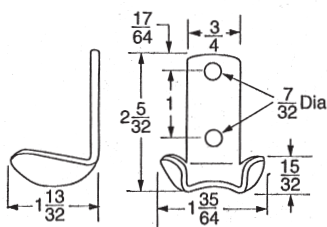
Metal Hardware



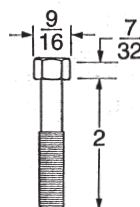
Hood Bracket
Stock No. 36-001
Short stem-up type,
12 gauge zinc-plated
steel. Use with
all hooks.



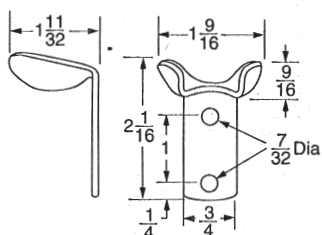
Hood Bracket
Stock No. 36-006
Short stem-up type,
13 gauge zinc-plated
steel. Use with
all hooks.



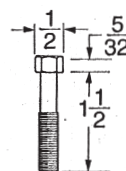
Hood Bracket
Stock No. 36-004
Stem-up type,
12 gauge zinc-plated
steel. Use with
all hooks.



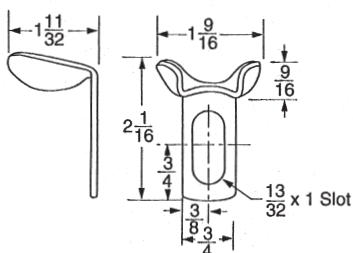
Anchor Bolts
Stock No. 36-012
5/16 NF x 2 HH
Cad. Pl. Bolt
W/Self-Locking Nut.
Use with Nos.
36-576, 36-575, 36-800
and 36-1300.



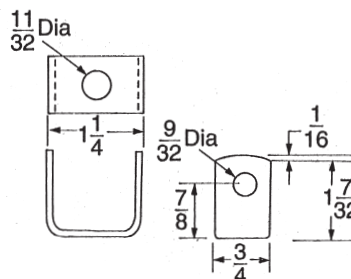
Hood Bracket
Stock No. 36-002
Stem-down type,
12 gauge zinc-plated
steel. Use with
all hooks.



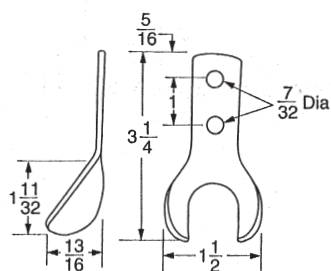
Anchor Bolts
Stock No. 36-013
1/4 NC x 1 1/2" HH
Cad. Pl. Bolt
W/Self-Locking Nut.
Use with Nos.
36-501, 36-500,
and 36-350.



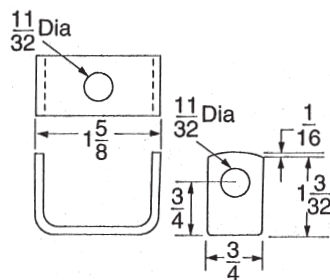
Hood Bracket
Stock No. 36-003
Stem-down type with
slot, Zinc-plated
12-gauge steel.
Use with all hooks.



Anchor Bracket
Stock No. 36-017
11 gauge zinc-plated
steel. Use with Nos.
36-576, 36-575, 36-
800 and 36-1300.

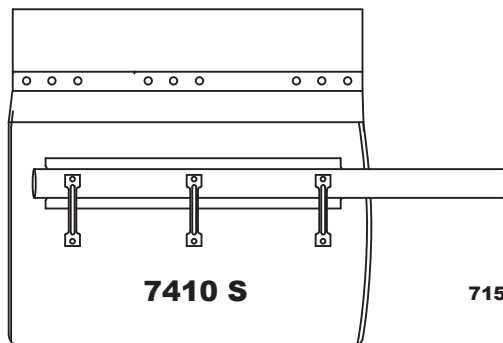


Hood Bracket
Stock No. 36-005
Stem-flat type,
12 gauge zinc-plated
steel. Use with
all hooks.

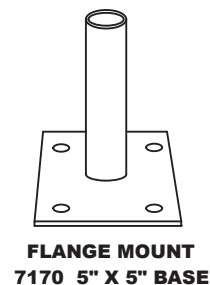
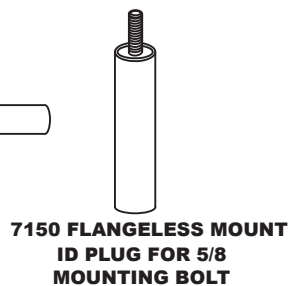


Anchor Bracket
Stock No. 36-015
14 gauge zinc-plated
steel. Use with Nos.
36-501, and 36-350.

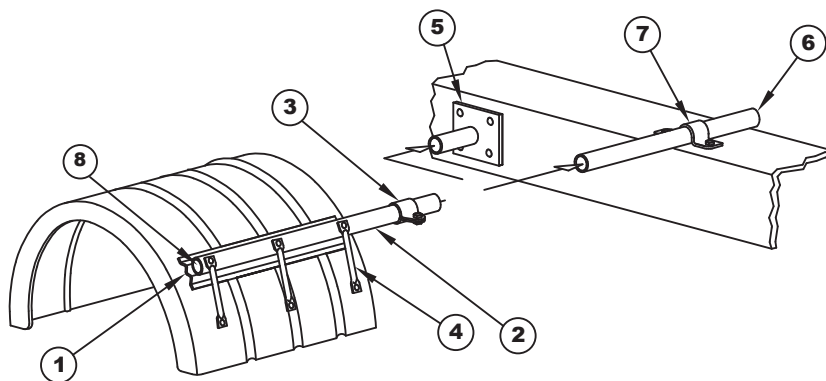
TRACTOR/TRAILER FENDERS



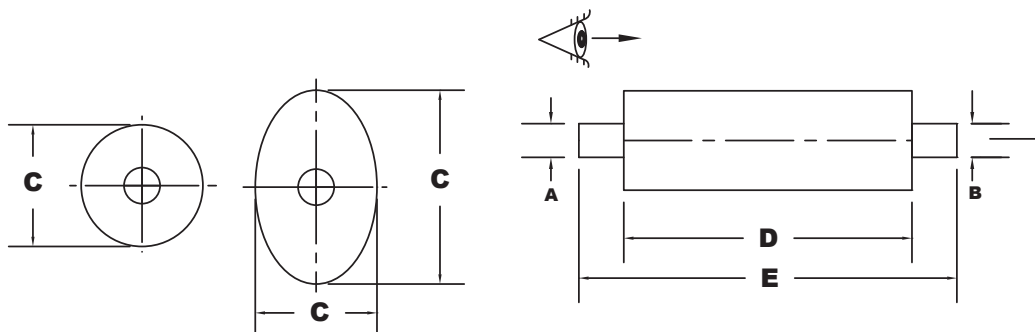
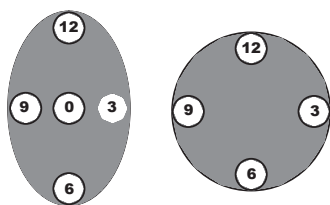
STAINLESS STEEL 1/4 FENDER



TRACTOR/TRAILER FENDER MOUNTING ACCESSORIES



DETAIL NO.	PART NUMBER	ITEM NAME	EACH PAIR CONTAINS
①	7414	SPACER	2
②	7416	SUPPORT TUBE	2
③	7118	SUPPORT TUBE CLAMP	2
④	7419	BRACE	6
⑤	7170	FLANGE MOUNT (OPTIONAL)	2
⑥	7115	CROSSOVER TUBE (OPTIONAL)	2
⑦	7117	CROSSOVER CLAMP (OPTIONAL)	2
⑧	7420	STAINLESS STEEL END CAP	2

**TYPE 1 CENTER END INLET / END OUTLET****INLET-OUTLET CLOCK POSITIONS****OVAL MUFFLER ROUND MUFFLER**

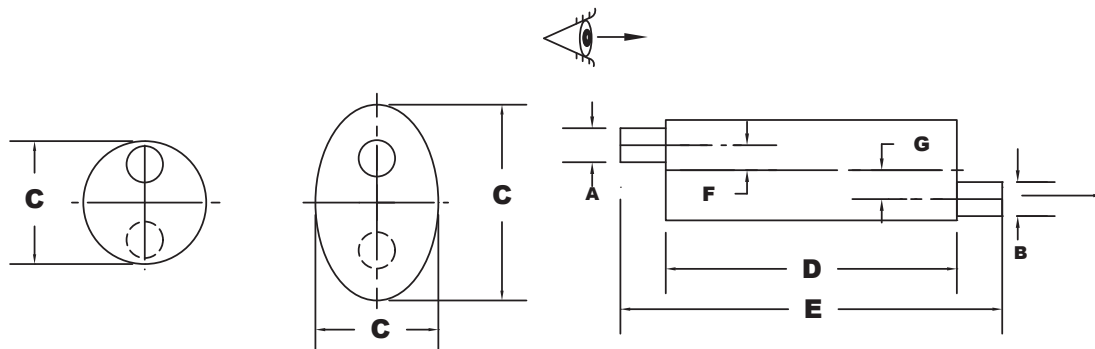
NOTE: ALL CLOCK POSITIONS ARE DETERMINED BY VIEWING THE MUFFLER FROM THE END VIEW, NEAREST THE INLET.

PART NUMBER	A INLET ID	B OUTLET OD	C BODY SIZE	D BODY LENGTH	E OVERALL LENGTH	F INLET OFFSET	G OUTLET OFFSET	H INLET LENGTH	INLET CLOCK POSITION	OUTLET CLOCK POSITION
D12-4000	2.5	2.5	6	28.5	33.5	0	0	3.5	0	0
D13-7635	3	3	9	10	16	0	0	3	0	0
D13-3500	3.5	3.5	8.5	29.5	37	0	0	3.5	0	0
D13-1188	4	4	7	22	28	0	0	3	0	0
D13-0122	4	4	8.5	24	31	0	0	3.5	0	0
D13-4060	4	4	8.5	33	40	0	0	3.5	0	0
D13-2003	4	4	9	44.5	51	0	0	3	0	0
D13-0196	4	4	9	44	52	0	0	3	0	0
D13-4590	4	4	9	44	52	0	0	3.5	0	0
D13-7637	4	4	9	20	27	0	0	3.5	0	0
D16-0001	4	4	9	11.5	16	0	0	2.5	0	0
D13-4510	4	4	10	44	52	0	0	3.5	0	0
D13-4515	4	5	10	44	51	0	0	3.5	0	0
D13-0123	5	5	9	23	30	0	0	3.5	0	0
D13-5090	5	5	9	44	52	0	0	3.5	0	0
D13-5590	5	5	9	44	52	0	0	3.5	0	0
D13-0002	5	5	9	11.5	16.5	0	0	2.5	0	0
D13-0099	5	5	10	44	51	0	0	3	0	0
D13-5010	5	5	10	41	51.5	0	0	3.5	0	0
D13-5510	5	5	10	44	51	0	0	3.5	0	0
D13-1044	6	6	10	44	51	0	0	3.5	0	0

ADDITIONAL MUFFLERS AVAILABLE ON SPECIAL ORDER TO ADDRESS CUSTOM APPLICATIONS

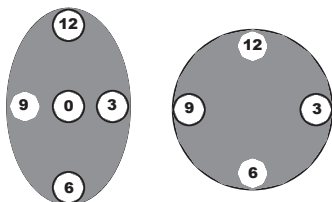


TYPE 2 END INLET / END OUTLET



NOTE: ALL CLOCK POSITIONS ARE DETERMINED BY VIEWING THE MUFFLER FROM THE END VIEW, NEAREST THE INLET.

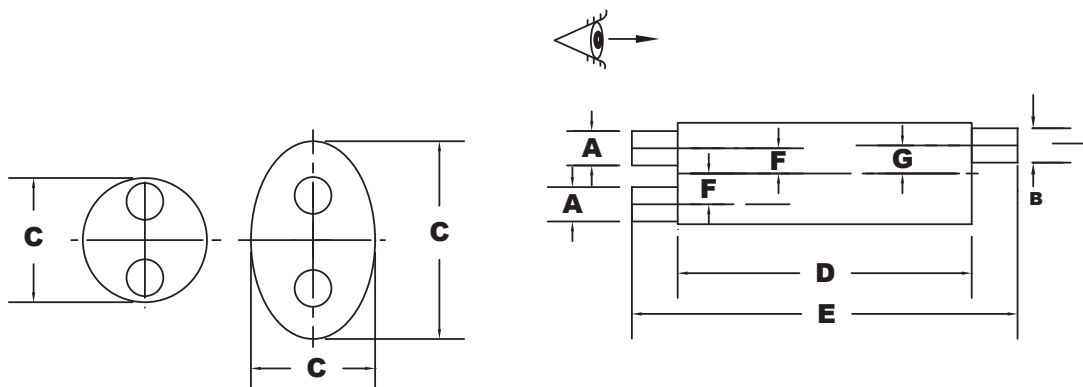
INLET-OUTLET CLOCK POSITIONS



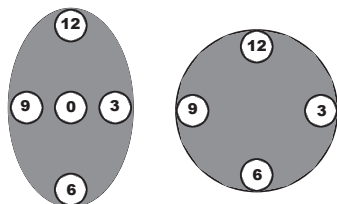
OVAL MUFFLER ROUND MUFFLER

PART NUMBER	A INLET ID	B OUTLET ID	C BODY SIZE	D BODY LENGTH	E OVERALL LENGTH	F INLET OFFSET	G OUTLET OFFSET	H INLET LENGTH	INLET CLOCK POSITION	OUTLET CLOCK POSITION
D12-2230	2.25	2.25	6	26.5	34	1.375	1.375	3.5	6	12
D12-2240	2.5	2.5	6	26.5	34	1.375	1.375	3.5	6	12
D12-3030	3	3	8.5	20	26	2.125	2.125	3	6	12
D12-3430	3	3	8.5	29.5	35.5	2.125	2.125	2.5	6	12
D12-5001	3	3	4.5 X 11	23	28	0	0	2.5	0	12
D12-5003	3	3	4.5 X 11	23	28	3	3	2.5	6	0
D13-6295	3.5	4	8.25 X 11.5	29.5	36.5	2.75	2.75	3.5	7	13
D13-1147	4	4	11	36	43	2.5	2.5	3.5	12	6
D13-6040	4	4	11	36	44	3	3	3.5	6	12
D13-4022	4	4	8.25 X 11.5	26.5	33.5	2.75	2.75	3.5	6	12
D13-2025	5	5	10 X 15	26	33	3.3	3.3	3	12	6

ADDITIONAL MUFFLERS AVAILABLE ON SPECIAL ORDER TO ADDRESS CUSTOM APPLICATIONS

**TYPE 3 DUEL END INLET / SINGLE END OUTLET**

NOTE: ALL CLOCK POSITIONS ARE DETERMINED BY VIEWING THE MUFFLER FROM THE END VIEW, NEAREST THE INLET.

INLET-OUTLET CLOCK POSITIONS

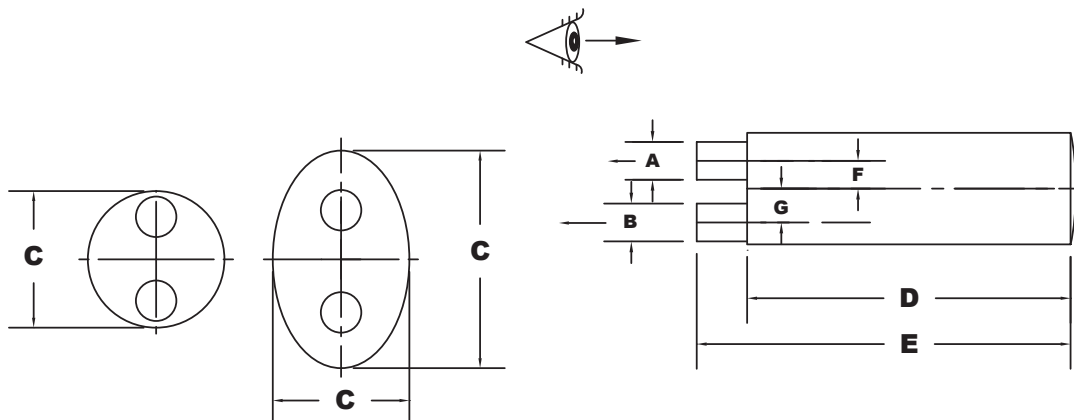
OVAL MUFFLER ROUND MUFFLER

PART NUMBER	A INLET ID	B OUTLET ID	C BODY SIZE	D BODY LENGTH	E OVERALL LENGTH	F INLET OFFSET	G OUTLET OFFSET	H INLET LENGTH	INLET CLOCK POSITION	OUTLET CLOCK POSITION
D12-3250	2.5-2.5	3	8.5	29.5	36	1.25	2.125	3.5	5-7	12
D13-6001	2.75-2.75	4	8.25 X 11.5	29.5	33	3	3	3	0-12	12

ADDITIONAL MUFFLERS AVAILABLE ON SPECIAL ORDER TO ADDRESS CUSTOM APPLICATIONS

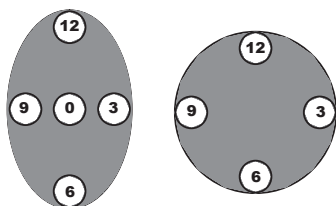


TYPE 4 INLET AND OUTLET-SAME END



NOTE: ALL CLOCK POSITIONS ARE DETERMINED BY VIEWING THE MUFFLER FROM THE END VIEW, NEAREST THE INLET.

INLET-OUTLET CLOCK POSITIONS

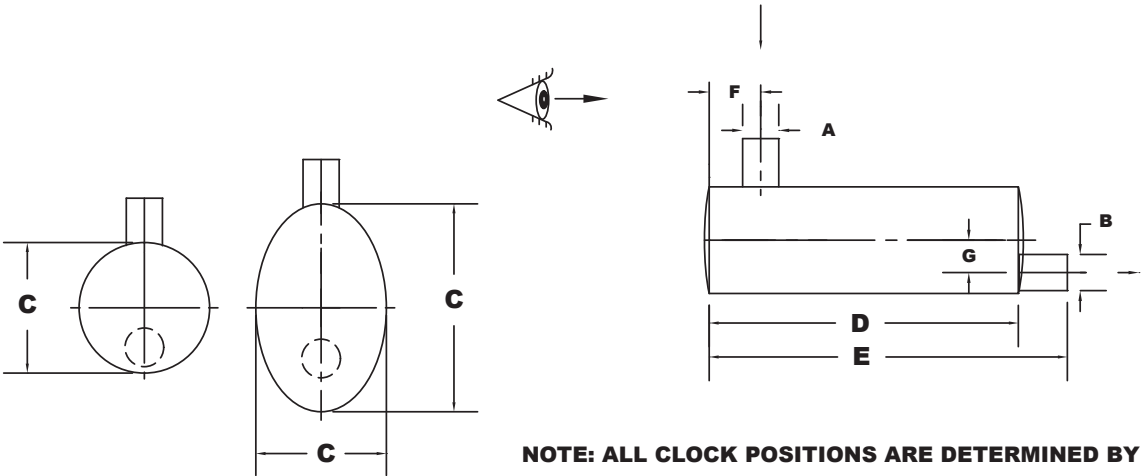


OVAL MUFFLER ROUND MUFFLER

PART NUMBER	A INLET ID	B OUTLET ID	C BODY SIZE	D BODY LENGTH	E OVERALL LENGTH	F INLET OFFSET	G OUTLET OFFSET	H INLET LENGTH	INLET CLOCK POSITION	OUTLET CLOCK POSITION
D13-0102	5	5	10 X 15	44	47.5	3.5	3.5	3.5	6	12
D13-2007	5	5	10 X 15	36	39	4	4	3	6	12
D13-2011	5	5	10 X 15	26	29	3	3	3	12	6

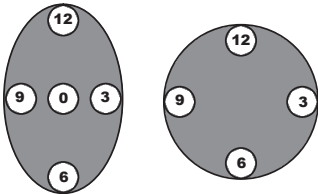
ADDITIONAL MUFFLERS AVAILABLE ON SPECIAL ORDER TO ADDRESS CUSTOM APPLICATIONS

TYPE 6 SIDE INLET AND END OUTLET



NOTE: ALL CLOCK POSITIONS ARE DETERMINED BY VIEWING THE MUFFLER FROM THE END VIEW, NEAREST THE INLET.

INLET-OUTLET CLOCK POSITIONS



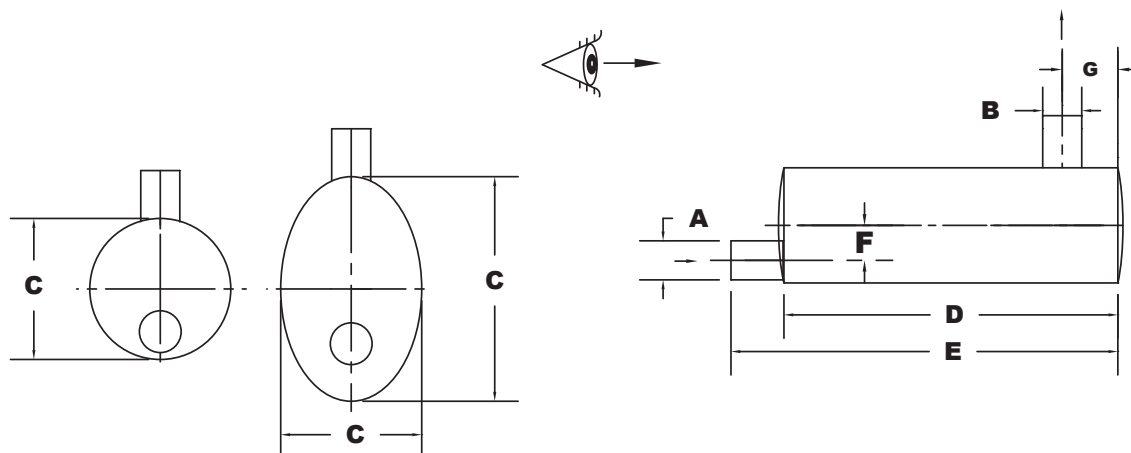
OVAL MUFFLER ROUND MUFFLER

PART NUMBER	A INLET ID	B OUTLET ID	C BODY SIZE	D BODY LENGTH	E OVERALL LENGTH	F INLET OFFSET	G OUTLET OFFSET	H INLET LENGTH	INLET CLOCK POSITION	OUTLET CLOCK POSITION
D13-7605	2.5	2.5	6.5	21	23.5	3.5	1.4	2.7	6	9
D13-5550	5	5	10	44	48	5.5	0	3	12	0

ADDITIONAL MUFFLERS AVAILABLE ON SPECIAL ORDER TO ADDRESS CUSTOM APPLICATIONS

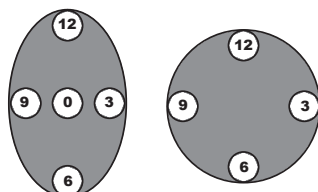


TYPE 9 END INLET AND SIDE OUTLET



NOTE: ALL CLOCK POSITIONS ARE DETERMINED BY VIEWING THE MUFFLER FROM THE END VIEW, NEAREST THE INLET.

INLET-OUTLET CLOCK POSITIONS



OVAL MUFFLER ROUND MUFFLER

PART NUMBER	A INLET ID	B OUTLET ID	C BODY SIZE	D BODY LENGTH	E OVERALL LENGTH	F INLET OFFSET	G OUTLET OFFSET	H INLET LENGTH	INLET CLOCK POSITION	OUTLET CLOCK POSITION
D13-4285	4	4	10	26.5	30.5	3	7	3.5	6	11
D13-1134	4	4	11	36	39.5	0	32	3.5	0	12
D13-2076	5	5	11	36	39.5	2.25	28.5	3.5	6	12

ADDITIONAL MUFFLERS AVAILABLE ON SPECIAL ORDER TO ADDRESS CUSTOM APPLICATIONS

Diesel Oxidation Catalysts [DOC's]

THE BEST DOC SOLUTION IN THE INDUSTRY, PERIOD!



ECS Diesel Purifiers contain either a ceramic monolith (AZ Series) or metallic monolith (DZ Series) substrate coated with advanced precious metal catalysts and packaged into stainless steel housings. These purifiers oxidize hazardous carbon monoxide (CO) and hydrocarbons (HC) to form harmless carbon dioxide (CO₂) and water (H₂O).

The AZ diesel purifiers will also reduce total particulate matter (TPM) emissions by typically 20%-40+% by oxidizing the soluble organic fraction (SOF) of the particulate, whereas other manufacturer brands can only offer verified PM reduction* values of 20% - 26%. Our competition claims to offer similar levels of PM reduction, but only ECS backs it up with EPA verification.

With over 800 direct fit designs, ECS Diesel Oxidation Catalysts provide the most cost-effective reduction in the industry. ECS provides you with an environmental solution that you can really feel good about!

Diesel Particulate Filters [DPF's]

DEVELOPING AND PIONEERING SOLUTIONS THAT WORK!

The ECS **Purifilter™** removes particulate matter from exhaust gas through porous ceramic walls of the substrate, which result in the diesel particulate matter being removed from the exhaust stream. When going through the regeneration process, the accumulated particulate/soot in the filter channels is burned and reduced to a light ash so to renew the filters capacity to trap particulate. The Purifilter™

was the first passive regeneration DPF to attain an industry leading 90% PM reduction credit value. Manufactured with Silicon Carbide substrates, the ECS Purifilter™ complies with the California Air Resources Board (CARB) limits on NO₂ emissions.



To find out how our EPA/ARB Verified solutions will resolve your environmental reduction needs, call us at 1-800-661-9963 or visit us at www.enginecontrolsyste.ms.com

The ECS **Cattrap** is a catalyzed Cordierite DPF which has a coated filter substrate with a base metal catalytic layer that reduces PM by 85%. The Cattrap is a passive regeneration diesel particulate filter designed specifically for mining and other heavy industrial applications.



The **Combifilter™** is an active regeneration DPF and is comprised of a diesel particulate filter with a regeneration station. The filter assembly typically removes >85% of PM from the engine exhaust.



The Combifilter™ can be used on any captive fleet vehicle or stationary engine. It is best suited to applications where exhaust temperatures are insufficient for passive regeneration or the vehicle has varying duty cycles. A Combifilter™ is more restrictive than a passive filter because the substrate must be removed or the vehicle has to be brought to a cleaning station.

Finally! The ultimate solution is here – Purifilter Plus. The **ECS Purifilter™ Plus** incorporates electric elements with a passively regenerating Purifilter DPF. The result is a DPF with an extended application range for higher emitting highway and non-road diesel engines including an enhanced ability to operate under variable or colder duty cycles. This broadened application range is possible as the Purifilter Plus can be regenerated through two methods instead of one. Whether you are looking at a passively or actively regenerating DPF, Engine Control Systems can tailor a system that best fits your applications.



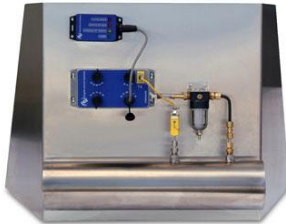
*Current EPA Verified Technologies PM reduction values dependent upon the specific engine and application using USLD fuel. Values are subject to change.

To find out how our EPA/ARB Verified solutions will resolve your environmental reduction needs, call us at 1-800-661-9963 or visit us at www.enginecontrolsyste.ms.com

Complementary Products

ENSURE AIR QUALITY, PRODUCTIVITY AND YOUR EMPLOYEE'S HEALTH AND SAFETY, ALWAYS!

The **CombiClean** is an automatic cleaning station used for the regularly scheduled maintenance on your DPF which is required to ensure long life and efficiency. The cleaning process is designed to safely and effectively remove accumulated soot and ash from the filter and provide for the safe disposal of the particulate waste following so as to be in compliance with municipal and environmental guidelines.



The **Back Pressure Monitor and Logger** provides vehicle onboard information for the vehicle user, providing notification of any required maintenance of the emission control system. The equipment also logs information for diagnostic purposes and troubleshooting.

In combination with select Engine Control Systems emission control solutions the **Closed Crankcase Ventilation Systems** provides increased emission reduction by eliminating those coming from the crankcase which normally escape into the environment through the crankcase vent tube. The ECS CCV system does the following:

- Improves passenger compartment air quality, which is especially important in all types of buses (school, shuttle, urban, etc.), refuse and municipal fleets.
- Improves air quality for personnel working in the vicinity of an operating piece of equipment.
- Reduces fouling in the engine compartment and of air coolers, radiators, etc. thereby increasing their efficiency



To find out how our EPA/ARB Verified solutions will resolve your environmental reduction needs, call us at 1-800-661-9963 or visit us at www.enginecontrolsyste.ms.com



Engine Control Systems

Passive DPF Fax Back Sheet

Please fill in the below information and select the configuration of your Passive DPF.

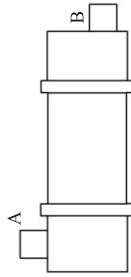
Type 1 – center Inlet/center outlet



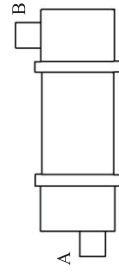
Type 2 – offset Inlet/offset outlet



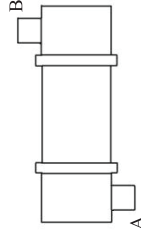
Type 6 – side Inlet/offset outlet



Type 9 – offset Inlet/side outlet



Type 10 – side Inlet/side outlet



Company: _____

Contact Name: _____

Phone: _____

Fax: _____

Date: _____

Engineering Notes: _____

Engine Manufacturer: _____

Engine Model: _____

Model Year: _____

Engine Family Name: _____

Rated Power: _____ hp _____ kW _____ @RPM _____

Aspiration: _____ NA _____ Turbo _____ TA _____

Fuel Control: _____ Mech. _____ Electronic _____

Vehicle Manufacturer: _____

Model: _____

Vehicle Type: _____

Application: (Circle) _____

Off-Road

On-Road

Generator Set

OEM Part Number: _____

Type (see above): Type 1 ☐ Type 2 ☐ Type 6 ☐ Type 9 ☐ Type 10 ☐

Inlet Diameter (A): _____ ID _____ OD _____

Outlet Diameter (B): _____ ID _____ OD _____

Please attach histogram for duty cycle and temperature trace

> Forward electronic copy of exhaust temperature trace files to Technical Service ECS Canada (ectech@enginecontrolsyste.ms.com) for analysis.

> ECS can provide data logging service for selected fleets of greater than 10 vehicles at no cost within NA & Europe.

Faxback (905) 707-7686 DOC's & Mufflers

Engineering specifications - catalytic systems

Note: Please use "fine resolution" when faxing this form.

Engine Control Systems
83 Commerce Valley Drive East
Thornhill, Ontario,
Canada
L3T7T3
Phone: (905) 707-7746

Name: _____

Company: _____

Phone: _____

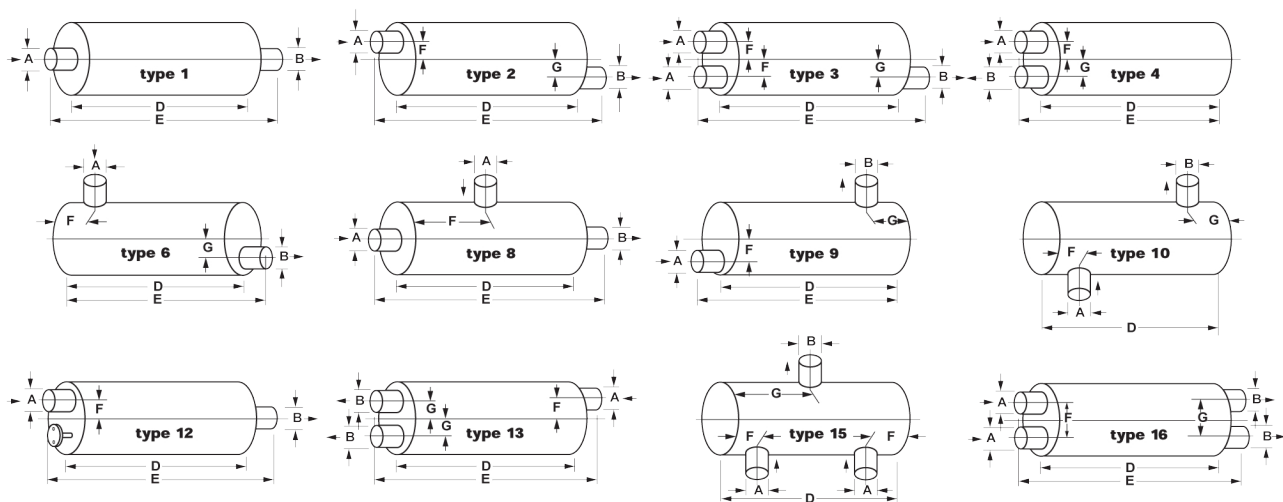
Fax: _____

e-mail: _____

Desired Product: ☐ Catalytic Muffler

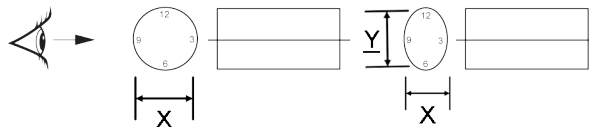
☐ Particulate Filter System

Desired Product Features: _____



Clock Position

Note: view clock position from inlet end only.



Diameter Note:

2 measurements required for oval configuration
EXAMPLE:
X = WIDTH X = 10
Y = HEIGHT Y = 15

Engine Manufacturer:

Engine Model: _____

Model Year: _____ Displacement: _____

No. of Cylinders: ☐ 4-stroke ☐ 2-stroke

Fuel: ☐ Diesel ☐ LPG ☐ CNG
☐ Gasoline ☐ Other

Rated Power: _____ ☐ hp ☐ kW

Aspiration: ☐ NA ☐ Turbo ☐ TA

Fuel Control: ☐ Mech. ☐ Electronic

Maximum Speed (rpm): _____

Torque: _____ ☐ ft.-lbs ☐ Nm

Max Exhaust Flow: _____ afm @: _____ 0°F/0°C

Max Intake Air: _____ scfm:

Vehicle Manufacturer:

Model: _____ Model Year: _____

Vehicle Type: _____

Application: _____

Muffler Information:

OEM Part Number: _____

Other Visible Part Numbers: _____

Muffler Type: _____

Body Diameter/s: X Y

Body Length (D): _____ Overall Length (E): _____

Inlet Diameter (A): ☐ ID ☐ OD

Outlet Diameter (B): ☐ ID ☐ OD

Inlet Clock Position: _____ Outlet Clock Position: _____

Inlet Offset (F): _____ Outlet Offset (G): _____

Length of Inlet from Case: _____

Length of Outlet from Case: _____

Muffler Installation: ☐ Vertical ☐ Horizontal

Muffler Information:

☐ Free Standing ☐ Cradle Support

☐ Flange to Flange ☐ Band Straps

☐ Mounting Brackets

Other: _____


MANDREL TUBE BENDING
MINIMUM CLAMPING DISTANCE BETWEEN BENDS

CLR	TUBE DIAMETER	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"	5.0"	6.0"
CLR-2.00			4.5"						
CLR-2.25		4.25"							
CLR-2.50				4.50"					
CLR-3.00					6.00"				
CLR-3.50						7.50"			
CLR-4.00			7.00"	7.50"					
CLR-4.25							13.00"		
CLR-5.25						11.0"			
CLR-5.50								13.0"	
CLR-6.00					10.0"	11.0"	6.0"		18.0"
CLR-7.00									
CLR-8.00							10.0"	6.0"	
CLR-10.00								12.0"	18.0"

TUBE EXPANSION DEPTH

EXP DEPTH	TUBE DIAMETER	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"	5.0"	6.0"
2.5"		X	X	X					
3.5"					X	X			
4.0"							X		
5.25"							X	X	X

FLEXIBLE METAL HOSE

MAT. TYPE	HOSE ID	3.0"	3.5"	4.0"	5.0"	6.0"	8.0"	10.0"	12.0"
GALVANIZED		X	X	X	X	X	X		
STAINLESS		X	X	X	X	X	X		

CLAMPS

SIZE	1.5"	1.75"	2.0"	2.25"	2.5"	2.75"	3.0"	3.5"	4.0"	4.5"	5.0"	6.0"	7.0"	8.0"	10.0"	12.0"
BAND CLAMPS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
U-BOLT CLAMPS	X	X	X	X	X	X	X	X	X		X	X				



Engine Control Systems



Customer Service Lines

North America and Eastern USA

Tel: 1-800-661-9963

Tel: 1-905-707-9776

Fax: 1-905-707-7686

Western USA

Tel: 1-800-331-9247

Fax: 1-775-827-1670

Website:

www.enginecontrolsyste.ms.com

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Engine Control Systems Limited
(World Headquarters)

83 Commerce Valley Drive East
Thornhill, Ontario, L3T7T3

Canada

Tel: 1-905-707-7746

Fax: 1-905-707-7686

ecs@enginecontrolsyste.ms.com

North America - Western

Engine Control Systems Ltd.
4910 Longley Lane, Suite 103
Reno, Nevada, 89502

Tel: 1-775-827-3400

Fax: 1-775-827-1670

renosales@enginecontrolsyste.ms.com

Europe

Engine Control Systems Europe AB
(European Headquarters)

Box 9015, Agnesfridsvagen, 184
SE-200 39 Malmo, Sweden

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