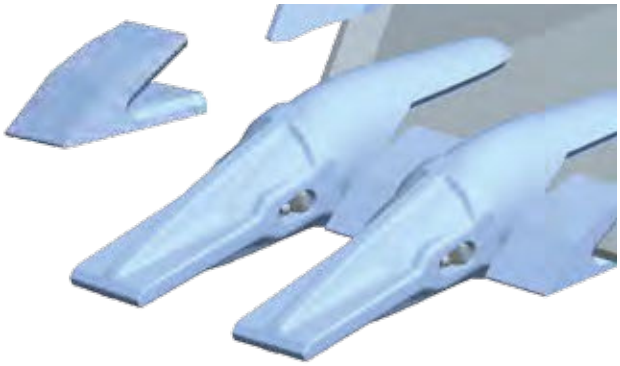
WEAR PROTECTION

LIP SHROUDS

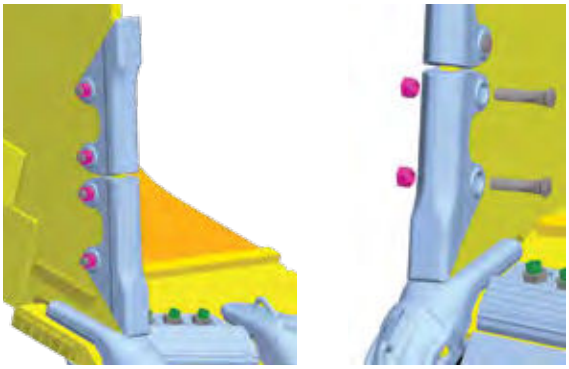
Protecting the leading edge of the bucket from being exposed to constant abrasive wear prolongs bucket life and protects your investment. Hensley has a wide range of universal lip shrouds available in weld-on and J-bolt styles for virtually any machine.

- Extra material in high wear areas
- Sharp contour for better penetration
- Versatility to fit several different bucket widths



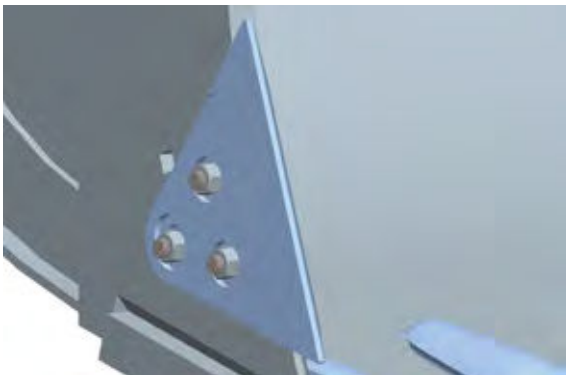
VERTICAL SHROUDS

Hensley vertical shrouds protect the cutting sides of the bucket with highly wear-resistant material. Available in six different sizes, they're simple to install and quick and easy to replace.



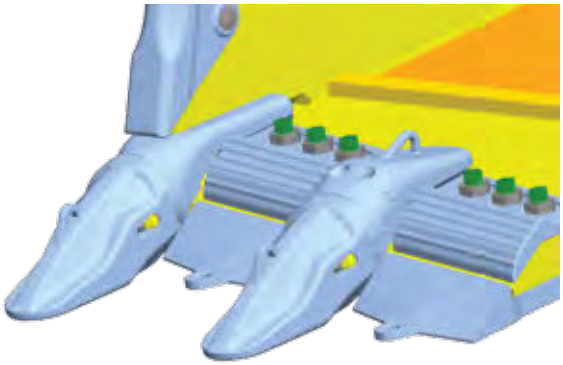
SIDECUTTERS

Hensley sidecutters are designed to protect buckets and improve productivity. Standard bolt-on sidecutters cut clearance for the bucket and expand bucket capacity. Strike-off sidecutters protect the bucket cheek plates without cutting additional clearance. Beyond Hensley's proprietary products, direct replacements are available for Caterpillar and Esco-style buckets including extension plates.



SEGMENTS AND TOP COVERS

Hensley has a full line available, which consists of both rolled and cast steel versions of loaders lip protection for the major loader manufacturers. The combination of bottom and top lip protections is provided by both segments and top covers.

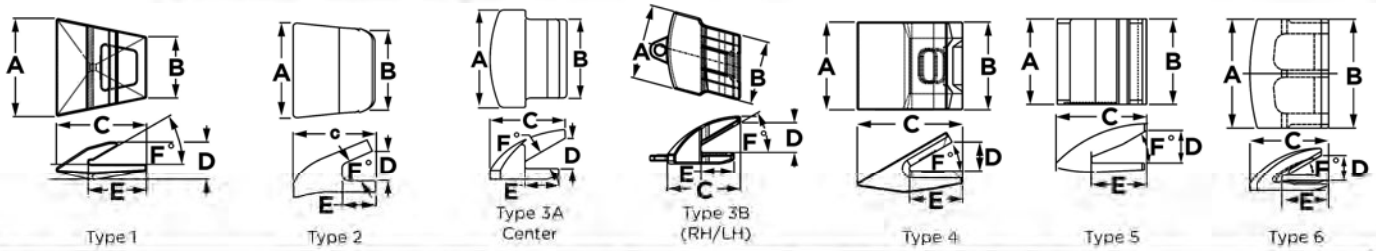


5.1

SPECIALIZED WEAR PROTECTION

Shrouds

WELD-ON LIP SHROUDS
Specialized Wear Protection



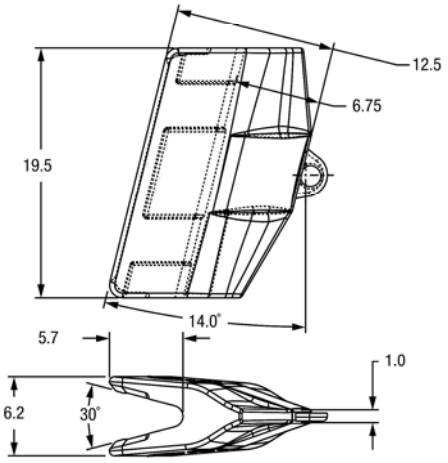
Type 1 | Type 2 | Type 3A Center | Type 3B (RH/LH) | Type 4 | Type 5 | Type 6

WELD-ON LIP SHROUDS FOR EXCAVATORS AND LOADERS

Lip Thickness		Part Number	Type	Dimensions											Weight	
				A		B		C		D		E		F		
"	mm			"	mm	"	mm	"	mm	"	mm	"	mm		lb	kg
1.5	35	10WSHX	1	10.0	254	7.0	178	7.4	187	1.5	38	-	-	30°	22.6	10.3
1.75	45	13WSHX	1	13.0	330	10.0	254	10.25	260	1.75	44	-	-	23°	53.4	24.2
1.75	45	14WS2HX	1	15.0	381	12.0	305	10.25	260	1.75	44	-	-	23°	65.0	29.5
1.75	45	CD-9100-B-HX	2	5.4	136	4.5	114	4.3	109	1.5	38	1.75	44	25°	9.3	4.2
1.75	45	WS-25	5	2.5	63	2.5	63	4.75	121	1.75	44	-	-	30°	4.4	2.0
2.0	50	14WS-3230HX	1	32.0	813	32.0	813	10.25	260	2.1	54	-	-	30°	146.0	66.3
2.0	50	14WS-32HX	1	32.0	813	32.0	813	10.25	260	1.8	46	-	-	23°	151.0	68.5
2.0	50	14WSHX	1	15.0	381	12.0	305	10.25	260	2.1	52	-	-	30°	65.0	29.5
2.0	50	WS-45	4	4.5	114	4.5	114	7.25	184	2.0	51	-	-	30°	15.5	7.0
2.0	50	WS-60	4	6.0	152	6.0	152	7.2	184	2.0	51	-	-	30°	18.4	8.3
2.75	70	WS-80	4	8.0	203	7.0	178	8.6	217	2.75	70	-	-	30°	34.8	15.8
3.0	75	3000901-HX	3	10.25	260	8.2	208	8.0	203	3.5	89	3.6	92	30°	50.4	22.9
3.0	75	3000902-HX (RH)	3	11.1	283	8.75	222	7.7	195	3.0	76	3.9	98	30°	52.3	23.7
3.0	75	3000903-HX (LH)	3	11.1	283	8.75	222	7.7	195	3.0	76	3.9	98	30°	52.3	23.7
3.0	75	3000904HX	3	9.0	229	8.1	206	8.0	203	3.1	80	4.3	110	30°	46.8	21.3
3.0	75	3000905HX	3	5.9	150	4.75	121	8.0	203	3.2	82	3.6	92	30°	31.0	14.1
3.0	75	3000906HX	3	8.1	206	6.9	176	8.0	203	3.2	82	3.6	92	30°	45.6	20.7
3.0	75	3000906LHX (LH)	3	8.1	206	6.9	176	8.0	203	3.2	82	3.6	92	30°	44.0	20.0
3.0	75	3000906RHX (RH)	3	8.1	206	6.9	176	8.0	203	3.2	82	3.6	92	30°	44.0	20.0
3.0	75	B70HX	5	9.8	249	9.8	249	8.75	222	2.5	63	-	-	30°	46.1	20.9
3.5	90	18WSHX	1	18.0	457	13.9	352	13.25	336	3.3	84	-	-	28°	123.5	56.1
3.5	90	350LS15	6	15.0	381	15.0	381	10.9	276	3.5	89	6.5	165	30°	122.0	55.4
4.75	120	WS100L	3B	10.0	258	6.7	170	9.25	234	4.9	123	5.5	140	30°	69.0	31.3
4.75	120	WS100R	3B	10.0	258	6.7	170	9.25	234	4.9	123	5.5	140	30°	69.0	31.3
4.75	120	WS140	3	14.2	360	7.0	180	9.25	235	4.9	123	5.5	140	30°	83.5	37.9
4.75	120	WS90	3	9.0	229	6.7	170	9.25	235	4.9	123	5.5	140	30°	63.5	28.8
4.75	120	WS130L	3B	13.2	335	9.75	248	9.2	234	4.9	124	5.5	140	30°	97.0	44.0
4.75	120	WS130R	3B	13.2	335	9.75	248	9.2	234	4.9	124	5.5	140	30°	97.0	44.0
4.75	120	WS141LL	3	14.0	356	10.0	254	12.9	327	4.9	124	6.25	159	30°	191.0	86.6

LIP SHROUD

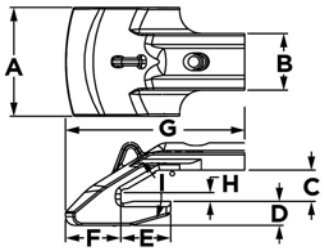
WS120-1950 (universal left or right)
for use on 4.75" (120) lips
203.0 lb / 92.2 kg



Note: Can replace j-bolt lip shroud
LS475-1950JR + JL

Note: Measurements are in inches.

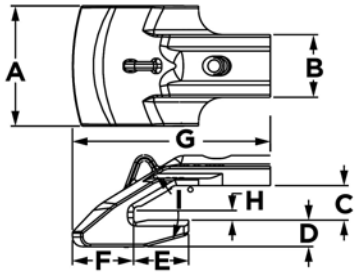
J-BOLT SHROUDS FOR LOADERS AND EXCAVATORS
Specialized Wear Protection



J-BOLT SHROUDS FOR LOADERS AND EXCAVATORS 2" - 4" LIPS												
Lip Thickness		Part No.	Dimensions									
			A		B		C		D		E	
"	mm		"	mm	"	mm	"	mm	"	mm	"	mm
2.0	51	LS200-1350J*	13.5	343	5.0	127	2.1	54	1.4	35	8.25	210
2.5	64	LS250-1500J*	15.0	381	5.0	127	2.6	67	1.6	41	9.75	248
2.5	64	LS250-1500J2L**	15.0	381	5.0	127	2.4	61	2.6	66	5.2	132
2.75	70	LS275-1675J**	16.75	425	6.5	165	2.9	73	1.9	48	11.0	279
3.0	80	LS300-1000J**	10.0	254	6.5	165	3.2	81	2.0	51	11.2	284
3.0	80	LS300-1000J2B**	10.0	254	6.5	165	3.1	79	2.0	51	12.1	308
3.0	80	LS300-1600J**	16.4	416	6.4	162	3.2	82	3.25	83	13.0	331
3.5	90	LS350-1250J**	12.5	317	6.5	165	3.7	91	2.75	70	18.5	470
3.5	90	LS350-1750J**	17.5	445	6.5	165	3.6	91	3.5	89	12.1	308
3.5	90	LS350-M275J**	10.8	276	6.5	165	3.6	91	2.75	70	5.75	146
4.0	100	LS400-900J**	9.0	229	6.5	165	4.2	106	2.75	70	5.75	146
4.0	100	LS400-1175J**	11.75	298	6.5	165	4.1	103	1.3	33	10.7	271
4.0	100	LS400-1200J**	12.0	305	6.5	165	4.2	106	2.75	70	12.1	308
4.0	100	LS400-1600J**	16.0	406	6.5	165	4.2	106	2.75	70	12.6	321
4.0	100	LS400-1600JCS**	16.0	406	6.5	165	4.2	106	1.75	44	11.8	299
4.0	100	LS400-1750J**	17.5	445	6.5	165	4.2	106	3.25	83	12.25	311
4.0	100	LS400-2450J**	24.5	622	6.5	16.5	4.2	106	3.25	83	5.75	146
-	-	LS425-1475J***	14.75	375	6.5	165	4.25	108	3.0	76	5.0	127

*Optional Shroud Cap: J-Bolt SFA34J2 and Cap LSCAP3
**Optional Shroud Cap: J-Bolt SFA1J2 and Cap MACAP
*** Berkeley Saber Lip System

J-BOLT SHROUDS FOR LOADERS AND EXCAVATORS
Specialized Wear Protection

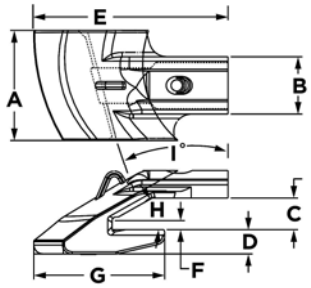


J-BOLT SHROUDS FOR LOADERS AND EXCAVATORS 2" - 4" LIPS CONTINUED

Part No.	Dimensions							Weight		Weld Base	J-Bolt
	F		G		H		I				
	"	mm	"	mm	"	mm		lb	kg		
LS200-1350J*	3.5	89	13.6	346	0.75	19	30°	64.0	29.0	LSWB3	SFA34J4
LS250-1500J*	4.5	114	15.0	381	1.1	27	30°	82.0	37.2	LSWB3	SFA34J4
LS250-1500J2L**	4.6	117	15.0	381	1.1	28	30°	125.0	57.0	LSWB3	SFA34J4
LS275-1675J**	6.4	162	18.75	476	1.6	41	35°	160.0	72.6	LSWB8	SFA1J4
LS300-1000J**	7.8	198	17.7	449	3.2	81	Blunt	125.0	56.7	LSWB8	SFA1J4
LS300-1000J2B**	6.4	162	20.7	525	0.9	23	30°	143.0	64.9	LSWB8	SFA1J4
LS300-1600J**	7.2	184	24.5	622	1.6	41	30°	277.0	125.6	LSWB8	SFA1J4
LS350-1250J**	6.4	162	20.7	525	1.0	25	30°	180.0	81.7	LSWB8	SFA1J4
LS350-1750J**	6.4	162	20.7	525	1.0	26	30°	285.5	129.5	LSWB8	SFA1J4
LS350-M275J**	6.4	162	20.7	526	1.4	37	30°	162.0	73.5	LSWB8	SFA1J4
LS400-900J**	6.4	162	21.8	553	1.2	30	30°	160.0	72.6	LSWB8	SFA1J4
LS400-1175J**	4.8	122	20.4	519	1.25	32	30°	110.0	50.0	LSWB8	SFA1J4
LS400-1200J**	6.4	162	21.8	553	1.25	32	30°	187.0	84.8	LSWB8	SFA1J4
LS400-1600J**	6.4	162	21.75	552	1.0	25	30°	194.0	88.0	LSWB8	SFA1J4
LS400-1600JCS**	6.0	153	21.8	553	1.3	32	30°	182.0	82.6	LSWB8	SFA1J4
LS400-1750J**	7.5	191	21.7	551	1.5	38	30°	290.0	131.6	LSWB8	SFA1J4
LS400-2450J**	7.5	191	21.7	551	1.7	43	30°	385.0	174.6	LSWB8	SFA1J4
LS425-1475J***	10.5	267	20.4	518	4.25	76	n/a	282.0	127.9	LSWB8	SFA1J4

*Optional Shroud Cap: J-Bolt SFA34J2 and Cap LSCAP3
**Optional Shroud Cap: J-Bolt SFA1J2 and Cap MACAP
*** Berkeley Saber Lip System

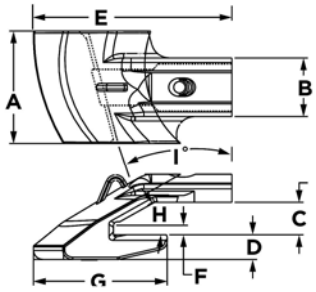
J-BOLT SHROUDS FOR LOADERS AND EXCAVATORS
Specialized Wear Protection



J-BOLT SHROUDS FOR LOADERS AND EXCAVATORS 2"- 4" LIPS												
Lip Thickness		Part No.	Dimensions									
			A		B		C		D		E	
"	mm		"	mm	"	mm	"	mm	"	mm	"	mm
2.0	51	LS200-1350JR* LS200-1350JL*	13.5	343	5.0	127	2.1	54	1.4	35	13.6	346
2.5	64	LS250-1500JR* LS250-1500JL*	15.0	381	5.0	127	2.6	67	1.6	41	15.0	381
2.5	64	LS250-1500JR2L** LS250-1500JL2L**	15.0	381	5.0	127	2.6	67	2.6	67	15.5	394
2.75	70	LS275-1675JR** LS275-1675JL**	16.75	425	6.5	165	2.9	73	1.9	48	18.75	476
3.0	80	LS300-1000JR** LS300-1000JL**	10.0	254	6.5	165	3.2	81	2.0	51	17.8	452
3.0	80	LS300-1000JR2B** LS300-1000JL2B**	10.0	254	6.5	165	3.1	79	2.0	51	21.9	556
3.0	80	LS300-1700JR LS300-1700JL	17.0	432	6.4	162	3.2	82	3.25	83	25.8	657
3.5	90	LS350-925JR LS350-925JL	9.25	235	6.5	165	3.6	91	2.5	64	21.2	538
3.5	90	LS350-1250JR** LS350-1250JL**	12.5	317	6.5	165	3.7	91	2.75	70	22.1	562
3.5	90	LS350-1750JL** LS350-1750JR**	17.5	445	6.5	165	3.6	91	3.5	89	20.5	521
4.0	100	LS350-M295JR LS350-M295JL	10.2	259	6.5	165	3.6	91	2.75	70	20.4	519
4.0	100	LS400-900JR** LS400-900JL**	9.0	229	6.25	159	4.2	106	2.75	70	22.2	564
4.0	100	LS400-1200JL** LS400-1200JR**	12.0	305	6.25	159	4.2	106	2.75	70	21.9	558
4.0	100	LS400-1600JR** LS400-1600JL**	16.0	406	6.5	165	4.2	106	2.75	70	21.75	552
4.0	100	LS400-1600JRS** LS400-1600JLS**	16.0	406	6.25	159	4.2	106	1.75	44	22.6	573
4.0	100	LS400-1750JR** LS400-1750JL**	17.5	445	6.5	165	4.2	106	3.25	83	21.7	551

*Optional Shroud Cap: J-Bolt SFA34J2 and Cap LSCAP3
**Optional Shroud Cap: J-Bolt SFA1J2 and Cap MACAP

J-BOLT SHROUDS FOR LOADERS AND EXCAVATORS
Specialized Wear Protection

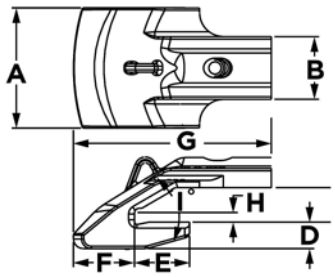


J-BOLT SHROUDS FOR LOADERS AND EXCAVATORS 2"- 4" LIPS CONTINUED

Part No.	Dimensions						Weight		Weld Base	J-Bolt
	F		G		H	I				
	"	mm	"	mm			lb	kg		
LS200-1350JR* LS200-1350JL*	0.75	19	8.25	210	30°	10°	59.0	26.8	LSWB3	SFA34J4
LS250-1500JR* LS250-1500JL*	1.1	27	9.75	248	30°	15°	82.0	37.2	LSWB3	SFA34J4
LS250-1500JR2L** LS250-1500JL2L**	1.1	27	11.3	287	30°	15°	125.0	57.0	LSWB3	SFA34JA
LS275-1675JR** LS275-1675JL**	1.6	41	11.0	279	35°	15°	160.0	72.6	LSWB8	SFA1J4
LS300-1000JR** LS300-1000JL**	3.8	81	11.2	284	Blunt	15°	127.0	57.6	LSWB8	SFA1J4
LS300-1000JR2B** LS300-1000JL2B**	0.9	23	14.3	363	29.1°	15°	146.0	66.2	LSWB8	SFA1J4
LS300-1700JR LS300-1700JL	1.6	41	12.8	324	30°	15°	294.0	133.4	LSWB8	SFA1J4
LS350-925JR LS350-925JL	1.0	26	13.5	344	29.1°	15°	132.0	59.9	LSWB8	SFA1J4
LS350-1250JR** LS350-1250JL**	1.0	25	14.9	379	30°	15°	180.0	81.7	LSWB8	SFA1J4
LS350-1750JL** LS350-1750JR**	1.0	26	12.1	308	30°	10°	287.0	130.2	LSWB8	SFA1J4
LS350-M295JR LS350-M295JL	1.4	37	11.9	303	30°	15°	149.0	67.6	LSWB8	SFA1J4
LS400-900JR** LS400-900JL**	1.25	32	12.1	308	30°	15°	162.0	73.5	LSWB8	SFA1J4
LS400-1200JL** LS400-1200JR**	1.25	32	14.1	358	30°	15°	176.0	79.8	LSWB8	SFA1J4
LS400-1600JR** LS400-1600JL**	1.0	25	12.6	321	30°	15°	207.0	93.9	LSWB8	SFA1J4
LS400-1600JRS** LS400-1600JLS**	1.25	32	11.7	296	30°	15°	182.0	82.6	LSWB8	SFA1J4
LS400-1750JR** LS400-1750JL**	1.5	38	12.25	311	30°	14°	300.0	136.1	LSWB8	SFA1J4

*Optional Shroud Cap: J-Bolt SFA34J2 and Cap LSCAP3
**Optional Shroud Cap: J-Bolt SFA1J2 and Cap MACAP

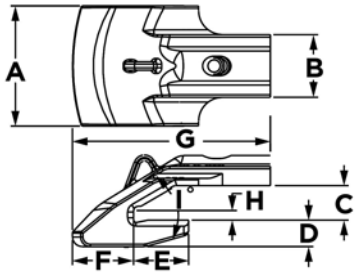
J-BOLT SHROUDS FOR LOADERS AND FACE SHOVELS
Specialized Wear Protection



J-BOLT SHROUDS FOR LOADERS AND FACE SHOVELS 4.75” - 6.25” LIPS												
Lip Thickness		Part No.	Dimensions									
			A		B		C		D		E	
“	mm		“	mm	“	mm	“	mm	“	mm	“	mm
4.75	121	LS475-1300J	13.0	330	8.4	213	4.9	125	2.25	57	7.25	184
4.75	121	LS475-1400J	14.0	356	8.4	213	4.9	125	2.25	57	14.6	372
4.75	121	LS475-1700J	17.0	432	8.4	213	4.9	125	2.25	57	14.6	372
4.75	121	LS475-1950J	19.5	495	8.4	213	4.9	123	2.25	57	7.25	184
5.5	140	LS550-1750J	17.5	444	8.4	213	5.7	144	2.25	57	15.75	400
5.5	140	LS550-2200J	22.0	559	8.4	213	5.7	144	2.25	57	15.75	400
6.25	159	LS625-1400J	14.0	356	8.4	213	6.5	165	2.25	57	17.75	451
6.25	159	LS625-1800J	18.0	457	8.4	213	6.4	164	2.6	67	9.75	248
6.25	159	LS625-2000J	20.0	508	8.4	213	6.4	164	2.6	67	9.75	248

Note: Optional Shroud Cap: J-Bolt SFA125J2 and Cap 255CAP

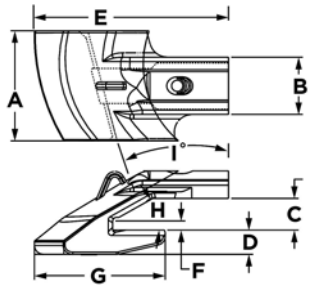
J-BOLT SHROUDS FOR LOADERS AND FACE SHOVELS
Specialized Wear Protection



J-BOLT SHROUDS FOR LOADERS AND FACE SHOVELS 4.75" - 6.25" LIPS CONTINUED											
Part No.	Dimensions							Weight		Weld Base	J-Bolt
	F		G		H		I				
	"	mm	"	mm	"	mm		lb	kg		
LS475-1300J	7.4	187	26.9	683	1.75	44	30°	280.0	127.0	LSWB6	SFA125J6
LS475-1400J	7.4	187	26.9	683	1.75	44	30°	262.0	118.9	LSWB6	SFA125J4
LS475-1700J	7.4	187	26.9	683	1.75	44	30°	354.0	160.7	LSWB6	SFA125J4
LS475-1950J	7.4	187	26.8	679	1.75	44	30°	374.0	169.6	LSWB6	SFA125J4
LS550-1750J	7.4	187	27.75	705	2.0	51	30°	396.0	179.8	LSWB6	SFA125J4
LS550-2200J	7.4	187	27.75	705	2.0	51	30°	388.0	176.0	LSWB6	SFA125J4
LS625-1400J	8.0	203	29.8	757	2.0	51	30°	330.0	149.8	LSWB6	SFA125J4
LS625-1800J	8.0	203	29.1	740	3.0	76	30°	467.5	212.1	LSWB6	SFA125J6
LS625-2000J	8.0	203	29.1	740	2.3	59	30°	496.0	255.0	LSWB6	SFA125J6

Note: Optional Shroud Cap: J-Bolt SFA125J2 and Cap 255CAP

J-BOLT SHROUDS FOR LOADERS AND FACE SHOVELS
Specialized Wear Protection

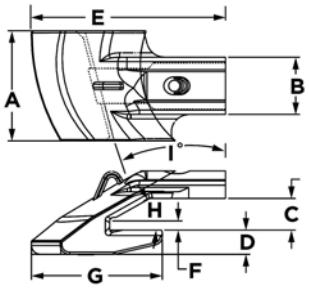


J-BOLT SHROUDS FOR LOADERS AND FACE SHOVELS 4.75" - 6.25" LIPS												
Lip Thickness		Part No.	Dimensions									
			A		B		C		D		E	
"	mm		"	mm	"	mm	"	mm	"	mm	"	mm
4.75	120	LS475-1300JR* LS475-1300JL*	13.0	330	8.4	213	4.9	125	2.25	57	27.5	697
4.75	120	LS475-1400JR LS475-1400JL	14.0	356	8.4	213	4.9	123	2.25	57	27.2	691
4.75	120	LS475-1700JR LS475-1700JL	17.0	432	8.4	213	4.9	125	2.25	57	27.5	699
4.75	120	LS475-1950JR LS475-1950JL	19.5	432	8.4	213	4.9	125	2.25	57	27.5	699
5.5	140	LS550-1750JR LS550-1750JL	17.5	445	8.4	213	5.7	144	2.25	57	28.0	712
5.5	140	LS550-2200JR LS550-2200JL	22.0	559	8.4	213	5.7	144	2.25	57	28.6	727
6.25	160	LS625-1800JR LS625-1800JL	18.0	457	8.4	213	6.4	164	2.7	68	31.5	799
6.25	160	LS625-2000JR LS625-2000JL	20.0	508	8.4	213	6.5	165	2.25	57	30.2	767
6.25	160	LS625-2200JR LS625-2200JL	22.25	565	8.4	213	6.4	164	2.7	68	31.7	804
6.25	160	LS625-2400JR LS625-2400JL	24.0	610	8.4	213	6.4	164	2.7	68	31.9	811

*Under Development

Note: Optional Shroud Cap: J-Bolt SFA125J2 and Cap 255CAP

J-BOLT SHROUDS FOR LOADERS AND FACE SHOVELS
Specialized Wear Protection

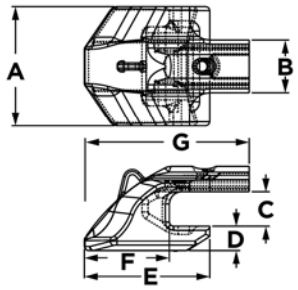


J-BOLT SHROUDS FOR LOADERS AND FACE SHOVELS 4.75" - 6.25" LIPS CONTINUED										
Part No.	Dimensions						Weight		Weld Base	J-Bolt
	F		G		H	I				
	"	mm	"	mm			lb	kg		
LS475-1300JR* LS475-1300JL*	1.75	44	14.6	371	30°	14°	280.0	127.0	LSWB6	SFA125J6
LS475-1400JR LS475-1400JL	1.75	44	14.6	371	30°	14°	315.0	142.9	LSWB6	SFA125J6
LS475-1700JR LS475-1700JL	1.75	44	14.75	375	30°	14°	305.0	138.3	LSWB6	SFA125J4
LS475-1950JR LS475-1950JL	1.75	44	14.75	375	30°	14°	400.0	182.0	LSWB6	SFA125J4
LS550-1750JR LS550-1750JL	2.0	51	15.75	400	30°	14°	400.0	181.6	LSWB6	SFA125J4
LS550-2200JR LS550-2200JL	2.0	51	13.9	352	30°	14°	405.0	183.7	LSWB6	SFA125J4
LS625-1800JR LS625-1800JL	3.0	76	203	516	30°	14°	504.2	228.7	LSWB6	SFA125J6
LS625-2000JR LS625-2000JL	2.0	51	17.75	451	30°	14°	420.0	190.5	LSWB6	SFA125J4
LS625-2200JR LS625-2200JL	2.7	67	20.6	523	30°	14°	635.0	288.3	LSWB6	SFA125J4
LS625-2400JR LS625-2400JL	3.0	76			30°	14°	690.0	131.0	LSWB6	SFA125J6

*Under Development

Note: Optional Shroud Cap: J-Bolt SFA125J2 and Cap 255CAP

J-BOLT SHROUDS FOR LOADER
Specialized Wear Protection

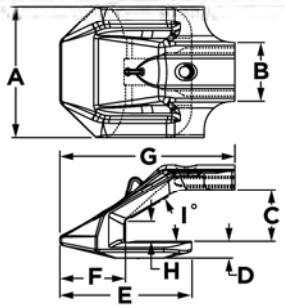


J-BOLT SHROUDS FOR L1850 LOADERS - CENTER												
Lip Thickness		Part No.	Dimensions									
			A		B		C		D		E	
“	mm		“	mm	“	mm	“	mm	“	mm	“	mm
4.25	108	LS425-1475J*	14.75	375	6.5	165	4.25	108	3.0	76	15.5	394

J-BOLT SHROUDS FOR L1850 LOADERS - CENTER								
Part No.	F		G		Weight		Weld Base	J-Bolt
	“	mm	“	mm	lb	kg		
LS425-1475J*	10.5	267	20.4	518	282.0	127.9	LSWB-8	SFA1J4

*Berkeley Saber Lip System

J-BOLT LIP SHROUDS FOR HENSLEY CAST LIPS
Specialized Wear Protection



J-BOLT LIP SHROUDS FOR HENSLEY CAST LIPS												
Part No.	Dimensions											
	A		B		C		D		E		F	
	“	mm	“	mm	“	mm	“	mm	“	mm	“	mm
LS130-1700J*	17.0	432	10.5	267	9.25	235	4.5	114	24.0	610	11.0	279
LS130-1700JSTD	17.0	432	10.5	267	9.25	235	3.0	76	24.0	609	11.0	279
LS130-2350J	23.5	597	10.5	267	9.25	235	3.0	76	23.6	600	11.75	298
LS130-2350JHD	23.5	597	10.5	267	9.25	235	4.5	114	23.6	600	11.75	298
LS640-1950J	19.5	495	10.5	267	9.75	248	3.75	95	19.6	498	11.6	295
LS800-2200J	22.0	559	10.5	267	9.75	248	3.75	95	24.2	614	11.75	298

J-BOLT LIP SHROUDS FOR HENSLEY CAST LIPS CONTINUED											
Part No.	Dimensions					Weight		Weld Base	J-Bolt	Lip Size	
	G		H		I						
	“	mm	“	mm		lb	kg			“	mm
LS130-1700J*	30.6	778	3.6	90	30°	840.0	381.0	LSWB9	SFA150J6	163.0	4140
LS130-1700JSTD	30.6	777	3.6	90	30°	731.0	331.6	LSWB9	SFA150J6		
LS130-2350J	31.4	797	3.6	91	30°	895.0	406.0			169.0	4293
LS130-2350JHD	31.4	797	3.6	91	30°	1035.0	469.5				
LS640-1950J	32.25	819	4.4	111	30°	838.0	380.1			185.0	4699
LS800-2200J	32.4	822	4.1	105	30°	962.0	436.4			201.0	5105

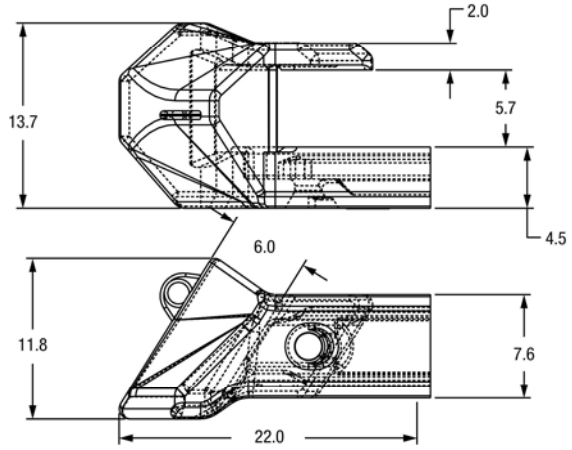
*Optional heavy duty shroud

Note: Measurements are in inches.

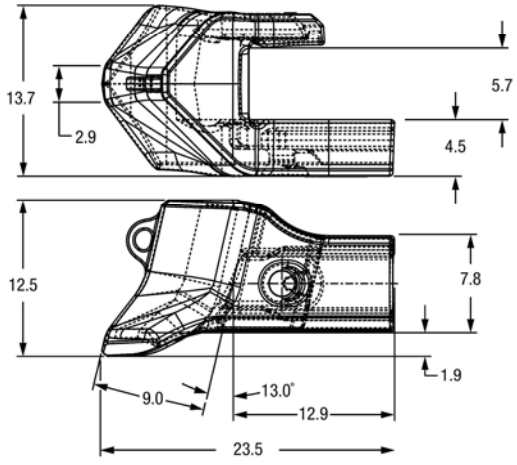
J-BOLT LIP SHROUDS FOR HENSLEY CAST LIPS
Specialized Wear Protection

J-BOLT LOWER WING SHROUD FOR HENSLEY CAST LIPS

WS135L (LH Shown)
WS135R (RH Opposite)
Lower Wing Shroud*
304.0 lb / 137.9 kg



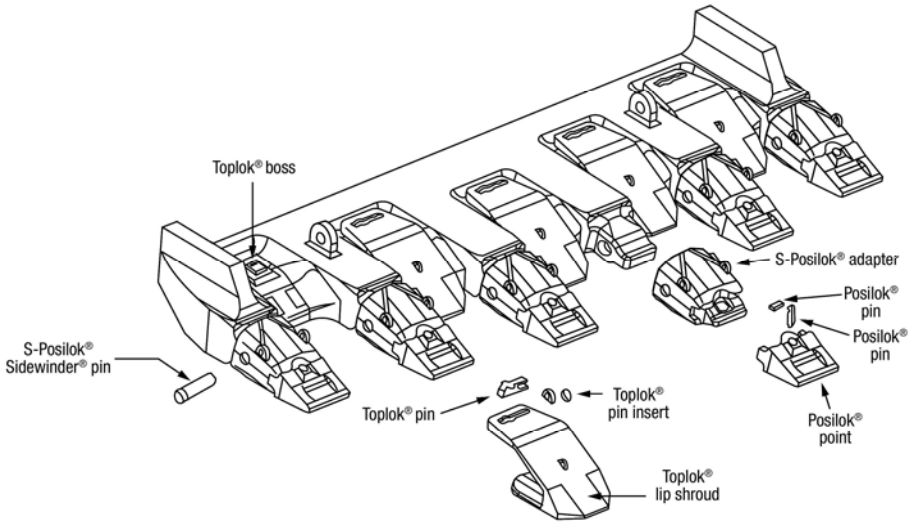
WS185L (LH Shown)
WS185R (RH Opposite)
Lower Wing Shroud*
317.0 lb / 143.8 kg



*Uses Weld base LSWB10 and J-Bolt assembly SFA150J6

Note: Measurements are in inches.

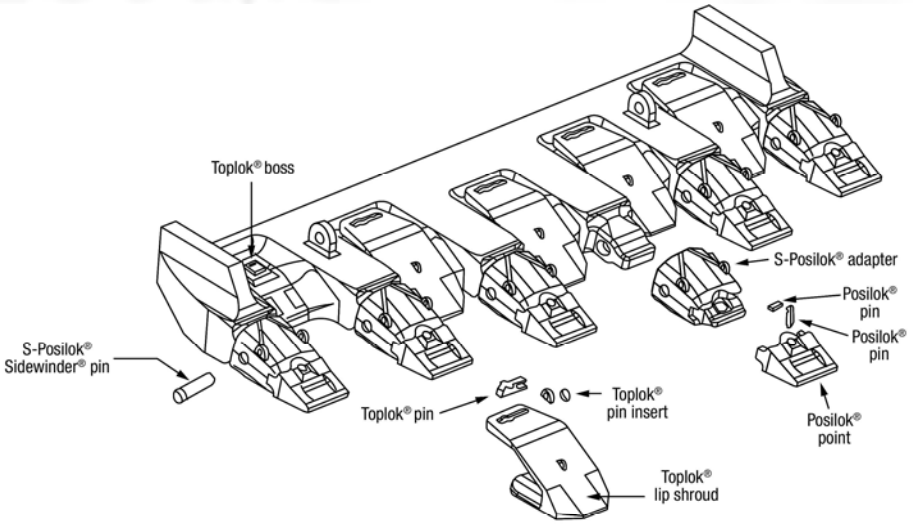
ESCO LOADMASTER® CAST LIP INFORMATION
Specialized Wear Protection



S130 SERIES ESCO LOADMASTER® CAST LIP									
Part No.	Weight		Tooth	Tooth Pin	Adapter	Adapter Pin	Lip Shroud	Shroud Fastener	Machine
	lb	kg							
LCS148S130-1	10,938	8,961	112KH (5)	PN112KC (5)	S130H112K (5)	S130PNA (5)	TCCF130-21C (4)	TCP (4)	Hitachi EX5500
LCS163S130-1	22,322	10,134	112KH (5)	PN112KC (5)	S130H112K (5)	S130PNA (5)	TCCF130-16A (4)	TCP (4)	Komatsu PC5500 (H455S)
LCS169S130-5	22,959	10,423	112KH (6)	PN112KC (6)	S130H112K (6)	S130PNA (6)	TCCF130-21B (5)	TCP (5)	Terex RH200, Komatsu PC5500 (H455S), EX5500
LCS201S130-1	28,862	13,103	112KH (6)	PN112KC (6)	S130H112K (6)	S130PNA (6)	TCCF130-25B (5)	TCP (5)	Komatsu PC5500 (H455S), PC8000 (H655S)

S145 SERIES ESCO LOADMASTER® CAST LIP									
Part No.	Weight		Tooth	Tooth Pin	Adapter	Adapter Pin	Lip Shroud	Shroud Fastener	Machine
	lb	kg							
LCS169S145-1	28,161	12,785	122KH (6)	PN122KC (6)	S145H122K (6)	S145PNA (6)	TCCF145-1B (5)	TCP (5)	Liebherr R996, PC8000
LCS201S145-1	33,171	15,060	122KH (6)	PN122KC (6)	S145H122K (6)	S145PNA (6)	TCCF145-2B (5)	TCP (5)	HRH400, R996, PC8000, Hitachi EX8000

ESCO LOADMASTER® CAST LIP INFORMATION
Specialized Wear Protection



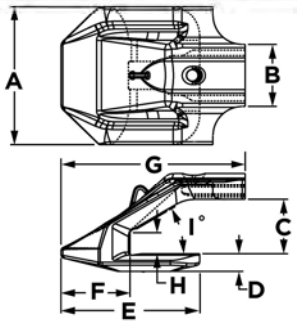
S130 SERIES ESCO LOADMASTER® CAST LIP W/HENSLEY PRODUCT

Part No.	Weight		Tooth	Tooth Pin	Adapter	Adapter Pin	Lip Shroud	Shroud Fastener	Machine
	lb	kg							
LCS148S130-1	Hensley does not offer this lip size		TS1122H (5)	TS1122PEL (5)	644TS1122 (5)	XS644P (5)	LS130M435J (4)	LSWB13 (4), SFA150J6 (4)	Hitachi EX5500
LCS163S130-1			TS1122H (5)	TS1122PEL (5)	644TS1122 (5)	XS644P (5)	LS130M600JBH(4)	LSWB13 (4), SFA150J6 (4)	Komatsu PC5500 (H455S)
LCS169S130-5			TS1122H (6)	TS1122PEL (6)	644TS1122 (6)	XS644P (6)	LS130M435J (5)	LSWB13 (5), SFA150J6 (5)	Terex RH200, Komatsu PC5500 (H455S), EX5500
LCS201S130-1	Hensley does not offer this lip size w/ this nose size		TS1122H (6)	TS1122PEL (6)	644TS1122 (6)	XS644P (6)	LS130M600JBH(5)	LSWB13 (5), SFA150J6 (5)	Komatsu PC5500 (H455S), PC8000 (H655S)

S145 SERIES ESCO LOADMASTER® CAST LIP W/HENSLEY PRODUCT

Part No.	Weight		Tooth	Tooth Pin	Adapter	Adapter Pin	Lip Shroud	Shroud Fastener	Machine
	lb	kg							
LCS169S145-1			TS1222MA (6)	TS1222PEL (6)	804TS1222 (6)	XS804P (6)	LS1451600J (5)	LSWB13 (5), SFA150J6 (5)	Liebherr R996, PC8000
LCS201S145-1			TS1222MA (6)	TS1222PEL (6)	804TS1222 (6)	XS804P (6)	LS1452200J (5)	LSWB13 (5), SFA150J6 (5)	HRH400, R996, PC8000, Hitachi EX8000

J-BOLT LIP SHROUDS FOR ESCO CAST LIPS
Specialized Wear Protection



J-BOLT LIP SHROUDS FOR ESCO LOADMASTER® CAST LIPS										
Part No.	Dimensions									
	A		B		C		D		E	
	“	mm	“	mm	“	mm	“	mm	“	mm
LS130-M435J	17.1	435	10.5	267	9.25	235	4.5	114	23.0	584
LS130-M435JSTD	17.1	435	10.5	267	9.25	235	3.0	76	23.0	584
LS130-M600JBH	23.5	597	10.6	268	9.25	235	3.0	76	20.75	527
LS145-1600J	16.0	406	10.5	267	9.75	248	3.75	95	19.75	502
LS145-2200J	220	559	10.5	267	9.75	248	3.75	95	19.75	502

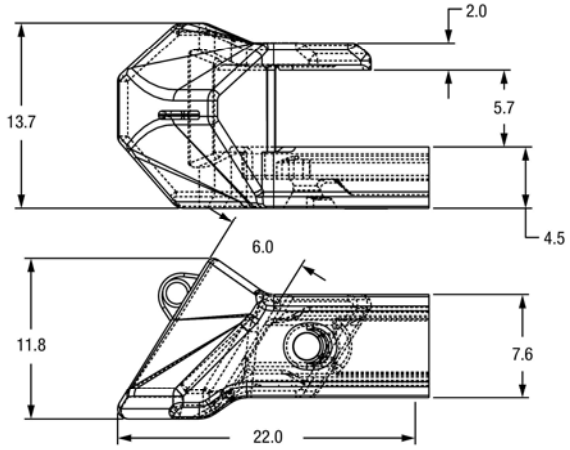
J-BOLT LIP SHROUDS FOR ESCO LOADMASTER® CAST LIPS CONTINUED											
Part No.	Dimensions							Weight		Weld Base	J-Bolt
	F		G		H		I				
	“	mm	“	mm	“	mm		lb	kg		
LS130-M435J	11.0	279	28.6	727	3.6	90	30°	856.0	388.3	LSWB-13	SFA150J6
LS130-M435JSTD	11.0	279	28.6	727	3.6	90	30°	734.0	332.9		
LS130-M600JBH	11.75	298	29.4	746	3.6	90	30°	940.0	426.4		
LS145-1600J	11.75	298	28.6	727	4.1	105	30°	683.0	310.0		
LS145-2200J	11.75	298	28.6	727	4.1	105	30°	880.0	399.0		

Note: Measurements are in inches.

J-BOLT LIP SHROUDS FOR ESCO CAST LIPS
Specialized Wear Protection

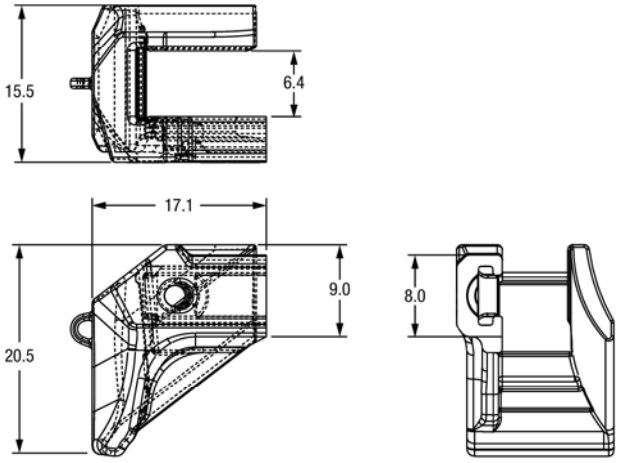
J-BOLT LOWER WING SHROUD FOR ESCO LOADMASTER® CAST LIPS

WS135L (LH Shown)
WS135R (RH Opposite)
Lower Wing Shroud
304.0 lb / 137.9 kg



Uses Weld base LSWB10 and J-Bolt assembly SFA150J6

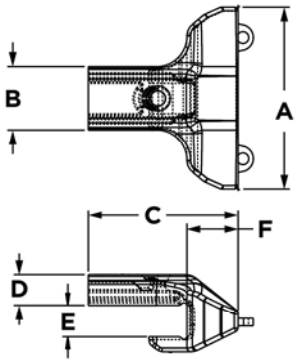
WS165L (LH Shown)
WS165R (RH Opposite)
Lower Wing Shroud
415.0 lb / 188.2 kg



Uses Weld base LSWB10 and J-Bolt assembly SFA150J6 for ESCO Loadmaster® 204" Lip

Note: Measurements are in inches.

J-BOLT WING (VERTICAL) SHROUDS
Specialized Wear Protection



J-BOLT WING (VERTICAL) SHROUDS FOR LOADERS, EXCAVATORS & FACE SHOVELS														
Part No.	Dimensions												Weight	
	A		B		C		D		E		F			
	"	mm	"	mm	"	mm	"	mm	"	mm	"	mm	lb	kg
WS200-2000J	19.0	483	5.0	127	11.5	292	2.4	60	2.1	52	3.0	76	65.0	29.5
WS275-3100J	31.5	800	8.4	213	17.0	432	4.1	103	2.8	72	4.0	102	262.0	118.8
WS300-2100J	21.0	533	6.5	165	13.0	330	3.1	79	3.25	83	3.5	89	138.0	62.6
WS300-2150J	21.5	546	6.5	165	13.5	343	3.1	79	3.2	81	4.0	102	140.0	63.5
WS300-2200J	22.0	559	8.4	213	17.0	432	4.1	103	3.2	82	4.0	102	203.0	92.1
WS350-3350J	33.5	851	8.4	213	18.0	457	4.1	103	3.6	92	5.0	127	307.0	139.3
WS400-2400J	24.0	610	8.4	213	19.75	502	4.1	103	4.2	106	6.75	171	340.0	154.2
WS475-3000J	30.5	775	10.5	267	19.0	483	4.5	114	4.9	123	7.0	178	418.0	189.6
WS550-3200J	32.5	826	10.5	267	19.0	483	4.5	114	5.7	144	7.0	178	520.0	235.9

J-BOLT STYLE WING SHROUDS									
Cheek Thickness	2.0"	2.75"	3.00"	3.5"	4.0"	4.75"	5.50"	face shovel 135mm	face shovel 165mm
J-bolt Shroud	WS200-2000J	WS275-3100J	WS300-2150J	WS350-3350J	WS400-2400J	WS475-3000J	WS550-3200J	WS135R	WS165R
	-	-	WS300-2100J	-	-	-	-	WS135L	WS165R
	-	-	WS300-2200J	-	-	-	-	-	-
Weld-on Base	LSWB3	LSWB6	LSWB8 (STD)	LSWB6	LSWB6	LSWB9 (STD)	LSWB9 (STD)	LSWB10	LSWB10
	-	-	LSWB6*	-	-	LSWB13**	LSWB13**	-	-
J-bolt Assembly	SFA34J4	SFA125J6	SFA1J4	SFA125J6	SFA125J6	SFA150J6	SFA150J6	SFA150J6	SFA150J6
	-	-	SFA125J6	-	-	-	-	-	-

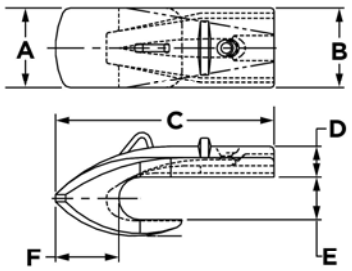
Note:
WS300-2150J uses LSWB8 & SFA1J4
WS300-2100J uses LSWB8 & SFA1J4
*WS300-2200J uses LSWB6 & SFA125J6 for PC3000 F/S and PC4000 B/H

Note:
WS135R & WS135L and
WS165R & 165L are used on cast lips.

**Optional base when used on ESCO cast lips

Note: Measurements are in inches.

HAMMERLESS J-BOLT LIP SHROUDS FOR DIPPERS
Specialized Wear Protection

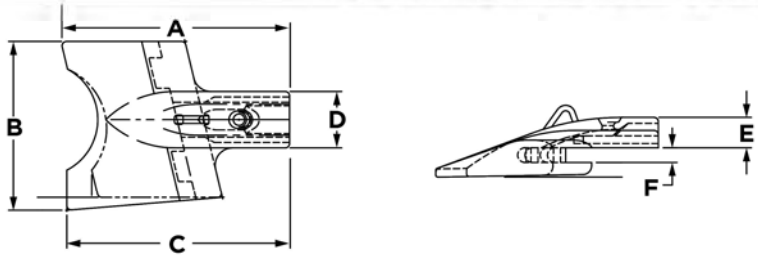


J-BOLT LIP SHROUDS FOR DIPPERS

Lip System	Part No.	Dimensions												Weight		Base (type)	J-Bolt
		A		B		C		D		E		F					
		"	mm	"	mm	"	mm	"	mm	"	mm	"	mm	lb	kg		
WH-8	LS650J	6.5	165	6.5	165	25.0	635	3.5	89	5.1	128	6.0	152	115.0	52.2	LSWB-1 (weld-on)	SFA118J
WH-8	LS950J	9.5	241	6.5	165	25.0	635	3.75	95	5.1	129	6.0	152	150.0	68.1	LSWB-1 (weld-on)	SFA118J
WH-10	LS800J	8.0	203	8.0	203	26.75	679	4.0	102	5.2	132	7.75	170	210.0	95.3	LSWB-5 (weld-on)	SFA118J
WH-10	LS975J	9.75	248	9.75	248	26.75	679	3.75	95	5.2	132	7.75	170	255.0	115.8	LSWB-2 (weld-on)	SFA118J
WH-10	LS1500J-KUCC	15.0	381	9.75	248	26.75	679	3.5	89	5.2	132	7.75	170	300.0	136.2	LSWB-2 (weld-on)	SFA118J
BI495 WH-12	LS1075J	10.75	273	8.0	203	29.1	738	4.0	102	6.3	160	7.25	184	344.0	156.2	LSB-1 (weldless)	SFA1J5
BI495 WH-12	LS1250J	12.5	318	8.0	203	32.0	813	4.0	102	6.4	162	7.25	184	359.0	162.8	LSB-1 (weldless)	SFA1J5
Berkeley	LSB950J (for Berkeley Lips)	10.0	254	6.5	165	25.25	641	3.75	95	6.4	162	7.25	184	196.8	89.3	LSB-1 (weldless)	SFA1J5
P&H 2800 WH-10	LS1100J	11.0	279	8.0	203	29.4	748	3.75	95	5.2	132	6.5	165	250.0	113.5	LSB-2 (weldless) LSWB-5 (weld-on)	SFA118J SFA118J5
P&H 4100 WH-12	LS1400J	14.0	356	8.0	203	23.0	584	3.75	95	6.3	160	6.5	165	410.0	186.1	LSB-3 (weldless) LSWB-3 (weld-on)	SFA1J5 SFA118J5
	LS1100J12*	11.0	279	9.5	241	26.0	660	3.75	95	6.3	160	6.5	165	328.0	148.8	LSB-4	SFA1J5

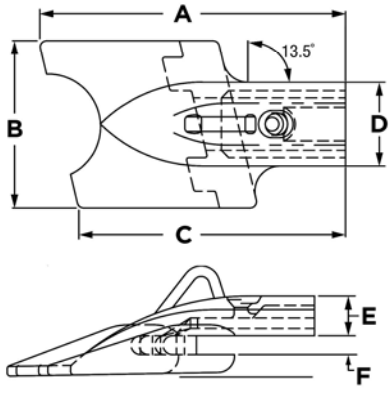
* Used on oil sands dippers only.

J-BOLT SHROUDS FOR LHDS
Specialized Wear Protection



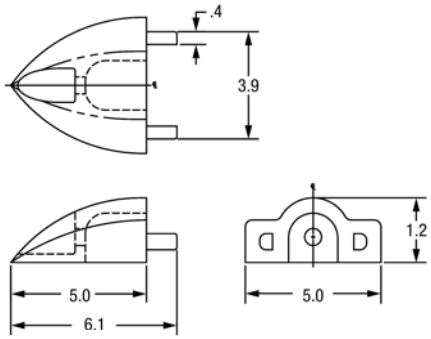
LHD CORNER LIP SHROUDS

Lip Thickness		Part No.	Dimensions												Weight		Weld Base	J-Bolt
			A		B		C		D		E		F					
"	mm		"	mm	"	mm	"	mm	"	mm	"	mm	"	mm	lb	kg		
1.0	25	LS1400JLC LS1400JRC	18.9	479	15.5	394	18.9	479	5.0	127	2.4	60	1.1	29	99.0	44.9	LSWB3	SFA34J2
1.5	38	LS1800JLC LS1800JRC	26.25	667	19.5	495	25.75	654	6.5	165	3.5	89	1.7	43	235.0	106.7	LSWB1	SFA1J3
1.5	38	LS1900JLC LS1900JRC	26.5	673	20.5	521	26.5	673	6.5	165	3.5	89	1.7	43	245.0	111.2	LSWB1	SFA1J3



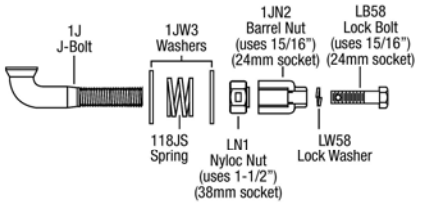
SHROUD CAP

LSCAP3
3.8 lb / 5.1 kg



J-BOLT ASSEMBLIES

SFA1J3
3.8 lb / 1.7 kg

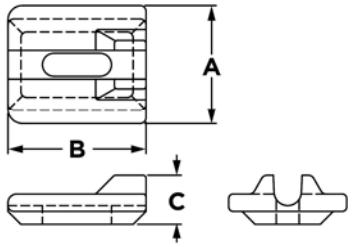


J-BOLT LHD LIP SHROUDS

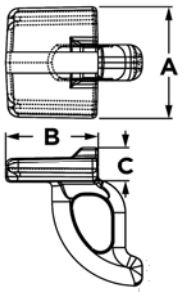
Lip Thickness		Part No.	Dimensions												Weight		Weld Base	J-Bolt
			A		B		C		D		E		F					
"	mm		"	mm	"	mm	"	mm	"	mm	"	mm	"	mm	lb	kg		
1.0	25	LS1000JL LS1000JR	18.4	467	10.0	254	16.0	406	5.0	127	2.4	60	1.1	29	60.0	27.2	LSWB3	SFA34J2
1.0	25	LS1200JL LS1200JR	18.5	471	12.0	305	15.75	400	5.0	127	2.4	60	1.1	29	68.0	30.9	LSWB3	SFA34J2
1.0	25	LS1400JL LS1400JR	18.9	479	14.0	356	15.5	394	5.0	127	2.4	60	1.1	29	80.0	36.3	LSWB3	SFA34J2
1.5	38	LS1500JL LS1500JR	26.1	662	15.0	381	22.4	570	6.5	165	3.5	89	1.7	43	175.0	79.4	LSWB1	SFA1J3
1.5	38	LS1800JL LS1800JR	26.4	671	18.0	457	22.1	562	6.5	165	3.5	89	1.7	43	200.0	90.8	LSWB1	SFA1J3
1.5	38	LS1900JL LS1900JR	26.6	675	19.0	483	22.0	559	6.5	165	3.5	89	1.7	43	210.0	95.3	LSWB1	SFA1J3

Note: Measurements are in inches.

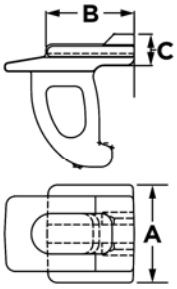
J-BOLT BASES FOR SHROUDS
Specialized Wear Protection



J-BOLT BASES								
Part No.	Dimensions						Weight	
	A		B		C			
	"	mm	"	mm	"	mm	lb	kg
LSWB-1	5.1	130	6.0	152	2.1	54	8.5	3.9
LSWB-2	8.4	213	6.0	152	2.4	62	19.0	8.6
LSWB-3	3.9	98	4.5	114	1.4	36	3.2	1.5
LSWB-4	4.4	111	6.0	152	2.4	62	9.0	4.1
LSWB-5	6.6	168	6.0	152	2.4	62	15.0	6.8
LSWB-6	6.6	168	6.75	171	2.75	70	13.5	6.1
LSWB-7	4.4	111	4.5	114	1.9	48	5.0	2.3
LSWB-8	5.1	130	5.25	133	1.9	48	6.5	2.9
LSWB-9	8.5	216	9.0	229	3.0	76	27.5	12.5
LSWB-10	5.6	143	9.0	229	3.0	76	15.0	6.8



Type 1



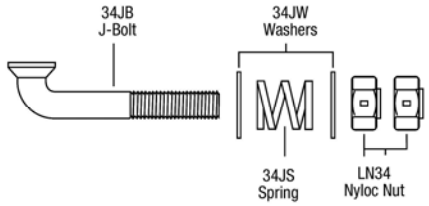
Type 2

WELDLESS J-BOLT BASES									
Part No.	Type	Dimensions						Weight	
		A		B		C			
		"	mm	"	mm	"	mm	lb	kg
LSB-1	1	6.6	168	5.5	168	2.0	51	25	11.3
LSB-2	1	6.6	168	5.6	143	2.3	59	24	10.9
LSB-3	2	6.6	168	6.0	152	2.5	63	35	15.9
LSB-4	1	6.6	168	6.2	157	2.2	55	31	14.1

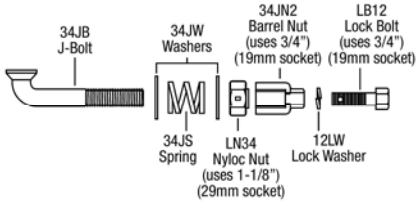
J-BOLT ASSEMBLIES
Specialized Wear Protection

J-BOLT ASSEMBLIES

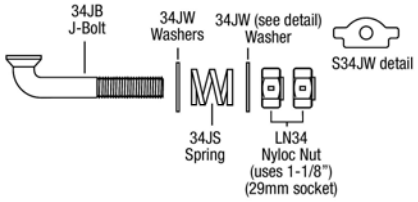
SFA34J
1.4 lb / 0.6 kg



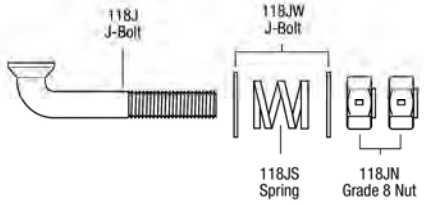
SFA34J2
2.2 lb / 1.0 kg



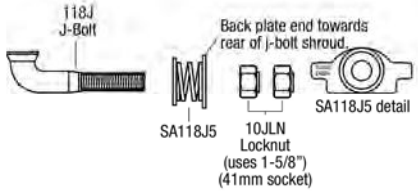
SFA34J4
2.2 lb / 1.0 kg



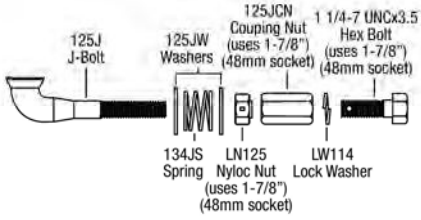
SFA118J
3.7 lb / 1.7 kg



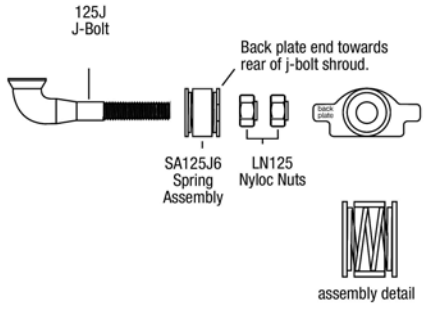
SFA118J5
4.7 lb / 2.1 kg



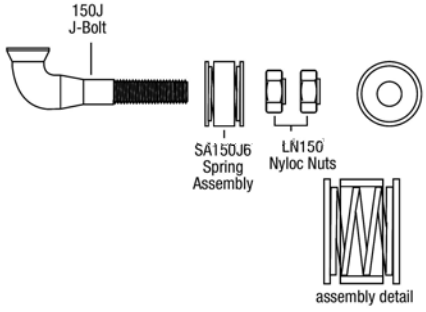
SFA125J2
9.5 lb / 4.3 kg



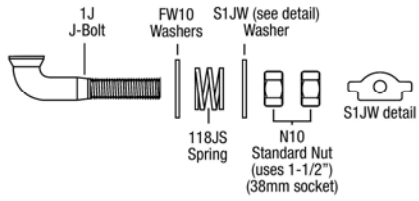
SFA125J6
8.0 lb / 3.6 kg



SFA150J6
11.9 lb / 5.4 kg



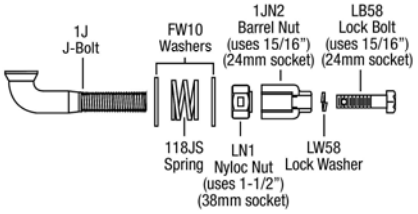
SFA1J
3.2 lb / 1.5 kg



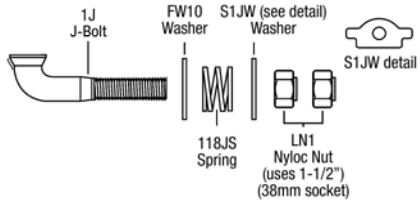
J-BOLT ASSEMBLIES
Specialized Wear Protection

J-BOLT ASSEMBLIES

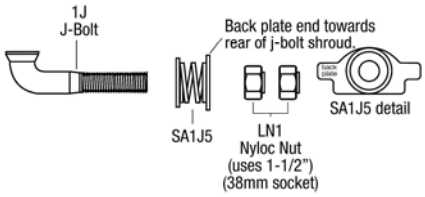
SFA1J2
3.7 lb / 1.7 kg



SFA1J4
3.4 lb / 1.5 kg



SFA1J5
3.3 lb / 1.5 kg

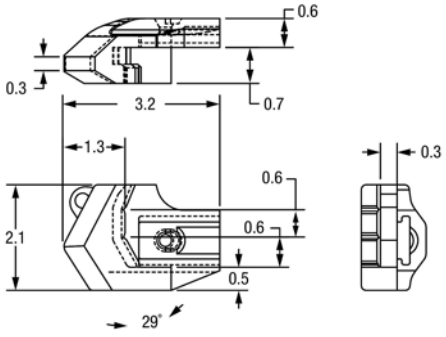


Note: Measurements are in inches.

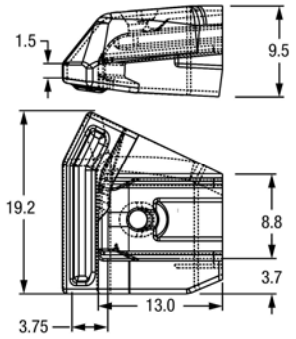
WEAR PROTECTORS FOR LOADERS
Specialized Wear Protection

WEAR PROTECTORS FOR BERKELEY TLC LOADER LIPS

B397WRR (RH shown)
B397WRL (LH opposite)
132.0 lb / 59.9 kg
LSWB8 weld base
SFA1J4 j-bolt assembly
Also required:
1 ea. per side FL397WR front locator



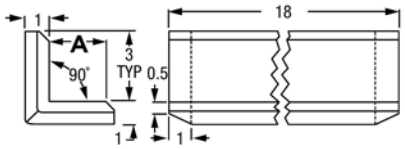
B5461RHX (RH shown)
B5461LHX (LH opposite)
308.0 lb / 139.7 kg
LSWB9 weld base
SFA150J6 j-bolt assembly
Lower Base Plates also required on new installation:
B54561RLP (LH)
B54561RRP (RH)



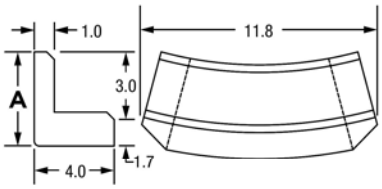
Note: Measurements are in inches.

WEAR PROTECTORS
Specialized Wear Protection

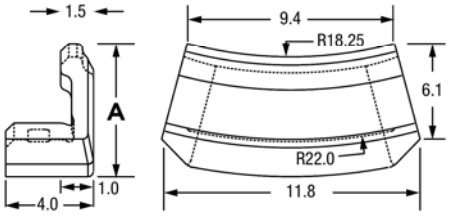
ST001



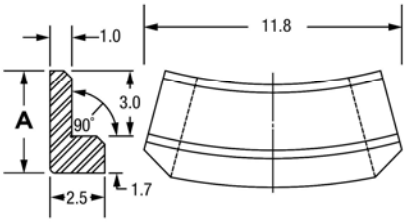
ST002



ST002AT

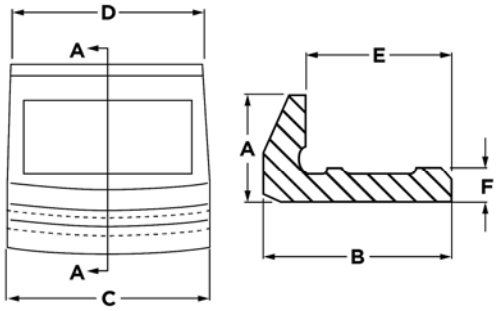


ST003



LOADERS AND LHD SCOOP TRAM BUCKETS					
Wear Edge*	Type	Dimensions A		Weight	
		"	mm	lb	kg
ST001	Straight	3.0	76	35.0	15.9
ST002	Curved	3.0	76	30.0	13.6
ST002AT	Curved	6.1	154	33.1	15.0
ST003	Curved	1.5	38	21.5	9.7

*Wear Edges can be trimmed to fit.



EXCAVATOR AND FACE SHOVELS															
Machine Size	Part No.	Dimensions												Weight	
		A		B		C		D		E		F			
		"	mm	"	mm	"	mm	"	mm	"	mm	"	mm	lb	kg
20 - 40 ton	ES6697-4HX	4.0	100	7.0	175	7.5	188	7.0	178	5.5	135	1.25	32	22.0	10.0
40 - 80 ton	ES6697-3HX	4.0	100	8.0	200	7.5	188	7.0	178	6.0	150	1.5	38	30.0	13.0
80 - 180 ton	1386551MHX	6.75	171	8.75	222	8.0	203	5.0	127	7.0	178	1.75	44	37.0	16.8
80 - 180 ton	ES6697-2HX	6.0	150	10.0	250	7.5	188	6.5	166	8.0	200	2.0	50	45.0	20.0
180 - 400 ton	ES6697-5HX	8.0	200	12.0	300	10.0	250	8.75	220	9.25	235	2.0	50	85.0	38.0
400 ton +	ES6697-7HX	9.9	252	14.0	357	9.9	252	8.4	214	9.3	237	3.9	100	187.0	84.8

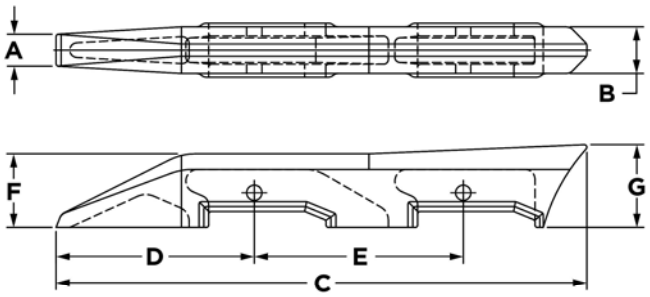
Note: Measurements are in inches.

VERTICAL CHEEK PLATE
Specialized Wear Protection

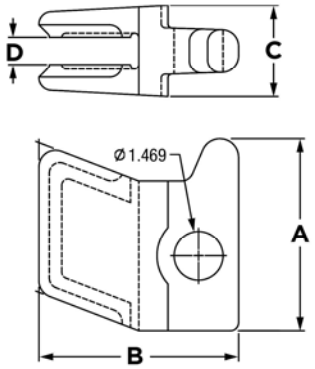
VERTICAL WEAR SHROUDS FOR EXCAVATORS, LOADERS AND FRONT SHOVELS						
Vertical Shroud	Machine			Wrap Around Weldment	Fastener (Rubber Plug & Pin)	Internal or Flush Mount Weldments
	Exc./F. Shovel Weight		Loader Cu. Yd.	Upper / Lower	Upper / Lower	Upper / Lower
	lb	kg				
VS385	up to 60,000	up to 27,216	up to 6	VSM100WN*	EMI-004, EMP-003	VSM100INT*
					VSP2-SL,VSR3-SL	VSM100INT*
VS450	70,000 - 150,000	31,751 - 68,039	6 - 8	VSM100WN*	EMI-004, EMP-003	VSM100INT*
					VSP2-SL,VSR3-SL	VSM100INT*
VS500	175,000 - 350,000	79,739 - 158,757	9 - 15	VSM150WN*	VSR3, VSP3	VSM150INT*
					VSP2-SL,VSR3-SL	VSM150INT*
VS550	200,000 - 400,000	90,718 - 181,437	15 - 25	VSM200WN*	VSR3, VSP3	VSM200INT
					VSP2-SL,VSR3-SL	VSM200INT

*OPTIONAL WELDMENTS			
Cheek Plate Thickness		Wrap-around	Internal
"	mm		
0.75	20	VSM75WN	N/A
1.0	25	VSM100WN	VSM100INT
1.5	40	VSM150WN	VSM150INT
2.0	50	VSM200WN	VSM200INT
2.5	60	VSM250WN	N/A

VERTICAL SHROUDS AND WELDMENTS
Specialized Wear Protection

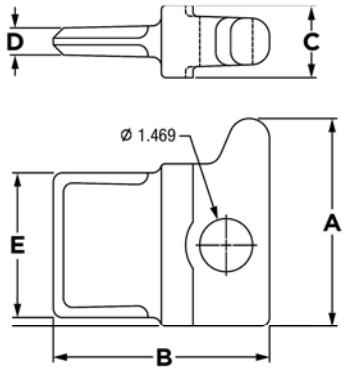


VERTICAL SHROUDS																
Part No.	Dimensions														Weight	
	A		B		C		D		E		F		G			
	“	mm	“	mm	“	mm	“	mm	“	mm	“	mm	“	mm	lb	kg
VS385	1.6	41	2.4	73	27.1	689	10.1	257	10.7	271	3.75	95	4.2	107	32.8	14.9
VS410	1.6	41	2.9	73	27.25	692	9.0	229	-	-	2.5	64	4.25	108	29.0	13.2
VS450	1.7	43	2.6	67	30.3	771	10.1	257	13.5	343	3.75	95	4.6	117	42.5	19.3
VS500	2.5	64	3.4	87	32.9	835	10.1	257	16.0	406	3.7	93	4.6	117	66.0	30.0
VS550	2.5	64	4.0	102	35.75	908	10.75	273	17.1	435	4.0	102	5.0	127	86.0	39.0

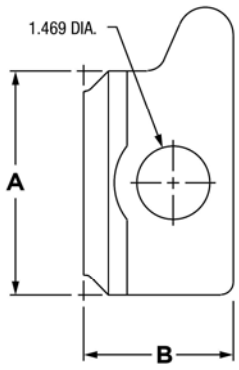


UPPER AND LOWER WRAP-AROUND WELDMENTS FOR VS385, VS450, VS500, AND VS550										
Part No.	Dimensions								Weight	
	A		B		C		D			
	“	mm	“	mm	“	mm	“	mm	lb	kg
VSM75WN	5.8	147	6.0	152	2.75	70	0.8	20	10.7	4.9
VSM100WN	5.75	146	6.0	152	2.75	70	1.1	27	10.9	4.9
VSM150WN	5.75	146	6.0	152	3.4	87	1.6	40	12.3	5.6
VSM175WN	5.75	146	6.0	152	3.4	87	1.8	47	12.5	5.7
VSM200WN	5.75	146	6.0	152	3.4	87	2.1	52	11.9	5.4
VSM250WN	5.75	146	6.25	159	3.9	100	2.6	65	11.6	5.3

UPPER AND LOWER WELDMENTS
Specialized Wear Protection

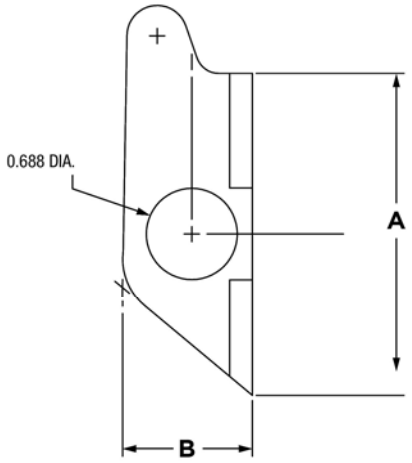


UPPER AND LOWER INTERNAL WELDMENTS FOR VS385, VS450, VS500, AND VS550												
Part No.	Dimensions										Weight	
	A		B		C		D		E			
	“	mm	“	mm	“	mm	“	mm	“	mm	lb	kg
VSM100INT	5.75	146	6.0	152	2.0	51	1.0	25	4.0	102	8.5	3.9
VSM150INT	5.75	146	6.0	152	2.5	63	1.5	38	4.0	102	10.3	4.7
VSM200INT	5.75	146	6.0	152	3.0	76	2.0	51	4.0	102	11.5	5.2

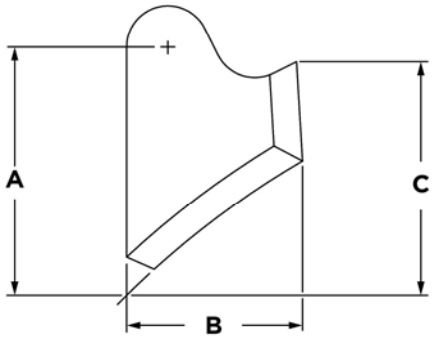


UPPER AND LOWER FLUSH MOUNT WELDMENT FOR VS385, VS450, VS500 AND VS550						
Part No.	Dimensions				Weight	
	A		B			
	“	mm	“	mm	lb	kg
VSMWN	4.5	114	3.0	76	6.0	4.9

UPPER AND LOWER FLUSH MOUNT WELDMENTS
Specialized Wear Protection



UPPER FLUSH MOUNT WELDMENTS FOR VS410						
Part No.	Dimensions				Weight	
	A		B			
	“	mm	“	mm	lb	kg
VS410WNB	5.3	135	2.1	54	2.9	1.3

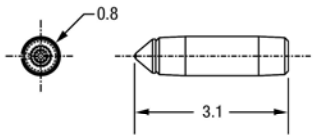


LOWER FLUSH MOUNT WELDMENTS FOR VS410								
Part No.	Dimensions						Weight	
	A		B		C			
	“	mm	“	mm	“	mm	lb	kg
VS410WNA	3.0	76	2.4	61	2.0	51	3.0	1.4

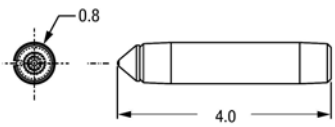
FASTENERS & EXTENSION
Specialized Wear Protection

FASTENERS

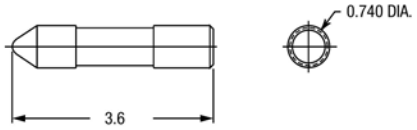
VSP2SL
Pin
0.3 lb / 0.1 kg



VSP3SL
Pin
0.4 / 0.2 kg

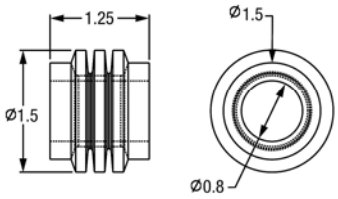


VSP3
Pin
0.4 lb / 0.2 kg



Used with: VS410, VS181 upper, VS385 upper/lower, VS450 upper/lower

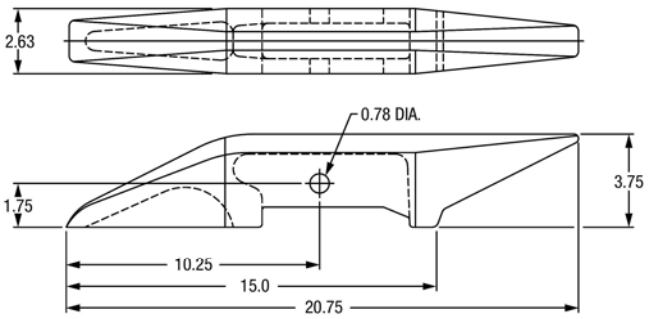
VSR3SL
Rubber Bushing
0.3 lb / 0.1 kg



Used with: VS500 upper/lower, VS550 upper/lower

VERTICAL SHROUD EXTENSION

VS450EXT
24.3 lb / 11.0 kg



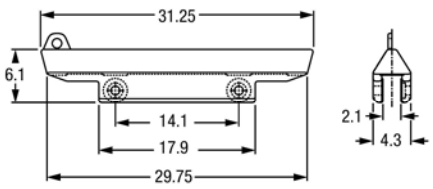
Note: The VS450EXT can be used to extend the VS385, VS480 and VS500 shrouds. Multiple extensions can be "stacked" in order to offer additional protection.

Note: Measurements are in inches.

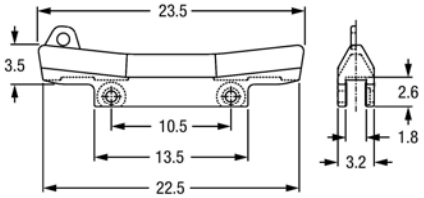
VERTICAL EDGE PROTECTORS
Esco Style Miscellaneous Wear Parts

VERTICAL EDGE PROTECTORS

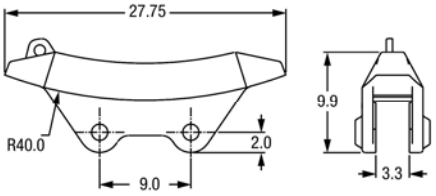
ES4410HX
103.5 lb / 46.9 kg
Fastener: (2) PDB31183#2HX (pin)
(2) 120KLKSRR (snap ring)



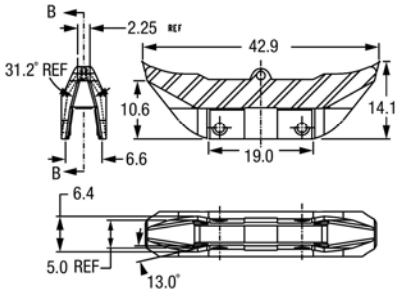
ES5280HX
44.5 lb / 20.2 kg
Fastener: (2) PDB31183#2HX (pin)
(2) 120KLKSRR (snap ring)



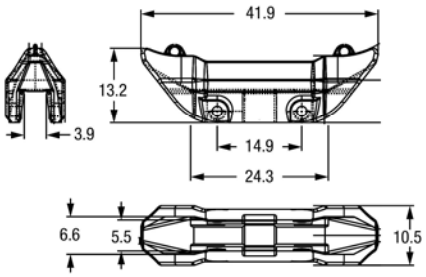
ES6553HX
146.0 lb / 66.2 kg
Fastener: (2) PDB31183#2HX (pin)
(2) 120KLKSRR (snap ring)



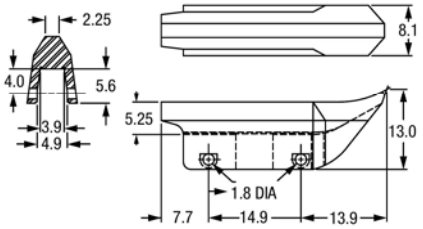
PDE437232HX
440.0 lb / 199.6 kg
Fastener: (2) PDB31183#2HX (pin)
Optional Pin: (2) PDB31183#2LXH (pin, Long)
(2) 120KLKSRR (snap ring)



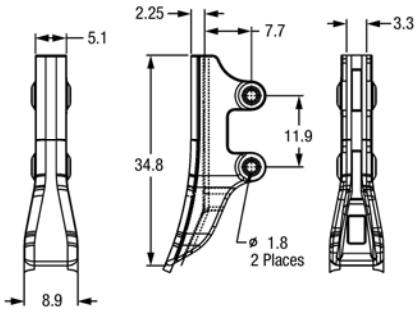
PDE437233HX
505.0 lb / 229.1 kg
Fastener: (2) PDB31183#2HX (pin)
Optional Pin: (2) PDB31183#2LXH (pin, Long)
(2) 120KLKSRR (snap ring)



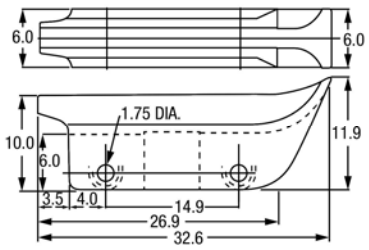
PDE43723HX
338.0 lb / 153.3 kg
Fastener: (2) PDB31183#2HX (pin)
Optional Pin: (2) PDB31183#2LXH (pin, Long)
(2) 120KLKSRR (snap ring)



PDE52445HX
240.0 lb / 108.9 kg
Fastener: (2) PDB31183#3HX (pin)
(2) 120KLKSRR (snap ring)



PDE34295HX
217.0 lb / 98.5 kg
Fastener: (2) PDB31183#2HX (pin)
(2) 120KLKSRR (snap ring

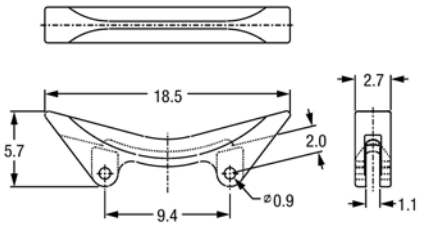


Note: Measurements are in inches.

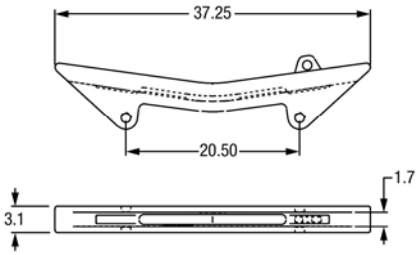
MISCELLANEOUS VERTICAL SHROUDS
Specialized Wear Protection

CATERPILLAR STYLE VERTICAL SHROUDS

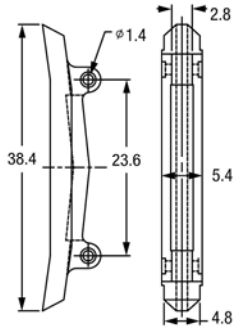
135-8246HX
22.4 lbs / 10.2 kg
used on Cat 966 - 980 loaders
fasteners 1359292P (2), 6Y9459W (2)



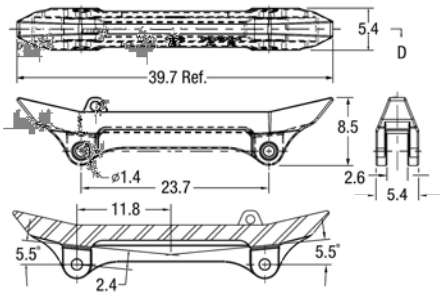
112-2494HX
83.0 lb / 37.7 kg
used on Cat 375 excavator
fasteners 132-1008P (2), 132-0999W (2)



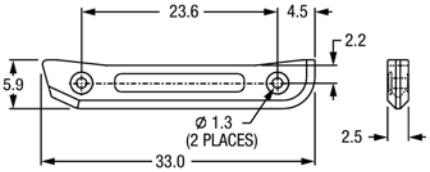
8E3814HX
145.0 lb / 65.8 kg
Fastens with (2) 8E4708P (pin)
& (2) 4T4707W (washer)



125-0800HX
117.0 lb / 53.1 kg

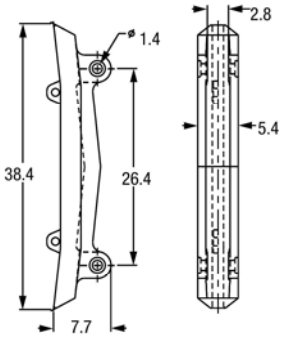


135-9794HX
103.0 lb / 46.8 kg
base for 125-00800HX
Fastener: (2) 8E4708P (pin)
(2) 4T4707W (washer)



KOMATSU STYLE VERTICAL SHROUDS

K3814 (PC1800)
149.0 lb / 67.6 kg
Fastener: (2) 8E4708P (pin)
(2) 4T4707W (washer)

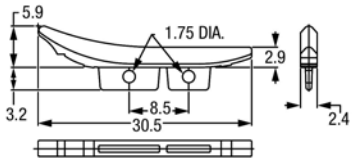


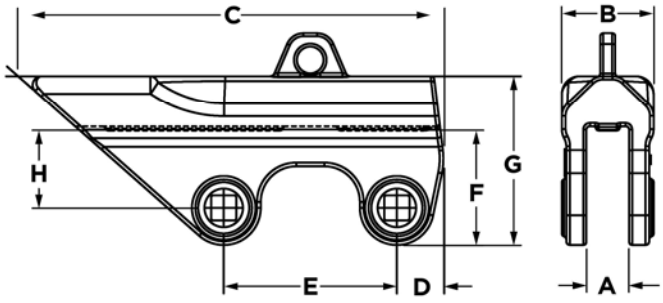
Note: Measurements are in inches.

MISCELLANEOUS VERTICAL SHROUDS
Specialized Wear Protection

HENSLEY WEAR SHROUDS

447AHX
53.2 lb / 24.1 kg
Vertical Wear Shroud
uses shroud base 446447
uses P447A pin & 447AR bushing





RVS SHROUDS

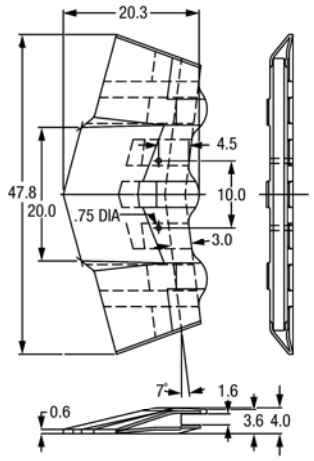
Part No.	Lower Blade Thickness		Dimensions																Plow Bolt Assembly	Weight	
	A		B		C		D		E		F		G		H						
	"	mm	"	mm	"	mm	"	mm	"	mm	"	mm	"	mm	"	mm	"	mm		lb	kg
VS25	1	25	1.1	25	2.75	69	13.5	342	1.5	37	5.5	139	3.8	98	5.75	146	2.4	61	AC10312	25.0	11.3
VS30	1.25	30	1.25	33	3.0	76	13.5	342	1.5	38	5.5	139	3.8	98	5.75	146	2.4	61	AC10400	25.0	11.3
VS40	1.5	40	1.6	42	3.6	92	18	457	2.0	50	7.3	185	4.9	124	7.1	180	3.3	84	AC10412	49.7	22.5
VS45	1.75	45	1.75	46	3.9	98	18.0	457	2.0	50	7.3	185	4.8	122	7.1	180	3.25	82	AC10412	55.0	24.9
VS50	2.0	50	2.1	50	4.1	104	22.5	571	2.5	63	9.1	231	6.0	152	8.9	225	4.1	103	AC10500	90.0	40.8
VS65	2.5	65	2.5	65	4.6	119	22.5	571	2.5	63	9.1	231	6.0	152	8.9	225	4.1	103	AC10512	98.0	44.5

Note: Measurements are in inches.

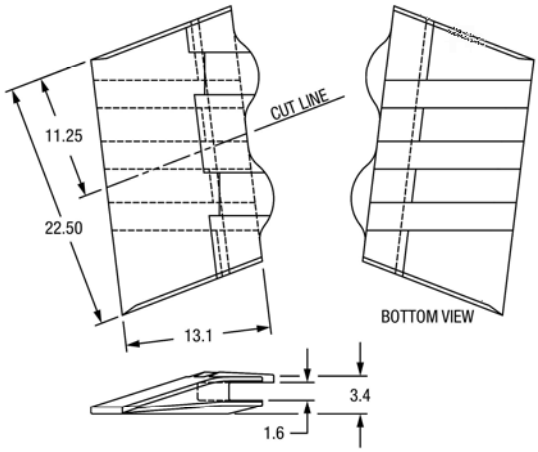
LIP SHROUDS FOR LHD SCOOP TRAM BUCKETS
Specialized Wear Protection

CAST ALLOY LIP SHROUDS FOR LHD SCOOP TRAM BUCKETS

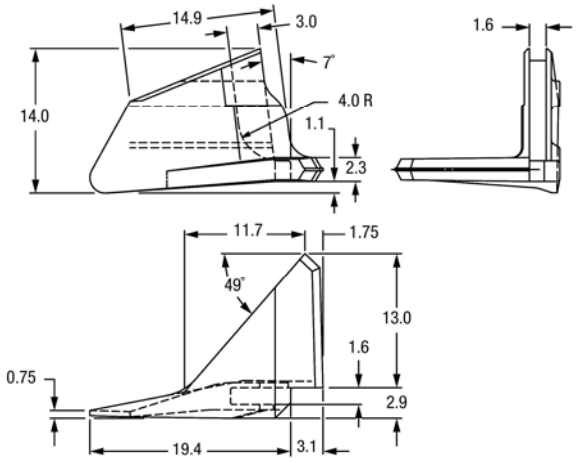
18-7252HX
Center Shroud
370.0 lb / 168.0 kg



18-5370AHX
18-5380AHX
Intermediate Shroud
143.0 lb / 64.9 kg



ET10015LHX (LH Shown)
ET10015RHX (RH Opposite)
Corner Shroud
150.0 lb / 68.1 kg



Note: Measurements are in inches.

LIP SHROUDS FOR LHD SCOOP TRAM BUCKETS
Specialized Wear Protection

CAST ALLOY LIP SHROUDS FOR LHD SCOOP TRAM BUCKETS - WELDING

NOTE: Read all instructions carefully before welding.

The material of the cast lip assembly is Hensley alloy #3, which has been heat-treated to a hardness of approximately 477 Brinell. The alloy is a chrome/moly steel with approximately 0.28% carbon. The material is weldable if the proper precautions are followed.

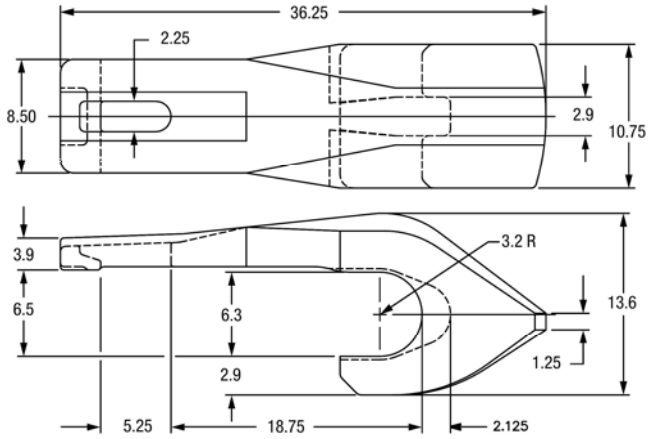
Recommendations:

- Use E7018 low hydrogen rod or E70 wire. Be sure the welding materials are free of moisture.
- Preheat to 350˚ - 500˚ F (175˚ - 257˚ C).
- Interpass temperature should not exceed 500o F (260˚ C).
- Start at the center of the blade and weld toward the edges of the bucket.
- Use 2" (51mm) minimum tack welds on both sides.
- Weld both sides alternately between passes.
- Remove all slag subsequent to weld passes.
- Post-heat the entire assembly uniformly to 350˚ - 400˚ F (176˚ - 204˚C) and cover with a thermal blanket. This serves as stress relief and to temper any martensite that may have formed during cooling from the weld. This is important as the steel contains a significant amount of alloy.

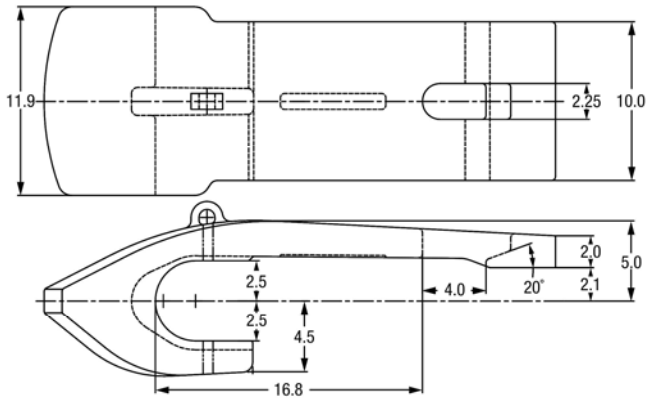
CAT® STYLE REPLACEMENT LIP SHROUDS FOR DIPPERS
Specialized Wear Protection

CATERPILLAR® STYLE LIP SHROUDS

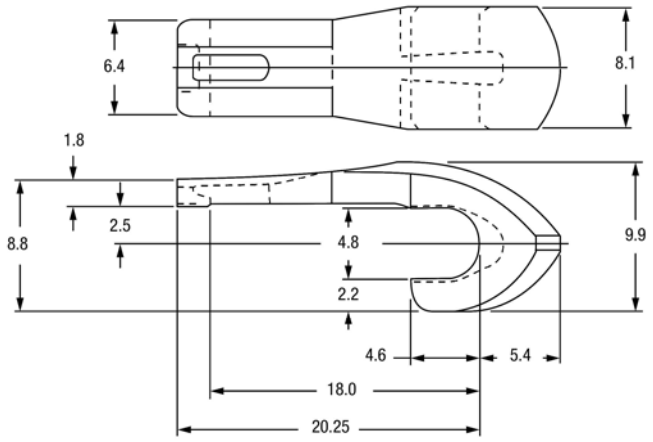
E01400606HX
450.0 lb / 204.1 kg
Used on models 7395 and 7495
Fasteners: C11059202HX (C-Clamp)
C11059102HX (Wedge)



E00840504HX
303.0 lb / 137.4 kg
Used on models 7395 and 7495
Fasteners: C11059202HX (C-Clamp)
C11059102HX (Wedge)



E01400606MHX
406.0 lb / 184.2 kg
Used on models 7395 and 7495
Fasteners: C11059202HX (C-Clamp)
C11059102HX (Wedge)

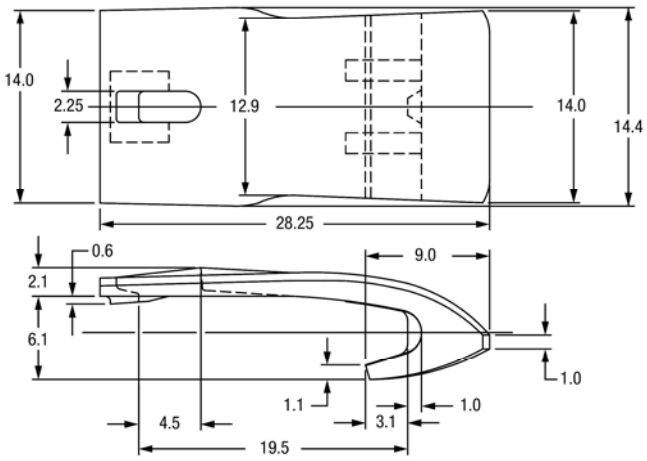


Note: Measurements are in inches.

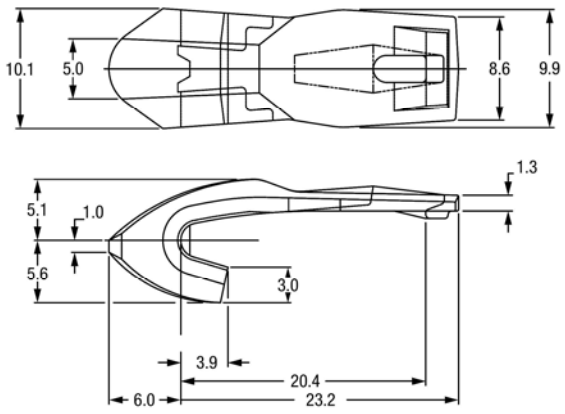
ESCO STYLE REPLACEMENT LIP SHROUDS FOR DIPPERS
Specialized Wear Protection

ESCO STYLE LIP SHROUDS

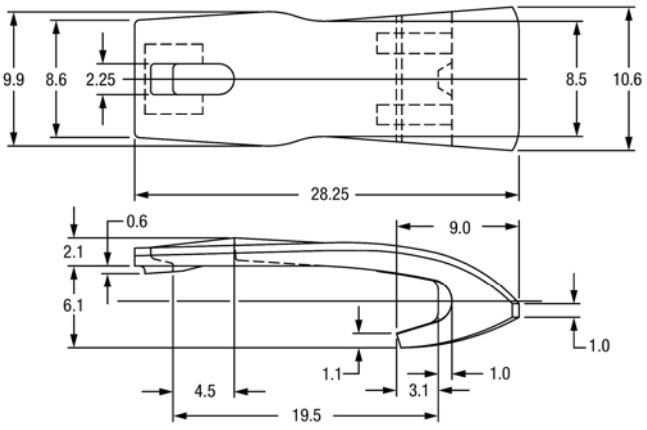
CE251824HX
(WH-8 Size)
264.4 lb / 119.9 kg
Fastener: 419CLTS (C-Clamp)
419WTW (Wedge)
Optional Fastener: R419SP (Spool)
R419EL (Wedge)



CE25183HHX
(HD WH-8 Size)
203.0 lb / 92.1 kg
Fastener: 419CLTS (C-Clamp)
419WTW (Wedge)
Optional Fastener: R419SP (Spool)
R419EL (Wedge)



CE25183HX
(WH-8 Size)
173.0 lb / 78.47 kg
Fastener: 419CLTS (C-Clamp)
419WTW (Wedge)
Optional Fastener: R419SP (Spool)
R419EL (Wedge)

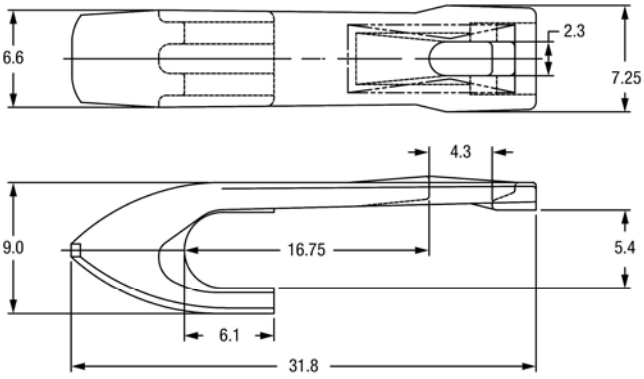


Note: Measurements are in inches.

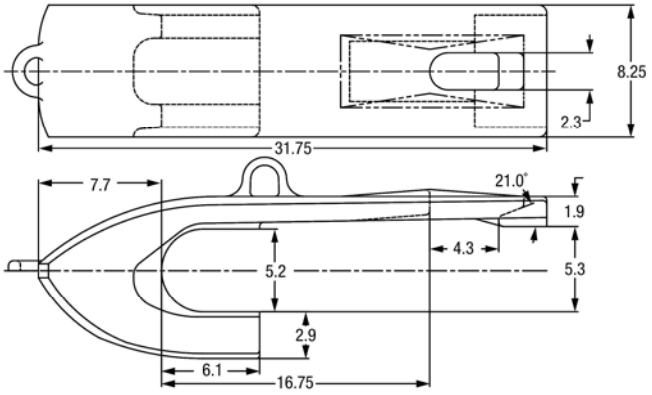
ESCO STYLE REPLACEMENT LIP SHROUDS FOR DIPPERS
Specialized Wear Protection

ESCO STYLE LIP SHROUDS CONTINUED

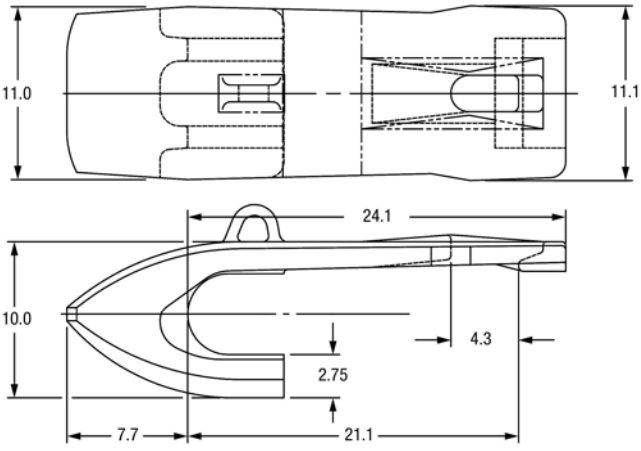
CE257592AHX
(WH-10 Size)
157.0 lb / 71.2 kg
Fastener: 419CLTS (C-Clamp)
419WTW (Wedge)
Optional Fastener: R419SP (Spool)
R419EL (Wedge)



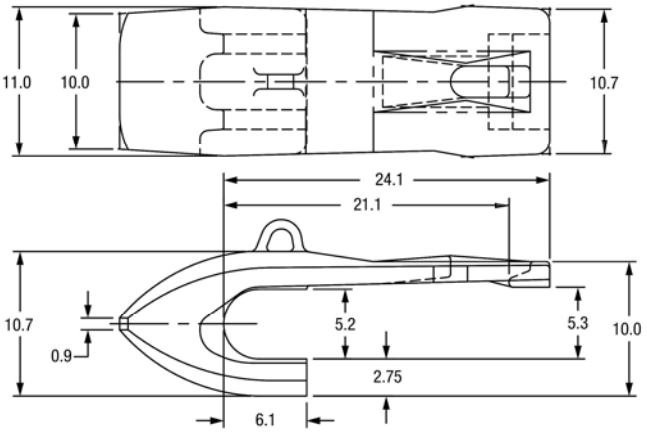
CE257594AHX
(WH-10 Size)
242.5 lb / 110.0 kg
Fastener: 419CLTS (C-Clamp)
419WTW (Wedge)
Optional Fastener: R419SP (Spool)
R419EL (Wedge)



CE25759AHX
(WH-10 Size)
293.0 lb / 132.9 kg
Fastener: 419CLTS (C-Clamp)
419WTW (Wedge)
Optional Fastener: R419SP (Spool)
R419EL (Wedge)



CE25759ASHX
(WH-10 Size)
327.0 lb / 148.3 kg
Fastener: 419CLTS (C-Clamp)
419WTW (Wedge)
Optional Fastener: R419SP (Spool)
R419EL (Wedge)

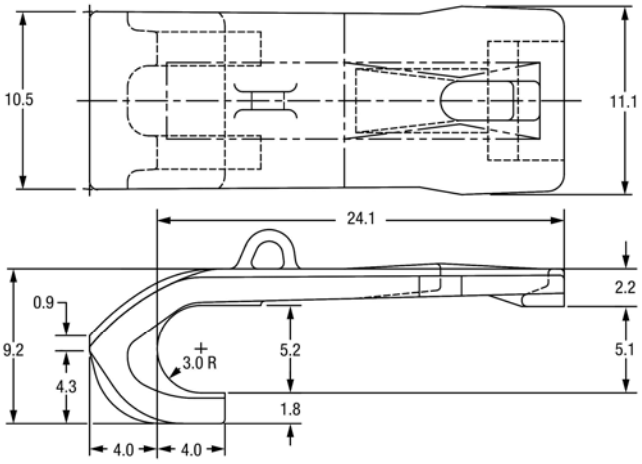


Note: Measurements are in inches.

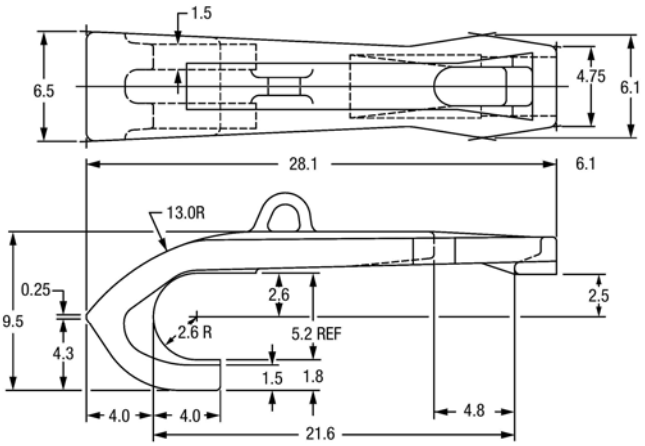
ESCO STYLE REPLACEMENT LIP SHROUDS FOR DIPPERS
Specialized Wear Protection

ESCO STYLE LIP SHROUDS CONTINUED

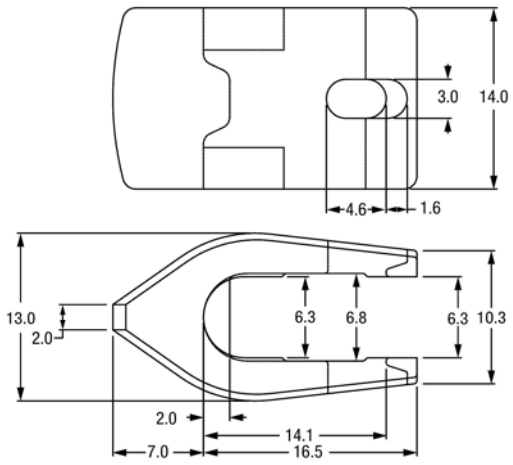
CE25759MHX
(WH-10 Size)
197.0 lb / 89.4 kg
Fastener: 419CLTS (C-Clamp)
419WTW (Wedge)
Optional Fastener: R419SP (Spool)
R419EL (Wedge)



CE25760MHX
(WH-10 Size)
107.0 lb / 48.5 kg
Fastener: 419CLTS (C-Clamp)
419WTW (Wedge)
Optional Fastener: R419SP (Spool)
R419EL (Wedge)



CE25742HX
(WH-12 Size)
502.0 lb / 227.7 kg
Fastener: R4100SP (Spool)
R4100EL (Wedge)
Hammerless Fastener: H4100SP (Spool)
AH4100W (Wedge)

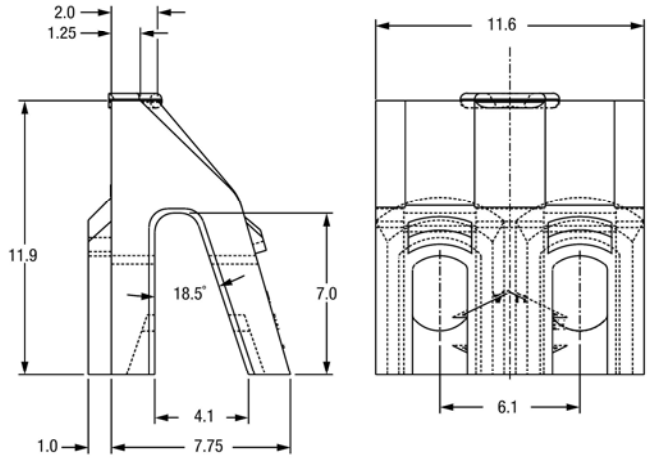


Note: Measurements are in inches.

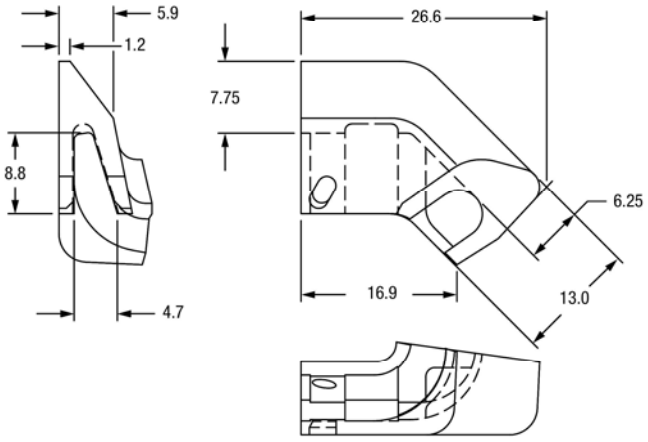
WING SHROUDS FOR DIPPERS
Specialized Wear Protection

AMSCO STYLE REPLACEMENT WING SHROUDS FOR DIPPERS

47846HX
Upper Wing Shroud
127.0 lb / 57.6 kg
(WH-8/10 Size)
Fastener: 289572SP (Spool)
289574W (Wedge)



290237LHX (LH Shown)
290238RHX (RH Opposite)
Lower Wing Shroud
(WH-8/10 Size)
458.0 lb / 207.8 kg
486SPTS (Spool)
485WTW (Wedge)

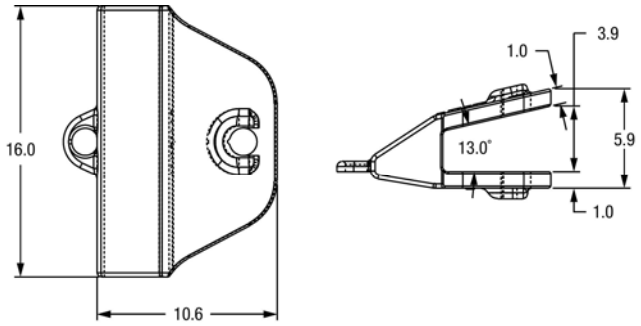


Note: Measurements are in inches.

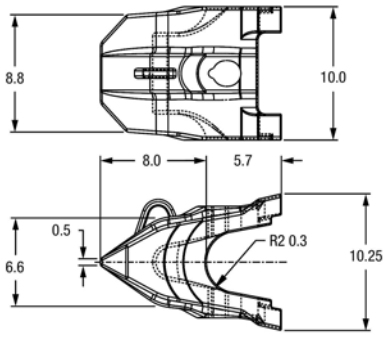
WING SHROUDS FOR DIPPERS
Specialized Wear Protection

BERKELEY STYLE REPLACEMENT WING SHROUDS FOR DIPPERS

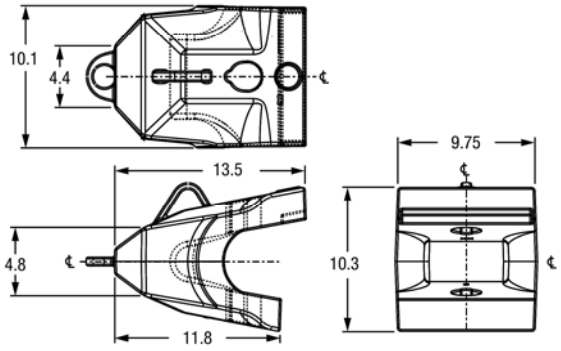
D04958HX
Upper Wing Shroud
105.0 lb / 47.6 kg
Fastener: D05124P



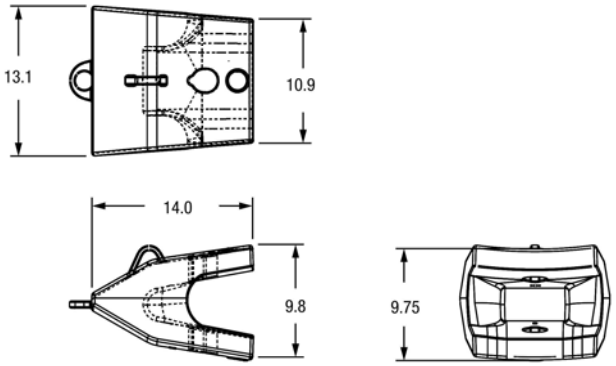
D05111AHX
Wing Shroud
118.0 lb / 53.5 kg
Fastener: D05124P



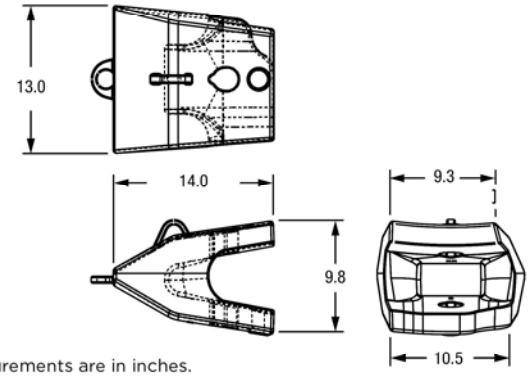
D05111HDHX
Center HD Lip Shroud
153.0 lb / 69.4 kg
Fastener: D05124P



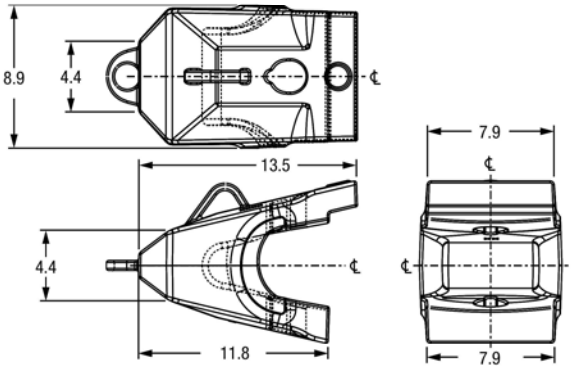
B-06167HX
Mid & Upper Corner
210.0 lb / 95.3 kg
Fastener: D05124P



B-06165LHX (LH Shown)
B-06165RHX (RH Opposite)
Corner Shroud
193.0 lb / 87.5 kg
Fastener: D05124P



D06183HX
Outer Lip Shroud
122.0 lb / 55.3 kg
Fastener: D05124P



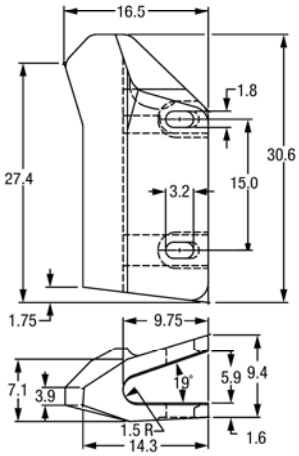
Note: Measurements are in inches.

WING SHROUDS FOR DIPPERS
Specialized Wear Protection

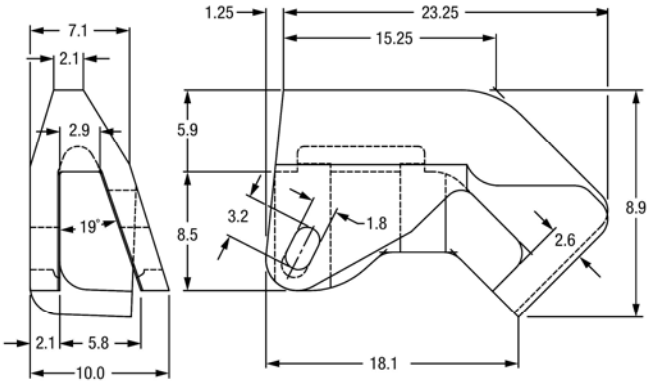
CATERPILLAR® STYLE REPLACEMENT WING SHROUDS FOR DIPPERS

Used on models 7395 & 7495

E01200710RHX (RH Shown)
E01200810LHX (LH Opposite)
Upper Wing Shroud
420.0 lb / 190.5 kg
Hammer Type Fastener:C11053102HX (Spool)
C11053002HX (Wedge)
Hammerless Fastener: AH531SP (Spool)
H530W (Wedge)

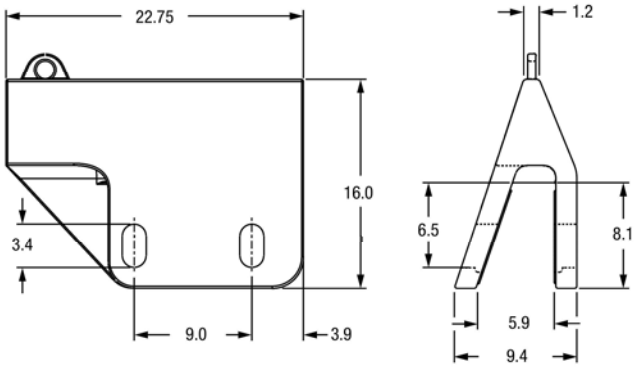


E01401704LHX (LH Shown)
E01401604RHX (RH Opposite)
Lower Wing Shroud
334.0 lb / 151.5 kg
Hammer Type Fastener:C11053102HX (Spool)
C11053002HX (Wedge)
Hammerless Fastener: AH531SP (Spool)
H530W (Wedge)

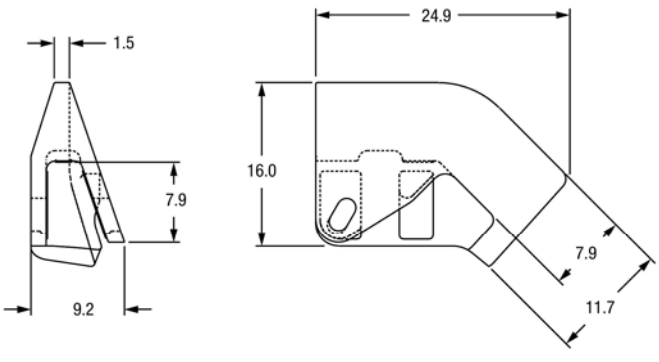


Used on models 7495HR

E02169601HX (RH Opposite)
E02169701HX (LH Shown)
Upper Wing Shroud
309.0 lb / 140.2 kg
Hammer Type Fastener: C11053102HX (Spool)
C11053002HX (Wedge)
Hammerless Fastener: AH531SP (Spool)
H530W (Wedge)



E02169501HX (LH Shown)
E02169401HX (RH Opposite)
Heavy Lower Wing Shroud
310.0 lb / 140.6 kg
Hammer Type Fastener: C11053102HX (Spool)
C11053002HX (Wedge)
Hammerless Fastener: AH531SP (Spool)
H530W (Wedge)



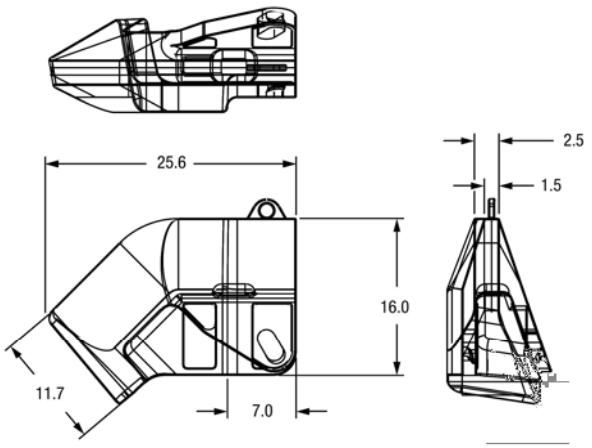
Note: Measurements are in inches.

WING SHROUDS FOR DIPPERS
Specialized Wear Protection

CATERPILLAR® STYLE REPLACEMENT WING SHROUDS FOR DIPPERS

Used on models 7495HR

E02169401SHX (RH Opposite)
E02169501SHX (LH Shown)
Heavy Lower Wing Shroud
419.0 lb / 190.1 kg
Hammer Type Fastener: C11053102HX (Spool)
C11053002HX (Wedge)
Hammerless Fastener: AH531SP (Spool)
H530W (Wedge)

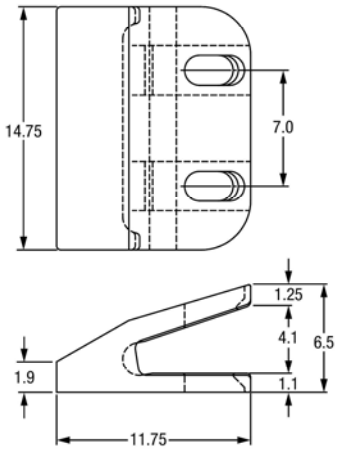


Note: Measurements are in inches.

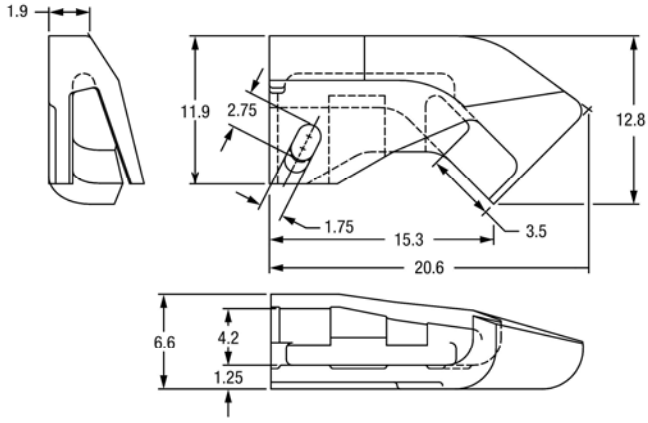
WING SHROUDS FOR DIPPERS
Specialized Wear Protection

ESCO STYLE REPLACEMENT WING SHROUDS FOR DIPPERS

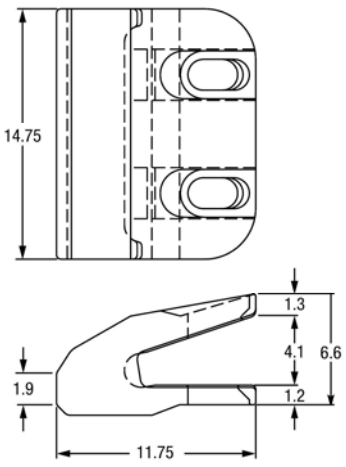
PDE30318HX
Upper Wing Shroud
(WH-8 Size)
116.0 lb / 52.6 kg
Hammer Type Fastener: 488SPTS (Spool)
487WTW (Wedge)
Hammerless Fastener: AH488SP (Spool)
H487W (Wedge)



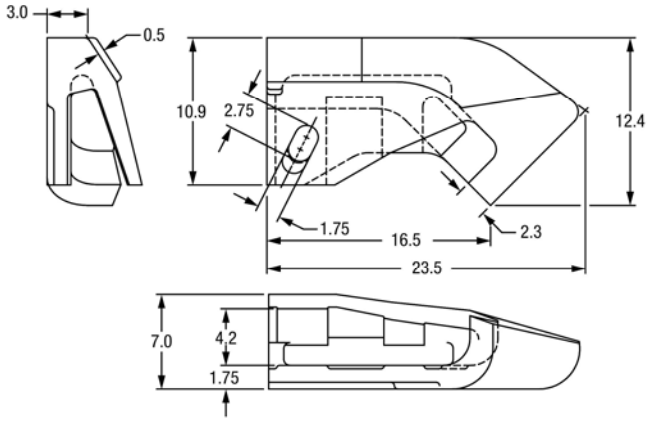
PDE32721LHX (LH Shown)
PDE32721RHX (RH Opposite)
Lower Wing Shroud
(WH-8 Size)
143.0 lb / 64.9 kg
Hammer Type Fastener: 488SPTS (Spool)
487WTW (Wedge)
Hammerless Fastener: AH488SP (Spool)
H487W (Wedge)



PDE30318SHX
Upper Wing Shroud
(WH-8 Size, Heavy Duty)
164.0 lb / 74.4 kg
Hammer Type Fastener: 488SPTS (Spool)
487WTW (Wedge)
Hammerless Fastener: AH488SP (Spool)
H487W (Wedge)



PDE32721LSHX (LH Shown)
PDE32721RSHX (RH Opposite)
Lower Wing Shroud
(WH-8 Size, Heavy Duty)
193.0 lb / 87.5 kg
Hammer Type Fastener: 488SPTS (Spool)
487WTW (Wedge)
Hammerless Fastener: AH488SP (Spool)
H487W (Wedge)

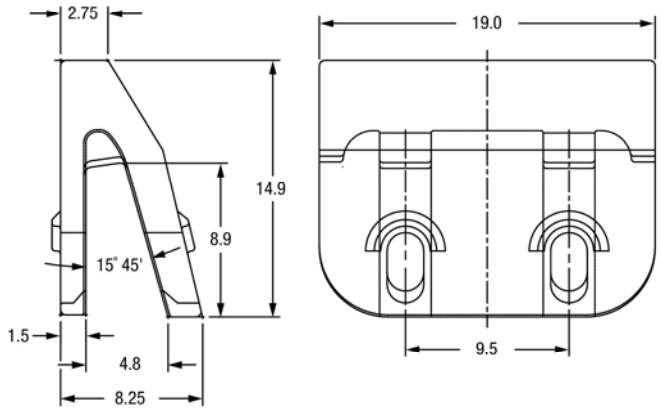


Note: Measurements are in inches.

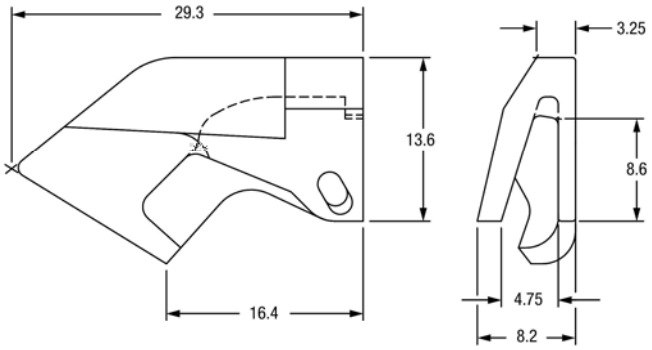
WING SHROUDS FOR DIPPERS
Specialized Wear Protection

ESCO STYLE REPLACEMENT WING SHROUDS FOR DIPPERS

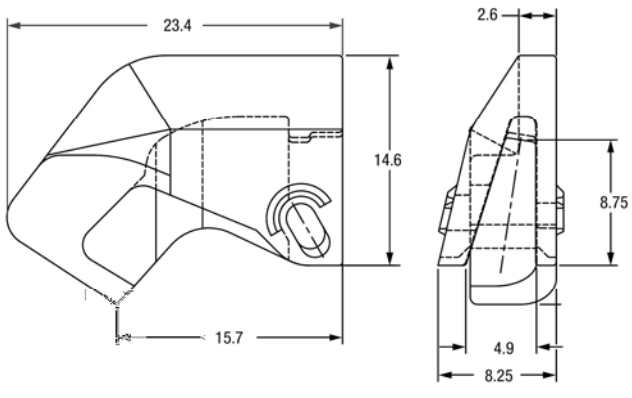
PDD27246HX
Upper Wing Shroud
(WH-10 Size)
282.7 lb / 128.2 kg
Hammer Type Fastener: 486 SPTS (Spool)
485WTW (Wedge)
Hammerless Fastener: AH486SP (Spool)
H485W (Wedge)



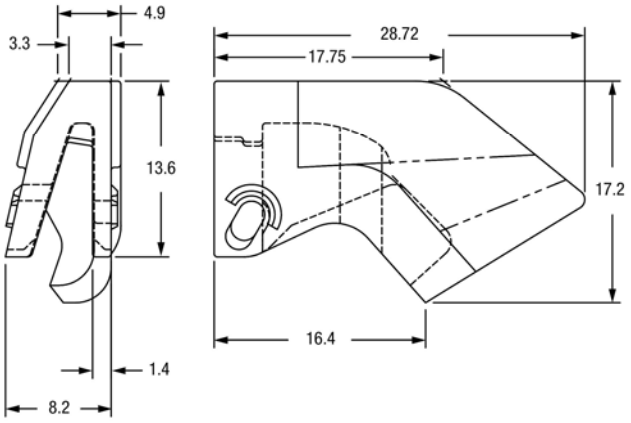
PDE32716RHX (RH Shown)
PDE32716LHX (LH Shown)
Lower Wing Shroud
(WH-10 Size)
287.0 lb / 130.2 kg
Hammer Type Fastener: 486SPTS (Spool)
485WTW (Wedge)
Hammerless Fastener: AH486SP (Spool)
H485W (Wedge)



PDE32716R1HX (RH Shown)
PDE32716L1HX (LH Opposite)
Lower Wing Shroud
(WH-10 Size)
312.0 lb / 141.5 kg
Hammer Type Fastener: 486SPTS (Spool)
485WTW (Wedge)
Hammerless Fastener: AH486SP (Spool)
H485W (Wedge)



PDE32716LSHX (LH Shown)
PDE32716RSHX (RH Opposite)
Lower Wing Shroud
(WH-10 Size, Heavy Duty)
394.0 lb / 178.7 kg
Hammer Type Fastener: 486SPTS (Spool)
485WTW (Wedge)
Hammerless Fastener: AH486 (Spool)
H485W (Wedge)

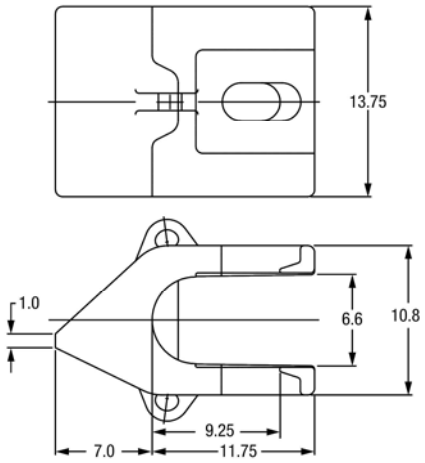


Note: Measurements are in inches.

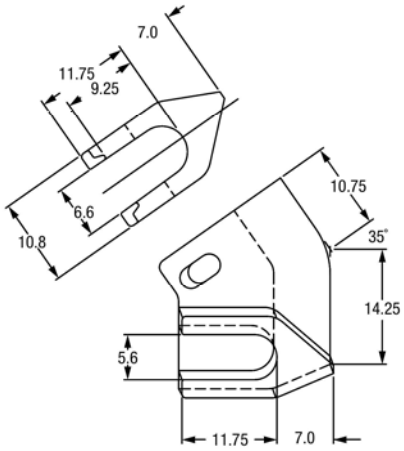
WING SHROUDS FOR DIPPERS
Specialized Wear Protection

ESCO STYLE REPLACEMENT WING SHROUDS FOR DIPPERS

PDD27241HX
Upper Wing Shroud
(WH-12 Size)
335.0 lb / 152.0 kg
Hammer Type B Fastener: R4100SP (Spool)
R4100EL (Wedge)
Hammerless Fastener: AH4100SP (Spool)
A4100W (Wedge)



PDE32741RHX
PDE32741LHX
Lower Wing Shroud
(WH-12 Size)
550.0 lb / 249.5 kg
Hammer Type B Fastener: R4100SP (Spool)
R4100EL (Wedge)
Hammerless Fastener: AH4100SP (Spool)
A4100W (Wedge)



Note: Measurements are in inches.

5.1A

SPECIALIZED WEAR PROTECTION

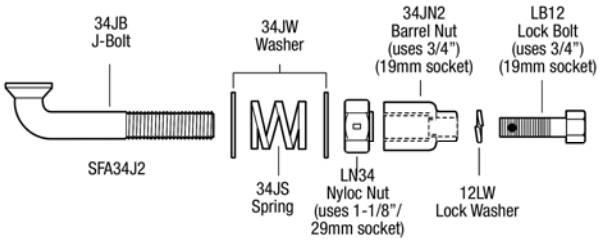
Shrouds

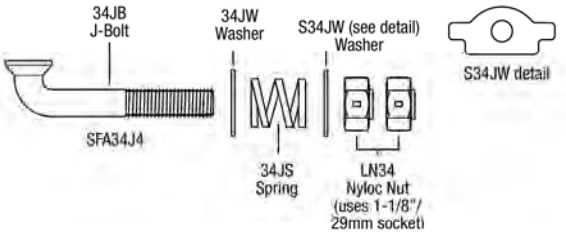
J-Bolt Installation and Welding

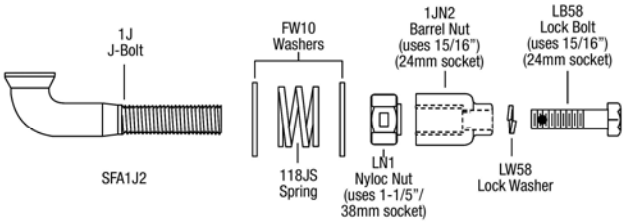
J -BOLT INSTALLATION AND WELDING

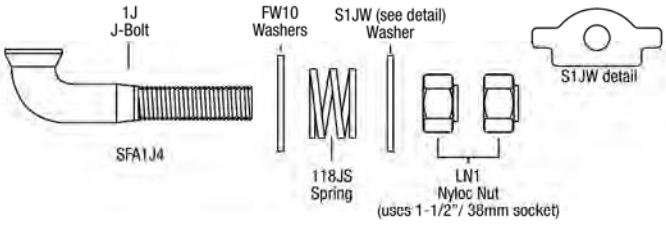
Lip Shrouds for Loaders, Excavators & Face Shovels

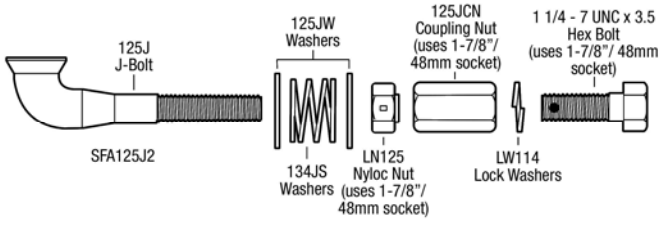
J-bolt Assemblies

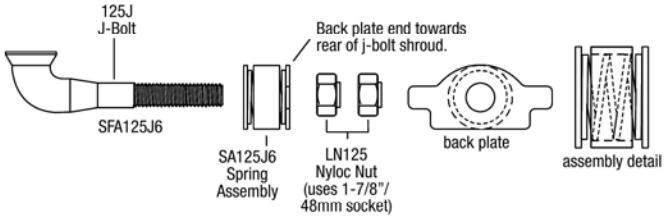




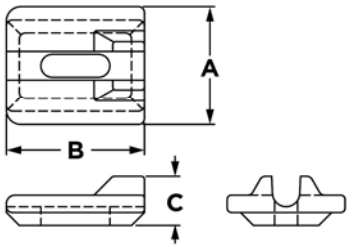








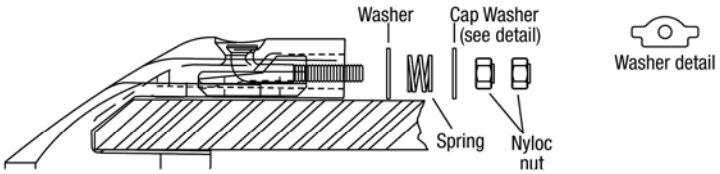
Weld Bases



J-BOLT BASES

Part No.	Dimensions						Weight	
	A		B		C			
	"	mm	"	mm	"	mm	lb	kg
LSWB-3	3.9	98	4.5	114	1.4	36	3.2	1.5
LSWB-6	6.6	168	6.75	171	2.75	70	13.5	6.1
LSWB-8	5.1	130	5.25	133	1.9	48	6.5	2.9

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Loaders, Excavators & Face Shovels



Typical Shroud Assembly With Hardware
(Loader lip shroud shown for illustrative purposes only.
Not all assemblies use all hardware shown.)

IMPORTANT NOTE: READ ALL OF THE INSTRUCTIONS COMPLETELY PRIOR TO ASSEMBLY

STEP 1- NEW INSTALLATION

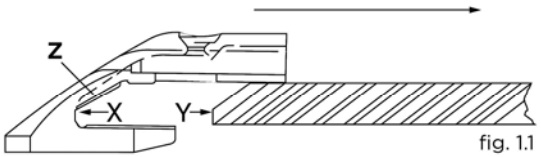


fig. 1.1

Position the shroud on the lip making sure that the **blunt** throat surface of the shroud "X" contacts the **blunt** front surface of the lip "Y". There should be **no** contact between the bevel of the lip and area "Z" of the shroud (fig. 1.1).
NOTE: This contact must be maintained throughout the assembly process to insure the proper location of the weld base.

STEP 1- REPLACEMENT INSTALLATION

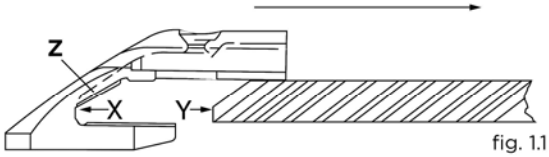


fig. 1.1

Grind the top surface of the lip material that will be affected by weld. Insure all carbon slag or other impurites from the removal of the old base are ground out. The use of non-destructive testing at this point will help determine if there are any cracks present in the base material. Repair base material as needed. (Now proceed as with new installation.)

Position the shroud on the lip making sure that the **blunt** throat surface of the shroud "X" contacts the **blunt** front surface of the lip "Y". There should be **no** contact between the bevel of the lip and area "Z" of the shroud (fig. 1.1). **NOTE:** This contact must be maintained throughout the assembly process to insure the proper location of the weld base.

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Loaders, Excavators & Face Shovels

STEP 2

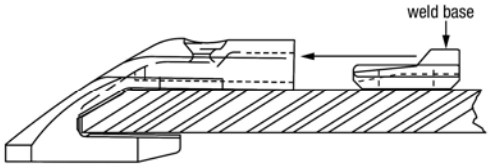


fig. 2.1

Slide the weld base from the rear into the receiving slots of the shroud (fig. 2.1)

STEP 3

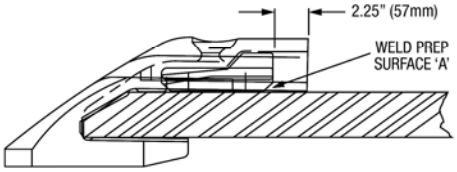


fig. 3.1

Position the weld base according to the chart below (a deviation of 33/32" (2.5 mm) is allowable).

WELD BASE PLACEMENT (33/32" (2.5mm) allowable)		
BASE	INCHES	MM
LSWB3	2-1/4"	(57)
LSWB6	3-1/2"	(89)
LSWB8	2-1/4"	(57)

After placement has been confirmed, preheat the base material to 300°F/147°C and tack weld the base at the rear along weld prep surface "A" (fig.3.1).

STEP 4

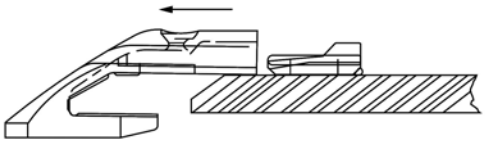


fig. 4.1

Remove the shroud and prepare to weld-out the base by re-establishing the preheat temperature of 300°F/147°C for the base material (fig4.1). Maintain this temperature throughout the welding process.

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Loaders, Excavators & Face Shovels

SPECIAL NOTES

Recommended filler material: AWS specification A5.1, class E7018, stick electrode. Stick electrodes should be kept in a heated rod oven at 250°/120°C prior to use.

NOTE: See manufacturers recommended procedures for storage and preservation of low hydrogen electrodes.

Recommended weld types: Stringer beads are recommended for higher strength and less distortion. The use of weave or wash beads is **NOT** recommended and should not be used. Arc strikes should be avoided or ground down.

STEP 5

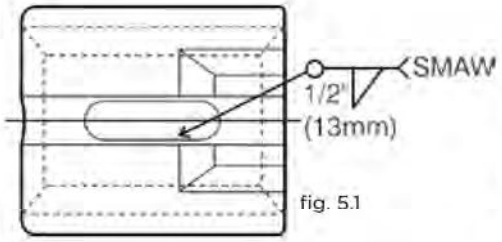


fig. 5.1

Weld-out for the base should begin with the slot weld. A 1/2"(13mm) fillet weld should be deposited in this area (fig. 5.1).

BE SURE THAT THE ENTIRE BOTTOM SURFACE OF THE WELD BASE MAINTAINS CONTACT WITH THE LIP DURING ENTIRE WELD-OUT PROCESS.

STEP 6

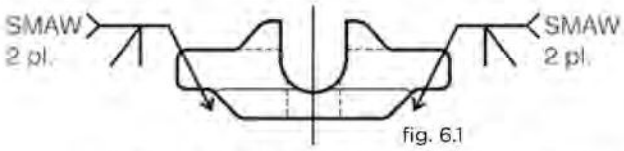


fig. 6.1

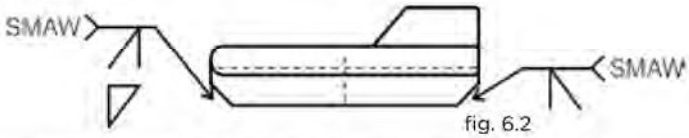


fig. 6.2

Apply weld to the base perimeter next. Utilizing groove welds, fill the 1/2"(13mm) weld groove on the base completely (fig. 6.1 & fig. 6.2). Care must be taken at this point not to add too much weld. If joint is over welded, the weld material can interfere with the lip shroud. The idea is to add as much weld as possible to the base without causing interference with the lip shroud (fig. 6.3 & fig. 6.4)

When the welding process has been completed, allow a slow cool down period to ambient temperature. A cool down rate of no greater than 35°F/2°C per hour is recommended.

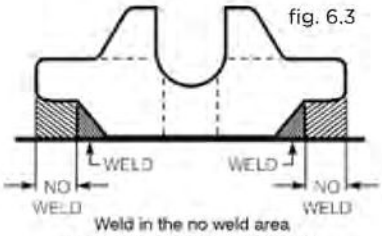


fig. 6.3

Weld in the no weld area can interfere with the lip shroud.

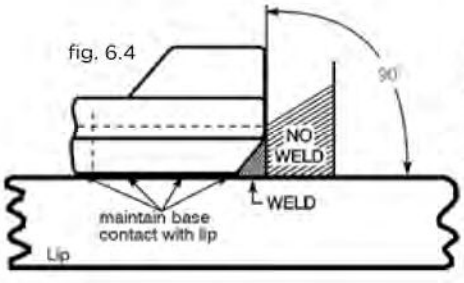


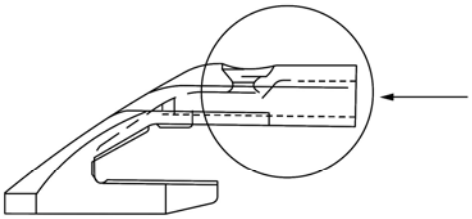
fig. 6.4

Weld in this area will interfere with the front washer of the J-Bolt assembly which must fit flush against the rear of the weld base.

Ensure contact with lip on entire length of weld base bottom surface as indicated.

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Loaders, Excavators & Face Shovels

STEP 7



Area of detail for figures 7.1 - 7.3

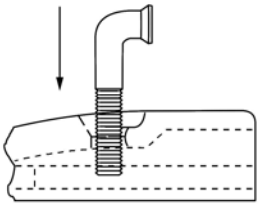


fig. 7.1

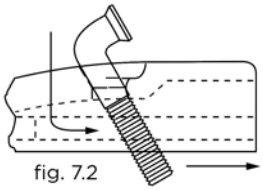


fig. 7.2

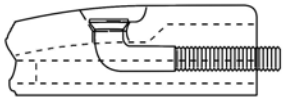


fig. 7.3

Before repositioning the shroud on the lip, insert the J-bolt into the shroud through the top hole (fig. 7.1). Rotate the bolt 90° so that the threaded end is facing the rear of the shroud (figs. 7.2 - 7.3).

STEP 8

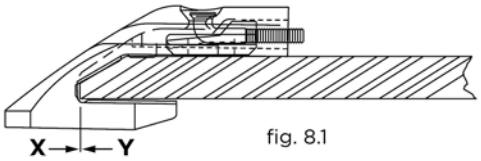


fig. 8.1

Reposition the shroud on the lip by sliding it onto the weld base as far as it will go, once again, making sure surface "X"contacts surface "Y"(fig. 8.1).

STEP 9 (J4 J-bolt assemblies)

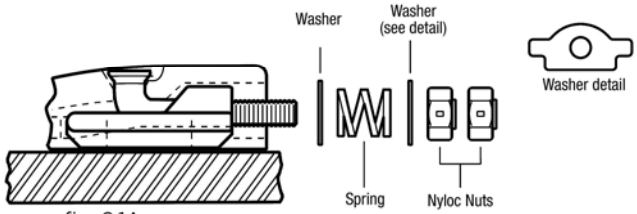


fig. 9.1A

Attach the washers, the spring and the nuts in the order indicated for J-bolt assembly type J4. (fig. 9.1A),

[**NOTE: the locking nut cannot be hand-threaded onto the J-bolt**]
then torque to specifications listed. (fig. 9.2).

STEP 9 (J6 J-bolt assemblies)

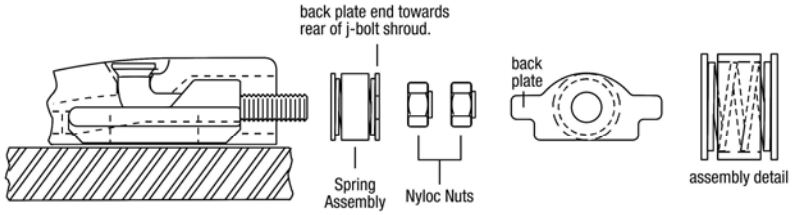


fig. 9.1B **NOTE:** Above assembly is show for illustrative purposes only. Not all assemblies utlilize all parts shown.

Attach the washers, the spring and the nuts in the order indicated for J-bolt assembly type J6. (fig. 9.1B), then torque to specifications listed. (fig. 9.2).

STEP 9 (J2 J-bolt assemblies used with optional cap)

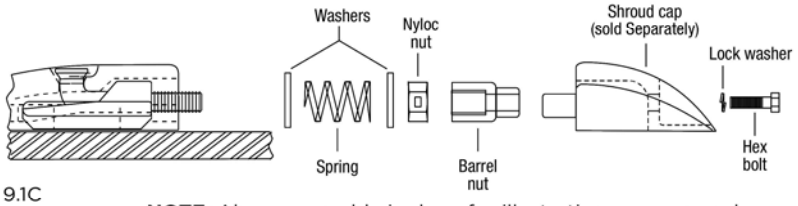


fig. 9.1C

NOTE: Above assembly is show for illustrative purposes only. Not all assemblies utlilize all parts shown.

Attach the washers, the spring and the nuts in the order indicated for J-bolt assembly type J2. (fig. 9.1C), then torque to specifications listed. (fig. 9.2). Finish assembly by installing cap (if part of assembly) with lock washer and cap bolt.

J-Bolt Assembly Torque Recommendations

J-BOLT ASSEMBLY	LOCKING NUT MAX TORQUE		GRADE 8 BOLT MAX TORQUE	
	ft-lbs	Nm	ft-lbs	Nm
SFA34J2	175	237	NA	NA
SFA34J4	175	237	NA	NA
SFA1J2	200	271	NA	NA
SFA1J4	200	271	NA	NA
SFA125J2	225	305	NA	NA
SFA125J6	225	305	NA	NA

fig. 9.2

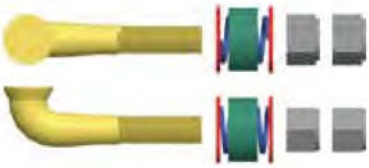
SPECIAL NOTE

For best results, it may be necessary to re-torque all fastener components periodically depending on the application. Usually, re-torquing components after a few hours of machine operation will insure component security.

J -BOLT INSTALLATION AND WELDING

Lip Shrouds for Hensley Cast Lips for Face Shovels

J-bolt Assembly



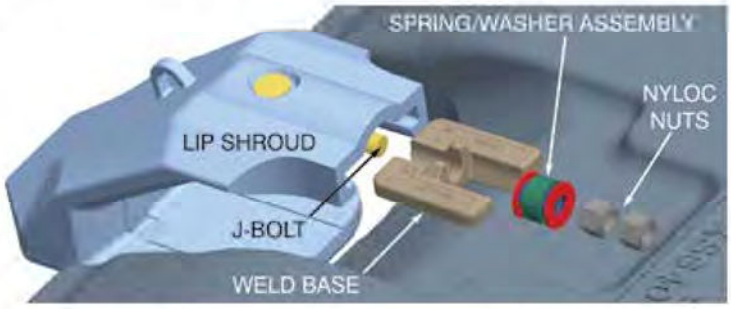
SFA150J6

Weld Base

LSWB9

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Hensley Cast Lips for Face Shovels

BEFORE STARTING INSTALLATION, BE SURE TO READ ALL INSTRUCTIONS THOROUGHLY!



STEP 1

NEW INSTALLATION

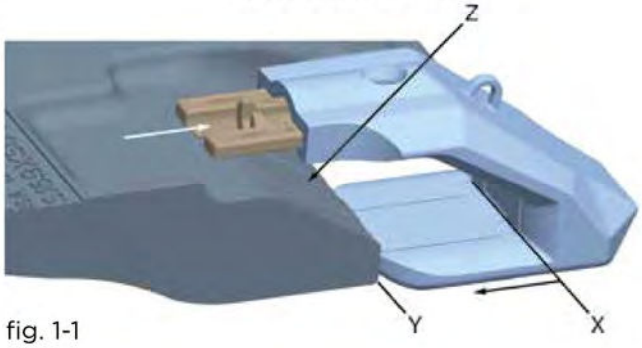


fig. 1-1

1 a) Slide weld base into back of lip shroud.
1 b) Position the shroud on the cast lip making sure that the **blunt** throat surface of the shroud "X" contacts the **blunt** front surface of the lip "Y". There should be no contact between the bevel of the shroud and area "Z" of the cast lip (fig. 1-1).

NOTE: This contact must be maintained throughout the assembly process to insure the proper location of the weld base.

REPLACEMENT INSTALLATION

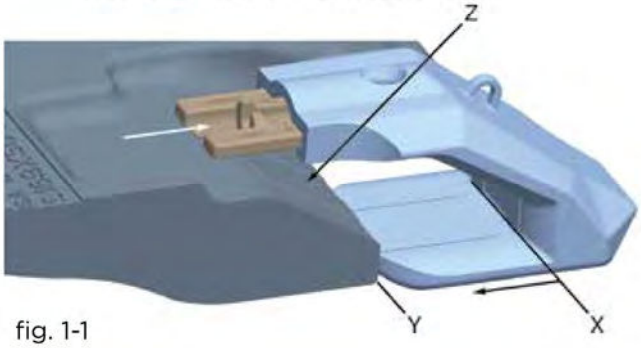


fig. 1-1

Grind the top surface of the lip material that will be affected by weld. Insure all carbon slag or other impurities from the removal of the old base are ground out. The use of non-destructive testing at this point will help determine if there are any cracks present in the base material. Repair base material as needed. (Now proceed as with new installation.)

1 a) Slide weld base into back of lip shroud.
1 b) Position the shroud on the cast lip making sure that the **blunt** throat surface of the shroud "X" contacts the **blunt** front surface of the lip "Y". There should be **no** contact between the bevel of the shroud and area "Z" of the cast lip (fig. 1-1).

NOTE: This contact must be maintained throughout the assembly process to insure the proper location of the weld base.

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Hensley Cast Lips for Face Shovels

STEP 2

fig. 2-1

Align the back of the Weld base so that it is flush with the back of shroud (fig. 2-1).

STEP 3

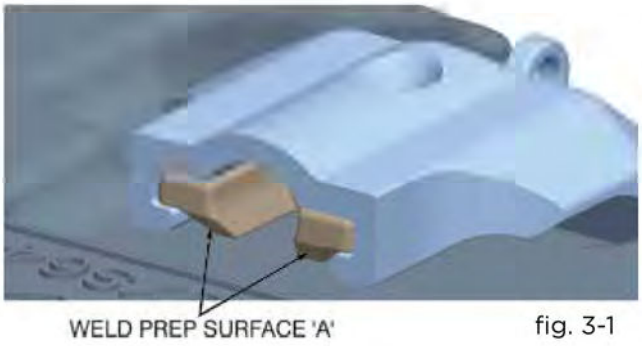


fig. 3-1

After placement of weld base has been confirmed, establish a preheat temperature of 300˚F / 150˚C to 450˚F / 230˚C for the base material. Tack weld the base at the rear along weld prep surface “A" (fig.3-1).

SPECIAL NOTES

Recommended filler material: AWS specification A5.1, class E7018 stick electrode. Stick electrodes should be kept in a heated rod oven at 250°F / 120°C prior to use.

NOTE: See manufacturer’s recommended procedures for storage and preservation of low hydrodgen electrodes.

Recommended weld types: Stringer beads are recommended for higher strength and less distortion.The use of weave or wash beads in **NOT** recommended and should not be used. Arc strikes should be avoided or ground down.

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Hensley Cast Lips for Face Shovels

STEP 4

Remove the shroud and prepare to weld-out the base by re-establishing the preheat temperature of 300˚F / 150˚C to 450˚F / 230˚C for the base material (fig. 4-1). Maintain this temperature throughout the welding process.

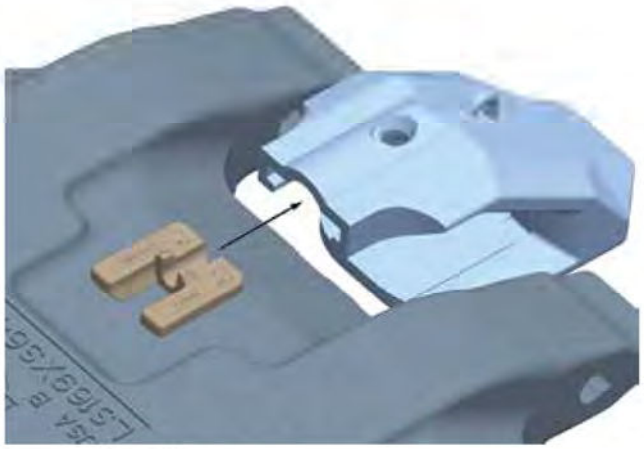


fig. 4-1

STEP 5

Weld-out for the base should begin with the inner legs of base. A 1/2" (13mm) fillet weld should be deposited in this area (fig. 5-1).

BE SURE THAT THE ENTIRE BOTTOM SURFACE OF THE WELD BASE MAINTAINS CONTACT WITH THE LIP DURING ENTIRE WELD-OUT PROCESS.

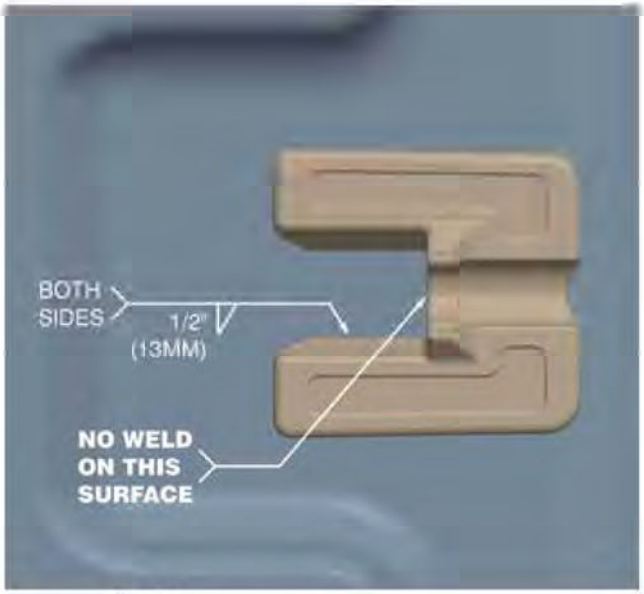


fig. 5-1

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Hensley Cast Lips for Face Shovels

STEP 6

fig. 6-1

fig. 6-2

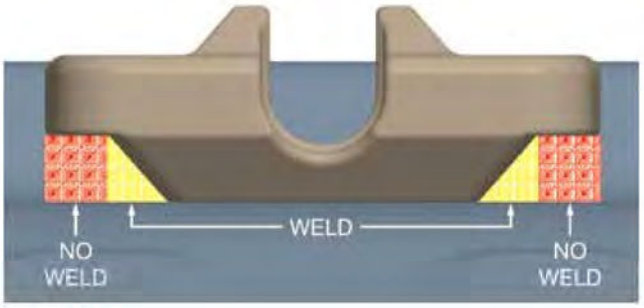


fig. 6-3

Apply weld to the base perimeter next. Utilizing groove welds, fill the 1.0" (25mm) weld groove on the base completely (fig. 6-1 & fig. 6-2). Care must be taken at this point not to add too much weld. If joint is over welded, the weld material can interfere with the lip shroud. The idea is to add as much weld as possible to the base without causing interference with the lip shroud (fig. 6-3). When the welding process has been completed, allow a slow cool down period to ambient temperature. A cool down rate of no greater than 450˚F / 250˚C per hour is recommended.

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Hensley Cast Lips for Face Shovels

STEP 7

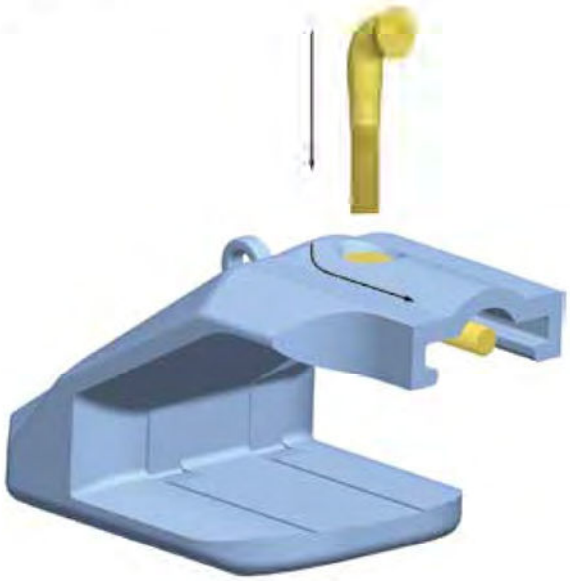


fig. 7-1

Before repositioning the shroud on the lip, insert the J-bolt into the shroud through the top hole
(fig. 7-1). Rotate the bolt 90o so that the threaded end is facing the rear of the shroud.

STEP 8

Reposition the shroud on the lip by sliding it onto the weld base as far as it will go, once again, making sure surface "X" contacts surface "Y" (fig. 8-1).

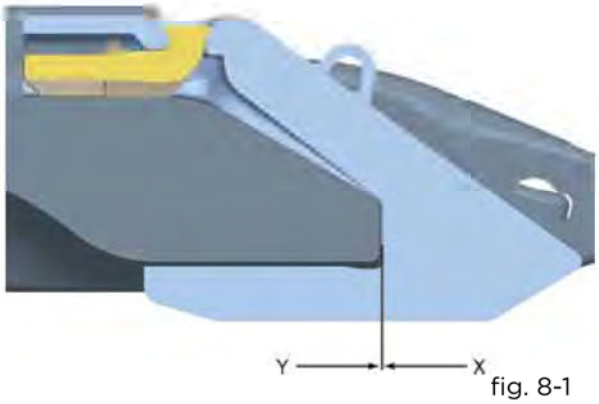


fig. 8-1

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Hensley Cast Lips for Face Shovels

STEP 9

Install the washer, spring collar assembly and the nuts in the order indicated for J-bolt assembly type J6 (fig. 9-1), Torque locking nuts to 300 ft. lbs / 407 Nm.

[**NOTE: the locking nut cannot be hand-threaded onto the J-bolt**]

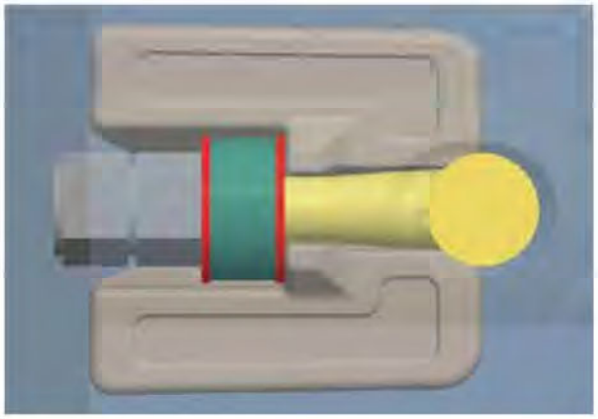


fig. 9-1

SPECIAL NOTE: For best results, it may be necessary to re-torque all fastener components periodically depending on the application. Usually, re-torquing components after a few hours of machine operation will insure component security

J-BOLT SHROUD SEATING AND MAINTENANCE INSTRUCTIONS

SEATING FOR NEW INSTALLATION

It is normal that the shrouds migrate back slightly with the force of the machine. Therefore, it is recommended that the following procedure be followed to ensure proper seating of the shrouds.

Instructions:

1. Run machine for 10 non-production cycles.
2. Remove 2nd locking nut from shroud installation.
3. Re-tighten the 1st locking nut for any movement.
4. Re-install 2nd locking nut
5. Release machine for production.

Note: if the first nut on any installation is excessively loose, then repeat this procedure.

RETIGHTENING AND MAINTENANCE

Check and retighten the nuts after 6 hours of service, then after 24 hrs. Generally, nuts should be periodically checked after 750 to 1000 hrs. in extreme conditions, and 1500 to 2000 hrs. in moderate conditions, or by the frequency dictated by your specific application.

Removing Esco Toplok® Weld Base

STEP 1

To start the conversion, the Toplok® weld base (fig. 1-1) must first be removed. The weld base is welded to a riser that is part of the cast lip (fig. 1-2).

fig. 1-1

fig. 1-2

STEP 2

Before gouging the weld base, be sure to preheat (fig. 2-1) to 180° F (820° C).

fig. 2-1

STEP 3

Gouge weld-on portion of base (fig. 3-1).

fig. 3-1

J -BOLT INSTALLATION AND WELDING
Convert Esco Loadmaster® to Hensley J-bolt Lip Shrouds

STEP 4
Gouge off the cast riser {if cast riser is present and or creates an issue with the lip shroud template} (fig. 4-1).

fig. 4-1

STEP 5
Grind the gouged area clean and smooth (fig. 5-1).

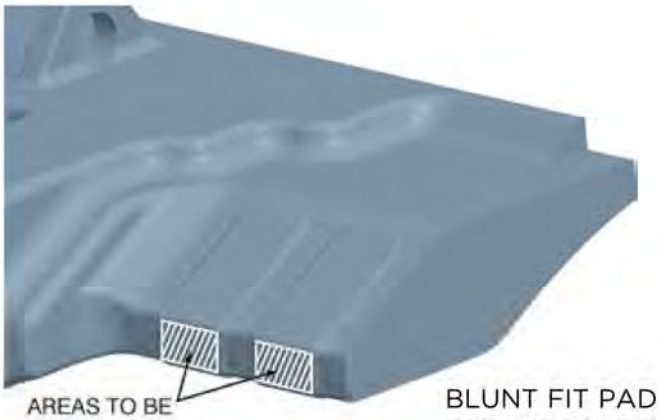
Check Lip Shroud Area for Proper Fit

It may be necessary at this point in the coversion to rebuild worn blunt fit pads in the lip shroud area to Hensley specifications. The rebuilding of blunt fit pads back to within specifications helps insure an acceptable fit. This will help prevent premature failure of the lip shrouds and possibe damage to the cast lip in the lip shroud area.

For gauging and determining if the blunt fit pads need rebuilding, you will need the following tools:

- Grinder
- Templates supplied by Hensley Industries, Inc.
- Feeler gauges (shims)
- Non-Destructive Testing "NDT" Inspection tools
- Welding equipment
- Torch
- Temperature indicating crayon or infrared thermometer

LIP SHROUD AREA REBUILD TEMPLATES	
LIP TEMPLATE	**HX LIP SHROUDS**
LS130MLT	LS130M435J
	LS130M600JBH
LS145LT	LS1451600J
	LS1452200J
LS1301700LT	LS1301700J
LS8002200LT	LS8002200J



BLUNT FIT PAD REBUILD SHOULD ONLY OCCUR IN THESE AREAS.

Lip Shroud Area Gauging

BEFORE STARTING GAUGING, BE SURE TO READ ALL INSTRUCTIONS THOROUGHLY!

STEP 1

Prepare the lip shroud area for gauging by:

- Thoroughly clean excess material from the lip shroud area (top & bottom).
- Check top surface area for flatness within 1/16" (1.6mm) and build-up if necessary.

STEP 2

Centering the template on the LIP SHROUD FIT PAD AREA (fig. 2-1), slide it onto the lip. Be sure to maintain contact with the top surface of the cast lip (fig. 2-2)

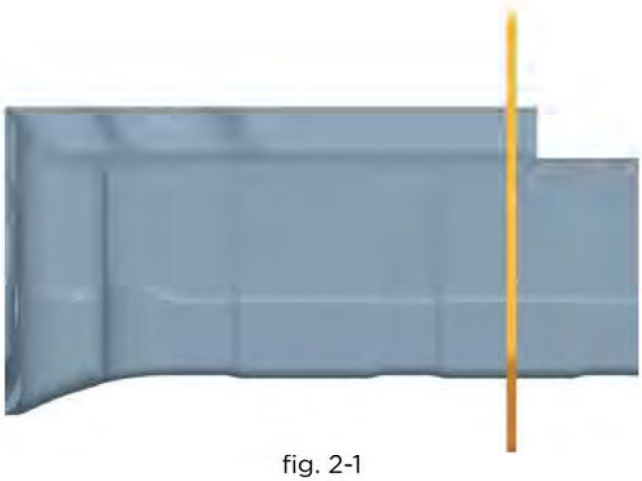


fig. 2-1

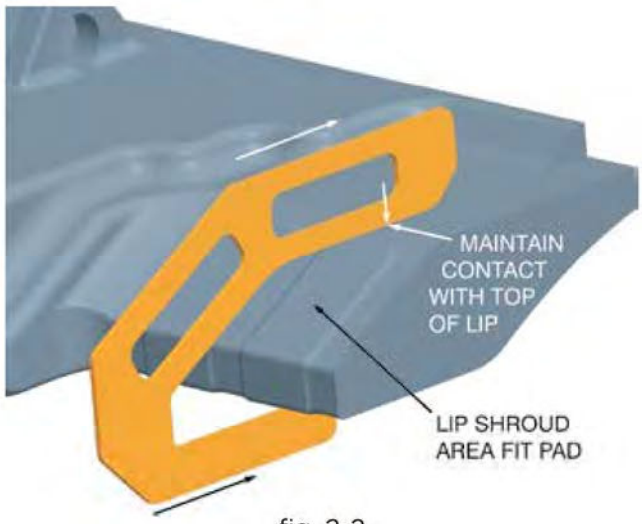


fig. 2-2

J -BOLT INSTALLATION AND WELDING
Convert Esco Loadmaster® to Hensley J-bolt Lip Shrouds

STEP 3

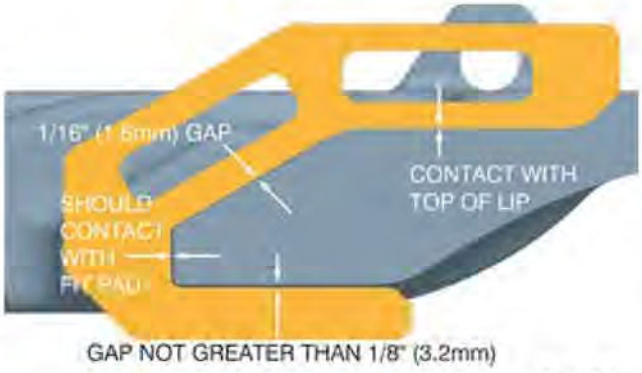


fig. 3-1

Maintaining contact with the top surface of the cast lip slide the template onto the lip until there is a 1/16" (1.6mm) gap between the bevel area of the template and the bevel area of the cast lip. There should also be a gap between the bottom of the template and the bottom of the cast lip (fig. 3-1).
Once the 1/16" (1.6mm) gap between the bevel of the lip and template is reached, check to see if the blunt of the template is contacting the blunt fit pad. If the template does not contact the fit pad, measure the gap. This measurement indicates the amount of the blunt that needs to be built up.

FOR MAXIMUM GAP TOLERANCES REFER TO GAP TOLERANCE CHART (fig. 3-2).

GAP TOLERANCES	
FIT AREA	**MAXIMUM GAP**
blunt	contact 2 points minimum
bevel	1/16" (1.6mm)
top	contact 2 points minimum
bottom	1/8" (3.2mm)

fig. 3-2

J -BOLT INSTALLATION AND WELDING

Convert Esco Loadmaster® to Hensley J-bolt Lip Shrouds

Blunt Fit Pad Build-Up

BEFORE STARTING BLUNT FIT PAD BUILD-UP, BE SURE TO READ ALL INSTRUCTIONS THOROUGHLY!

NOTE: FILLER MATERIALS RECOMMENDED FOR THE BUILD-UP OF FIT PADS ARE HIGH TENSILE STRENGTH FILLER MATERIALS. THEY ARE RECOMMENDED DUE TO THEIR SURFACE HARDNESS PROPERTIES. THEY SHOULD NOT BE USED TO WELD OTHER HENSLEY G.E.T. PRODUCTS.

NOSE BUILD-UP FILLER MATERIAL			
PROCESS	**AWS**	**JIS**	**SHIELDING GAS**
SMAW	*E9018 AWS A5.5	JIS Z3212 D5816	N/A
FCAW	*E91t-1 AWX A5.29	JIS Z3313 YFL-A506R	75% AR / 25%CO2

*Minimum tensile requirement. Higher tensile strength filler materials may be used, such as SMAW E12018 or FCAW E110T5-K4.

Preheat the fit pad to be built-up. Preheat the fit pad to between 300˚F / 150˚C to 450˚F / 230˚C and maintain this temperature throughout the welding process. Temperature may be checked with an infrared thermometer or a temperature indicating crayon.

Build up the fit pad with weld to close the gap between the fit pad and template. Stringer beads are recommended. The use of weave or wash beads should not be used, however weaving is permitted as long as bead widths are no greater than 0.50" [12.7mm].

Clean each pass of deposited weld metal before depositing the next weld pass. Manual slag hammers, pneumatic needle gun, wire brushes or any combination of these tools may be used to accomplish cleaning. Deposit slightly more weld than what is required. This will allow the fit areas to be ground smooth without any weld under fill.

Before dressing / grinding the welds. allow the fit pad to cool to ambient temperature. A cool down rate of no greater than 45˚F / 25˚C per hour is recommended.

Using the template appropriate for your lip, re-check for proper fit. Remember that the template should contact the top of the lip surface and have a 1/16" (1.6mm) gap at the bevel (fig. A-1). If this gap is achieved with the template contacting the blunt fit pad, you are ready to finish dressing / grinding the welds. Dress / grind the blunt fit pad surfaces so that they are flat and parallel to the pin hole in the nose (fig. A-2).

Grind the weld beads so that there is a smooth transition between adjoining beads and a smooth transition into the original fit pad material.

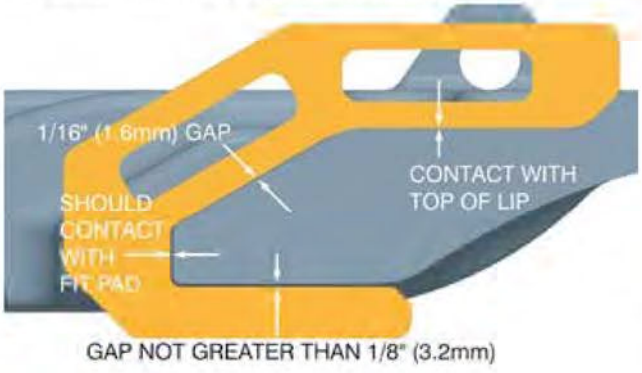


fig. A-1

CHECK THAT RE-BUILT BLUNT FIT PAD SURFACES ARE FLAT AND PARALLEL TO PIN HOLE IN NOSE

fig. A-2

Installation of Hensley Weld Base

REPLACEMENT INSTALLATION

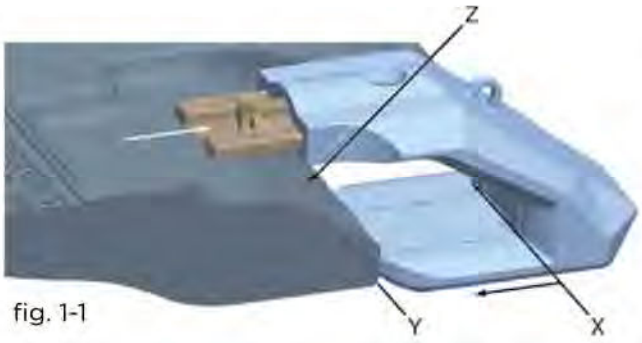


fig. 1-1

STEP 1

After having ground the top surface of the lip material that will be affected by weld, insure all carbon slag or other impurities from the removal of the old base are ground out. The use of non-destructive testing at this point will help determine if there are any cracks present in the base material. Repair base material as needed. (Now proceed as with the installation.)

1 a) Slide weld base into back of lip shroud.
1 b) Position the shroud on the cast lip making sure that the **blunt** throat surface of the shroud "X" contacts the **blunt** front surface of the lip "Y". There should be **no** contact between the bevel of the shroud and area "Z" of the cast lip (fig. 1-1).

NOTE: This contact must be maintained throughout the assembly process to insure the proper location of the weld base.

fig. 2-1

STEP 2

Align the back of the Weld base so that it is flush with the back of shroud (fig. 2-1).

J -BOLT INSTALLATION AND WELDING
Convert Esco Loadmaster® to Hensley J-bolt Lip Shrouds

STEP 3
After weld-base placement has been confirmed, establish a preheat temperature of 300°F / 150°C to 450°F / 230°C for the base material. Then tack weld the base at the rear along weld prep surface "A" (fig.3-1).

fig. 3-1

SPECIAL NOTES

Recommended filler material: AWS specification A5.1, class E7018 stick electrode. Stick electrodes should be kept in a heated rod oven at 250°F / 120°C prior to use.

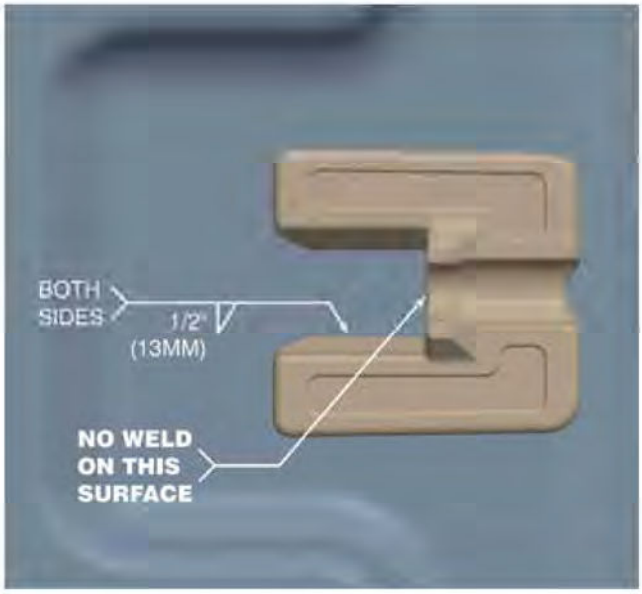
NOTE: See manufacturer's recommended procedures for storage and preservation of low hydrodgen electrodes.

Recommended weld types: Stringer beads are recommended for higher strength and less distortion.The use of weave or wash beads in **NOT** recommended and should not be used. Arc strikes should be avoided or ground down.

STEP 4
Remove the shroud and prepare to weld-out the base by re-establishing a preheat temperature of 300°F / 150°C to 450°F / 230°C for the base material (fig. 4-1). Maintain this temperature throughout the welding process.


fig. 4-1

J -BOLT INSTALLATION AND WELDING
Convert Esco Loadmaster® to Hensley J-bolt Lip Shrouds



STEP 5
Weld-out for the base should begin with the inner legs of base. A 1/2" (13mm) fillet weld should be deposited in this area (fig. 5-1).

BE SURE THAT THE ENTIRE BOTTOM SURFACE OF THE WELD BASE MAINTAINS CONTACT WITH THE LIP DURING ENTIRE WELD-OUT PROCESS.

fig. 5-1

fig. 6-1

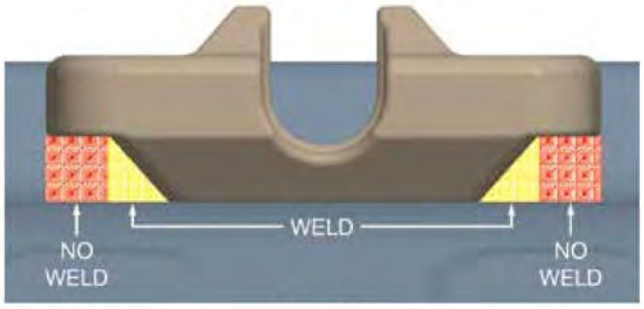


fig. 6-2

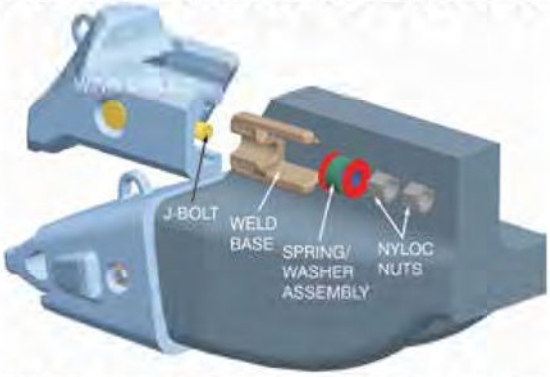
STEP 6
Apply weld to the base perimeter next. Utilizing groove welds, fill the 1.0" (25mm) weld groove on the base completely (fig. 6-1 & fig. 6-2). Care must be taken at this point not to add too much weld. If joint is over welded, the weld material can interfere with the lip shroud. The idea is to add as much weld as possible to the base without causing interference with the lip shroud (fig. 6-3). When the welding process has been completed, allow a slow cool down period to ambient temperature. A cool down rate of no greater than 45°F / 25°C per hour is recommended.

J -BOLT INSTALLATION AND WELDING

Lower Wing Shrouds for Loadmaster® & Cast Lips

BEFORE STARTING INSTALLATION, BE SURE TO READ ALL INSTRUCTIONS THOROUGHLY!

STEP 1



NEW AND REPLACEMENT INSTALLATION

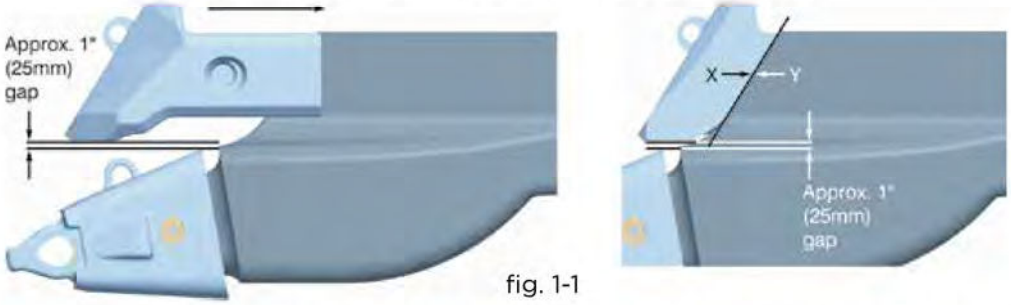


fig. 1-1

NEW INSTALLATION

Position the wing shroud on cheek plate portion of the cast lip making sure that the **blunt** throat surface of the shroud "X" contacts the **blunt** front surface of the cheek plate "Y". The shroud should be positioned so that there is approximately a 1" (25mm) gap between the bottom of the shroud and the intermediate adapter.
(fig. 1-1).

NOTE: This contact and gap must be maintained throughout the assembly process to insure the proper location of the weld base.

FOR 201" LIP - The angle of the blunt front surface of the cheek plate "Y" differs from the 163" & 169" lips.The shroud should still be positioned so that there is approximately a 1" (25mm) gap between the bottom of the shroud and the intermediate adapter (fig. 1-1).

REPLACEMENT INSTALLATION

Grind the outside portion of the cheek plate area of the cast lip that will be affected by weld. Insure all carbon slag or other impurities from the removal of the old base are ground out. The use of non-destructive testing at this point will help determine if there are any cracks present in the base material. Repair base material as needed. (Now proceed as with new installation.)

Position the wing shroud on cheek plate portion of the cast lip making sure that the blunt throat surface of the shroud "X" contacts the blunt front surface of the cheek plate "Y". The shroud should be positioned so that there is approximately a 1" (25mm) gap between the bottom of the shroud and the intermediate adapter. (fig. 1-1).

NOTE: This contact and gap must be maintained throughout the assembly process to insure the proper location of the weld base.

J -BOLT INSTALLATION AND WELDING
Lower Wing Shrouds for Loadmaster® & Cast Lips

STEP 2

FOR 163" & 169" LIPS

Insert the weld base as shown into the rear of the wing shroud until it is flush with the rear of the wing shround (fig. 2-1 - fig. 2-2)

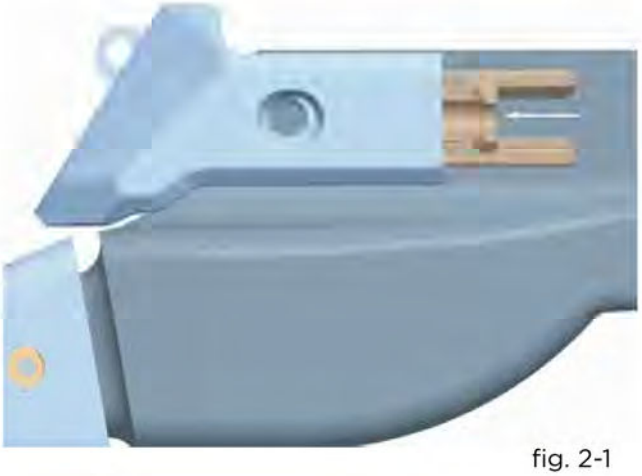


fig. 2-1

fig. 2-2

FOR 201" LIPS

Due to the difference in the angle of the cheek plate for 201" lips, following proper placement (STEP 1) procedures will result in the wing shroud being rotated 5˚ off horizontal (fig. 2-1-201). This is by design. All remaining installation instructions can now be implemented.

Insert the weld base as shown into the rear of the wing shroud until it is flush with the rear of the wing shround (fig. 2-1-201 - fig. 2-2-201).

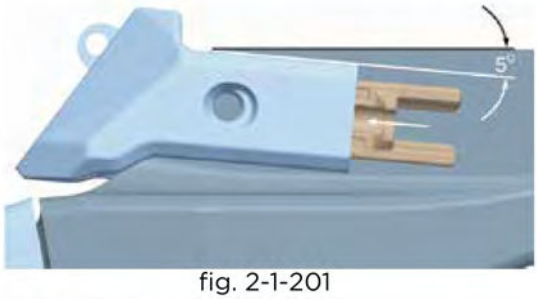


fig. 2-1-201

fig. 2-2-201

STEP 3

After placement of weld base has been confirmed, Pre-heat the base material to 300˚F / 150˚C to 450˚F / 230˚C and tack weld the base at the rear along weld prep surface "A" (fig.3-1).

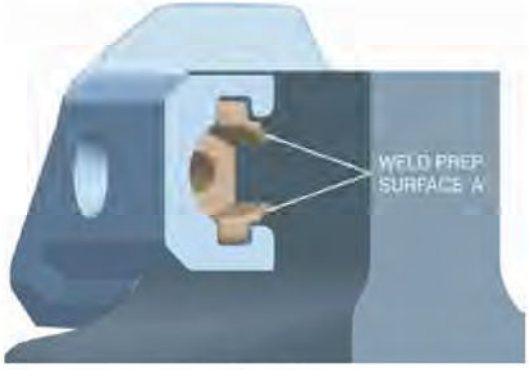


fig. 3-1

J -BOLT INSTALLATION AND WELDING
Lower Wing Shrouds for Loadmaster® & Cast Lips

SPECIAL NOTES

Recommended filler material: AWS specification A5.1, class E7018 stick electrode. Stick electrodes should be kept in a heated rod oven at 250°F / 120°C prior to use.

NOTE: See manufacturer's recommended procedures for storage and preservation of low hydrodgen electrodes.

Recommended weld types: Stringer beads are recommended for higher strength and less distortion. The use of weave or wash beads in **NOT** recommended and should not be used. Arc strikes should be avoided or ground down.

STEP 4

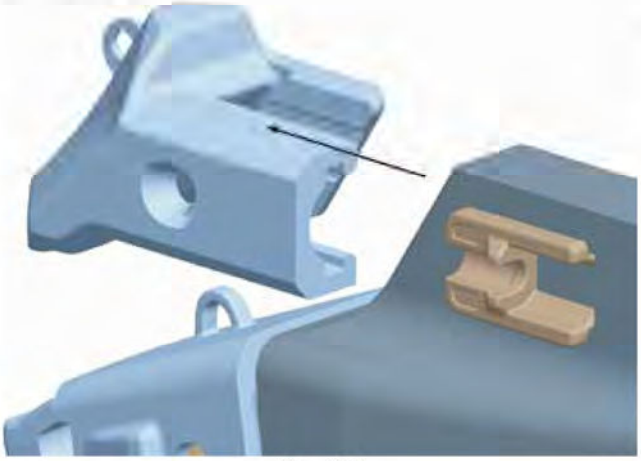
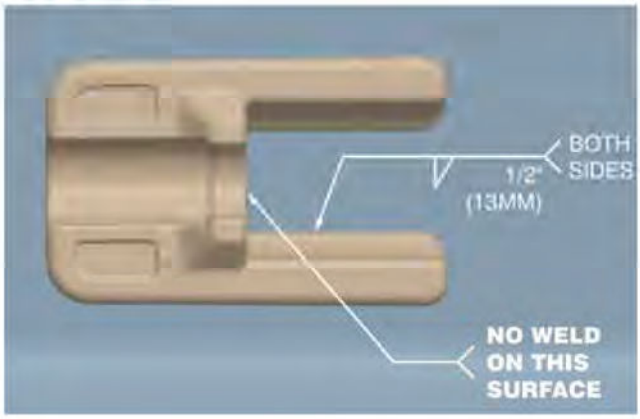


fig. 4-1

Remove the shroud and prepare to weld-out the base by re-establishing the preheat temperature of 300°F / 150°C to 450°F / 230°C for the base material (fig. 4-1). Maintain this temperature throughout the welding process.

STEP 5



Weld-out for the base should begin with the inner legs of base. A 1/2" (13mm) fillet weld should be deposited in this area (fig. 5-1).

BE SURE THAT THE ENTIRE BOTTOM SURFACE OF THE WELD BASE MAINTAINS CONTACT WITH THE CHEEK PLATE DURING ENTIRE WELD-OUT PROCESS

J -BOLT INSTALLATION AND WELDING
Lower Wing Shrouds for Loadmaster® & Cast Lips

STEP 6

Apply weld to the base perimeter next. Utilizing groove welds, fill the 1.0" (25mm) weld groove on the base completely (fig. 6-1 & fig. 6-2). Care must be taken at this point not to add too much weld. If joint is over welded, the weld material can interfere with the lip shroud. The idea is to add as much weld as possible to the base without causing interference with the lip shroud (fig. 6-3). When the welding process has been completed, allow a slow cool down period to ambient temperature. A cool down rate of no greater than 45°F / 25°C per hour is recommended.

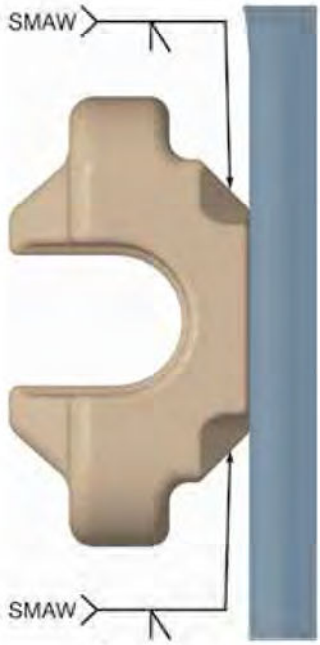


fig. 6-1

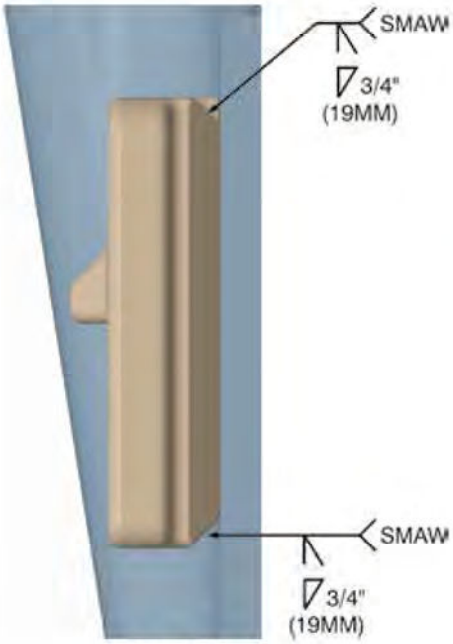


fig. 6-2

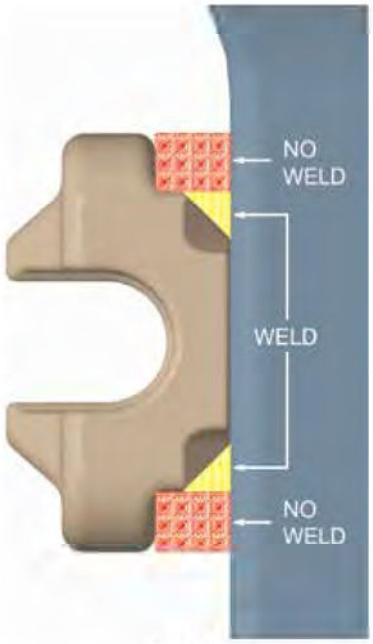


fig. 6-3

J -BOLT INSTALLATION AND WELDING
Lower Wing Shrouds for Loadmaster® & Cast Lips

STEP 7

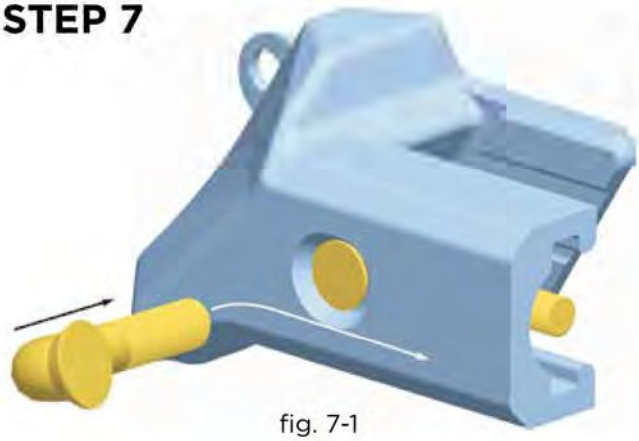


fig. 7-1

Before repositioning the shroud on the cheek plate, insert the J-bolt into the shroud through the top hole (fig. 7-1). Rotate the bolt 90° so that the threaded end is facing the rear of the shroud.

STEP 8

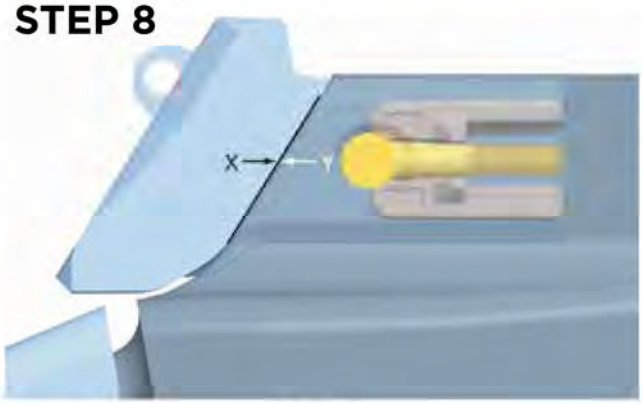


fig. 8-1

Reposition the shroud on the cheek plate by sliding it onto the weld base as far as it will go, once again, making sure surface "X" contacts surface "Y"
(fig. 8-1).

STEP 9

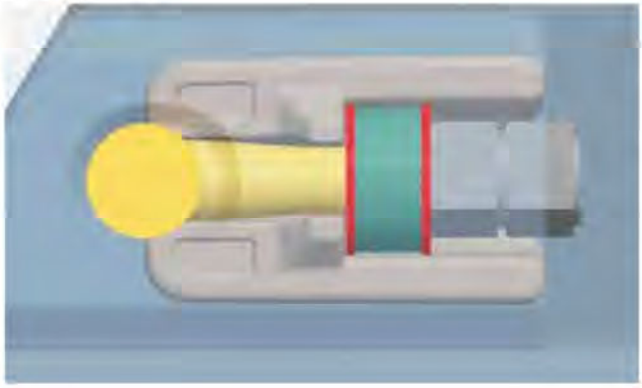


fig. 9-1

Install the washer, spring, collar assembly and the nuts in the order indicated for J-bolt assembly type J6 (fig. 9-1), Torque locking nuts to 300 ft. lbs / 407 Nm.

[NOTE: the locking nut cannot be hand-threaded onto the J-bolt]

SPECIAL NOTE:For best results, it may be necessary to re-torque all fastener components periodically depending on the application. Usually, re-torquing components after a few hours of machine operation will insure component security

J -BOLT INSTALLATION AND WELDING
Lower Wing Shrouds for Loadmaster® & Cast Lips

J-BOLT SHROUD SEATING AND MAINTENANCE INSTRUCTIONS

SEATING FOR NEW INSTALLATION

It is normal that the shrouds migrate back slightly with the force of the machine.
Therefore, it is recommended that the following procedure be followed to ensure proper seating of the shrouds.

Instructions:

1. Run machine for 10 non-production cycles.
2. Remove 2nd locking nut from shroud installation.
3. Re-tighten the 1st locking nut for any movement.
4. Re-install 2nd locking nut
5. Release machine for production.

Note: if the first nut on any installation is excessively loose, then repeat this procedure.

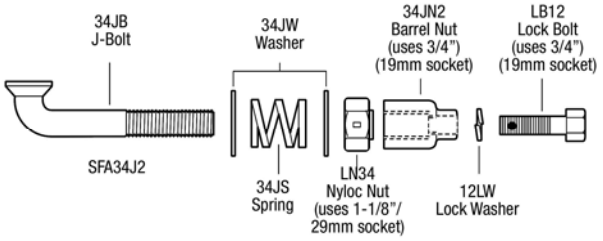
RETIGHTENING AND MAINTENANCE

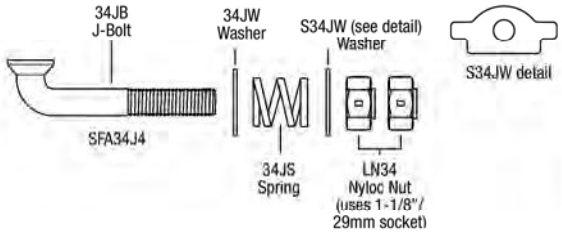
Check and retighten the nuts after 6 hours of service, then after 24 hrs. Generally, nuts should be periodically checked after 750 to 1000 hrs. In extreme conditions, and 1500 to 2000 hrs. In moderate conditions, or by the frequency dictated by your specific application.

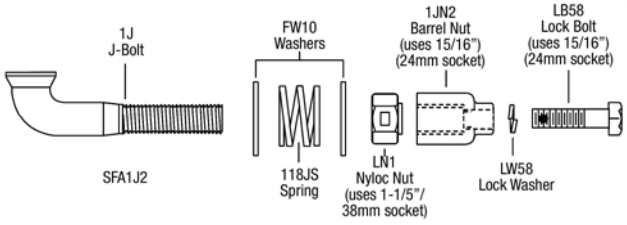
J -BOLT INSTALLATION AND WELDING

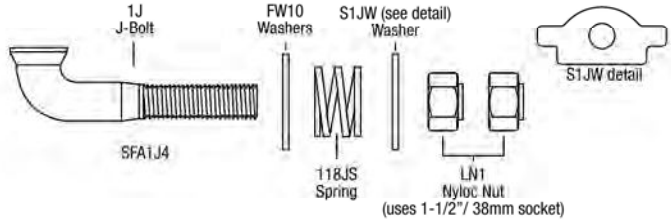
Vertical Wing Shrouds -Loaders, Excavators & Face Shovels

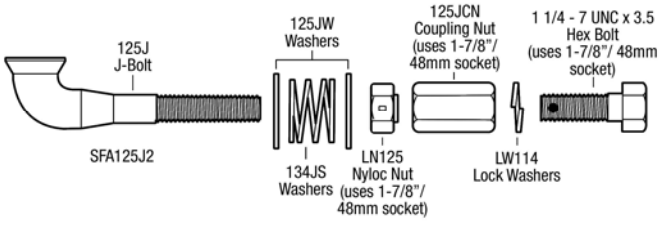
J-bolt Assemblies

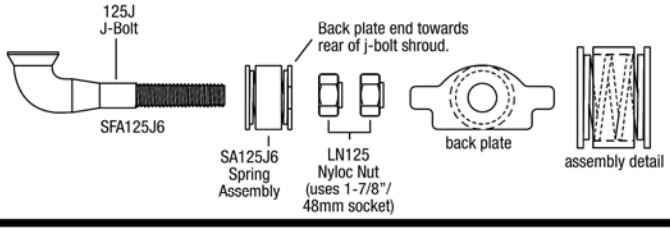




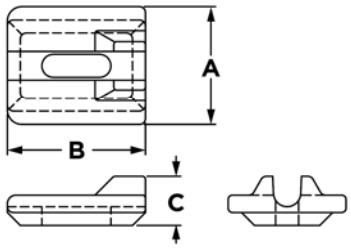








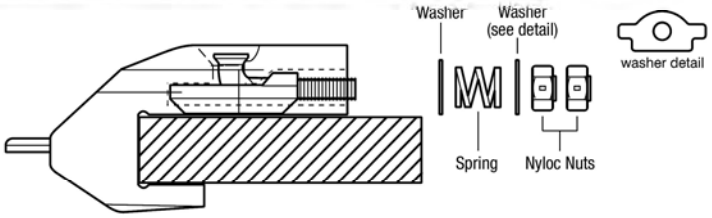
Weld Base



J-BOLT BASES

Part No.	Dimensions						Weight	
	A		B		C			
	"	mm	"	mm	"	mm	lb	kg
LSWB-3	3.9	98	4.5	114	1.4	36	3.2	1.5
LSWB-6	6.6	168	6.75	171	2.75	70	13.5	6.1
LSWB-8	5.1	130	5.25	133	1.9	48	6.5	2.9

J -BOLT INSTALLATION AND WELDING
Vertical Wing Shrouds -Loaders, Excavators & Face Shovels



Typical Shroud Assembly With Hardware
(Shown for illustrative purposes only. Not all assemblies use all hardware shown.)

IMPORTANT NOTE: READ ALL OF THE INSTRUCTIONS COMPLETELY PRIOR TO ASSEMBLY

STEP 1- NEW & REPLACEMENT INSTALLATION

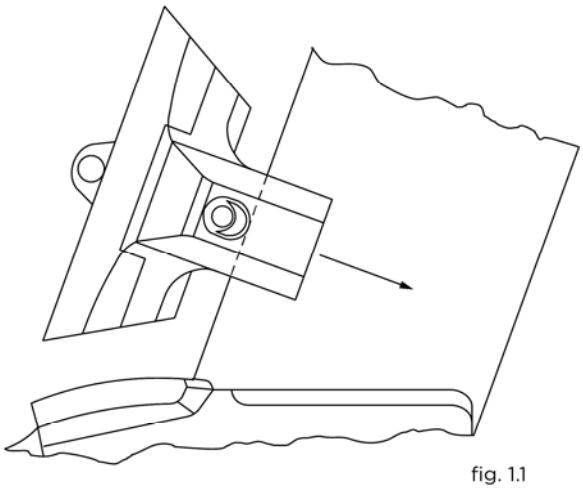


fig. 1.1

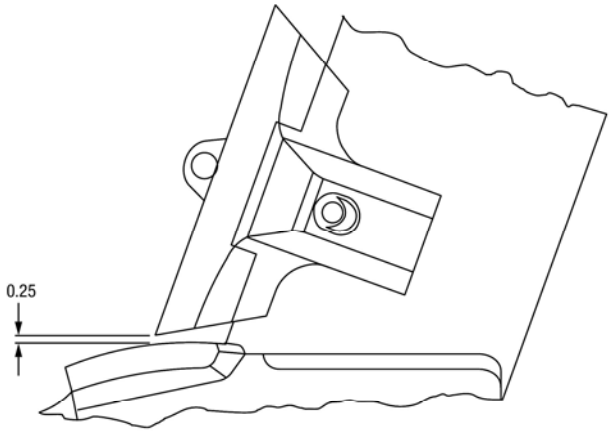
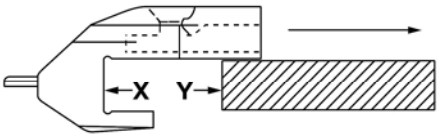


fig. 1.2



NEW INSTALLATION
Position the shroud on the bucket side plate making sure that the **blunt** throat surface of the shroud "X" contacts the **blunt** front surface of the lip "Y" (fig. 1.1).

NOTE: This contact must be maintained throughout the assembly process to insure the proper location of the weld base.

Position the shroud so it is approximately 1/4" above the corner adapter (fig. 1.2).

REPLACEMENT INSTALLATION
Grind the top surface of the lip material that will be affected by weld. Insure all carbon slag or other impurites from the removal of the old base are ground out. The use of non-destructive testing at this point will help determine if there are any cracks present in the base material. Repair base material as needed. (Now proceed as with new installation.)

J -BOLT INSTALLATION AND WELDING
Vertical Wing Shrouds -Loaders, Excavators & Face Shovels

STEP 2

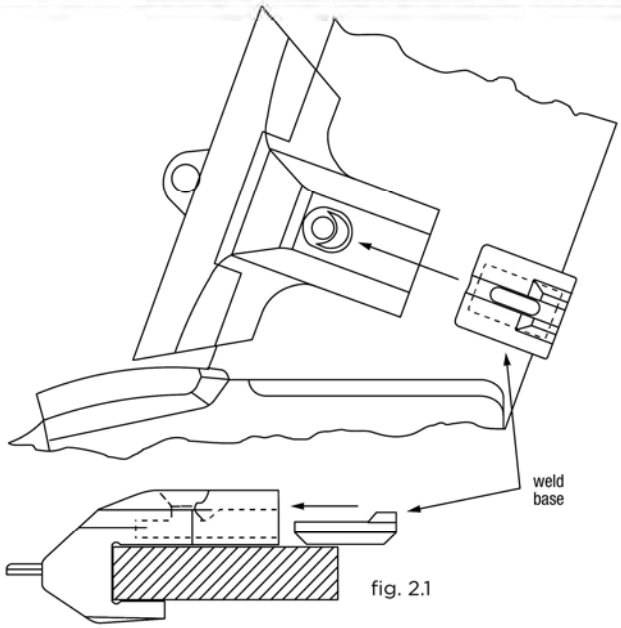


fig. 2.1

Slide the weld base from the rear into the receiving slots of the shroud (fig. 2.1)

STEP 3

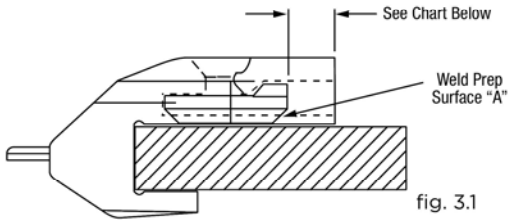


fig. 3.1

Position the weld base according to the chart below (a deviation of 33/32" (2.5 mm) is allowable). After placement has been confirmed, preheat the base material to 300°F/147°C and tack weld the base at the rear along weld prep surface "A" (fig.3.1).

WELD BASE PLACEMENT (33/32" (2.5mm) allowable)		
BASE	**INCHES**	**MM**
LSWB3	2-1/4"	(57)
LSWB6	3-1/2"	(87)
LSWB8	2-1/4"	(57)

STEP 4

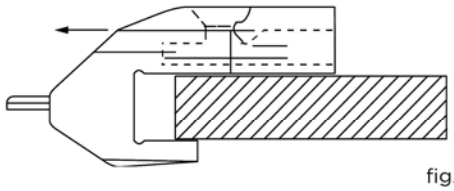


fig. 4.1

Remove the shroud and prepare to weld-out the base by re-establishing the preheat temperature of 300°F/147°C for the base material (fig4.1). Maintain this temperature throughout the welding process.

J -BOLT INSTALLATION AND WELDING
Vertical Wing Shrouds -Loaders, Excavators & Face Shovels

SPECIAL NOTES

Recommended filler material: AWS specification A5.1, class E7018, stick electrode. Stick electrodes should be kept in a heated rod oven at 250°/120°C prior to use.

NOTE: See manufacturers recommended procedures for storage and preservation of low hydrogen electrodes.

Recommended weld types: Stringer beads are recommended for higher strength and less distortion. The use of weave or wash beads is **NOT** recommended and should not be used. Arc strikes should be avoided or ground down.

STEP 5

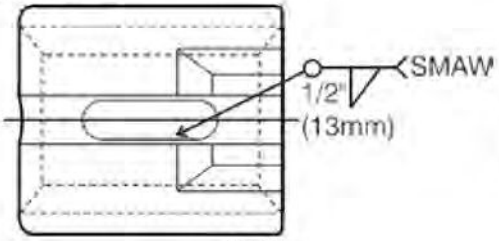


fig. 5.1

Weld-out for the base should begin with the slot weld. A 1/2"(13mm) fillet weld should be deposited in this area (fig. 5.1).

BE SURE THAT THE ENTIRE BOTTOM SURFACE OF THE WELD BASE MAINTAINS CONTACT WITH THE LIP DURING ENTIRE WELD-OUT PROCESS.

STEP 6

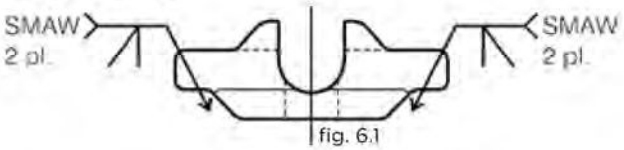


fig. 6.1

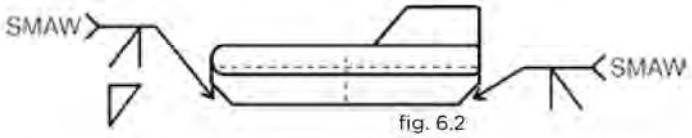


fig. 6.2

Apply weld to the base perimeter next. Utilizing groove welds, fill the 1/2"(13mm) weld groove on the base completely (fig. 6.1 & fig. 6.2). Care must be taken at this point not to add too much weld. If joint is over welded, the weld material can interfere with the lip shroud. The idea is to add as much weld as possible to the base without causing interference with the lip shroud (fig. 6.3 & fig. 6.4)

When the welding process has been completed, allow a slow cool down period to ambient temperature. A cool down rate of no greater than 35OF/2OC per hour is recommended.

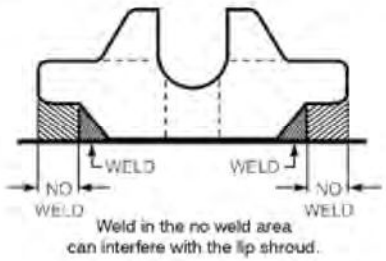


fig. 6.3

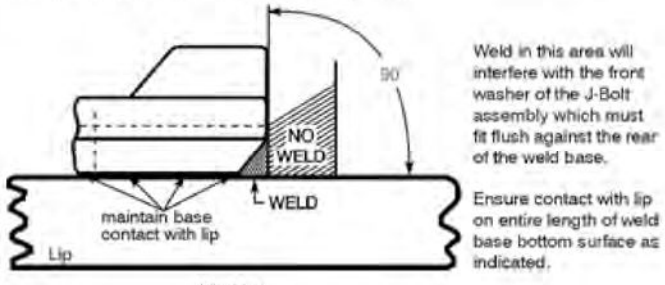
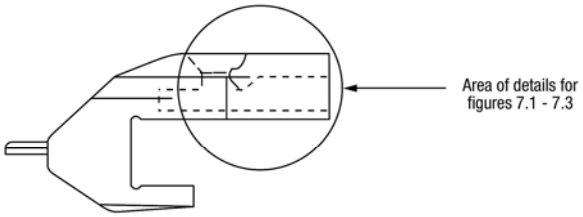


fig. 6.4

J -BOLT INSTALLATION AND WELDING
Vertical Wing Shrouds -Loaders, Excavators & Face Shovels

STEP 7



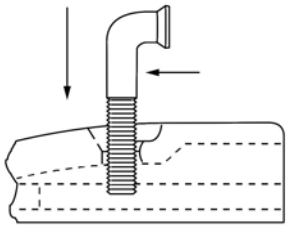


fig. 7.1

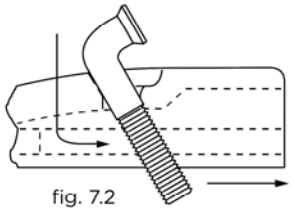


fig. 7.2

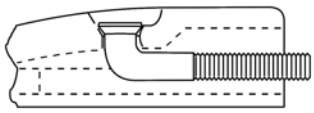


fig. 7.3

Before repositioning the shroud on the lip, insert the J-bolt into the shroud through the top hole (fig. 7.1). Rotate the bolt 90˚ so that the threaded end is facing the rear of the shroud (figs. 7.2 - 7.3).

STEP 8

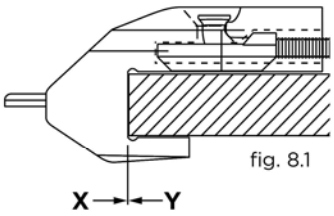


fig. 8.1

Reposition the shroud on the lip by sliding it onto the weld base as far as it will go, once again, making sure surface “X"contacts surface “Y"(fig. 8.1).

STEP 9 (J4 J-bolt assemblies)

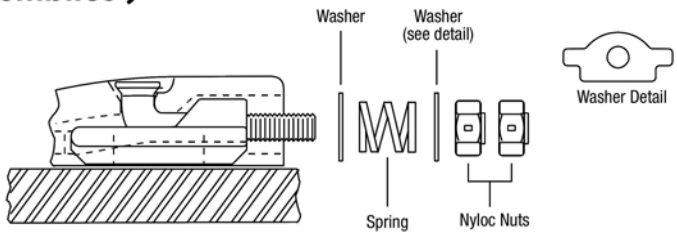


fig. 9.1A

Attach the washers, the spring and the nuts in the order indicated for J-bolt assembly type J4. (fig. 9.1A), [**NOTE: the locking nut cannot be hand-threaded onto the J-bolt**] then torque to specifications listed. (fig. 9.2).

J -BOLT INSTALLATION AND WELDING
Vertical Wing Shrouds -Loaders, Excavators & Face Shovels

STEP 9 (J6 J-bolt assemblies)

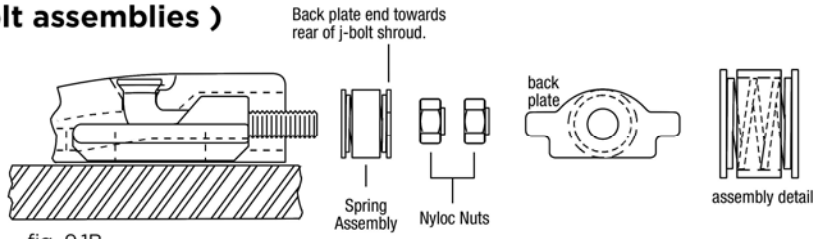


fig. 9.1B

NOTE: Above assembly is show for illustrative purposes only. Not all assemblies utlilize all parts shown.

Attach the washers, the spring and the nuts in the order indicated for J-bolt assembly type J6. (fig. 9.1B), then torque to specifications listed. (fig. 9.2).

STEP 9 (J2 J-bolt assemblies used with optional cap)

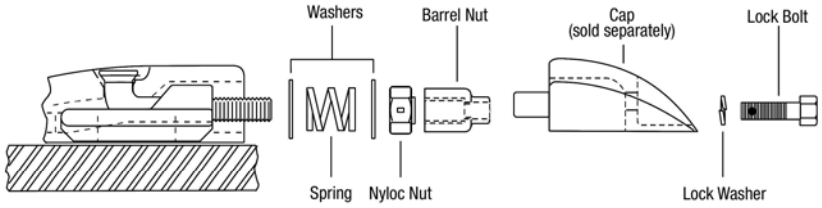


fig. 9.1C

NOTE: Above assembly is show for illustrative purposes only. Not all assemblies utlilize all parts shown.

Attach the washers, the spring and the nuts in the order indicated for J-bolt assembly type J2. (fig. 9.1C), then torque to specifications listed. (fig. 9.2). Finish assembly by installing cap (if part of assembly) with lock washer and cap bolt.

J-Bolt Assembly Torque Recommendations

J-BOLT ASSEMBLY	LOCKING NUT MAX TORQUE		GRADE 8 BOLT MAX TORQUE	
	ft-lbs	Nm	ft-lbs	Nm
SFA34J2	175	237	NA	NA
SFA34J4	175	237	NA	NA
SFA1J2	200	271	NA	NA
SFA1J4	200	271	NA	NA
SFA125J2	225	305	NA	NA
SFA125J6	225	305	NA	NA

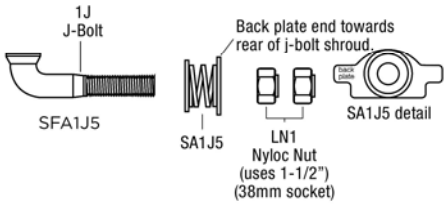
fig. 9.2

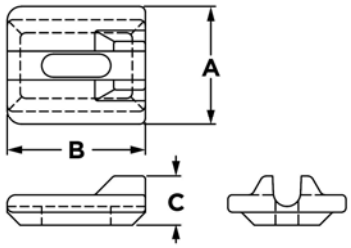
SPECIAL NOTE

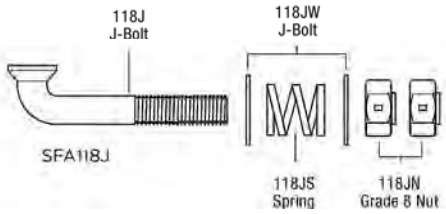
For best results, it may be necessary to re-torque all fastener components periodically depending on the application. Usually, re-torquing components after a few hours of machine operation will insure component security.

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Dippers

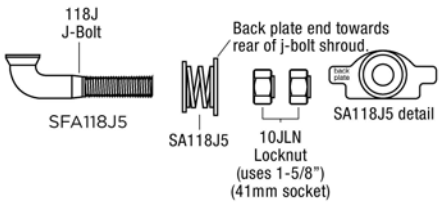
J-bolt Assemblies

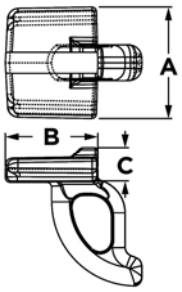




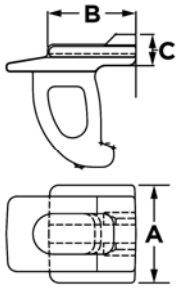


J-BOLT BASES								
Part No.	Dimensions						Weight	
	A		B		C			
	"	mm	"	mm	"	mm	lb	kg
LSWB-1	5.1	130	6.0	152	2.1	54	8.5	3.9
LSWB-2	8.4	213	6.0	152	2.4	62	19.0	8.6
LSWB-3	3.9	98	4.5	114	1.4	36	3.2	1.5
LSWB-5	6.6	168	6.0	152	2.4	62	15.0	6.8





Type 1

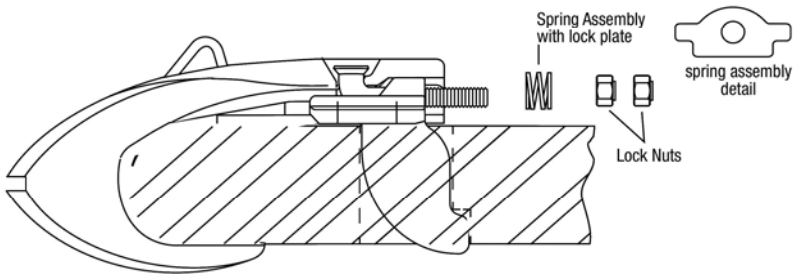


Type 2

WELDLESS J-BOLT BASES									
Part No.	Type	Dimensions						Weight	
		A		B		C			
		"	mm	"	mm	"	mm	lb	kg
LSB-1	1	6.6	168	5.5	168	2.0	51	25	11.3
LSB-2	1	6.6	168	5.6	143	2.3	59	24	10.9
LSB-3	2	6.6	168	6.0	152	2.5	63	35	15.9
LSB-4	1	6.6	168	6.2	157	2.2	55	31	14.1

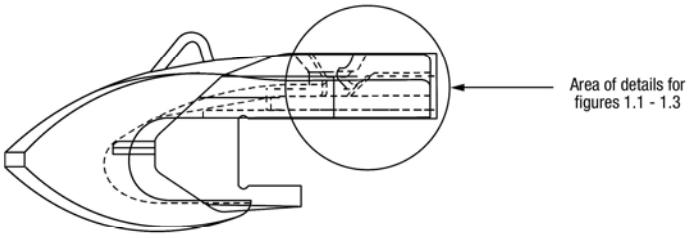
J-BOLT INSTALLATION USING WELDLESS BASE

IMPORTANT NOTE: READ ALL OF THE INSTRUCTIONS COMPLETELY PRIOR TO ASSEMBLY



Typical Shroud Assembly With Hardware (Not all assemblies use all hardware shown.)

STEP 1



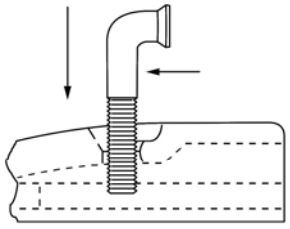


fig. 1.1

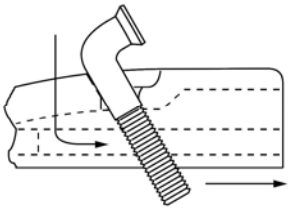


fig. 1.2

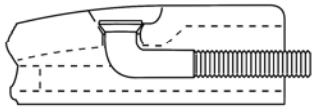


fig. 1.3

Before placing the shroud on the lip, insert the J-bolt into the shroud through the top hole (fig. 1.1). Rotate the bolt 90˚ so that the threaded end is facing the rear of the shroud (figs. 1.2 - 1.3).

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Dippers

STEP 2

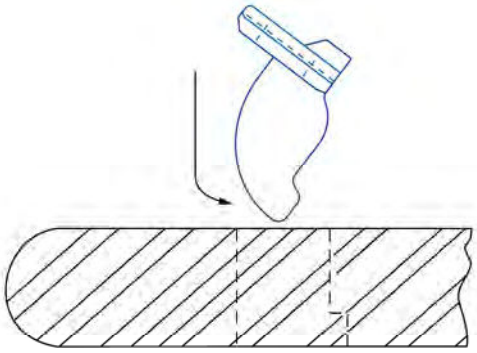


fig. 2.1

Insert the base (LSB1) into the lip (fig. 2.1)

STEP 3

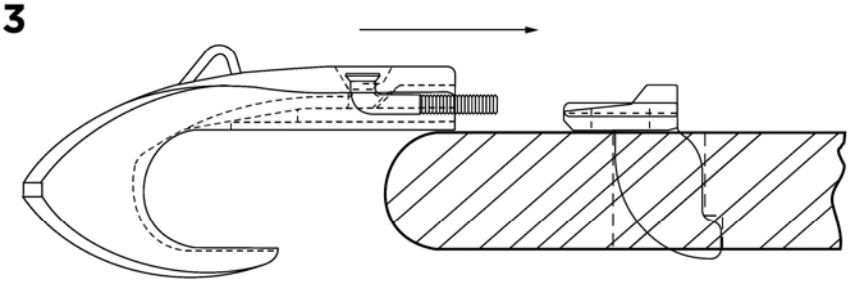


fig. 3.1

Slide shroud (with J-bolt installed)
onto lip and the base (fig. 3.1).

STEP 4 (J J-bolt assemblies)

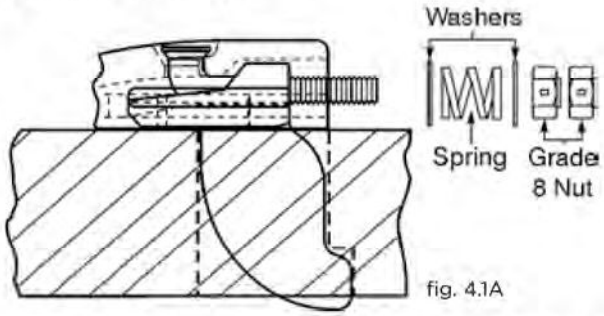


fig. 4.1A

Attach the washers, the spring and the nuts in the order indicated for J-bolt assembly type J. (fig. 4.1A),
[NOTE: the locking nut cannot be hand-threaded onto the J-bolt]
then torque to specifications listed. (fig. 4.2).

STEP 4 (J5 J-bolt assemblies)

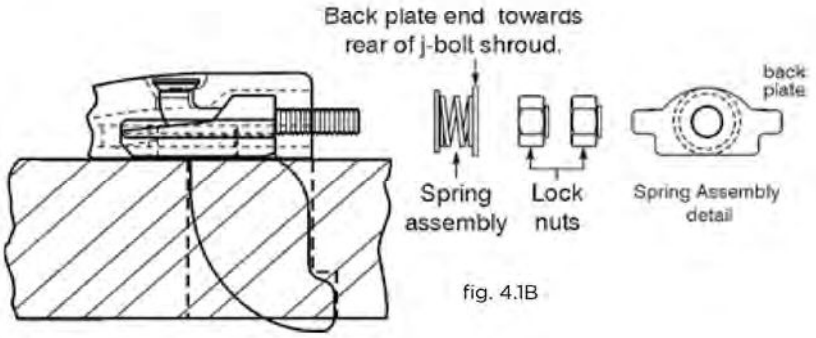


fig. 4.1B

Attach the washers, the spring and the nuts in the order indicated for J-bolt assembly type J. (fig. 4.1A),
[NOTE: the locking nut cannot be hand-threaded onto the J-bolt]then torque to specifications listed. (fig. 4.2).

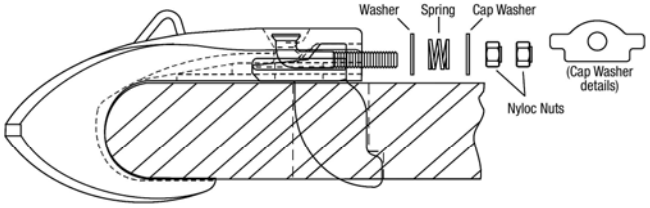
J-Bolt Assembly Torque Recommendations

J-BOLT ASSEMBLY	LOCKING NUT MAX TORQUE		GRADE 8 BOLT MAX TORQUE	
	ft-lbs	Nm	ft-lbs	Nm
SFA1J5	200	271	NA	NA
SFA118J	NA	NA	200	271

SPECIAL NOTE
For best results, it may be necessary to re-torque all fastener components periodically depending on the application. Usually, re-torquing components after a few hours of machine operation will insure component security.

J-BOLT INSTALLATION USING WELD-ON BASE

IMPORTANT NOTE: READ ALL OF THE INSTRUCTIONS COMPLETELY PRIOR TO ASSEMBLY



Typical Shroud Assembly With Hardware (Not all assemblies use all hardware shown.)

IMPORTANT NOTE: BEFORE starting any welding, it must be determined if the cast lip is CARBON ALLOY or MANGANESE due to different preheat and filler material requirements. A CARBON ALLOY lip is magnetic; a MANGANESE lip is not. Use a magnet to determine your lip type and follow the appropriate welding procedures as laid out in the following steps.

STEP 1- NEW INSTALLATION

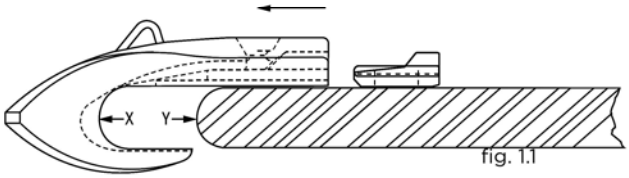


fig. 1.1

Position the shroud on the lip making sure that the throat surface of the shroud "X" contacts the front surface of the lip "Y". (fig. 1.1).
NOTE: This contact must be maintained throughout the assembly process to insure the proper location of the weld base.

STEP 1- REPLACEMENT INSTALLATION

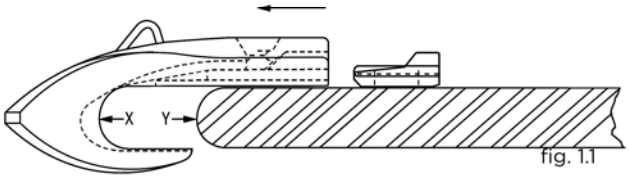


fig. 1.1

Grind the top surface of the lip material that will be affected by weld. Insure all carbon slag or other impurites from the removal of the old base are ground out. The use of non-destructive testing at this point will help determine if there are any cracks present in the base material. Repair base material as needed. (Now proceed as with new installation.)
Position the shroud on the lip making sure that the throat surface of the shroud "X" contacts the front surface of the lip "Y" (fig. 1.1).
NOTE: This contact must be maintained throughout the assembly process to insure the proper location of the weld base.

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Dippers

STEP 2

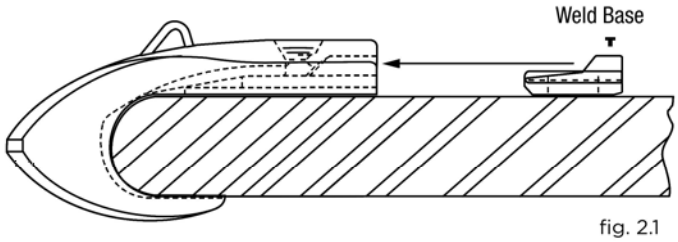


fig. 2.1

Slide the weld base from the rear into the receiving slots of the shroud (fig. 2.1)

STEP 3

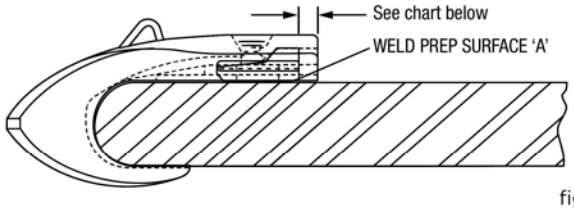


fig. 3.1

MANGANESE ALLOY CAST STEEL LIP
Position the weld base according to the chart below (a deviation of 33/32" (2.5 mm) is allowable). After placement has been confirmed, determine if preheating of the base material is necessary. If the base metal temperature is above 40˚F(4.4˚C) **NO** preheat is required. If the base metal temperature is below 40˚F(4.4˚C), the base metal MUST BE preheated to a minimum of 70˚F(21˚C). Once preheat requirements are determined and met, tack weld the base at the rear along weld prep surface "A" (fig. 3.1).

CARBON ALLOY CAST STEEL LIP
Position the weld base according to the chart below (a deviation of 33/32" (2.5 mm) is allowable). After placement has been confirmed, preheat the base material to 300˚F/147˚C and tack weld the base at the rear along weld prep surface "A" (fig. 3.1).

WELD BASE PLACEMENT
(33/32" (2.5mm) allowable)

BASE	INCHES	MM
LSWB1	2-1/4"	(57)
LSWB2	2-1/4"	(57)
LSWB3	2-1/4"	(57)
LSWB5	2-1/4"	(57)

STEP 4

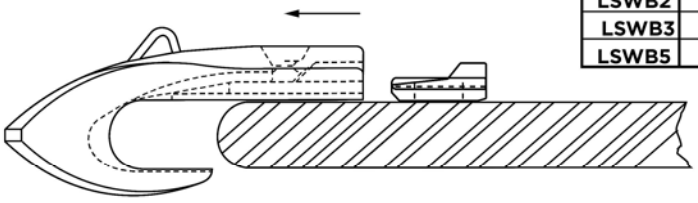


fig. 4.1

MANGANESE ALLOY CAST STEEL LIP
Remove the shroud and prepare to weld-out the base by determining if reheating of the base material (fig. 4.1) is necessary. If the base metal temperature is above 40˚F(4.4˚C) reheating is NOT required. If the base metal temperature is below 40˚F(4.4˚C), the base metal MUST BE reheated to a minimum of 70ºF(21˚C). Maintain this temperature throughout the welding process.

CARBON ALLOY STEEL LIP
Remove the shroud and prepare to weld-out the base by re-establishing the preheat temperature of 30˚˚F/147˚C for the base material (fig. 4.1). Maintain this temperature throughout the welding process.

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Dippers

SPECIAL NOTES

Recommended filler material: **Carbon Alloy Cast Steel Lip**
AWS specification A5.1, class E7018, stick electrode.

Manganese Alloy Cast Steel Lip
AWS specification A5.4, class E308L-16, stick electrode.

NOTE: Stick electrodes should be kept in a heated rod oven at 250˚/120˚C prior to use. See manufacturers recommended procedures for storage and preservation of low hydrogen and stainless steel electrodes.

Recommended weld types: Recommended weld types: Stringer beads are recommended for higher strength and less distortion. The use of weave or wash beads is **NOT** recommended and should not be used. Arc strikes should be avoided or ground down.

STEP 5

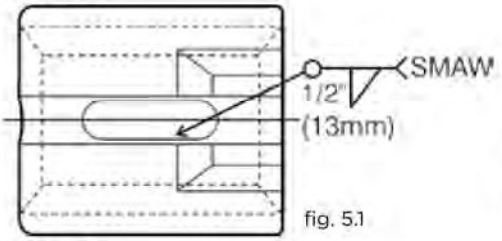


fig. 5.1

Weld-out for the base should begin with the slot weld. A 1/2"(13mm) fillet weld should be deposited in this area (fig. 5.1).

BE SURE THAT THE ENTIRE BOTTOM SURFACE OF THE WELD BASE MAINTAINS CONTACT WITH THE LIP DURING ENTIRE WELD-OUT PROCESS.

STEP 6

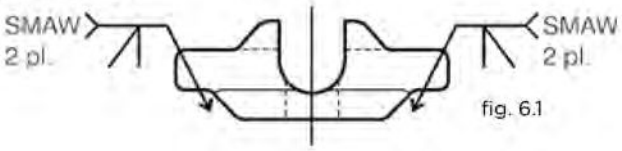


fig. 6.1

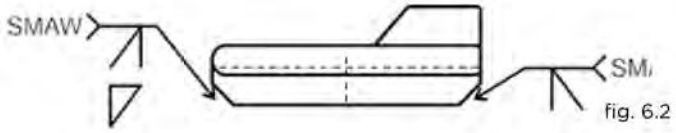


fig. 6.2

Apply weld to the base perimeter next. Utilizing groove welds, fill the 1/2"(13mm) weld groove on the base completely (fig. 6.1 & fig. 6.2). Care must be taken at this point not to add too much weld. If joint is over welded, the weld material can interfere with the lip shroud. The idea is to add as much weld as possible to the base without causing interference with the lip shroud (fig. 6.3 & fig. 6.4) When the welding process has been completed, allow a slow cool down period to ambient temperature. A cool down rate of no greater than 35OF/2OC per hour is recommended.

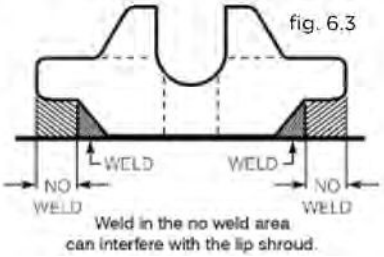


fig. 6.3

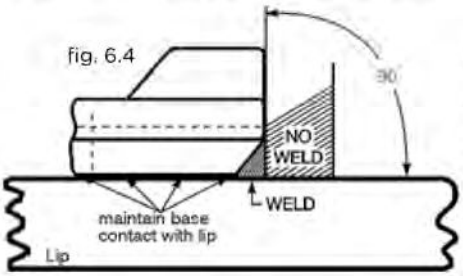
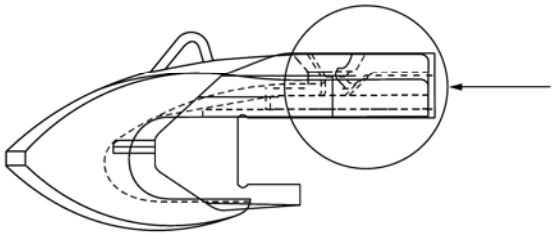


fig. 6.4

Weld in this area will interfere with the front washer of the J-Bolt assembly which must fit flush against the rear of the weld base.

Ensure contact with lip on entire length of weld base bottom surface as indicated.

STEP 7



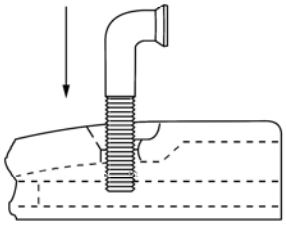


fig. 7.1

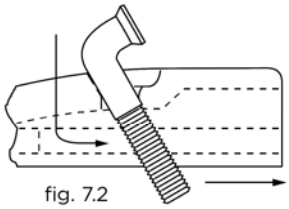


fig. 7.2

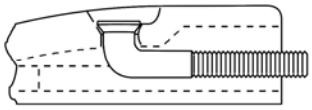


fig. 7.3

Before repositioning the shroud on the lip, insert the J-bolt into the shroud through the top hole (fig. 7.1). Rotate the bolt 90˚ so that the threaded end is facing the rear of the shroud (figs. 7.2 - 7.3).

STEP 8

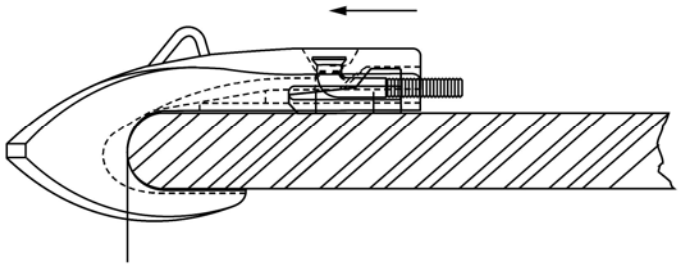


fig. 8.1

Reposition the shroud on the lip by sliding it onto the weld base as far as it will go, once again, making sure surface “X" contacts surface “Y"(fig. 8.1).

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for Dippers

STEP 9A

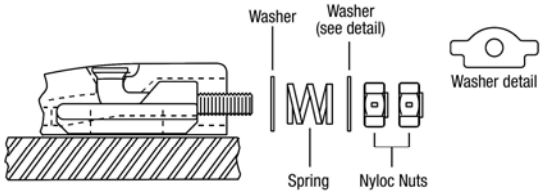


fig. 9.1A

Attach the round washer, spring, cap washer and the nuts in the order indicated for J-bolt assembly (SFA1J5) (fig. 9.1A), **[NOTE: the locking nut cannot be hand-threaded onto the J-bolt]** then torque to specifications listed. (fig. 9.2)

STEP 9B

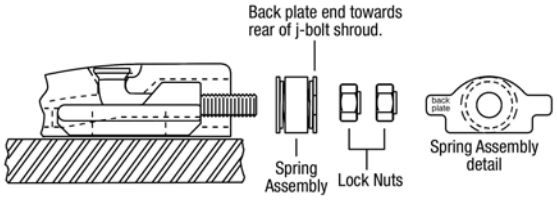


fig. 9.1B

Attach the washers, the spring and the nuts in the order indicated for J-bolt assembly (SFA118J) (fig. 9.1B) **[NOTE: the Grade 8 nuts cannot be hand-threaded onto the J-bolt]** then torque to specifications listed. (fig. 9.2).

J-Bolt Assembly Torque Recommendations

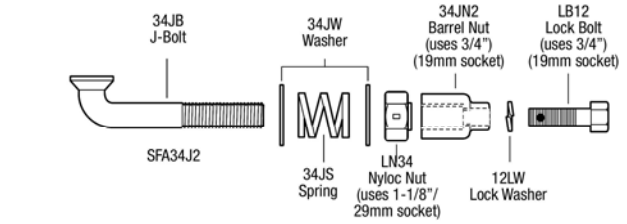
J-BOLT ASSEMBLY	LOCKING NUT		GRADE 8 BOLT	
Part No.	ft-lbs	Nm	ft-lbs	Nm
SFA1J5	271	NA	NA	NA
SFA118J	NA	NA	200	271

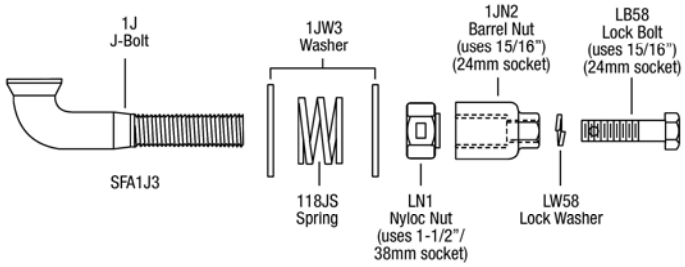
fig. 9.2

SPECIAL NOTE
For best results, it may be necessary to re-torque all fastener components periodically depending on the application. Usually, re-torquing components after a few hours of machine operation will insure component security.

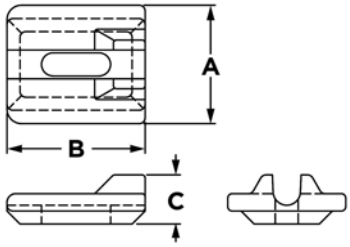
J -BOLT INSTALLATION AND WELDING
Lip Shrouds for LHD Scoop Trams

J-bolt Assemblies



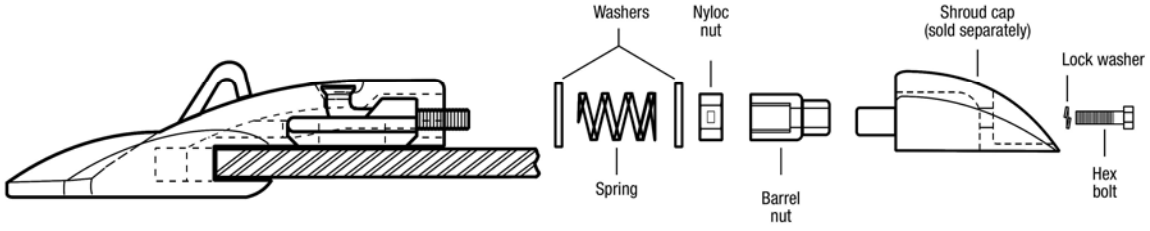


Weld Base



J-BOLT BASES								
Part No.	Dimensions						Weight	
	A		B		C			
	"	mm	"	mm	"	mm	lb	kg
LSWB-1	5.1	130	6.0	152	2.1	54	8.5	3.9
LSWB-3	3.9	98	4.5	114	1.4	36	3.2	1.5

IMPORTANT NOTE: READ ALL OF THE INSTRUCTIONS COMPLETELY PRIOR TO ASSEMBLY



Typical Shroud Assembly With Hardware
(Not all assemblies use all hardware shown.)

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for LHD Scoop Trams

STEP 1- NEW INSTALLATION

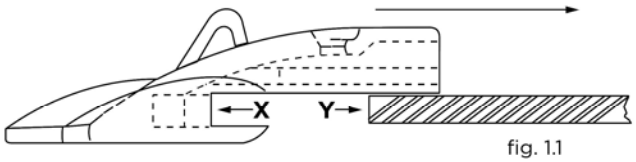


fig. 1.1

Position the shroud on the lip making sure that the **blunt** throat surface of the shroud "X" contacts the blunt front surface of the lip "Y" (fig. 1.1).

NOTE: This contact must be maintained throughout the assembly process to insure the proper location of the weld base.

STEP 1- REPLACEMENT INSTALLATION

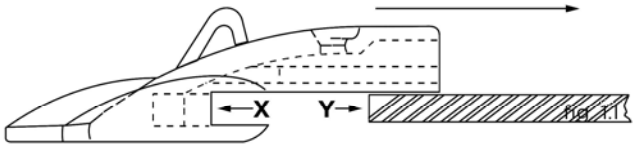


fig. 1.1

Grind the top surface of the lip material that will be affected by weld. Insure all carbon slag or other impurites from the removal of the old base are ground out. The use of non-destructive testing at this point will help determine if there are any cracks present in the base material. Repair base material as needed. (Now proceed as with new installation.)

Position the shroud on the lip making sure that the **blunt** throat surface of the shroud "X" contacts the **blunt** front surface of the lip "Y" (fig. 1.1).

NOTE: This contact must be maintained throughout the assembly process to insure the proper location of the weld base.

STEP 2

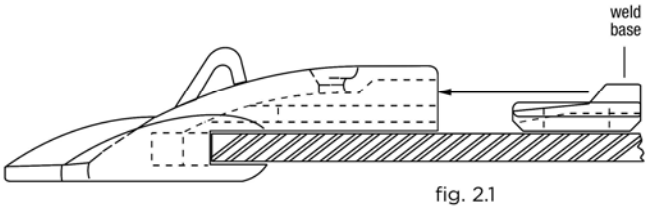


fig. 2.1

Slide the weld base from the rear into the receiving slots of the shroud (fig. 2.1)

STEP 3

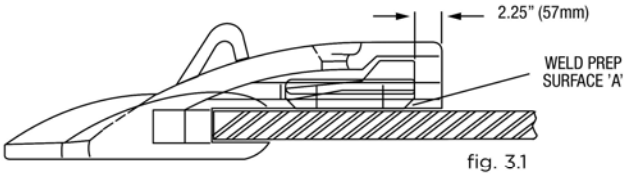


fig. 3.1

After placement has been confirmed, preheat the base material to 30˚F/147˚C and tack weld the base at the rear along weld prep surface "A" (fig.3.1).

STEP 4

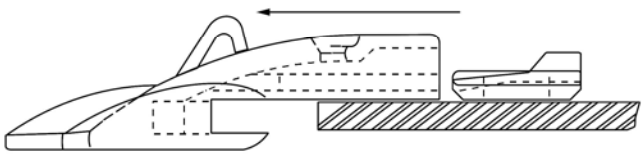


fig. 4.1

Remove the shroud and prepare to weld-out the base by re-establishing the preheat temperature of 300˚F/147˚C for the base material (fig4.1). Maintain this temperature throughout the welding process.

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for LHD Scoop Trams

SPECIAL NOTES

Recommended filler material: AWS specification A5.1, class E7018, stick electrode. Stick electrodes should be kept in a heated rod ovenat 250˚/120˚C prior to use

NOTE: See manufacturers recommended procedures for storage and preservation of low hydrogen electrodes.

Recommended weld types: Stringer beads are recommended for higher strength and less distortion. The use of weave or wash beads is **NOT** recommended and should not be used. Arc strikes should be avoided or ground down.

STEP 5

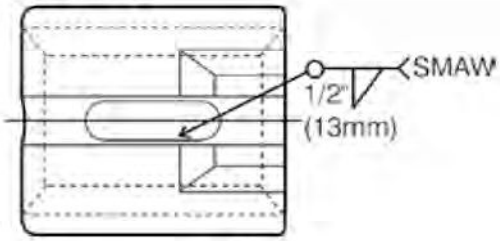


fig. 5.1

Weld-out for the base should begin with the slot weld. A 1/2"(13mm) fillet weld should be deposited in this area (fig. 5.1).
BE SURE THAT THE ENTIRE BOTTOM SURFACE OF THE WELD BASE MAINTAINS CONTACT WITH THE LIP DURINGENTIRE WELD-OUT PROCESS.

STEP 6

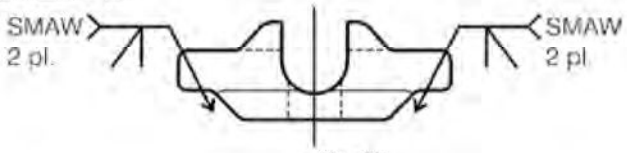


fig. 6.1

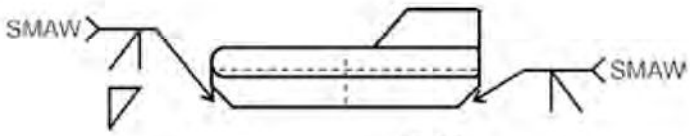


fig. 6.2

Apply weld to the base perimeter next. Utilizing groove welds, fill the 1/2"(13mm) weld groove on the base completely (fig. 6.1 & fig. 6.2). Care must be taken at this point not to add too much weld. If joint is over welded, the weld material can interfere with the lip shroud. The idea is to add as much weld as possible to the base without causing interference with the lip shroud (fig. 6.3 & fig. 6.4)

When the welding process has been completed, allow a slow cool down period to ambient temperature. A cool down rate of no greater than 35˚F/2˚C per hour is recommended.

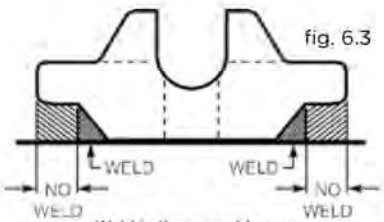


fig. 6.3
Weld in the no weld area can interfere with the lip shroud.

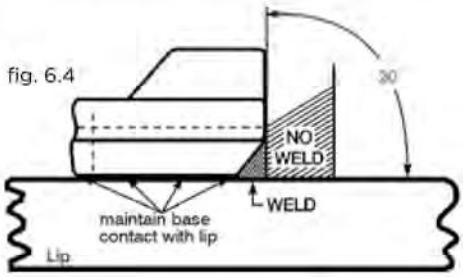


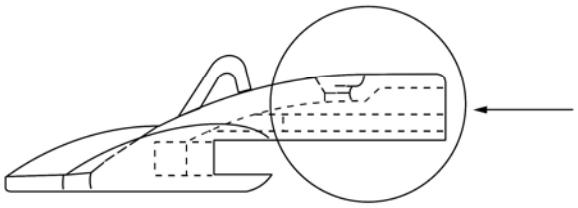
fig. 6.4

Weld in this area will interfere with the front washer of the J-Bolt assembly which must fit flush against the rear of the weld base.

Ensure contact with lip on entire length of weld base bottom surface as indicated.

J -BOLT INSTALLATION AND WELDING
Lip Shrouds for LHD Scoop Trams

STEP 7



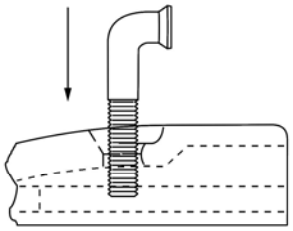


fig. 7.1

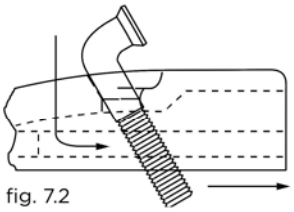


fig. 7.2

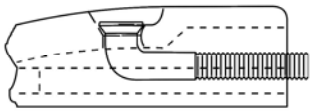
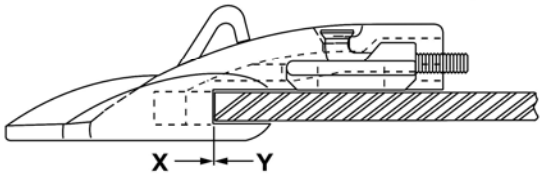


fig. 7.3

Before repositioning the shroud on the lip, insert the J-bolt into the shroud through the top hole (fig. 7.1). Rotate the bolt 90˚ so that the threaded end is facing the rear of the shroud (figs. 7.2 - 7.3).

STEP 8

fig. 8.1



Reposition the shroud on the lip by sliding it onto the weld base as far as it will go, once again, making sure surface “X"contacts surface “Y"(fig. 8.1).

STEP 9 (J2 & J3 J-bolt Assemblies)

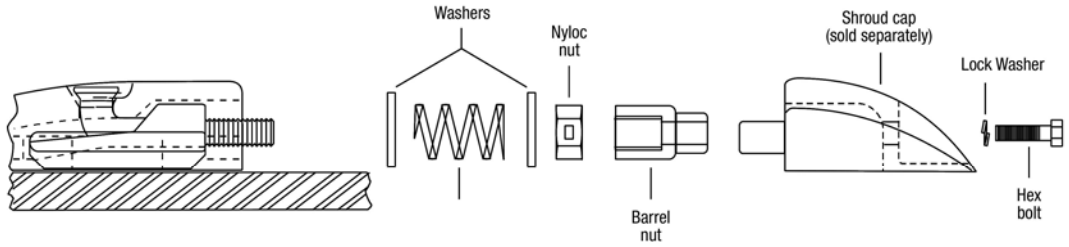


fig. 9.1

Attach the washers, the spring and the nuts in the order indicated for J-bolt assembly type J4. (fig. 9.1),
[NOTE: the locking nut cannot be hand-threaded onto the J-bolt] then torque to specifications listed. (fig. 9.2).

J-Bolt Assembly Torque Recommendations

J-BOLT ASSEMBLY	LOCKING NUT		GRADE 8 BOLT	
	ft-lbs	Nm	ft-lbs	Nm
SFA34J2	175	237	NA	NA
SFA1J3	271	NA	NA	NA

fig. 9.2

SPECIAL NOTE
For best results, it may be necessary to re-torque all fastener components periodically depending on the application. Usually, re-torquing components after a few hours of machine operation will insure component security.

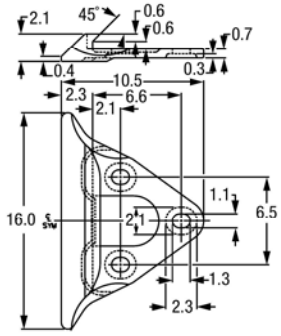
5.2

SPECIALIZED WEAR PROTECTION
SIDECUTTERS

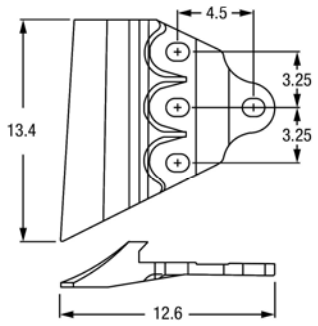
HENSLEY PROPRIETARY SIDECUTTERS
Specialized Wear Protection

BOLT PATTERN A

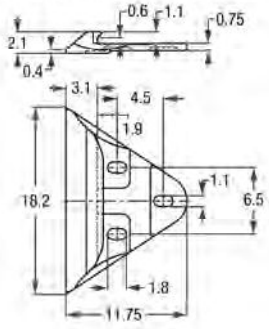
Strike - Off
SCB220-SO
21.9 lb / 9.9 kg
Uses (3) 1" diameter plow bolts



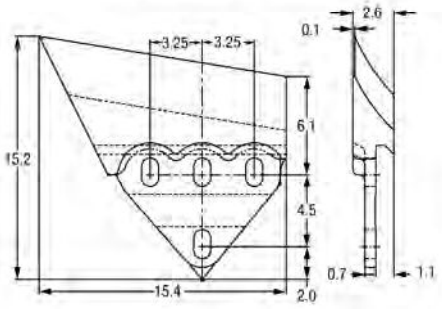
B312RH (RH Shown)
B311LH (LH Opposite)
29.8 lb / 13.5 kg
Uses (4) 1" diameter plow bolts
Additional cutting width
1.5" per side, 3" overall



Strike - Off
SCB330-SO
33.0 lb / 15.0 kg
Uses (3) 1" diameter plow bolts



B330RH (RH Shown)
B331LH (LH Opposite)
45.2 lb / 20.5 kg
Uses (4) 1" diameter plow bolts
Additional cutting width
1.5" per side, 3" overall

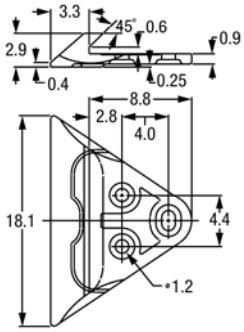


Note: Measurements are in inches.

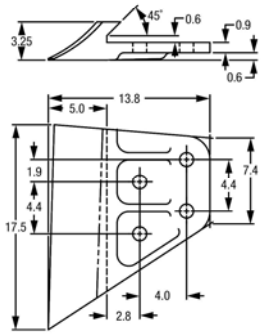
HENSLEY PROPRIETARY SIDECUTTERS
Specialized Wear Protection

BOLT PATTERN B

Strike - Off
SCB410-SO
41.8 lb / 19.0 kg
Uses (3) 1" diameter plow bolts

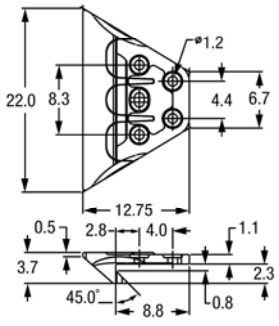


B102RH (RH Shown)
B103LH (LH Opposite)
59.2 lb / 26.9 kg
Uses (4) 1" diameter plow bolts
Additional cutting width
1.5" per side, 3" overall



BOLT PATTERN C

Strike - Off
SCB500-SO
75.5 lb / 34.2 kg
Uses (4) 1" diameter plow bolts

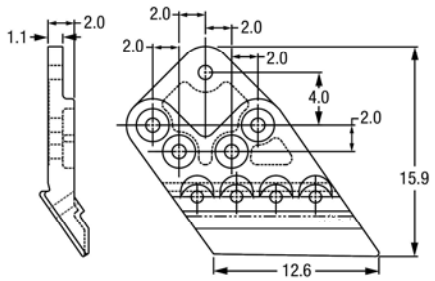


Note: Measurements are in inches.

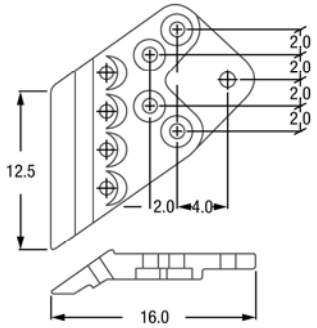
CATERPILLAR SIDECUTTERS
Specialized Wear Protection

CATERPILLAR SIDECUTTERS

8J9825HXR (RH Shown)
8J9826HXL (LH Opposite)
68.0 lb / 30.8 kg
Uses (5) 1" diameter plow bolts
Additional cutting
width 3" per side, 6" overall.
(4.5" per side and 9" overall with
combination plate 4T6664PHX)



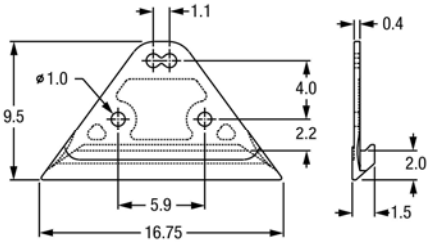
8J9615HXR (RH Shown)
8J9614HXL (LH Opposite)
49.0 lb / 22.2 kg
Uses (3) 1" diameter plow bolts
Additional cutting width
2" per side, 4" overall.
(4" per side and 8" overall with
combination plate 4T2886BHX)



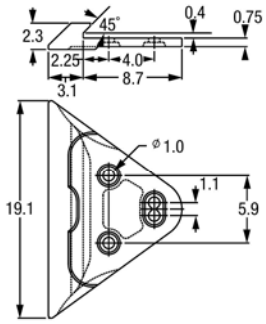
Note: Measurements are in inches.

ESCO SIDECUTTERS

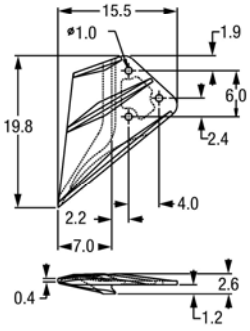
PDE34687HX
15.7 lb / 7.1 kg
Uses (3) 7/8" diameter plow bolts.



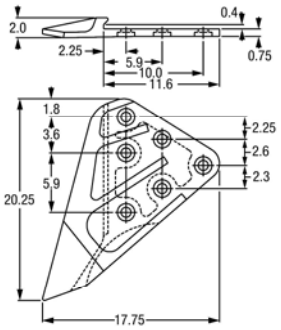
PDE31329HX
30.7 lb / 16.8 kg
Uses (6) 7/8" diameter plow bolts.



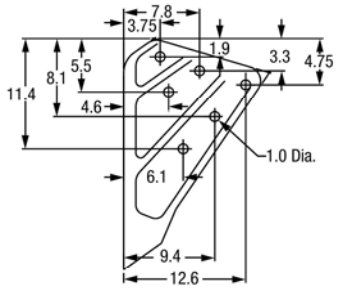
CE17748R3HX (RH Shown)
CE17748L3HX (LH Opposite)
38.2 lb / 17.3 kg



T2144AHX (RH Shown)
T2143AHX (LH Opposite)
44.4 lb / 20.1 kg
Uses (6) 7/8" diameter plow bolts
Additional cutting width
1" per side, 2" overall.



T1157AHX (RH Shown)
T1156AHX (LH Opposite)
59.5 lb / 27.0 kg
Uses (6) 7/8" diameter plow bolts
Additional cutting width
3" per side, 6" overall.

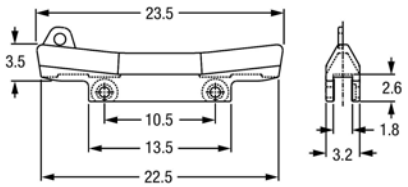


Note: Measurements are in inches.

VERTICAL SHROUDS AND KOMATSU SIDECUTTERS
Specialized Wear Protection

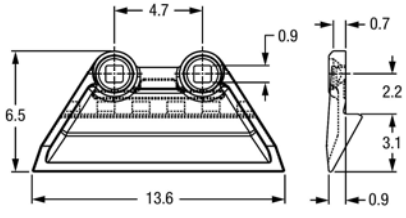
VERTICAL SHROUDS

ES5280HX
44.5 lb / 20.2 kg

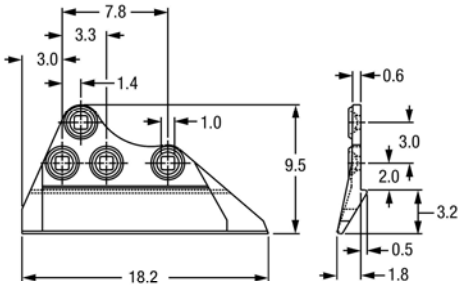


KOMATSU SIDECUTTERS

E72959HX
11.1 lb / 5.0 kg



E72958RHX (RH Shown)
E72958LHX (LH Opposite)
21.4 lb / 9.7 kg



Note: Measurements are in inches.

PLOW BOLTS
Specialized Wear Protection

PLOW BOLTS						
Plow Bolt Assemblies*				Dimensions		
w/Hex Nut	Stock No.	W/Hex Cone Nut	Stock No.	Bolt Diameter	Threads per Inch	Bolt Length
A58-212	75-1110	-	-	5/8"	11	2 1/2"
A58-234	75-1120	-	-	5/8"	11	2 3/4"
A58-300	75-1130	-	-	5/8"	11	3"
A58-312	75-1140	-	-	5/8"	11	3 1/2"
A34-212	75-1200	-	-	3/4"	10	2 1/2"
A34-234	75-1210	-	-	3/4"	10	2 3/4"
A34-300	75-1220	-	-	3/4"	10	3"
A34-314	75-1230	-	-	3/4"	10	3 1/4"
A34-312	75-1240	-	-	3/4"	10	3 1/2"
A34-334	75-1250	-	-	3/4"	10	3 3/4"
A34-400	75-1260	-	-	3/4"	10	4"
A78-300	75-1300	-	-	7/8"	9	3"
A78-314	75-1310	-	-	7/8"	9	3 1/4"
A78-312	75-1320	-	-	7/8"	9	3 1/2"
A78-334	75-1330	-	-	7/8"	9	3 3/4"
A78-400	75-1340	-	-	7/8"	9	4"
A78-412	75-1350	-	-	7/8"	9	4 1/2"
A10-212J**	75-1490	-	-	1.0"	8	2 1/2"
A10-300	75-1400	AC10-300	72-2400	1.0"	8	3"
A10-314	75-1410	-	-	1.0"	8	3 1/4"
A10-312	75-1420	AC10-312	75-2420	1.0"	8	3 1/2"
A10-334	75-1430	-	-	1.0"	8	3 3/4"
A10-400	75-1440	AC10-400	75-2440	1.0"	8	4"
A10-412	75-1450	-	-	1.0"	8	4 1/2"
A10-500	75-1460	-	-	1.0"	8	5"

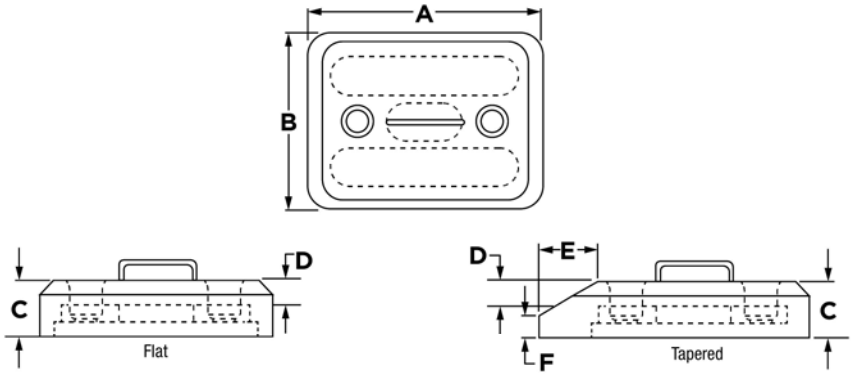
*Plow Bolt Assembly consists of Plow Bolt with Nut.
**Comes w/Hex Jam nut

5.3

SPECIALIZED WEAR PROTECTION

Wear Runners

BOLT-ON WEAR RUNNERS
Miscellaneous Wear Parts



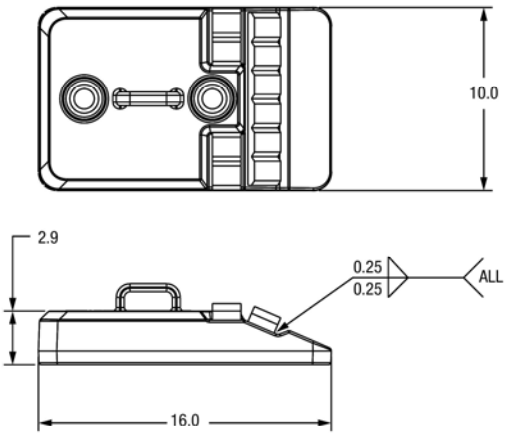
BOLT-ON WEAR RUNNERS

Part Number	Type	Dimensions												Weight		Base	Fastener Assembly
		A		B		C		D		E		F					
		"	mm	"	mm	"	mm	"	mm	"	mm	"	mm	lb	kg		
B8X8WR175	Flat	8.0	203	8.0	203	1.75	44	0.75	19	-	-	-	-	20.0	9.1	8X8B	58125BCRN
B10X8WR175	Flat	10.0	254	8.0	203	1.75	44	0.75	19	-	-	-	-	25.5	11.6	10X8B	58125BCRN
B10X7WRS	Flat	10.0	254	7.0	178	2.9	75	1.25	32	-	-	-	-	35.5	16.1	10X7B	58125BCRN
B10X10WR275	Flat	10.0	254	10.0	254	2.75	70	1.0	25	-	-	-	-	40.0	18.1	10X10B	115BLN
B12X9WR	Flat	12.0	305	9.0	229	3.0	76	1.25	32	-	-	-	-	49.0	22.2	12X9B	115BLN
B12X9WR4	Flat	12.0	305	9.0	229	4.0	102	2.25	57	-	-	-	-	73.0	33.1	12X9B	115BLN
B12X12WR	Flat	12.0	305	12.0	305	2.9	75	1.1	29	-	-	-	-	71.8	32.6	12X12B	115BLN
B14X9WR275T	Tapered	14.0	356	9.0	229	2.75	70	1.0	25	3.0	76	1.25	32	52.5	23.8	12X9B	115BLN
B14X9WR4T	Tapered	14.0	356	9.0	229	3.9	100	1.9	49	2.75	70	1.25	32	94.3	42.8	12X9B	115BLN
B14X10WR275T	Tapered	14.0	356	10.0	254	2.75	70	1.0	25	3.0	76	1.25	32	58.0	26.3	12X10B	115BLN
B14X10WR4T	Tapered	14.0	356	10.0	254	3.9	100	1.9	49	2.75	70	1.25	32	97.8	44.4	12X10B	115BLN
B16X10WR3T	Tapered	16.0	406	10.0	254	2.9	75	1.2	30	4.8	121	0.75	19	74.5	33.8	12X10B	115BLN
AB16X10WR3TL (w / laminite)	Tapered	16.0	406	10.0	254	2.9	75	1.2	30	4.8	121	0.75	19	74.5	33.8	12X10B	115BLN

*Note: Two bolts and nuts required for each wear runner.

BOLT-ON WEAR RUNNER AND ASSEMBLIES

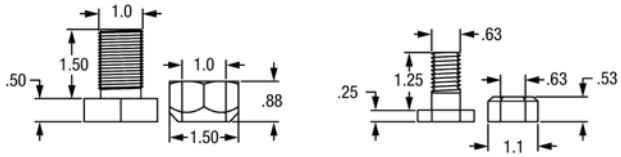
AB16X10WR3TL
Tapered with Laminite



Bolt-on assembly recommended
torque spec. of 300 ft lbs

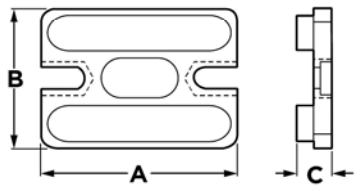
115BLN
Fine Thread

58125BCRN
Coarse Thread



Note: Measurements are in inches.

BOLT-ON WEAR RUNNERS
Miscellaneous Wear Parts



WEAR RUNNER BASE								
Part Number	Dimensions						Weight	
	A		B		C			
	"	mm	"	mm	"	mm	lb	kg
8X8B	6.9	175.0	6.9	175	0.9	23	6.4	2.9
10X7B	8.4	213	5.4	137	1.8	46	11.0	5.0
10X8B	8.9	225.0	6.9	175	0.9	23	10.2	4.6
10X10B	10.0	254.0	10.0	254	1.75	44	24.0	10.9
12X9B	12.0	305.0	9.0	229	1.75	44	22.0	9.9
12X10B	12.0	305.0	10.0	254	1.75	44	28.0	12.7
12X12B	10.4	263.0	10.4	263	1.8	46	36.4	16.5

STANDARD FLAT HEAD BOLT/NUT ASSEMBLIES	
Assembly Number	Description
58125BCRN	5/8" X 1-1/4" flat head bolt w/ crimp nut (coarse thread)
115BLN	1" X 1-1/2" flat head bolt w/ crimp nut (fine thread)

OPTIONAL PARTS & ASSEMBLIES	
Assembly or Part Number	Description
1X112FB	1" x 1-1/2" flat head bolt coarse thread
1FN	Cone nut, coarse thread
1FLN	Cone lock nut, fine thread used w/ part number 115BLN
1X2FFB	1" x 2" flat head bolt w/ fine thread

Note: all bolts are grade 8

5.4

SPECIALIZED WEAR PROTECTION

Top Covers

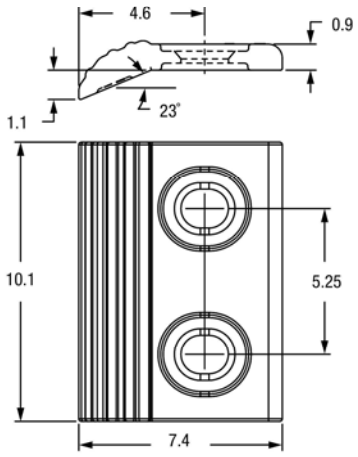
TOP COVERS
Caterpillar Style

CATERPILLAR STYLE TOP COVERS								
Machine Model	Cast Bolt-on Segments			No. of Holes	Cast Top Cover Plates			Plow Bolt Assemblies
	Center (Straight)	Right-hand	Left-hand		Center (Straight)	Right-hand	Left-hand	
980B	4T3015NRHX	4T7139NRHX	4T7140NRHX	2	4T3015TC	4T7139TC	4T7140TC	AC114600TC
980F,G	116-7460CHX	116-7461RHX	116-7462LHX	3	195-7180HX	195-7181HX	195-7182HX	AC114600TC
	9W5734NRHX	9W5737NRHX	9W5730NRHX	3				AC114600TC
980G, 988B	116-7460CHX	116-7461RHX	116-7462LHX	3	195-7180HX	195-7181HX	195-7182HX	AC114600TC
988, 988B	116-7460CHX	116-7461RHX	116-7462LHX	3	195-7180HX	195-7181HX	195-7182HX	AC114600TC
988F	9W5734NRHX	9W5737NRHX	9W5730NRHX	3	195-7180HX	195-7181HX	195-7182HX	AC114600TC
	109-9080NRHX	109-9081NRHX	109-9082NRHX	3				AC114600TC
	116-7460CHX	116-7461RHX	116-7462LHX	3				AC114600TC
988H	257-1782HX	257-1783HX	257-1784HX	4	257-1778HX	257-1779HX	257-1780HX	AC114-700TC
	264-2090HX	264-2091HX	264-2092HX	4	264-2096HX	264-2097HX	264-2098HX	AC114-700TC
988G, 990	4T6760NRHX 4T6760NRHHX	4T6761NRHX 4T6761NRHHX	4T6762NRHX 4T6762NRHHX	4	195-7096HX	195-7097HX	195-7098HX	AC114700TC
992 992B, C,D,G	4T6760NRHX 4T6760NRHHX 109-2675NRHX	4T6761NRHX 4T6761NRHHX 109-2676NRHX	4T6762NRHX 4T6762NRHHX 109-2677NRHX	4	195-7096HX	195-7097HX	195-7098HX	AC114700TC

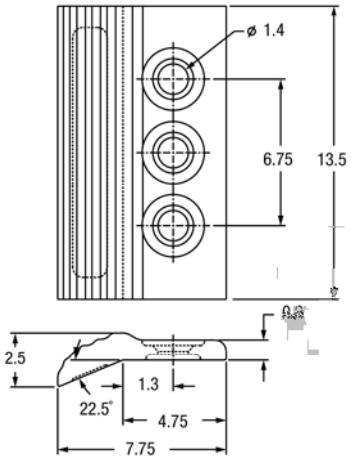
TOP COVERS
Caterpillar Style

CENTER (STRAIGHT) TOP COVERS

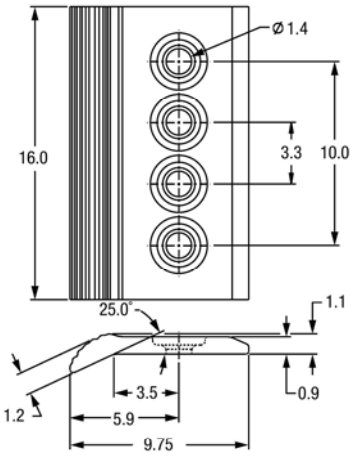
4T3015TC
17.5 lb / 7.9 kg



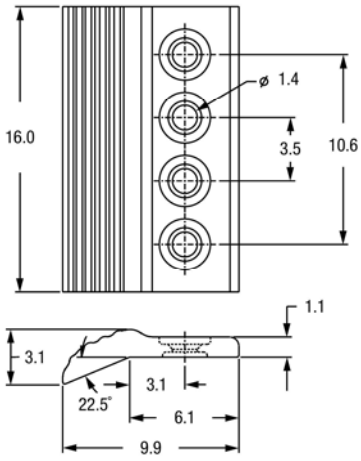
195-7180HX
27.8 lb / 12.6 kg



257-1778HX
36.8 lb. / 16.7 kg



195-7096HX
49.5 lb / 22.5 kg

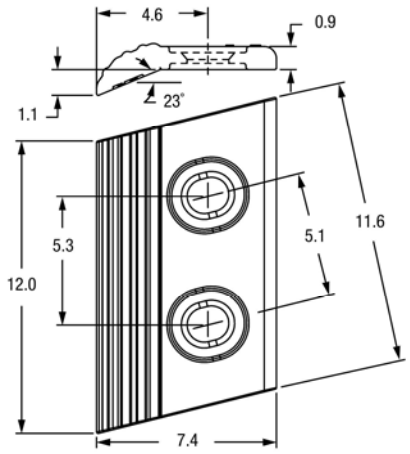


Note: Measurements are in inches.

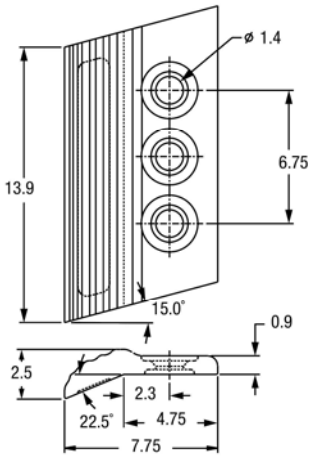
TOP COVERS
Caterpillar Style

CORNER TOP COVERS

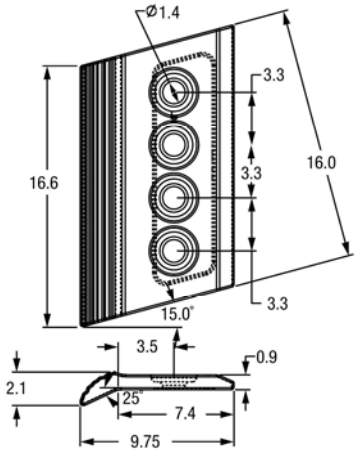
4T7139TC (RH Shown)
4T7140TC (LH Opposite)
21.3 lb / 9.7 kg



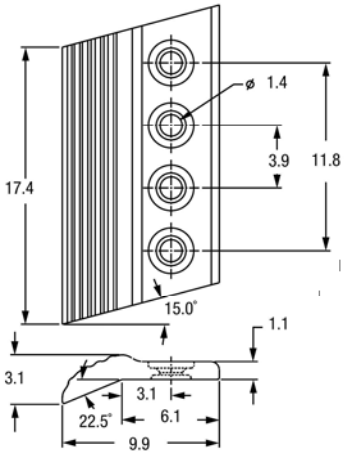
195-7181HX (RH Shown)
195-7182HX (LH Opposite)
29.5 lb / 13.4 kg



257-1779HX (RH Shown)
257-1780HX (LH Opposite)
38.4 lb / 17.4 kg



195-7097HX (RH Shown)
195-7098HX (LH Opposite)
53.5 lb / 24.3 kg



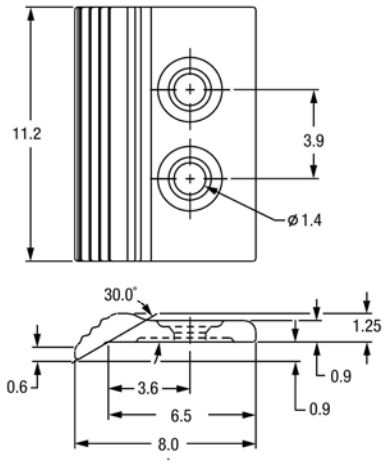
Note: Measurements are in inches.

TOP COVERS
Komatsu Style

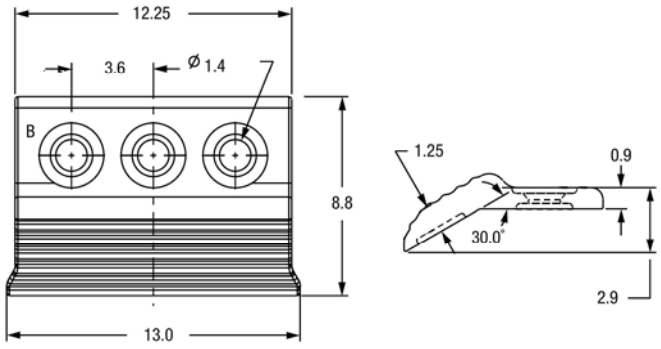
KOMATSU STYLE TOP COVERS								
Machine Model	Cast Bolt-on Segments			No. of Holes	Cast Top Cover Plates			Plow Bolt Assemblies
	Center (Straight)	Right-hand	Left-hand		Center (Straight)	Right-hand	Left-hand	
WA500	425-838-A110NR	425-838-A110RNR	425-838-A110LNR	2	WA500TPC	WA500TPR	WA500TPL	AC10-500
WA600 (2.5" lip)	MS600CNRH (1.87") WA600CNR (2.3")	MS600RNRH (1.87") WA600RNR (2.3")	MS600LNRH (1.87") WA600LNR (2.3")	3	WA600TCC	WA600TCR	WA600TCL	AC114-600TC
WA700 (2.5" lip)	WA700CNR	WA700RNR	WA700LNL	4	WA700TCC	WA700TCR	WA700TCL	AC114-600TC
WA800 (3" lip)	WA800CNR	WA800TCR	WA800TCL	4	WA800TCC	WA800TCR	WA800TCL	AC114-612TC
WA900	WA800CNR	WA800TCR	WA800TCL	4	WA800TCC	WA800TCR	WA800TCL	AC114-612TC

CENTER (STRAIGHT) TOP COVERS

WA500TPC
22.4 lb / 10.2 kg



WA600TCC
33.5 lb / 15.2 kg

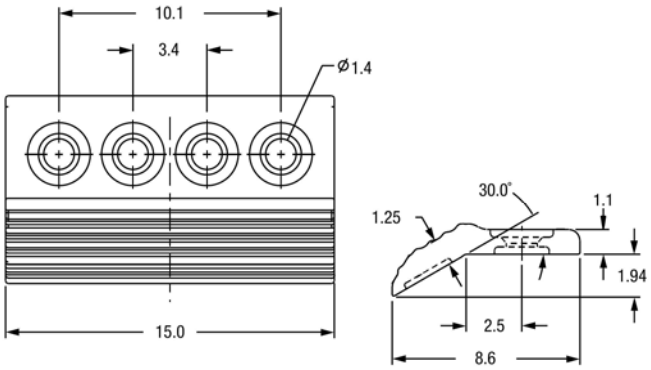


Note: Measurements are in inches.

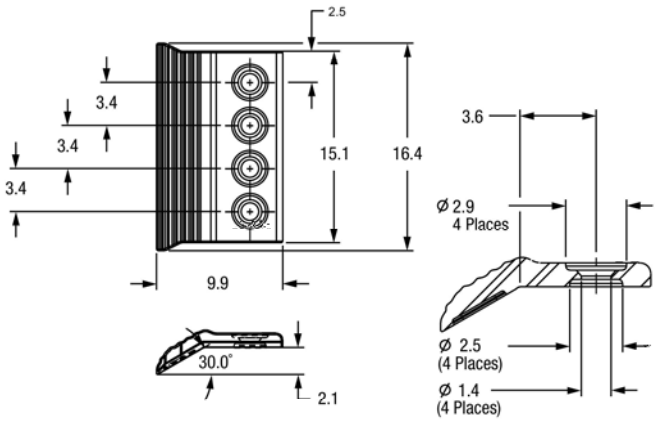
TOP COVERS
Komatsu Style

CENTER (STRAIGHT) TOP COVERS

WA700TCC
36.7 lb / 16.6 kg

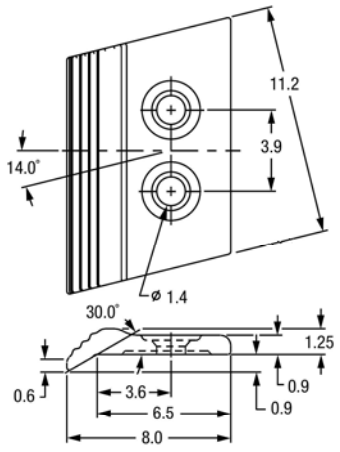


WA800TCC
43.0 lb / 19.5 kg

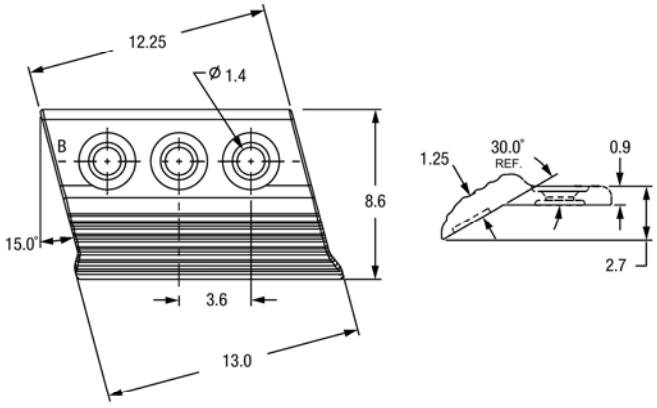


CORNER TOP COVERS

WA500TPR (RH Shown)
WA500TPL (LH Oppposite)
23.0 lb / 10.4 kg



WA600TCR (RH Shown)
WA600TCL (LH Oppposite)
36.5 lb / 16.6 kg

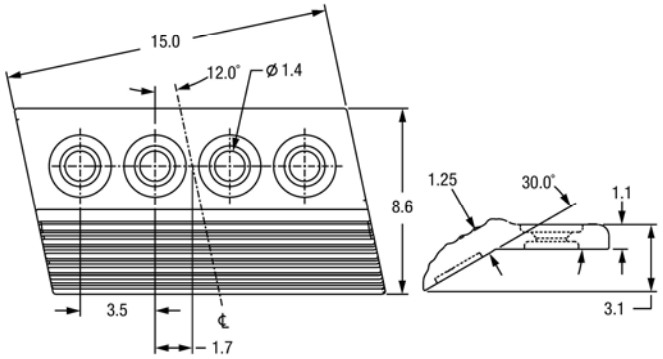


Note: Measurements are in inches.

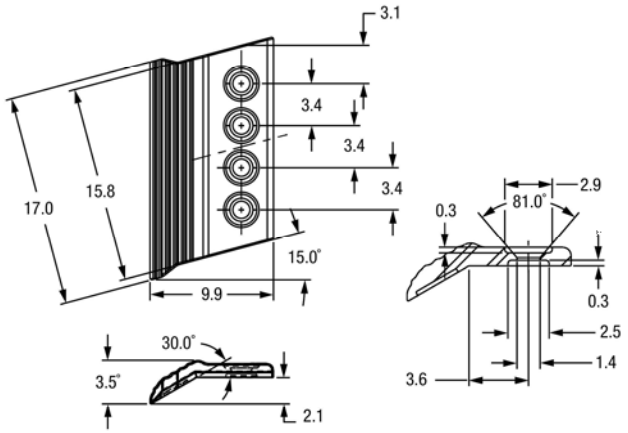
TOP COVERS
Komatsu Style

CORNER TOP COVERS

WA700TCR (RH Shown)
WA700TCL (LH Oppposite)
37.2 lb / 16.9 kg



WA800TCR (RH Shown)
WA800TCL (LH Oppposite)
46.5 lb / 21.1 kg



Note: Measurements are in inches.

5.5

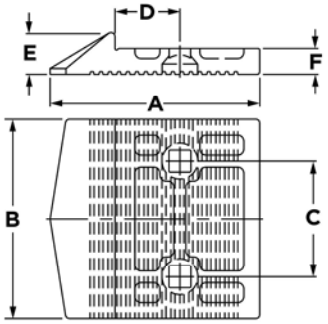
SPECIALIZED WEAR PROTECTION

Segments

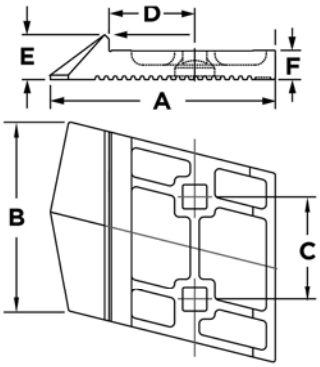
BOLT-ON EDGES FOR LOADERS
Caterpillar Style

HALF ARROW BOLT-ON EDGES FOR CAT LOADERS		
Model	**Part No.**	**Qty**
966 D, E, F, 970, 970F (119.5")	1U0593NRHX	3
	3G6395RNRHX	1
	3G6395LNRHX	1
	A114-412	12
970, 970F (126")	100-6668NRHX	3
	3G6395RNRHX	1
	3G6395LNRHX	1
	A114-412	12
980 F, C (130.75")	1U0762NRHX	3
	1U0761NRHX	2
	A114-412	12
980 F, C (light version)	1U0762NRLT	3
	1U0761NRHX	2
	A114-412	12
980F, G (134")	109-9212NRHX	3
	1U0761NRHX	2
	A114-412	10
980F, G (light version)	109-9212NRLT	3
	1U0761NRHX	2
	A114-412	10
988F, G (145.2")	1045841WR3HX	3
	1U0761NR2HX	2
	A114-412	12

BOLT-ON SEGMENTS FOR LOADERS
Caterpillar Style



Type 1
(Center)



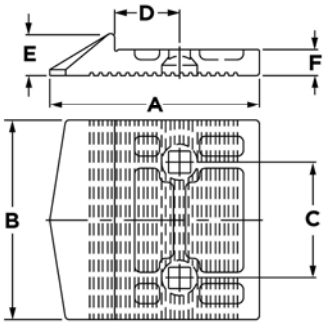
Type 2
(RH Shown, LH Opposite)

BOLT-ON HALF ARROW SEGMENT DETAILS

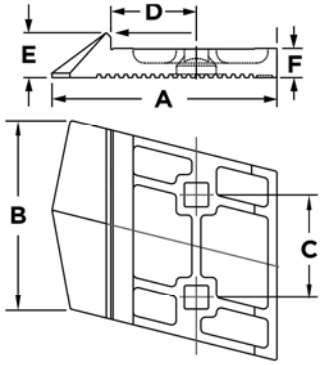
Part No.	Type	Dimensions							
		A		B		C		D	
		"	mm	"	mm	"	mm	"	mm
100-6666NRHX	1	12.25	311	11.6	294	8.0	203	3.9	98
109-9019NRHX	1	13.1	333	12.5	318	7.25	184	4.1	103
132-1037NRHX	1	9.9	252	10.4	263	7.7	195	3.2	80
135-9544HX*	1	15.75	400	11.8	300	4.75	121	5.0	127
135-9545HX* & 135-9546HX*	2	15.75	400	12.0	305	7.6	194	5.0	127
4T3015NRHX	1	12.6	319	10.1	257	5.3	135	4.75	121
4T6692NRHX	1	10.25	261	7.75	197	4.9	125	3.2	81
4T6693NRHX	1	10.25	261	8.5	216	5.5	140	3.2	81
4T6694NRHX	1	10.25	261	9.0	229	6.1	156	3.2	81
4T6696NRHX	1	12.6	319	7.6	192	3.6	90	3.9	100
4T6697NRHX	1	12.6	319	8.4	213	4.75	121	4.75	121
4T6698NRHX	1	12.25	311	9.5	241	5.5	140	3.9	98
4T6699NRHX	1	12.25	311	10.6	270	7.1	179	3.9	98
4T6700NRHX	1	12.3	313	11.4	289	6.3	289	3.9	98
4T7139NRHX & 4T7140NRHX	2	12.6	319	12.0	305	5.3	135	4.75	121
4T9123NRHX & 4T9124NRHX	2	12.6	319	10.6	268	5.75	146	4.75	121

*These segments have rounded noses rather than pointed as shown in the illustrations.

BOLT-ON SEGMENTS FOR LOADERS
Caterpillar Style



Type 1
(Center)



Type 2
(RH Shown, LH Opposite)

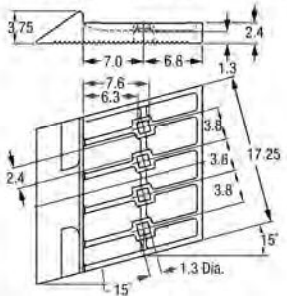
BOLT-ON HALF ARROW SEGMENT DETAILS CONTINUED

Part No.	Dimensions				Weight		Plow Bolts		
	E		F				Size	Assy. No.	Qty.
	"	mm	"	mm	lb	kg	"		
100-6666NRHX	2.5	64	1.6	41	44.0	19.9	1 1/4 x 4 1/2	A114-412	2
109-9019NRHX	2.6	67	1.6	41	58.0	26.3	1 1/4 x 4 1/2	A114-412	2
132-1037NRHX	2.0	25	1.1	29	25.0	11.3	1 x 3	A10-300	2
135-9544HX	2.8	71	1.75	44	76.6	34.7	1 1/4 x 3 1/4	n/a	2
135-9545HX & 135-9546HX	2.8	71	1.75	44	78.6	35.7	1 1/4 x 3 1/4	n/a	2
4T3015NRHX	2.5	64	1.6	41	40.0	18.1	1 1/4 x 4	A114-400	2
4T6692NRHX	2.1	54	1.5	38	23.5	10.7	1 x 3	A10-300	2
4T6693NRHX	2.1	54	1.5	38	26.0	11.8	1 x 3	A10-300	2
4T6694NRHX	2.1	54	1.5	38	27.1	12.3	1 x 3	A10-300	2
4T6696NRHX	2.5	63	1.6	41	30.3	13.8	1 1/4 x 3	A114-300	2
4T6697NRHX	2.5	64	1.6	41	33.9	15.4	1 1/4 x 4	A114-400	2
4T6698NRHX	2.5	64	1.6	41	35.5	16.1	1 1/4 x 4	A114-400	2
4T6699NRHX	2.5	64	1.6	41	42.5	19.3	1 1/4 x 4	A114-400	2
4T6700NRHX	2.5	64	1.6	41	46.0	20.9	1 1/4 x 4	A114-400	2
4T7139NRHX & 4T7140NRHX	2.5	64	1.6	41	46.1 ea.	20.9 ea.	1 1/4 x 4	A114-400	2
4T9123NRHX & 4T9124NRHX	2.5	64	1.6	41	45.2 ea.	20.5 ea.	1 1/4 x 4	A114-400	2

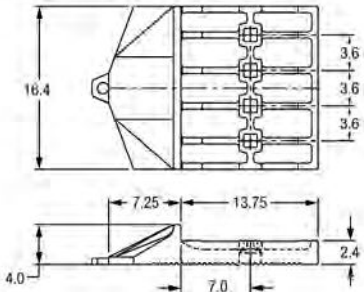
BOLT-ON SEGMENTS FOR LOADERS
Caterpillar Style

BOLT-ON HALF ARROW SEGMENT DETAILS

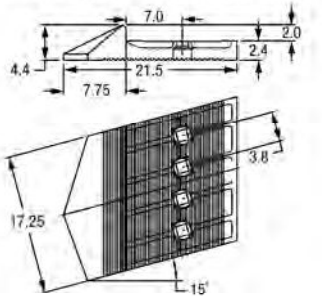
4T6762NRHX (LH Shown)
4T6761NRHX (RH Opposite)
175.0 lb / 79.3 kg ea.
Requires (4) 1 1/4 x 4 Plow Bolts*



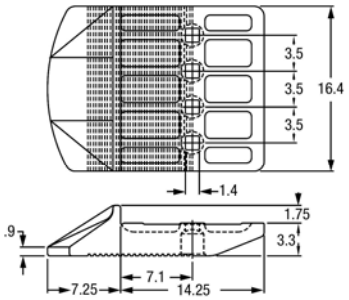
4T6760NRHHX (Center)
179.0 lb / 81.2 kg
Requires (4) 1 1/4 x 4 Plow Bolts*



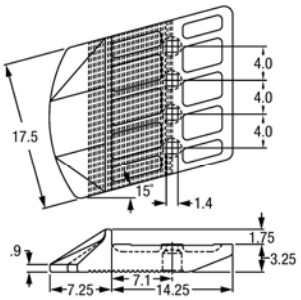
4T6762NRHHX (LH Shown)
4T6761NRHHX (RH Opposite)
195.0 lb / 88.5 kg
Requires (4) 1 1/4 x 4 Plow Bolts*



109-2675NRHX (Center)
246.0 lb / 111.6 kg
Requires (4) 1 1/4 x 4 1/2 Plow Bolts**

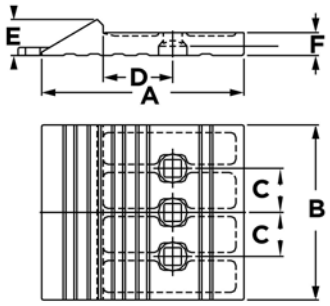


109-2677NRHX (LH Shown)
109-2676NRHX (RH Opposite)
268.0 lb / 121.7 kg
Requires (4) 1 1/4 x 4 1/2 Plow Bolts**

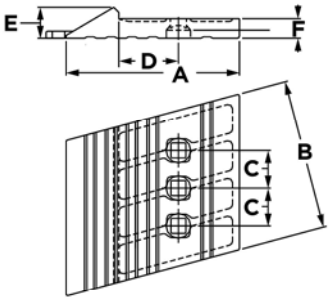


Note: Measurements are in inches.

BOLT-ON SEGMENTS FOR LOADERS
Caterpillar Style



Type 1
(Center)



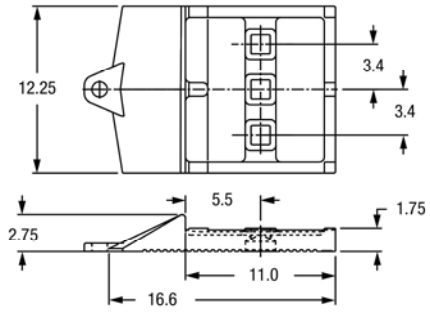
Type 2
(RH Shown, LH Opposite)

BOLT-ON HALF ARROW SEGMENT DETAILS

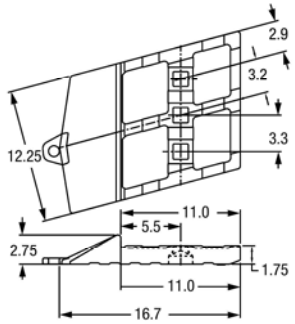
Part No.	Type	Dimensions												Weight		Plow Bolts		
		A		B		C		D		E		F				Size	Assy. No.	Qty.
		"	mm	"	mm	"	mm	"	mm	"	mm	"	mm	lb	kg	"		
1099080NRHX	1	15.6	397	13.5	343	3.4	86	5.4	136	2.75	70	1.75	44	83.0	37.6	1 1/4 x 4	A114-400	3
1099081NRHX & 1099082NRHX	2	15.6	397	13.5	343	3.4	86	5.4	136	2.75	70	1.75	44	86.0	39.0	1 1/4 x 4	A114-400	3
9W5734NRHX	1	15.6	397	12.25	311	3.4	86	5.4	137	2.75	70	1.75	44	64.0	29.0	1 1/4 x 4	A114-400	3
9W5730NRHX & 9W5737NRHX	2	15.6	397	12.7	322	3.4	86	5.4	137	2.75	70	1.75	44	68.0	30.8	1 1/4 x 4	A114-400	3

BOLT-ON HALF ARROW SEGMENT DETAILS

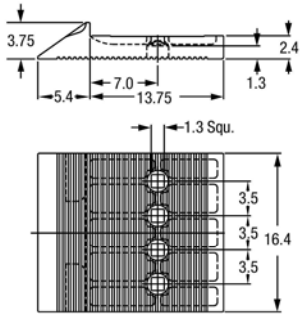
116-7460CHX (Center)
75.5 lb / 34.2 kg
Requires (3) 1 1/4 x 4 Plow Bolts*



116-7462LHX (LH Shown)
116-7461RHX (RH Opposite)
75.5 lb / 34.2 kg ea.
Requires (3) 1 1/4 x 4 Plow Bolts*



4T6760NRHX (Center)
168.0 lb / 76.2 kg
Requires (4) 1 1/4 x 4 Plow Bolts*



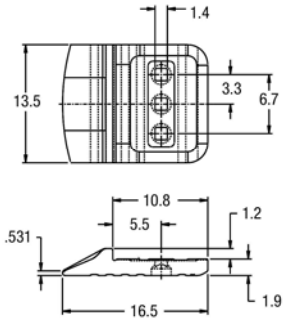
*Plow bolt assembly Part No. A114-100.

Note: Measurements are in inches.

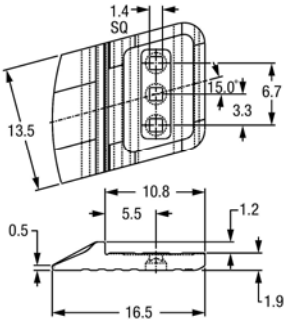
BOLT-ON SEGMENTS FOR LOADERS
Caterpillar Style

BOLT-ON HALF ARROW SEGMENT DETAILS

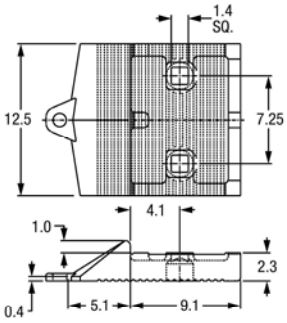
109-9080HCG
101.0 lb / 45.8 kg



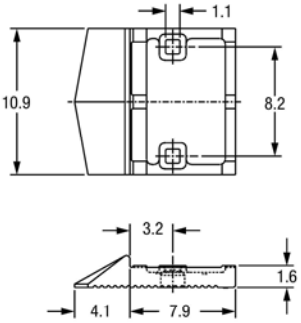
109-9081HCG
106.0 lb / 48.1 kg



109-9019NRH-HX
87.0 lb / 39.5 kg



132-4715NRHX
42.9 lb / 19.5 kg

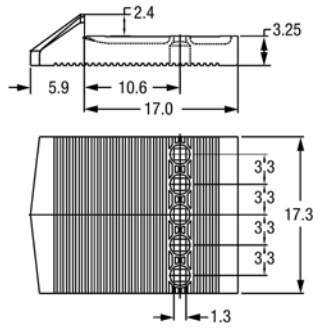


Note: Measurements are in inches.

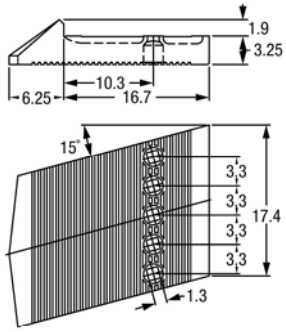
BOLT-ON SEGMENTS FOR LOADERS
Caterpillar Style

BOLT-ON SEGMENTS FOR CATERPILLAR 994 LOADER

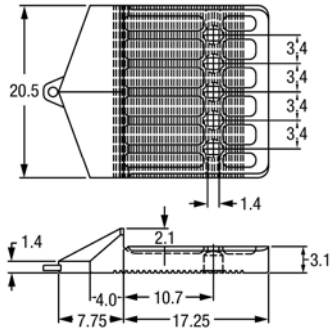
103-1833NRHX*
Center
294.0 lb / 133.5 kg



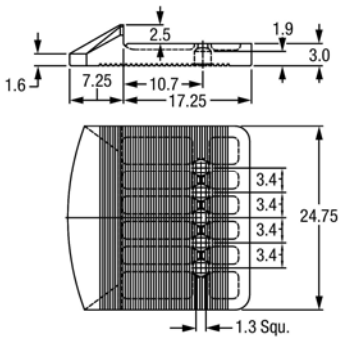
103-1835NRHX* (LH Shown)
103-1834NRHX* (RH Opposite)
294.0 lb / 133.5 kg



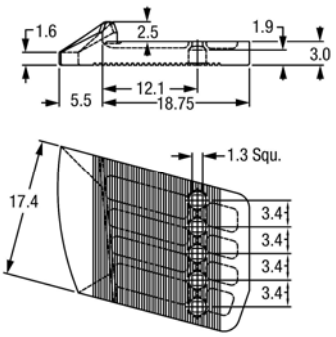
109-9033NRSHX*
Center
372.0 lb / 168.9 kg



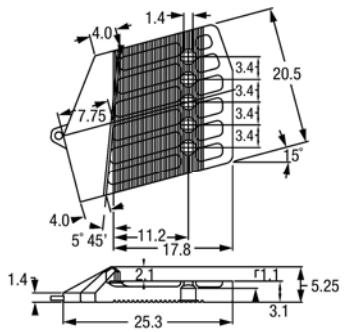
109-9033NRHX*
Center
443.0 lb / 201.1 kg



117-6806NRHX* (LH Shown)
117-6805NRHX* (RH Opposite)
312.0 lb / 141.6 kg



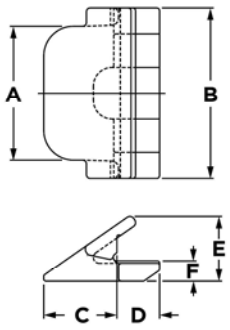
117-6806NRSHX* (LH Shown)
117-6805NRSHX* (RH Shown)
379.0 lb / 172.1 kg



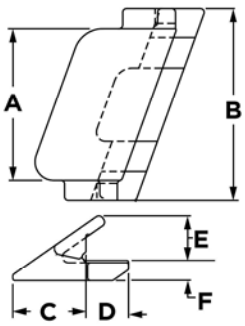
*Each Segment Requires (5) 1 1/4" x 4" Plow Bolts.
Plow Bolt Assembly No. A114-400

Note: Measurements are in inches.

MODULOK PARTS FOR LOADERS
Caterpillar Style



Type 1
(Center)



Type 2
(RH Shown, LH Opposite)

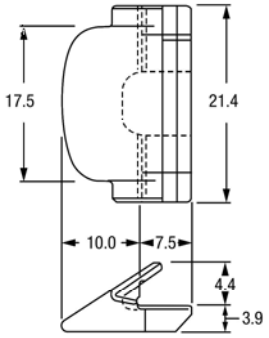
MODULOK EDGE SEGMENTS

Part No.	Type	Dimensions												Weight	
		A		B		C		D		E		F			
		"	mm	"	mm	"	mm	"	mm	"	mm	"	mm	lb	kg
9J4429HX	1	9.0	229	11.5	292	3.7	94	2.6	65	3.4	86	0.7	17	29.6	13.4
8J8222HX(RH) & 8J8223HX(LH)	2	10.2	259	13.0	330	3.5	89	2.75	70	3.25	83	0.7	17	35 ea.	15.9 ea.
9U9332CHX	1	9.0	229	11.5	292	4.9	124	3.1	78	3.0	76	1.5	38	39	17.7
9U9333LHX & 9U9334RHX	2	10.5	267	13.0	330	4.0	102	3.25	83	3.1	79	1.5	38	40.7 ea.	18.4 ea.
9U9664CHX	1	11.5	292	14.0	356	4.7	119	3.1	78	2.7	68	1.5	38	46.5	21.1
1U0869HX	1	15.9	403	18.5	470	3.4	87	3.8	97	3.6	90	0.75	19	63.3	28.7
102-9681LHX & 102-9680RHX	2	16.0	406	18.6	473	6.0	152	3.0	76	3.1	79	1.25	32	72	32.7
8J3962HX	1	13.1	333	15.5	394	4.8	122	3.1	78	3.0	76	1.5	38	57.3	25.9
9J9973HX (RH) & 9J9974HX (LH)	2	14.3	364	17.1	433	4.6	116	2.3	135	3.1	79	0.9	22	53.2 ea.	24.1 ea.
8E9514HX	1	15.75	400	18.4	467	5.5	140	2.6	65	3.4	86	1.75	44	83	37.6
8E9516HXL & 8E9515HXR	2	14.25	362	17.1	433	5.0	127	2.6	67	3.1	79	1.75	44	69 ea.	31.3 ea.

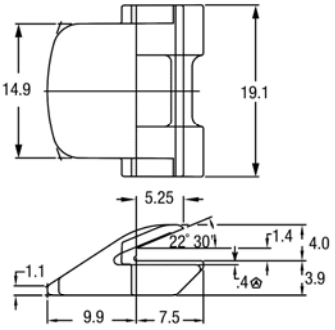
MODULOK STYLE WEAR PARTS FOR LOADERS
Caterpillar Style

EDGE SEGMENTS

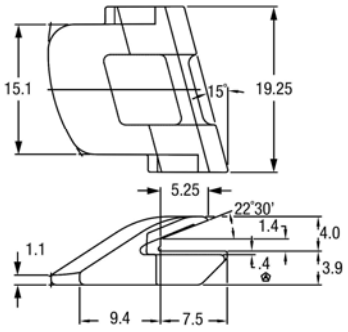
109-3141HX
313.0 lb / 142.0 kg



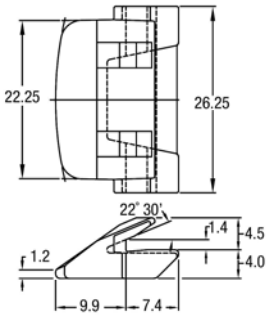
109-3138HX
281.0 lb / 127.5 kg



109-3140HX (LH Shown)
109-3139HX (RH Opposite)
293.0 lb / 132.9 kg



113-0311HX
459.0 lb / 208.2 kg



Note: Measurements are in inches.

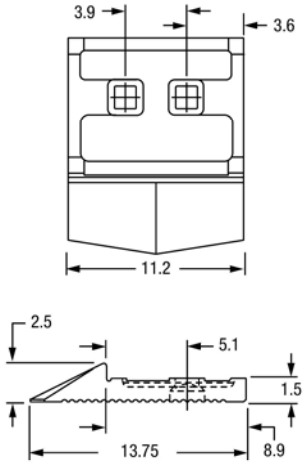
BOLT-ON EDGES FOR LOADERS
Komatsu Style

HALF ARROW BOLT-ON EDGES FOR KOMATSU LOADERS		
Model	**Part No.**	**Qty**
WA 450-3 & WA 470	421-815-1211CNR	1
	421-815-1211RCNR	1
	421-815-1211LCNR	1
	421-815-1221NR	2
	A10-312	18
WA 500-1 S/N 20001-UP		
	425-815-1320NRHX	2
	A10-400	xx
WA 500-3	425-815-1510CNRHX	1
	425-815-1510RLNRHX	2
	425-815-1520NRHX	2
	A10-400	16
WA 600-1, WA600-3	426-815-1130NRHX	2
	A138-400	20

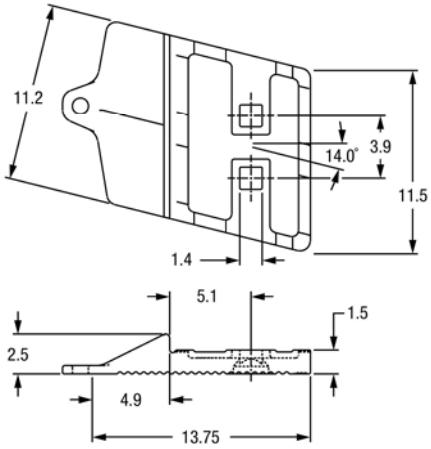
BOLT-ON SEGMENTS FOR LOADERS
Komatsu Style

CAST HALF ARROW BOLT-ON SEGMENTS

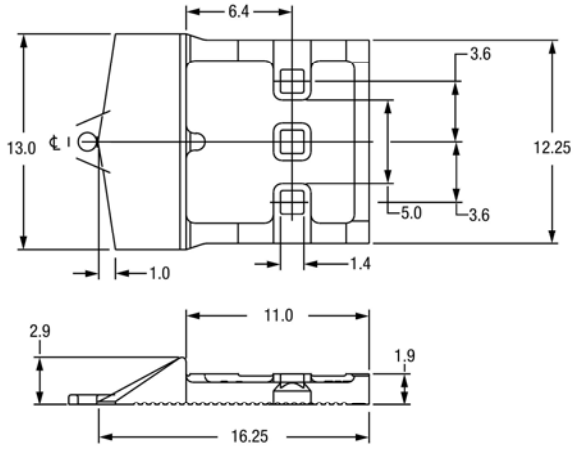
425-838-A110NR (WA500)
44.5 lb / 20.2 kg
Requires (2) A114-400 plow bolt assemblies each



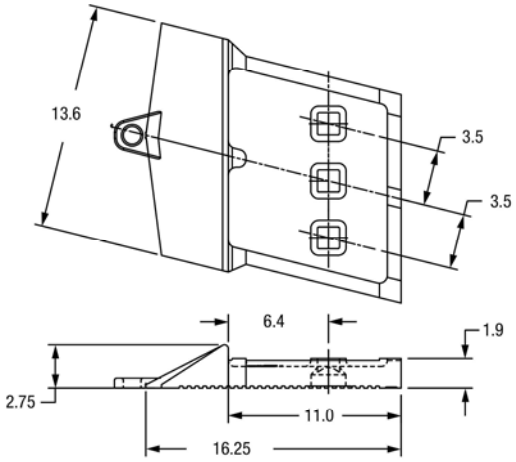
425-838-A110RNR (WA500) (RH Shown)
425-838-A110LNR (WA500) (LH Opposite)
54.0 lb / 24.5 kg
Requires (2) A114-400 plow bolt assemblies each



MS600CNR (WA600)
86.5 lb / 39.0 kg
Requires (3) A114-400 plow bolt assemblies each
Use with RP1 teeth



MS600RNR (WA600) (RH Opposite)
MS600LNR (WA600) (LH Shown)
87.0 lb / 39.5 kg
Requires (3) A114-400 plow bolt assemblies each
Use with RP1 teeth

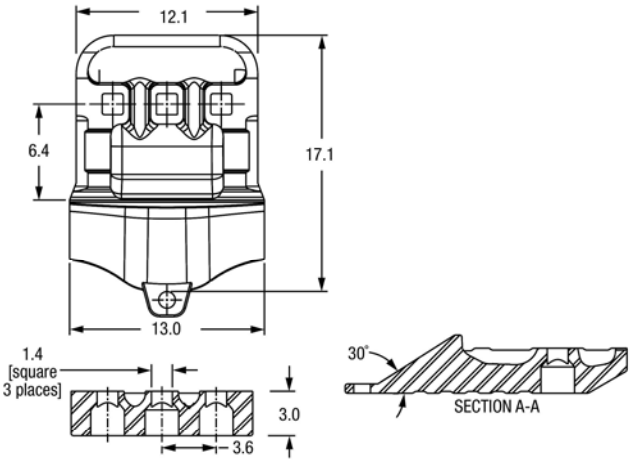


Note: Measurements are in inches.

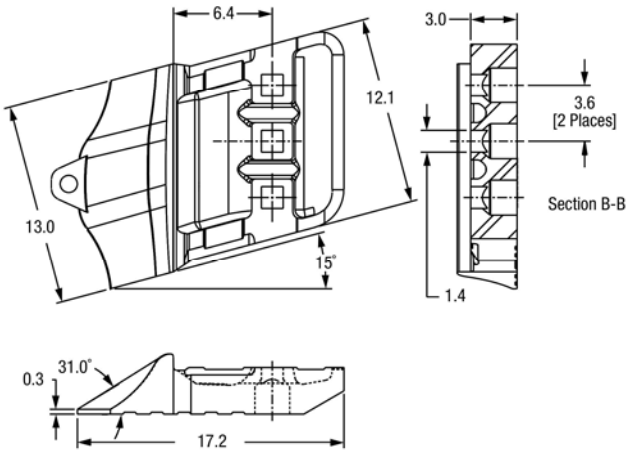
BOLT-ON SEGMENTS FOR LOADERS
Komatsu Style

CAST HALF ARROW BOLT-ON SEGMENTS CONTINUED

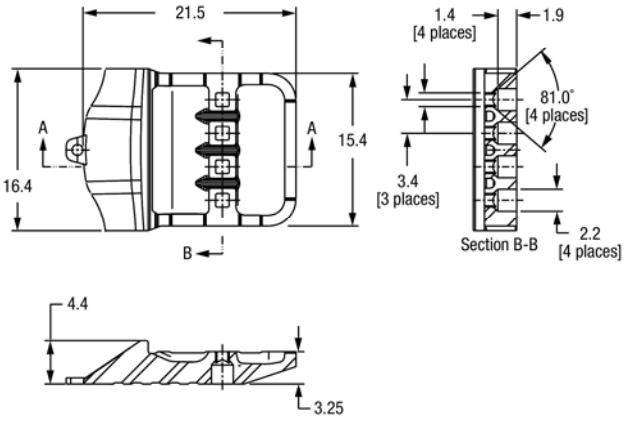
MS600CNRH (WA600)
117.5 lb / 53.3 kg
Requires (3) A114-400 plow bolt assemblies each
Use with RP2 teeth



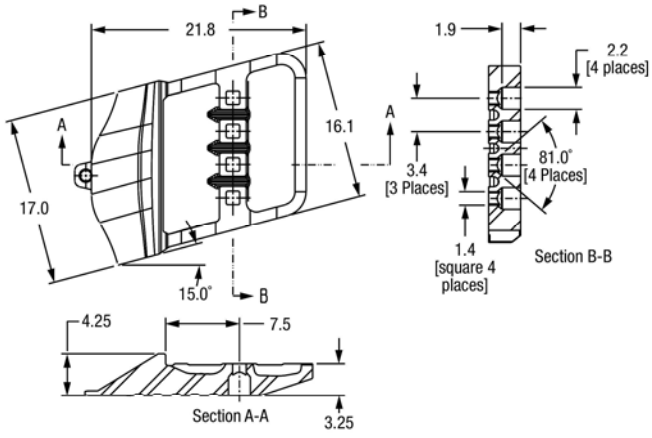
MS600RNRH (WA600) (RH Shown)
MS600LNRH (WA600) (LH Opposite)
122.5 lb / 55.6 kg
Requires (3) A114-400 plow bolt assemblies each
Use with RP2 teeth



WA700CNR (WA700)
163.0 lb / 74.0 kg
Requires (4) A114-412 plow bolt assemblies each



WA700RNR (WA700) (RH Shown)
WA700LNR (WA700) (LH Opposite)
167.0 lb / 75.8 kg
Requires (4) A114-412 plow bolt assemblies each

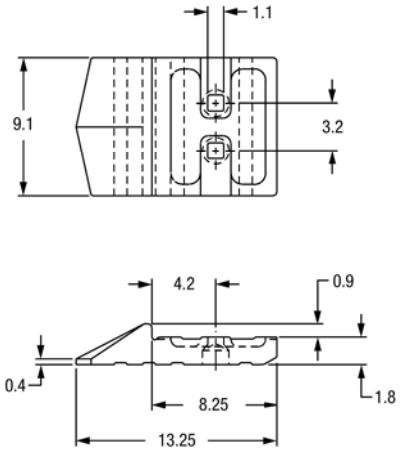


Note: Measurements are in inches.

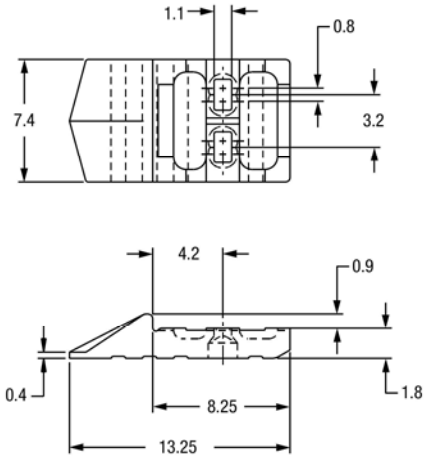
BOLT-ON SEGMENTS FOR LOADERS
Komatsu Style

CAST HALF ARROW BOLT-ON SEGMENTS CONTINUED

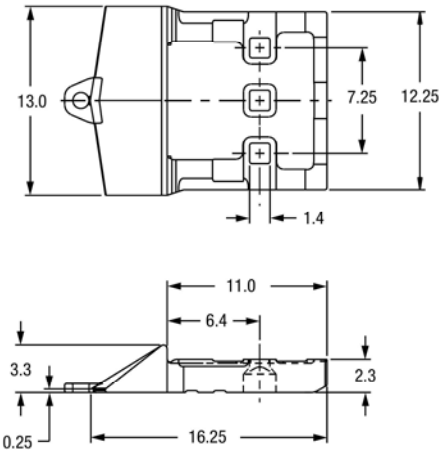
WA480CNR (WA480)
36.9 lb / 18.0 kg
Requires (2) A10-300 plow bolt assemblies



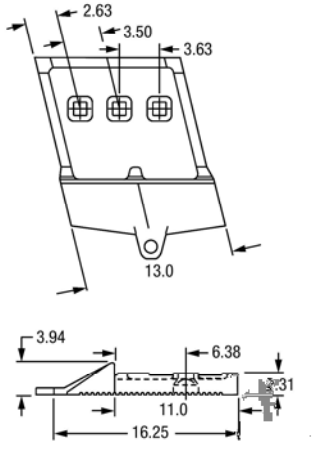
WA480RLNR (WA480)
39.6 lb / 21.1 kg
Requires (2) A10-300 plow bolt assemblies



WA600CNR (WA600)
103.0 lb / 46.7 kg
Uses (3) AC114-512 plow bolt assemblies



WA600RNR (WA600) (RH Shown)
WA600LNR (WA600) (LH Opposite)
104.0 lb / 47.2 kg
Uses (3) AC114-512 plow bolt assemblies

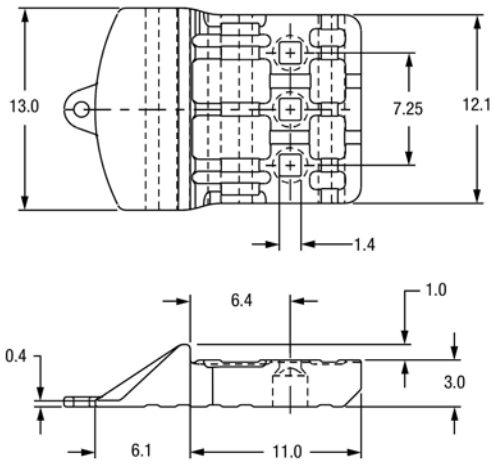


Note: Measurements are in inches.

BOLT-ON SEGMENTS FOR LOADERS
Komatsu Style

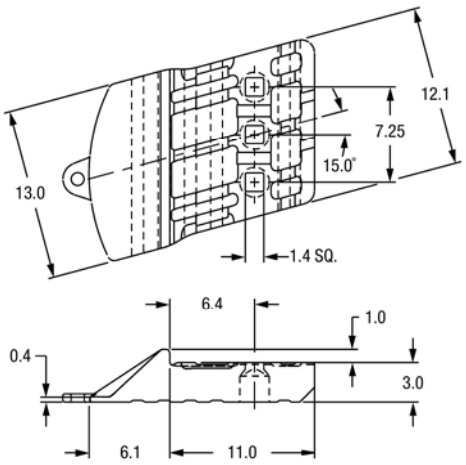
CAST HALF ARROW BOLT-ON SEGMENTS CONTINUED

WA600CNR76 (WA600)
142.0 lb / 64.5 kg
Uses (3) AC114-512 plow bolt assemblies



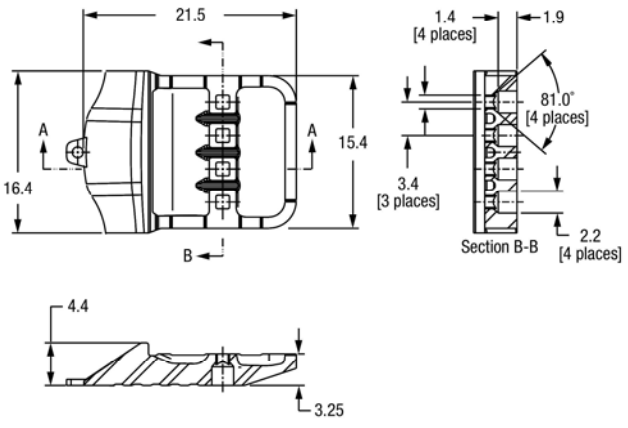
Note: Solid segment with slight recess.

WA600RNR76 (WA600) (RH Shown)
WA600LNR76 (WA600) (LH Opposite)
148.0 lb / 67.2 kg
Uses (3) AC114-512 plow bolt assemblies

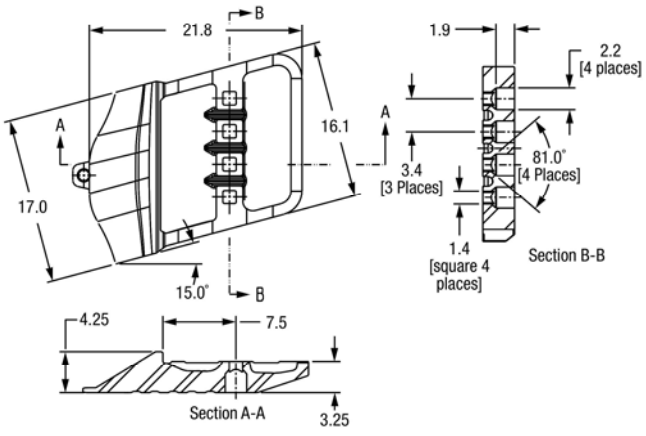


Note: Solid segment with slight recess.

WA800CNR
208.0 lb / 94.3 kg
Requires (2) A114-612TC plow bolt assemblies



WA800RNR (RH Shown)
WA800LNR (LH Opposite)
227.0 lb / 103.0 kg
Requires (2) A114-612TC plow bolt assemblies

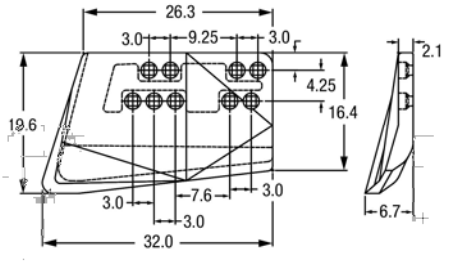


Note: Measurements are in inches.

WEAR PARTS FOR D11 DOZERS
Caterpillar Style

CAST END BITS				
Machine	**Serial No.**	**Heavy Duty Ribbed End Bit (#) nut/bolt assy.**	**Standard Duty End Bit (#) nut/bolt assy.**	
D11-SU, D11-U	4BB, 4KB, 9NH, 1AD, 4CA, 5TB, 9MH, 9ZH, 4YP	-	8E4545RH, 1 req'd. (9) A114-514	8E4546LH, 1 req'd. (9) A114-514

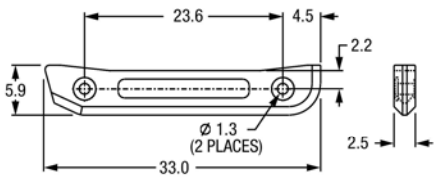
8E4545RH (RH shown)
8E4545LH (LH opposite)
382.0 lb / 173.3 kg



VERTICAL EDGE PROTECTOR			
Side Bar Protector	**Adapter Plate**	**Pin**	**Washer**
125-0800HX, 2 req'd. (117.0 lb / 53.0 kg)	135-9794HX, 2 req'd.	8E4708P, 4 req'd.	4T4707W, 4 req'd.

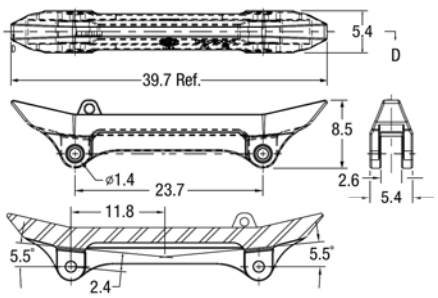
ADAPTER PLATE

135-9794HX
103.0 lb / 46.7 kg



SIDE BAR

125-0800HX
117.0 lb / 53.1 kg

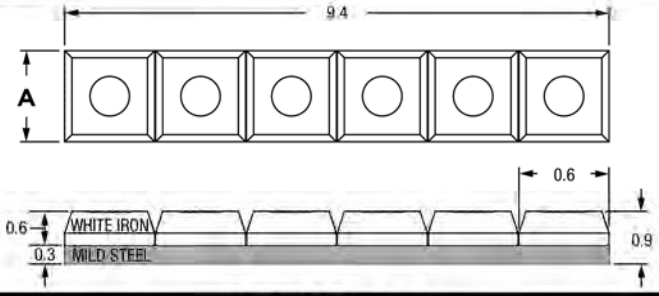


Note: Measurements are in inches.

5.7

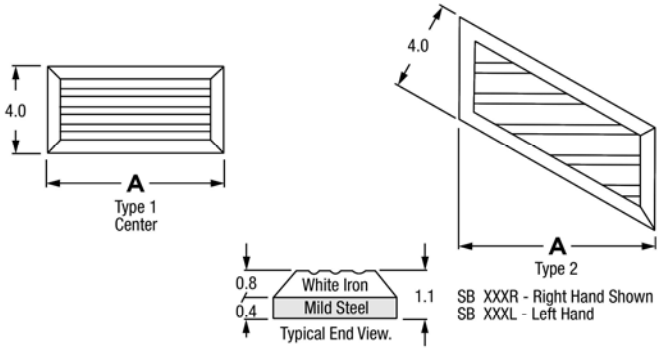
SPECIALIZED WEAR PROTECTION
LAMINITE

CHOCKY BARS & SKID BARS
LAMINITE



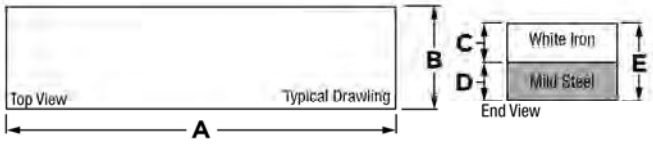
CHOCKY BARS				
Part Number	Dimensions A		Weight	
	"	mm	lb	kg
CB25N	Under Development			
CB40N*	1.6	40	3.1	1.4
CB50N*	2.0	50	4.5	1.9
CB65N*	2.6	65	5.3	2.4
CB100N*	3.9	100	9.5	4.3
CB130N*	5.1	130	12.3	5.6

*Note: Chocky bar with pre-notched backing plate to make it easier to break apart, separate or bend.

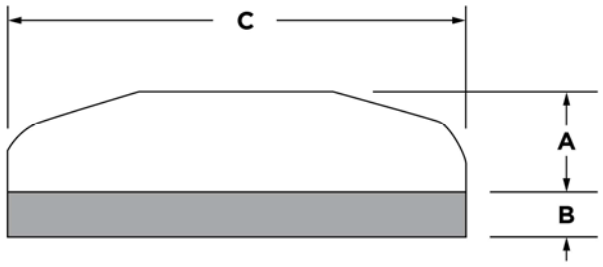


SKID BARS					
Part Number	Type	Dimensions A		Weight	
		"	mm	lb	kg
SB205	1			3.5	1.6
SB403	1	8.4	212	6.3	2.9
SB404L	2	8.5	216	8.4	3.8
SB405R	2	8.5	216	8.4	3.8
SB406	1	12.0	305	9.7	4.4
SB407L	2	12.2	310	17.0	7.7
SB408R	2	12.2	310	17.0	7.7
SB409	1	6.0	152	5.0	2.3
SB410L	2	6.0	152	8.4	3.8
SB411R	2	6.0	152	8.4	3.8

Note: Measurements are in inches.

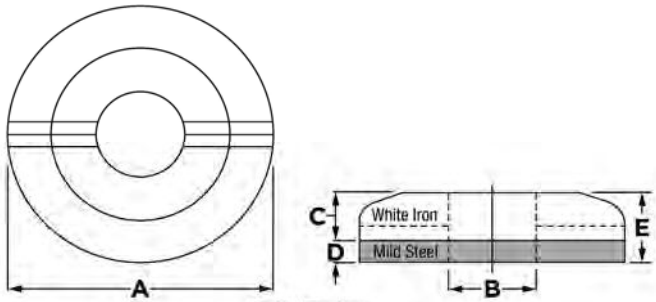


WEAR BARS												
Part Number	Dimensions										Weight	
	A		B		C		D		E			
	"	mm	"	mm	"	mm	"	mm	"	mm	lb	kg
DLP4	12.3	312	1.5	38	1.0	25	0.4	10	1.4	35	5.7	2.6
DLP125	9.0	230	2.0	50	1.5	38	0.5	12	2.0	50	9.0	4.1
DLP184	5.9	150	3.0	76	1.1	29	0.4	10	1.5	39	7.0	3.2
DLP201	17.0	432	2.0	50	1.1	28	0.4	10	1.5	39	15.5	7.0
DLP201A	17.0	432	2.0	50	1.5	38	0.5	12	2.0	50	17.8	8.1
DLP270	10.0	254	2.0	50	0.4	10	0.3	8	0.7	18	4.0	1.8
DLP295	6.0	152	1.5	38	1.0	25	0.3	8	1.3	33	3.5	1.6
DLP352	8.0	203	8.0	203	0.9	22	1.4	36	2.25	58	39.4	17.9
DLP453	11.8	300	2.0	50	1.5	38	0.4	10	1.9	48	12.6	5.7
DLP569	8.0	203	3.0	76	1.0	25	0.4	10	1.4	35	9.3	4.2
DLP619	6.0	152	3.0	76	1.8	46	0.4	10	2.2	56	10.8	4.9
DLP995	12.0	305	5.9	150	0.7	18	0.2	24	0.9	24	19.8	9.0
DLP1191	11.8	300	1.0	25	0.6	15	0.3	8	0.9	23	3.2	1.5



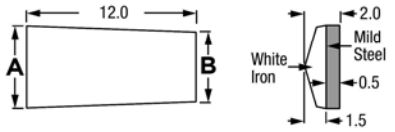
WEAR BUTTONS								
Part Number	Dimensions						Weight	
	A		B		C			
	"	mm	"	mm	"	mm	lb	kg
WB60	0.4	10	0.4	10	2.4	60	0.9	0.4
WB75	0.6	15	0.4	10	2.75	75	2.0	0.9
WB90	0.8	21	0.4	10	3.5	90	2.4	1.1
WB115	0.8	20	0.5	12	4.5	10	5.7	2.6
WB150	1.0	25	0.6	16	5.9	150	12.0	5.4

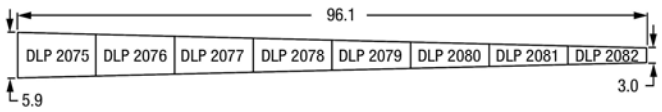
BOLT PROTECTORS & GRIZZLY BARS
LAMINITE

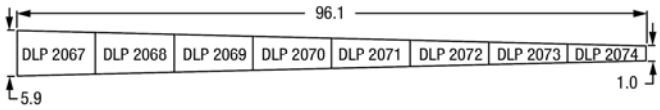


Typical Drawings

BOLT PROTECTORS												
Part Number	Dimensions										Weight	
	A		B		C		D		E			
	"	mm	"	mm	"	mm	"	mm	"	mm	lb	kg
DLP1920	3.0	75	1.0	25	0.75	19	0.25	6	1.0	25	1.5	0.7
DLP1921	4.0	100	2.0	50	0.7	17	0.3	8	1.0	25	3.0	1.4
DLP1994	4.0	100	2.75	70	1.0	25	0.25	6	1.25	32	2.0	0.9







GRIZZLY BARS						
Part Number	Dimensions				Weight	
	A		B			
	"	mm	"	mm	lb	kg
DLP2075	5.9	150	5.5	141	21.2	9.6
DLP2076	5.5	141	5.2	131	19.8	9.0
DLP2077	5.2	131	4.8	122	18.2	8.3
DLP2078	4.8	122	4.4	113	16.9	7.7
DLP2079	4.4	113	4.1	103	15.4	7.0
DLP2080	4.1	103	3.7	94	14.0	6.4
DLP2081	3.7	94	3.3	84	12.5	5.7
DLP2082	3.3	84	3.0	75	11.2	5.1

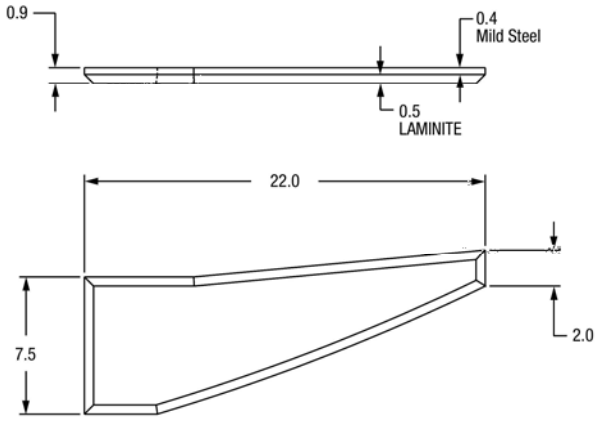
GRIZZLY BARS						
Part Number	Dimensions				Weight	
	A		B			
	"	mm	"	mm	lb	kg
DLP2067	5.9	150	5.4	138	20.5	9.5
DLP2068	5.4	138	4.9	125	19.1	8.7
DLP2069	4.9	125	4.4	113	17.2	7.8
DLP2070	4.4	113	3.9	100	15.2	6.9
DLP2071	3.9	100	3.4	88	13.4	6.1
DLP2072	3.4	88	3.0	75	11.4	5.2
DLP2073	3.0	75	2.5	63	9.5	4.3
DLP2074	2.5	63	2.0	50	7.7	3.5

Note: Measurements are in inches.

SPECIALTY LAMINITE PRODUCTS
LAMINITE

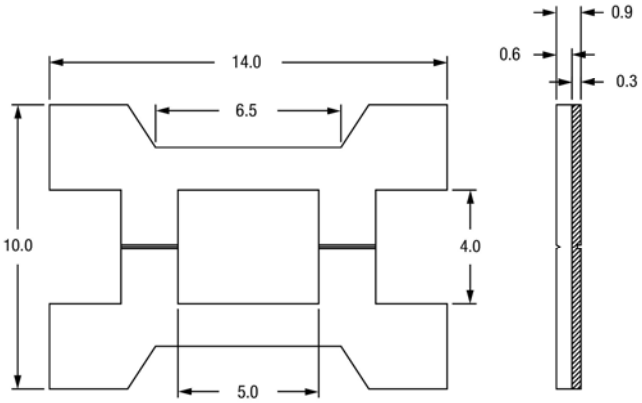
SIDE PROTECTORS FOR HENSLEY HYDRAULIC SHOVEL CAST LIPS

SDP1337AL (LH shown)
SDP1337BR (RH opposite)
28.0 lb / 12.7 kg



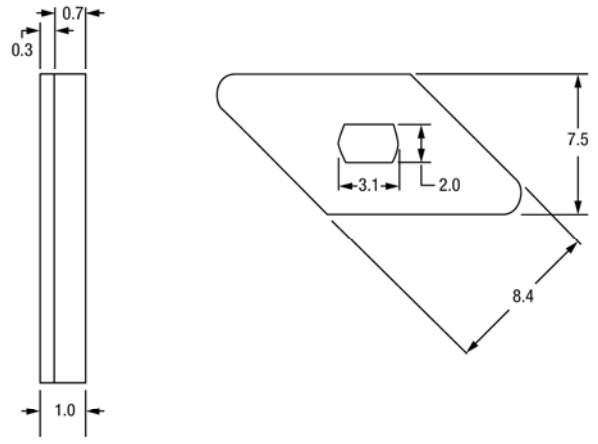
TRUCK BED LINERS

DLP 4957
19.0 lb / 8.6 kg



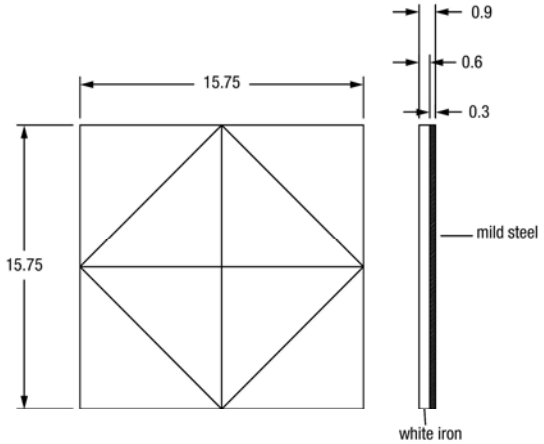
TRAPEZOIDAL PLATE

DLP1935
22.1 lb / 10.0 kg



STAR PLATE

DLP2180
63.2 lb / 28.7 kg



Note: Measurements are in inches.

LAMINITE® BENDING DETAILS FOR "CHOCKY" BARS

READ BENDING INSTRUCTIONS COMPLETELY

1 Clean the surface to which "chocky" bar will be welded.

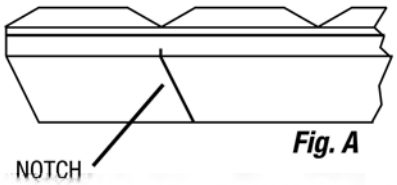


Fig. A

2a **FOR OUTSIDE CURVES:** Tack weld one end of "chocky" bar (per welding procedures) in at least 3 places using at least **15mm** of weld in each deposit. **(Fig.1)** Hammer down unwelded end of bar so that the bar bends and follows the curve. **(Fig.2)**

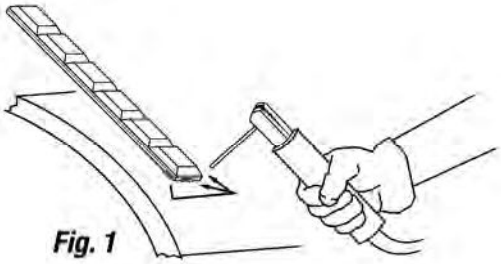


Fig. 1

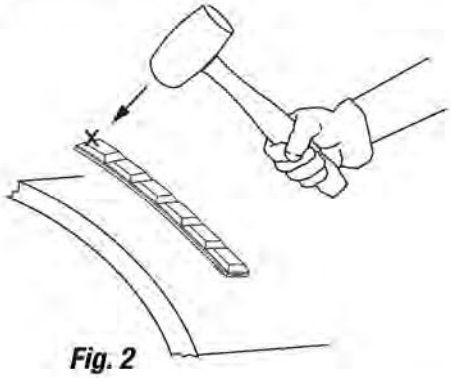


Fig. 2

2b **FOR INSIDE CURVES:** Tack weld one end of "chocky" bar (per welding procedures) in at least 3 places using at least **15mm** of weld in each deposit **(Fig.3a)**. Starting in the center strike bar so that the bar bends and follows the curve **(Fig.3b)**.

3a Stitch weld (per welding procedures) until bar is firmly in place.

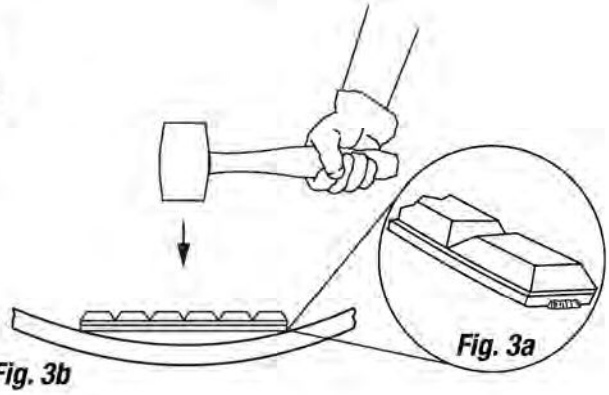


Fig. 3a

Fig. 3b

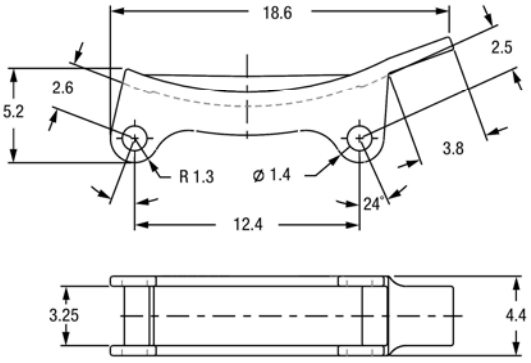
NOTE: White iron may crack during bending. This is normal.

Hensley recommends you always use a soft-face hammer and ANSI-approved (Z87.1) eye protection during cutting and bending procedures.

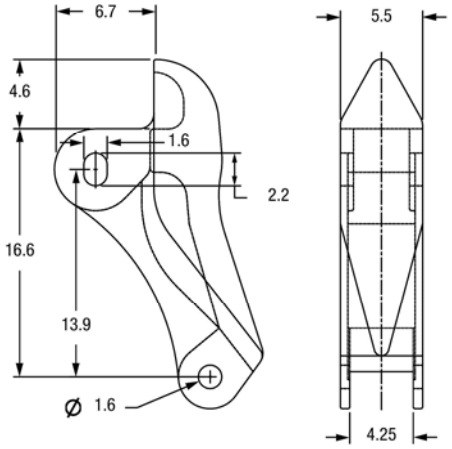
RIPPER GUARDS
Caterpillar Style

RIPPER GUARDS

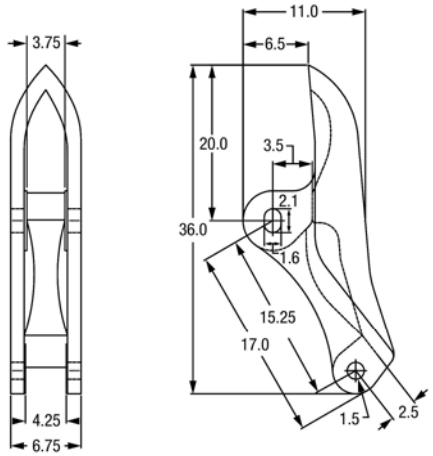
Dura
D6J8814
D8, D9
31.4 lb / 14.2 kg



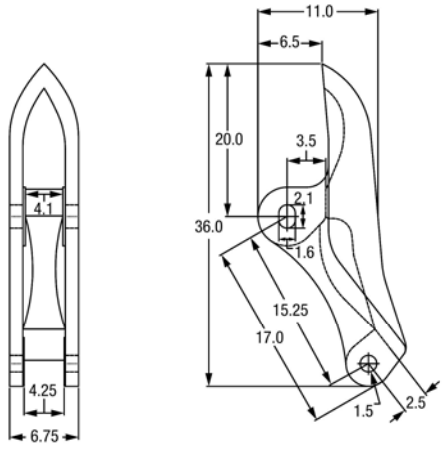
Dura
D9W8365
D10, D11
87.0 lb / 39.5 kg



1321014HX
166.0 lb / 75.3 kg



1321015HX
164.0 lb / 74.4 kg

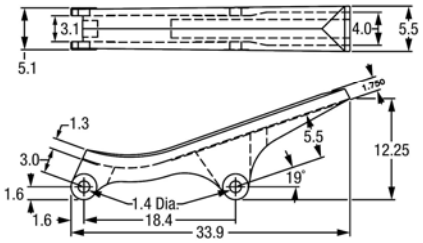


Note: Measurements are in inches.

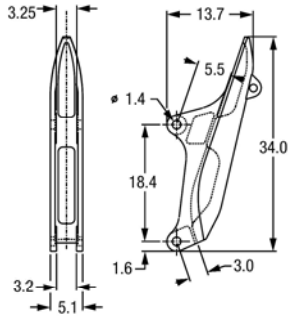
SHANK GUARDS FOR DOZERS & MOTOR GRADERS
Komatsu Style

SHANK GUARDS

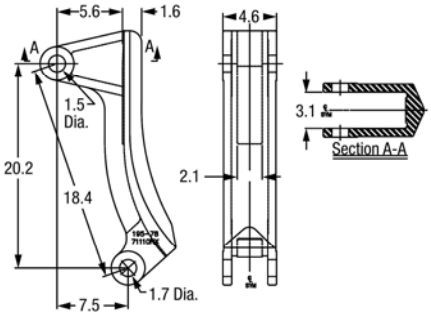
195-78-72410HX
111.0 lb / 49.9 kg



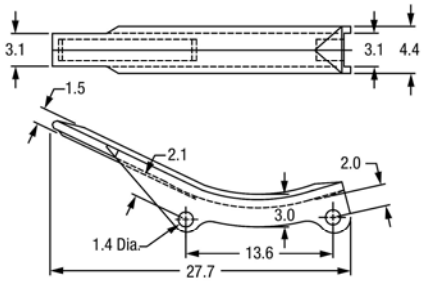
195-78-72410HHX
116.0 lb / 52.6 kg



195-78-71110HX
54.0 lb / 24.5 kg



195-78-21580HX
51.7 lb / 23.5 kg

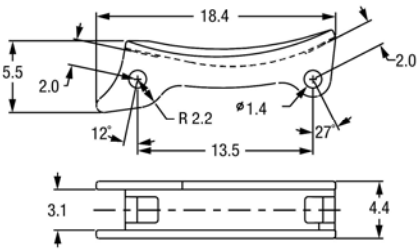


Note: Measurements are in inches.

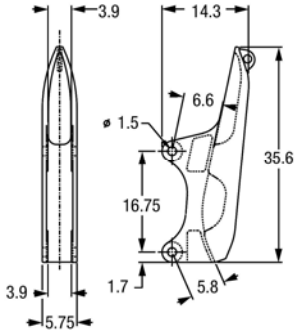
GUARDS & PINS FOR DOZERS
Komatsu Style

SHANK GUARDS CONTINUED

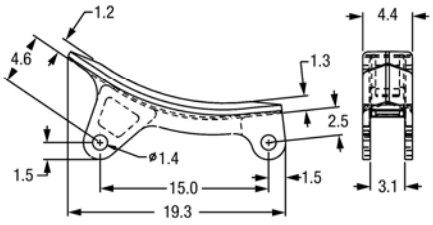
195-78-21320HX
33.6 lb / 15.3 kg



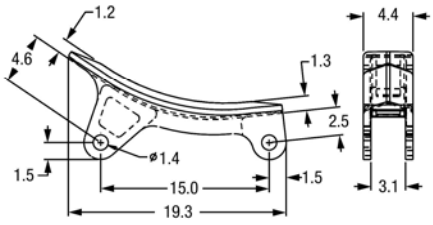
198-78-21390HHX
156.0 lb / 70.8 kg

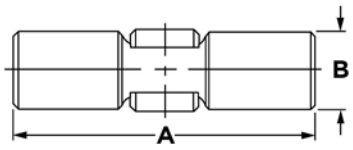


17M-782-1330HX
38.4 lb / 17.4 kg



17M-78-21330HX
38.4 lb / 17.4 kg





PINS

Hensley Part No.	Dimensions			
	A		B	
	"	mm	"	mm
092-44-02488P	3.6	92	1.0	25
092-44-02496P	3.8	96	1.0	25
175-78-21740P	4.6	117	1.0	25
426-847-2310P	5.7	143	1.2	29
198-78-21340PL	6.0	152	1.2	30

Note: Measurements are in inches.