



In March of 2019, members of A.E.D. Motorsport Products (Indianapolis, IN) and McKinney Corporation (Lafayette, IN) purchased Boyce Industries. For more than 50 years, Boyce Industries has been a performance-oriented company providing high-quality products and services used in motorsports, offering custom and contract tube bending services to motorsports and commercial customers alike. In the mid-1980s, Boyce developed a complete oval steel tube exhaust system for competition use in NASCAR. This was followed by oval track muffler development and boom tube exhaust outlets. Boyce is also a major supplier of complete vehicle frame sections and private label race products.

Both A.E.D. and McKinney are recognized leaders in the performance, automotive, aviation, and aerospace industries, and both companies are certified ISO 9001-2015. These quality practices will be implemented in the new organization. The Boyce Industries brand name will be retained, and services will continue as in the past.

Boyce Industries relocated from its longtime home in Melrose Park, IL, to Indianapolis, IN to best utilize the resources and capabilities of both A.E.D. Motorsport and McKinney Corp.

Under the new ownership, Boyce Industries will continue to specialize in custom and contract tube bending, tube reshaping, and tube end finishing services, such as cutting, expanding, reducing, notching, drilling, and custom welding.

Al Lowe | President









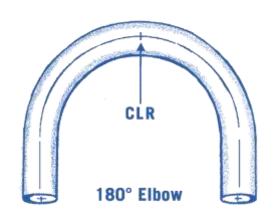
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ROUND STEEL ELBOWS

	180° ELBOWS	
PART #	DESCRIPTION	CLR
LR25180	2-1/2" O.D. Long Radius	10"
SR25180	2-1/2" O.D. Short Radius	5"
TR25180	2-1/2" O.D. Tight Radius	2-1/2"
LR225180	2-1/4" O.D. Long Radius	5-1/2"
SR225180	2-1/4" O.D. Short Radius	4"
TR225180	2-1/4" O.D. Tight Radius	3"
LR20180	2" O.D. Long Radius	6"
SR20180	2" O.D. Short Radius	4"
TR20180	2" O.D. Tight Radius	3"
LR187180	1-7/8" O.D. Long Radius	4-1/2"
SR187180	1-7/8" O.D. Short Radius	4"
TR187180	1-7/8" O.D. Tight Radius	3"
LR175180	1-3/4" O.D. Long Radius	4-1/2"
SR175180	1-3/4" O.D. Short Radius	3-1/2"
TR175180	1-3/4" O.D. Tight Radius	2-1/2"
LR15180	1-1/2" O.D. Long Radius	4"
SR15180	1-1/2" O.D. Short Radius	3-1/2"
TR15180	1-1/2" O.D. Tight Radius	2-1/2"



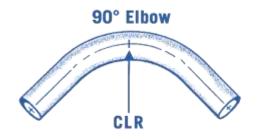
90° ELBOWS			
PART #	DESCRIPTION	CLR	
LR4090E	4" O.D. Long Radius – Expanded One End	10"	
SR4090E	4" O.D. Short Radius – Expanded One End	6"	
LR3590E	3-1/2" O.D. Long Radius – Expanded One End	9"	
SR3590E	3-1/2" O.D. Short Radius – Expanded One End	5-1/4"	
LR3090E	3" O.D. Long Radius – Expanded One End	6"	
SR3090E	3" O.D. Short Radius – Expanded One End	4-1/2"	
LR2590E	2-1/2" O.D. Long Radius – Expanded One End	10"	
SR2590E	2-1/2" O.D. Short Radius – Expanded One End	5"	
TR2590	2-1/2" O.D. Tight Radius	2-1/2"	
LR22590	2-1/4" O.D. Long Radius	5-1/2"	
SR22590	2-1/4" O.D. Short Radius	4"	
TR22590	2-1/4" O.D. Tight Radius	3"	
LR2090	2" O.D. Long Radius	6"	
SR2090	2" O.D. Short Radius	4"	
TR2090	2" O.D. Tight Radius	3"	



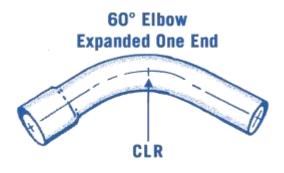


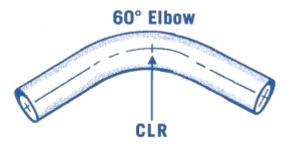
ROUND STEEL ELBOWS

	90° ELBOWS cont.	
PART #	DESCRIPTION	CLR
LR18790	1-7/8" O.D. Long Radius	4-1/2"
SR18790	1-7/8" O.D. Short Radius	4"
TR18790	1-7/8" O.D. Tight Radius	3"
LR17590	1-3/4" O.D. Long Radius	4-1/2"
SR17590	1-3/4" O.D. Short Radius	3-1/2"
TR17590	1-3/4" O.D. Tight Radius	2-1/2"
LR16390	1-5/8" O.D. Long Radius	4-3/8"
SR16390	1-5/8" O.D. Short Radius	4"
TR16390	1-5/8" O.D. Tight Radius	2-1/2"
LR1590	1-1/2" O.D. Long Radius	4"
SR1590	1-1/2" O.D. Short Radius	3-1/2"
TR1590	1-1/2" O.D. Tight Radius	2-1/2"



60° ELBOWS			
PART #	DESCRIPTION	CLR	
LR4060E	4" O.D. Long Radius – Expanded One End	10"	
SR4060E	4" O.D. Short Radius – Expanded One End	6"	
LR3560E	3-1/2" O.D. Long Radius – Expanded One End	9"	
SR3560E	3-1/2" O.D. Short Radius – Expanded One End	5-1/4"	
LR3060E	3" O.D. Long Radius – Expanded One End	6"	
SR3060E	3" O.D. Short Radius – Expanded One End	4-1/2"	
LR2560E	2-1/2" O.D. Long Radius – Expanded One End	10"	
SR2560E	2-1/2" O.D. Short Radius – Expanded One End	5"	
TR2560	2-1/2" O.D. Tight Radius	2-1/2"	
LR22560	2-1/4" O.D. Long Radius	5-1/2"	
SR22560	2-1/4" O.D. Short Radius	4"	
TR22560	2-1/4" O.D. Tight Radius	3"	
LR2060	2" O.D. Long Radius	6"	
SR2060	2" O.D. Short Radius	4"	
TR2060	2" O.D. Tight Radius	3"	
LR18760	1-7/8" O.D. Long Radius	4-1/2"	
SR18760	1-7/8" O.D. Short Radius	4"	
TR18760	1-7/8" O.D. Tight Radius	3"	
LR17560	1-3/4" O.D. Long Radius	4-1/2"	
SR17560	1-3/4" O.D. Short Radius	3-1/2"	
TR17560	1-3/4" O.D. Tight Radius	2-1/2"	

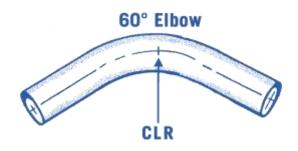






ROUND STEEL ELBOWS

	60° ELBOWS cont.	
PART #	DESCRIPTION	CLR
LR16360	1-5/8" O.D. Long Radius	2-1/2"
SR16360	1-5/8" O.D. Short Radius	4-3/8"
TR16360	1-5/8" O.D. Tight Radius	4"
LR1560	1-1/2" O.D. Long Radius	4"
SR1560	1-1/2" O.D. Short Radius	3-1/2"
TR1560	1-1/2" O.D. Tight Radius	2-1/2"



45° ELBOWS			
PART #	DESCRIPTION	CLR	
LR4045E	4" O.D. Long Radius – Expanded One End	10"	
SR4045E	4" O.D. Short Radius – Expanded One End	6"	
LR3545E	3-1/2" O.D. Long Radius – Expanded One End	9"	
SR3545E	3-1/2" O.D. Short Radius – Expanded One End	5-1/4"	
LR3045E	3" O.D. Long Radius – Expanded One End	6"	
SR3045E	3" O.D. Short Radius – Expanded One End	4-1/2"	
LR2545E	2-1/2" O.D. Long Radius – Expanded One End	10"	
SR2545E	2-1/2" O.D. Short Radius – Expanded One End	5"	
TR2545	2-1/2" O.D. Tight Radius	2-1/2"	
LR22545	2-1/4" O.D. Long Radius	5-1/2"	
SR22545	2-1/4" O.D. Short Radius	4"	
TR22545	2-1/4" O.D. Tight Radius	3"	
LR2045	2" O.D. Long Radius		
SR2045	2" O.D. Short Radius	4"	
TR2045	2" O.D. Tight Radius		
LR18745	1-7/8" O.D. Long Radius 4-		
SR18745	1-7/8" O.D. Short Radius	4"	
TR18745	1-7/8" O.D. Tight Radius	3"	
LR17545	1-3/4" O.D. Long Radius	4-1/2"	
SR17545	1-3/4" O.D. Short Radius	3-1/2"	
TR17545	1-3/4" O.D. Tight Radius	2-1/2"	
LR16345	1-5/8" O.D. Long Radius	4-3/8"	
SR16345	1-5/8" O.D. Short Radius	4"	
TR16345	1-5/8" O.D. Tight Radius	2-1/2"	
LR1545	1-1/2" O.D. Long Radius	4"	
SR1545	1-1/2" O.D. Short Radius	3-1/2"	
TR1545	1-1/2" O.D. Tight Radius	2-1/2"	

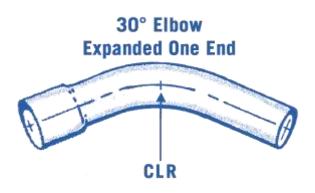


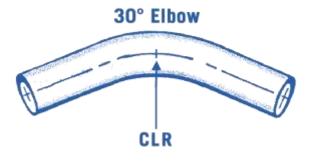




ROUND STEEL ELBOWS

30° ELBOWS			
PART #	DESCRIPTION	CLR	
LR4030E	4" O.D. Long Radius – Expanded One End	10"	
SR4030E	4" O.D. Short Radius – Expanded One End	6"	
LR3530E	3-1/2" O.D. Long Radius – Expanded One End	9"	
SR3530E	3-1/2" O.D. Short Radius – Expanded One End	5-1/4"	
LR3030E	3" O.D. Long Radius – Expanded One End	6"	
SR3030E	3" O.D. Short Radius – Expanded One End	4-1/2"	
LR2530E	2-1/2" O.D. Long Radius – Expanded One End	10"	
SR2530E	2-1/2" O.D. Short Radius – Expanded One End	5″	
TR2530	2-1/2" O.D. Tight Radius	2-1/2"	
LR22530	2-1/4" O.D. Long Radius	5-1/2"	
SR22530	2-1/4" O.D. Short Radius	4"	
TR22530	2-1/4" O.D. Tight Radius	3"	
LR2030	2" O.D. Long Radius	6"	
SR2030	2" O.D. Short Radius	4"	
TR2030	2" O.D. Tight Radius	3"	
LR18730	1-7/8" O.D. Long Radius	4-1/2"	
SR18730	1-7/8" O.D. Short Radius	4"	
TR18730	1-7/8" O.D. Tight Radius	3"	
LR17530	1-3/4" O.D. Long Radius	4-1/2"	
SR17530	1-3/4" O.D. Short Radius	3-1/2"	
TR17530	1-3/4" O.D. Tight Radius	2-1/2"	
LR16330	1-5/8" O.D. Long Radius	4-3/8"	
SR16330	1-5/8" O.D. Short Radius	4"	
TR16330	1-5/8" O.D. Tight Radius	2-1/2"	
LR1530	1-1/2" O.D. Long Radius	4"	
SR1530	1-1/2" O.D. Short Radius	3-1/2"	
TR1530	1-1/2" O.D. Tight Radius	2-1/2"	



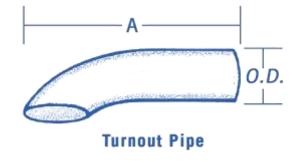


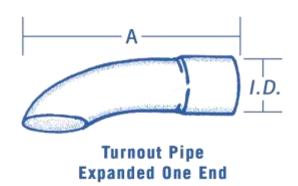


TURNOUT PIPES

TURNOUT PIPES			
PART #	DESCRIPTION	O.D.	Α
TP4012	4" O.D. Turnout Pipe	4"	11"
TP3512	3-1/2" O.D. Turnout Pipe	3-1/2"	13"
TP3012	3" O.D. Turnout Pipe	3"	11"

EXPANDED INLET TURNOUT PIPE			
PART #	DESCRIPTION	I.D.	Α
TP4012E	4" O.D. Turnout Pipe – Expanded Inlet	4"	11"
TP3512E	3-1/2" O.D. Turnout Pipe – Expanded Inlet	3-1/2"	13"
TP3012E	3" O.D. Turnout Pipe – Expanded Inlet	3"	11"

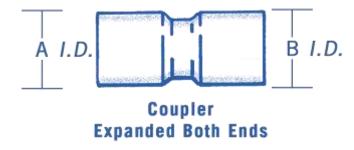




ROUND COUPLERS

ROUND COUPLERS EXPANDED BOTH ENDS			
PART #	DESCRIPTION	Α	В
C35EE	3-1/2" O.D. Expanded Both Ends	3-1/2"	3-1/2"
C30EE	3" O.D. Expanded Both Ends	3"	3"
C25EE	2-1/2" O.D. Expanded Both Ends	2-1/2"	2-1/2"

ROUND COUPLERS EXPANDED ONE END			
PART #	DESCRIPTION	Α	В
C35E	3-1/2" O.D. Expanded One End	3-1/2"	3-1/2"
C30E	3" O.D. Expanded One End	3"	3"
C25E	2-1/2" O.D. Expanded One End	2-1/2"	2-1/2"

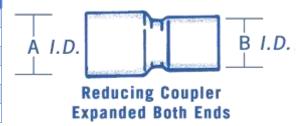






REDUCING COUPLERS

REDUCING COUPLERS			
PART #	DESCRIPTION	Α	В
RC40E35E	4" Expanded End To 3-1/2" Expanded End	4"	3-1/2"
RC35E30E	3-1/2" Expanded End To 3" Expanded End	3-1/2"	3"
RC30E25E	3" Expanded End To 2-1/2" Expanded End	3"	2-1/2"
RC25E20E	2-1/2" Expanded End To 2" Expanded End	2-1/2"	2"
RC20E17E	2" Expanded End To 1-3/4" Expanded End	2"	1-3/4"



ADAPTER COUPLERS

ADAPTER COUPLERS EXPANDED LARGE END			
PART #	DESCRIPTION	Α	В
AC40E35	4" Expanded End To 3-1/2"	4"	3-1/2"
AC35E30	3-1/2" Expanded End To 3"	3-1/2"	3"
TA30E25	3" Expanded End To 2-1/2"	3"	2-1/2"
TA25E20	2-1/2" Expanded End To 2"	2-1/2"	2"
TA20E17	2" Expanded End To 1-3/4"	2"	1-3/4"



ADAPTER COUPLERS EXPANDED SMALL END			
PART #	DESCRIPTION	Α	В
AC4035E	4" to 3-1/2" Expanded End	4"	3-1/2"
AC3530E	3-1/2" to 3" Expanded End	3-1/2"	3"
TA3025E	3" to 2-1/2" Expanded End	3"	2-1/2"
TA2520E	2-1/2" to 2" Expanded End	2-1/2"	2"
TA2017E	2" to 1-3/4 Expanded End	2"	1-3/4"



ADAPTER COUPLERS NO EXPANSIONS			
PART #	DESCRIPTION	Α	В
AC4035	4" To 3-1/2"	4"	3-1/2"
AC3530	3-1/2" To 3"	3-1/2"	3"
TA3025	3" To 2-1/2"	3"	2-1/2"
TA2520	2-1/2" To 2"	2-1/2"	2"
TA2017	2" To 1-3/4"	2"	1-3/4"





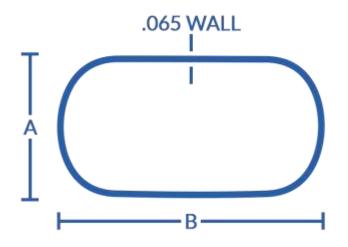
STRAIGHT ROUND SECTIONS

STRAIGHT ROUND SECTIONS			
PART #	DESCRIPTION		
P4096	4" O.D. X 96" Long		
P4060	4" O.D. X 60" Long		
P4048	4" O.D. X 48" Long		
P4036	4" O.D. X 36" Long		
P4024	4" O.D. X 24" Long		
P4012	4" O.D. X 12" Long		
P3596	3-1/2" O.D. X 96" Long		
P3560	3-1/2" O.D. X 60" Long		
P3548	3-1/2" O.D. X 48" Long		
P3536	3-1/2" O.D. X 36" Long		
P3524	3-1/2" O.D. X 24" Long		
P3512	3-1/2" O.D. X 12" Long		
P3096	3" O.D. X 96" Long		
P3060	3" O.D. X 60" Long		
P3048	3" O.D. X 48" Long		
P3036	3" O.D. X 36" Long		
P3024	3" O.D. X 24" Long		
P3012	3" O.D. X 12" Long		
P2596	2-1/2" O.D. X 96" Long		
P2560	2-1/2" O.D. X 60" Long		
P2548	2-1/2" O.D. X 48" Long		
P2536	2-1/2" O.D. X 36" Long		
P2524	2-1/2" O.D. X 24" Long		
P2512	2-1/2" O.D. X 12" Long		

STRA	IGHT ROUND SECTIONS
PART#	DESCRIPTION
P2296	2-1/4" O.D. X 96" Long
P2260	2-1/4" O.D. X 60" Long
P2248	2-1/4" O.D. X 48" Long
P2236	2-1/4" O.D. X 36" Long
P2224	2-1/4" O.D. X 24" Long
P2212	2-1/4" O.D. X 12" Long
P2096	2" O.D. X 96" Long
P2060	2" O.D. X 60" Long
P2048	2" O.D. X 48" Long
P2036	2" O.D. X 36" Long
P2024	2" O.D. X 24" Long
P2012	2" O.D. X 12" Long
P1796	1-3/4" O.D. X 96" Long
P1760	1-3/4" O.D. X 60" Long
P1748	1-3/4" O.D. X 48" Long
P1736	1-3/4" O.D. X 36" Long
P1724	1-3/4" O.D. X 24" Long
P1712	1-3/4" O.D. X 12" Long
P1596	1-1/2" O.D. X 96" Long
P1560	1-1/2" O.D. X 60" Long
P1548	1-1/2" O.D. X 48" Long
P1536	1-1/2" O.D. X 36" Long
P1524	1-1/2" O.D. X 24" Long
P1512	1-1/2" O.D. X 12" Long



OVAL TUBES



OVAL TUBE DIMENSIONS				
SIZE A B				
3" OVAL	2-1/8"	3-7/16"		
3-1/2" OVAL	2-1/4"	4-3/16"		
4" OVAL	2-3/8"	4-7/8"		

STRAIGHT OVAL SECTIONS

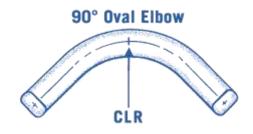
STRAIGHT OVAL SECTIONS			
PART #	DESCRIPTION		
OP4096	4" OVAL X 96" Long		
OP4060	4" OVAL X 60" Long		
OP4048	4" OVAL X 48" Long		
OP4036	4" OVAL X 36" Long		
OP4024	4" OVAL X 24" Long		
OP3596	3-1/2" OVAL X 96" Long		
OP3560	3-1/2" OVAL X 60" Long		
OP3548	3-1/2" OVAL X 48" Long		
OP3536	3-1/2" OVAL X 36" Long		
OP3524	3-1/2" OVAL X 24" Long		
OP3096	3" OVAL X 96" Long		
OP3060	3" OVAL X 60" Long		
OP3048	3" OVAL X 48" Long		
OP3036	3" OVAL X 36" Long		
OP3024	3" OVAL X 24" Long		

ALL OVAL TUBES ARE MANUFACTURED FROM FULLY WELDABLE .065" WALL (16 GA.) MILD STEEL TUBE
MAY ALSO BE AVAILABLE IN .065" WALL (16 GA.) STAINLESS STEEL OR ALUMINIZED STEEL
STRAIGHT OVAL SECTIONS MAY ALSO BE AVAIALBE WITH ONE END EXPANDED
NO PART IS GUARANTEED TO BE IN STOCK

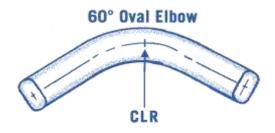


OVAL ELBOWS

90° ELBOWS		
PART#	DESCRIPTION	CLR
OSR4090	4" OVAL Short Radius	6"
OLR3590	3-1/2" OVAL Long Radius	9"
OSR3590	3-1/2" OVAL Short Radius	5-1/4"
OLR3090	3" OVAL Long Radius	6"
OSR3090	3" OVAL Short Radius	4-1/2"



60° ELBOWS		
PART#	DESCRIPTION	CLR
OSR4060	4" OVAL Short Radius	6"
OLR3560	3-1/2" OVAL Long Radius	9"
OSR3560	3-1/2" OVAL Short Radius	5-1/4"
OP3536LR60	3-1/2" OVAL Long Radius - 24" OVAL Long Leg	9"
OP3536SR60	3-1/2" OVAL Short Radius - 24" OVAL Long Leg	5-1/4"
OLR3060	3" OVAL Long Radius	6"
OSR3060	3" OVAL Short Radius	4-1/2"
OP3036SR60	3" OVAL Long Radius - 24" OVAL Long Leg	6"
OP3036LR60	3" OVAL Short Radius - 24" OVAL Long Leg	4-1/2"



45° ELBOWS		
PART #	DESCRIPTION	CLR
OSR4045	4" OVAL Short Radius	6"
OLR3545	3-1/2" OVAL Long Radius	9"
OSR3545	3-1/2" OVAL Short Radius	5-1/4"
OLR3045	3" OVAL Long Radius	6"
OSR3045	3" OVAL Short Radius	4-1/2"



30° ELBOWS		
PART#	DESCRIPTION	CLR
OSR4030	4" OVAL Short Radius	6"
OLR3530	3-1/2" OVAL Long Radius	9"
OSR3530	3-1/2" OVAL Short Radius	5-1/4"
OLR3030	3" OVAL Long Radius	6"
OSR3030	3" OVAL Short Radius	4-1/2"



ALL OVAL ELBOWS ARE MANUFACTURED FROM FULLY WELDABLE .065" WALL (16 GA.) MILD STEEL TUBE BENDS ON SHORT RADIUS (SR) ELBOWS WILL NEST INSIDE BENDS ON LONG RADIUS (LR) ELBOWS MAY ALSO BE AVAILABLE IN .065" WALL (16 GA.) STAINLESS STEEL OR ALUMINIZED STEEL NO PART IS GUARANTEED TO BE IN STOCK



3" OVAL E-BENDS

180° E-BEND			
PART #	DESCRIPTION	CLR	
OSRE30180	3" OVAL Short Radius E-Bend	5"	

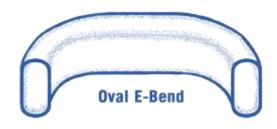
135° E-BEND			
PART #	DESCRIPTION	CLR	
OSRE30135	3" OVAL Short Radius E-Bend	5"	

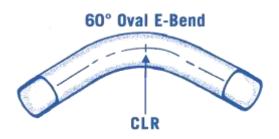
90° E-BEND			
PART #	DESCRIPTION	CLR	
OSRE3090	3" OVAL Short Radius E-Bend	5"	

60° E-BEND			
PART #	DESCRIPTION	CLR	
OSRE3060	3" OVAL Short Radius E-Bend	5"	

45° E-BEND			
PART #	DESCRIPTION	CLR	
OSRE3045	3" OVAL Short Radius E-Bend	5"	

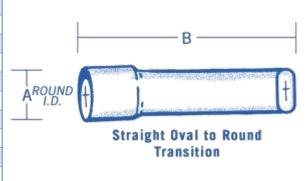
30° E-BEND			
PART #	DESCRIPTION	CLR	
OSRE3030	3" OVAL Short Radius E-Bend	5"	





OVAL TRANSITIONS

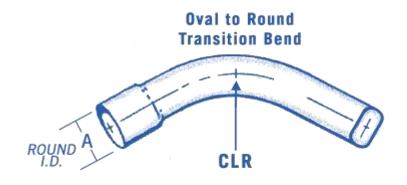
STRAIGHT OVAL TO ROUND TRANSITIONS			
PART#	DESCRIPTION	Α	В
OTP4036E	4" OVAL to Round Exp. Transition X 36" Long	4"	36"
OTP4024E	4" OVAL to Round Exp. Transition X 24" Long	4"	24"
OTP4012E	4" OVAL to Round Exp. Transition X 12" Long	4"	12"
OTP3536E	3-1/2" OVAL to Round Exp. Transition X 36" Long	3-1/2"	36"
OTP3524E	3-1/2" OVAL to Round Exp. Transition X 24" Long	3-1/2"	24"
OTP3512E	3-1/2" OVAL to Round Exp. Transition X 12" Long	3-1/2"	12"
OTP3036E	3" OVAL to Round Exp. Transition X 36" Long	3"	36"
OTP3024E	3" OVAL to Round Exp. Transition X 24" Long	3"	24"
OTP3012E	3" OVAL to Round Exp. Transition X 12" Long	3"	12"



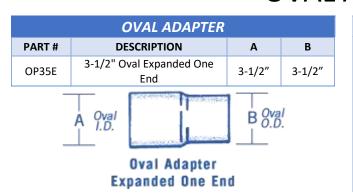


OVAL TRANSITIONS

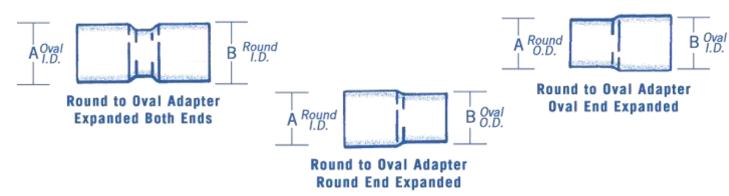
OVAL TO ROUND TRANSITION BENDS			
PART #	DESCRIPTION	CLR	Α
OSR3590-35E	3-1/2" OVAL Short Radius 90° Bend - Round Leg Expanded	5-1/4"	3-1/2"
OSR3560-35E	3-1/2" OVAL Short Radius 60° Bend - Round Leg Expanded	5-1/4"	3-1/2"
OSR3545-35E	3-1/2" OVAL Short Radius 45° Bend - Round Leg Expanded	5-1/4"	3-1/2"
OSR3530-35E	3-1/2" OVAL Short Radius 30° Bend - Round Leg Expanded	5-1/4"	3-1/2"



OVAL ADAPTERS



ROUND TO OVAL ADAPTER				
PART #	DESCRIPTION	Α	В	
ROA25E30	2-1/2" Round Expanded to 3" Oval	2-1/2"	3"	
ROA2530E	2-1/2" Round to 3" Oval Expanded	2-1/2"	3"	
ROA25E30E	2-1/2" Round Expanded to 3" Oval Expanded	2-1/2"	3"	
ROA30E35	3" Round Expanded To 3-1/2" Oval	3	3-1/2"	
ROA35E40	3-1/2" Round Expanded To 4" Oval	3-1/2"	4"	
ROA25E30	2-1/2" Round Expanded to 3" Oval	2-1/2"	3"	



ALL OVAL TRANSITIONS AND ADAPTERS ARE MANUFACTURED FROM FULLY WELDABLE .065" WALL (16 GA.) MILD STEEL TUBE

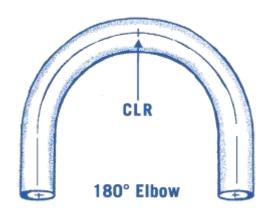
MAY ALSO AVAILABLE IN .065" WALL (16 GA.) STAINLESS STEEL OR ALUMINIZED STEEL

NO PART IS GUARANTEED TO BE IN STOCK



ALUMINUM ELBOWS

180° ELBOWS			
PART #	DESCRIPTION	CLR	
ALR30180	3" Long Radius	6"	
ASR30180	3" Short Radius	4-1/2"	
ALR25180	2-1/2" Long Radius	10"	
ASR25180	2-1/2" Short Radius	5"	
ALR225180	2-1/4" Long Radius	7"	
ASR225180	2-1/4" Short Radius	4"	
ALR20180	2" Long Radius	6"	
ASR20180	2" Short Radius	4"	
ALR17180	1-3/4" Long Radius	3-1/2"	
ASR17180	1-3/4" Short Radius	2-1/2"	
ASR16180	1-5/8" Long Radius	4-3/8"	
ALR16180	1-5/8" Short Radius	4"	
ALR15180	1-1/2" Long Radius	4"	
ASR15180	1-1/2" Short Radius	3-1/2"	
ALR13180	1-3/8" Long Radius	4-1/8"	
ASR13180	1-3/8" Short Radius	2-1/2"	
ALR12180	1-1/4" Long Radius	3-1/2"	
ASR12180	1-1/4" Short Radius	2-1/2"	
ALR10180	1" Long Radius	2-1/2"	
ASR10180	1" Short Radius	1-1/2"	
ALR75180	3/4" Long Radius	1-7/8"	
ASR75180	3/4" Short Radius	1"	



90° ELBOWS			
PART #	DESCRIPTION	CLR	
ALR3090	3" Long Radius	6"	
ASR3090	3" Short Radius	4-1/2"	
ALR2590	2-1/2" Long Radius	10"	
ASR2590	2-1/2" Short Radius	5"	
ALR22590	2-1/4" Long Radius	7"	
ASR22590	2-1/4" Short Radius	4"	
ALR2090	2" Long Radius	6"	
ASR2090	2" Short Radius	4"	
ALR1790	1-3/4" Long Radius	3-1/2"	
ASR1790	1-3/4" Short Radius	2-1/2"	
ASR1690	1-5/8" Long Radius	4-3/8"	
ALR1690	1-5/8" Short Radius	4"	
ALR1590	1-1/2" Long Radius	4"	
ASR1590	1-1/2" Short Radius	3-1/2"	
ALR1390	1-3/8" Long Radius	4-1/8"	
ASR1390	1-3/8" Short Radius	2-1/2"	



ALL ALUMINUM ELBOWS ARE MANUFACTURED FROM .065" WALL (16 GA.) 6061-T6

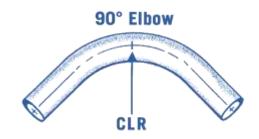
BEADED ENDS MAY ALSO BE AVAILABLE

NO PART IS GUARANTEED TO BE IN STOCK

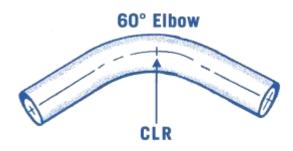


ALUMINUM ELBOWS

90° ELBOWS cont.			
PART #	DESCRIPTION	CLR	
ALR1290	1-1/4" Long Radius	3-1/2"	
ASR1290	1-1/4" Short Radius	2-1/2"	
ALR1090	1" Long Radius	2-1/2"	
ASR1090	1" Short Radius	1-1/2"	
ALR7590	3/4" Long Radius	1-7/8"	
ASR7590	3/4" Short Radius	1"	



	COS EL BOLLIC	
	60° ELBOWS	
PART #	DESCRIPTION	CLR
ALR3060	3" Long Radius	6"
ASR3060	3" Short Radius	4-1/2"
ALR2560	2-1/2" Long Radius	10"
ASR2560	2-1/2" Short Radius	5"
ALR22560	2-1/4" Long Radius	7"
ASR22560	2-1/4" Short Radius	4"
ALR2060	2" Long Radius	6"
ASR2060	2" Short Radius	4"
ALR1760	1-3/4" Long Radius	3-1/2"
ASR1760	1-3/4" Short Radius	2-1/2"
ASR1660	1-5/8" Long Radius	4-3/8"
ALR1660	1-5/8" Short Radius	4"
ALR1560	1-1/2" Long Radius	4"
ASR1560	1-1/2" Short Radius	3-1/2"
ALR1360	1-3/8" Long Radius	4-1/8"
ASR1360	1-3/8" Short Radius	2-1/2"
ALR1260	1-1/4" Long Radius	3-1/2"
ASR1260	1-1/4" Short Radius	2-1/2"
ALR1060	1" Long Radius	2-1/2"
ASR1060	1" Short Radius	1-1/2"
ALR7560	3/4" Long Radius	1-7/8"
ASR7560	3/4" Short Radius	1"



45° ELBOWS									
PART #	DESCRIPTION	CLR							
ALR3045	3" Long Radius	6"							
ASR3045	3" Short Radius	4-1/2"							
ALR2545	2-1/2" Long Radius	10"							
ASR2545	2-1/2" Short Radius	5"							
ALR22545	2-1/4" Long Radius	7"							
ASR22545	2-1/4" Short Radius	4"							



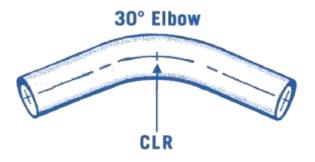


ALUMINUM ELBOWS

45° ELBOWS cont.								
PART #	DESCRIPTION	CLR						
ALR2045	2" Long Radius	6"						
ASR2045	2" Short Radius	4"						
ALR1745	1-3/4" Long Radius	3-1/2"						
ASR1745	1-3/4" Short Radius	2-1/2"						
ALR1645	1-5/8" Long Radius	4-3/8"						
ASR1645	1-5/8" Short Radius	4"						
ALR1545	1-1/2" Long Radius	4"						
ASR1545	1-1/2" Short Radius	3-1/2"						
ALR1345	1-3/8" Long Radius	4-1/8"						
ASR1345	1-3/8" Short Radius	2-1/2"						
ALR1245	1-1/4" Long Radius	3-1/2"						
ASR1245	1-1/4" Short Radius	2-1/2"						
ALR1045	1" Long Radius	2-1/2"						
ASR1045	1" Short Radius	1-1/2"						
ALR7545	3/4" Long Radius	1-7/8"						
ASR7545	3/4" Short Radius	1"						



	30° ELBOWS	
PART #	DESCRIPTION	CLR
ALR3030	3" Long Radius	6"
ASR3030	3" Short Radius	4-1/2"
ALR2530	2-1/2" Long Radius	10"
ASR2530	2-1/2" Short Radius	5"
ALR22530	2-1/4" Long Radius	7"
ASR22530	2-1/4" Short Radius	4"
ALR2030	2" Long Radius	6"
ASR2030	2" Short Radius	4"
ALR1730	1-3/4" Long Radius	3-1/2"
ASR1730	1-3/4" Short Radius	2-1/2"
ASR1630	1-5/8" Long Radius	4-3/8"
ALR1630	1-5/8" Short Radius	4"
ALR1530	1-1/2" Long Radius	4"
ASR1530	1-1/2" Short Radius	3-1/2"
ALR1330	1-3/8" Long Radius	4-1/8"
ASR1330	1-3/8" Short Radius	2-1/2"
ALR1230	1-1/4" Long Radius	3-1/2"
ASR1230	1-1/4" Short Radius	2-1/2"
ALR1030	1" Long Radius	2-1/2"
ASR1030	1" Short Radius	1-1/2"
ALR7530	3/4" Long Radius	1-7/8"
ASR7530	3/4" Short Radius	1"



ALL ALUMINUM ELBOWS ARE MANUFACTURED FROM .065" WALL (16 GA.) 6061-T6

BEADED ENDS MAY ALSO BE AVAILABLE

NO PART IS GUARANTEED TO BE IN STOCK



CUSTOM AND CONTRACT TUBE BENDING

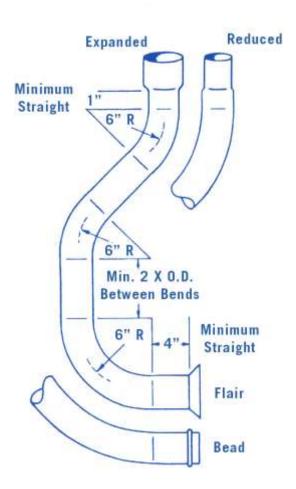
Boyce Industries created specialized set-up programs for the various tube bending protocols many years ago. These are designed to meet or exceed your requirements. Producing high quality components is just an email or phone call away.

Boyce is equipped to handle jobs from prototype through production and can supply both simple bends and completely formed and welded assemblies.

Our Production Shop inventories over 1,000 different bend-die combinations and has capacity to mandrel bend Aluminum, Brass, Mild Steel, Alloy Steel, and Stainless Steel Tubes. Our capabilities range from ½" to 5" O.D. Round Tubes and 1" to 4" Square and Rectangular Tubes in a variety of wall thicknesses. To supplement this, our Secondary Operations Department offers Miter Cutting, Expanding and Reducing, Notching, Drilling and Custom Welding.

DESIGN PROCEDURE FOR BENT TUBULAR PRODUCTS

- Use bend radii of 1-1/2 x O.D. of tube or greater when design permits. Use existing tooling, if possible, to avoid unnecessary die costs. (EX: 1.50 times 2" O.D. = 3" bend radius.)
- 2. When possible, try to avoid bends that are too close together or "bends within bends." These designs require special tooling and will greatly increase piece part cost.
- 3. When possible, try to use the same bend radius on tube being designed to minimize production costs. Allow minimum of 2 x tube O.D. between bends for clamping. Check with Boyce for clamp length information.
- 4. Avoid expanded and flared ends too close to bend tangent(s). Allow 1" minimum on expanded or reduced ends and 4" minimum for flare, bead, or end finishing.
- 5. Bend radii smaller than 1-1/2 x tube O.D. will result in specialized tooling and material. Always use largest radius possible when designing bent parts to avoid premium bends.





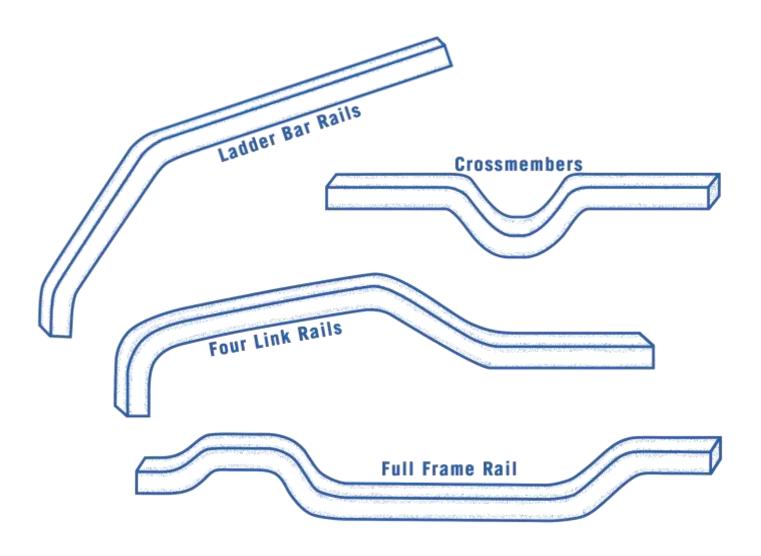
CUSTOM & UNIVERSAL FRAME RAILS & CROSSMEMBERS

Boyce Industries specializes in the production of custom and universal frame rails and cross members.

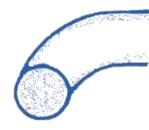
Manufactured on Pines #4 Mandrel Benders designed specifically for bending rectangle tubes the "hard way" (H-Plane) and the "easy way" (E-Plane). We have dozens of bend-die combinations to offer a variety of inside radius bends to suit your custom needs.

We use only high-quality 2" x 3" x .083" Wall and 2" x 3" x .120" Wall Hot Rolled, Pickled and Oiled mild steel tube from large mill runs. This ensures consistency in surface finish, wall thickness and mechanical properties of the tube.

Full lengths of tubes available from A.E.D Metal Products and Supplies. aedmetals.com







Round Tube Die Sets



TUBE O.D.	CENTERLINE RADIUS										
1/2"	1-1/2"										
9/16"	2"										
5/8"	1-1/4"	1-3/4"	1-7/8"	2-1/2"							
11/16"	1-1/4"										
3/4"	1-1/4"	1-1/2"	1-3/4"	1-7/8"	2"	2-1/4"	3"				
7/8"	1-5/16"	1-1/2"	1-3/4"	1-15/16"	2-1/4"	2-1/2"	3-7/16"	4"			
1"	1-1/2"	1-3/4"	2"	2-1/2"	2-5/16"	2-9/16"	3"	4-1/2"	6"		
1-1/16"	1-1/2"	2"									
1-1/8"	1-5/8"	1-3/4"	2"	2-1/2"	3"	3-3/8"	4"	5"			
1-1/4"	2"	2-1/2"	3"	3-1/2"							
1-5/16"	2-1/4"	2-1/2"	4"								
1-3/8"	2-1/16"	2-1/2"	3"	4-1/8"							
1-1/2"	2-1/2"	2-3/4"	3"	4"	5"						
1-5/8"	2-1/2"	4"	4-3/8"								
1-3/4"	2"	2-1/2"	3-1/2"	4"	4-1/2"	6"	7-7/8"				
1-7/8"	3"	4"	4-1/2"	8"							
2"	3"	4"	5"	6"							
2-1/8"	3-3/16"	4-5/16"	6-3/8"								
2-1/4"	3"	4"	5-1/2"	7"							
2-3/8"	4-7/8"	8-3/16"	9-1/4"								
2-1/2"	2-1/2"	4"	5"	10"							
2-7/8"	6"										
3"	4-1/2"	6"	9"	15"	23"	27"					
3-1/4"	5"										
3-1/2"	5-1/4"	7"	8"	9"							
4"	5"	6"	8"	10"	12"						
4-1/2"	7-3/4"	15"	33"								
5"	8"										





TUBE SIZE	INSIDE RADIUS										
3/4" X 3/4"	2"	3-1/4"	4"								
1" X 1"	1-1/2"	3-1/4"	4"	6"	8"						
1-1/4" X 1-1/4"	3-1/4"	4"	6"	8"	12"						
1-1/2" X 1-1/2"	3-1/4"	4"	4-3/4"	6"	8"	8-5/8"	12"	15-1/4"			
1-3/4" X 1-3/4"	4"	4-3/4"	6"	8"	12"	20"	26"	30"			
2" X 2"	3-1/4"	4"	4-3/4"	6"	8"	12"	20"	26"	30"		
2-1/2" X 2-1/2"	4-3/4"	6"	8"	12"	20"						
3" X 3"	6"	8"	10"	12"	20"						
4" X 4"	8"	12"	20"								

Rectangular Mandrel Bend "H" Plane Die Sets

TUBE SIZE	INSIDE RADIUS									
3/4" X 1-1/2"	3-1/4"									
1" X 1-1/2"	3-1/4"	4"	4-3/4"	6"	8"					
1" X 2"	3-1/4"	4"	4-3/4"	6"	8"	12"				
1-1/2" X 2"	4"	4-3/4"	6"	8"						
1-1/2" X 2-1/2"	4-3/4"	6"	8"	8-5/8"						
2" X 3"	4-3/4"	6"	8"	9"	10"	12"	20"			
2" X 4"	8"	9"	10"	12"	20"					
3" X 4"	12"	20"								





TUBE SIZE	INSIDE RADIUS								
1" X 1-1/2"	3-1/4"	4"	4-3/4"	6"	8"				
1" X 2"	3-1/4"	4"	4-3/4"	6"	8"	12"	20"	26"	
1-1/2" X 2"	3-1/4"	4"	4-3/4"	6"	8"	12"	20"	26"	
1-1/2" X 2-1/2"	4-3/4"	6"	8"	12"	20"				
2" X 3"	4"	4-3/4"	6"	8"	9"	10"	12"	20"	
2" X 4"	4-3/4"	6"	8"	10"	12"	20"			
3" X 4"	4-3/4"	6"	8"	12"	20"				

GENERAL INFORMATION

Hours of Operation

Mon. – Fri. 8 am to 5 pm EST

Phone: 708-345-0455

Fax: 317-879-9397

Email: Sales@boyceindustries.com

https://www.aedmotorsport.com/boyce-

industries

5377 W. 86th St

Indianapolis, IN 46268

REV 5/12/22





BUSINESS POLICIES

Warranty Disclaimer

Boyce Industries warrants its products to be free of defects in material and workmanship (which substantially affect product performance) for 90 days from the date of purchase. During this period, Boyce will at its option, repair or replace any part or parts which prove to be defective if returned to Boyce, freight prepaid, and this shall be the sole remedy available under this warranty. No claims will be allowed for labor, transportation, or other incidental costs.

This warranty shall not apply if

- (1) The product is not used to perform the service for which it was intended.
- (2) The product is altered, modified, or converted without the written approval of Boyce.
- (3) The product is damaged or rendered unserviceable by negligence, malfunction or by any cause within the control of the customer.

Return Policy

All returns of Boyce products are subject to management approval. A return material authorization (RMA) number is required in advance, and a 25% restock fee will be assessed on non-custom products.

Pricing

Pricing is intentionally omitted from this catalog to assure our customers the best pricing available. Due to various market changes, prices of materials may fluctuate from time to time. We re-quote at the time of order. \$25.00 minimum order.

Payment Arrangements

Boyce accepts several payment options. Orders may be charged to: VISA, MASTERCARD, AMERICAN EXPRESS AND DISCOVER. Please provide card name, account number, expiration date, security codes, cardholder's name, address, and daytime telephone number.

Product Availability

No part is guaranteed to be in stock. This is a full listing of our products and capabilities. In-stock products are determined by material availability and market conditions.

Nondisclosure Statement

Due to the nature of our customers and the confidential needs of their businesses, each and every Boyce employee must agree to and sign a Nondisclosure Agreement. This is to assure our customers that their drawings, prints, ideas, needs, and future plans are secure. All customer relations are regarded as strictly confidential.



SHIPPING

UPS

Small orders under 100 lbs. of appropriate size, will be shipped via UPS Ground. Faster UPS package delivery services are available upon request. A handling and packaging fee will be added to UPS orders, in addition to the shipping charge. UPS C.O.D. is also available at an additional cost.

UPS orders placed on in-stock items will ship within 1-2 business days. UPS chart rates are based on package dimensions, packed weight, and shipping zones.

LTL (Less Than Truckload)

Orders over 100 lbs., or those of large package size will be shipped via common carrier "freight collect." Additional prepaid and added freight charges may apply. A skid or packaging charge will be added for all common carrier shipments.

Large orders placed on in-stock items will ship within 1-2 business days. Common carrier rates based on package weight, dimensions, and shipping zones. Boyce has obtained special LTL rates with several carriers that are passed on to our customers that do not have a negotiated shipping discount.

You are also welcomed to arrange your own LTL shipment. Please contact your Boyce representative for NMFC and Class number

Special Packaging

We also offer special custom packaging services including part identification and protecting critical surface finish parts. Contact a member Boyce knowledgeable sales staff to learn more.

Thank you for choosing Boyce Industries!







Boyce Industries 5377 W. 86th St, Indianapolis, IN, 46268 PH 708-345-0455 - FAX 317-879-9397

Sales@boyceindustries.com