

J-BOLT LIP SHROUDS FOR LOADERS & SHOVELS

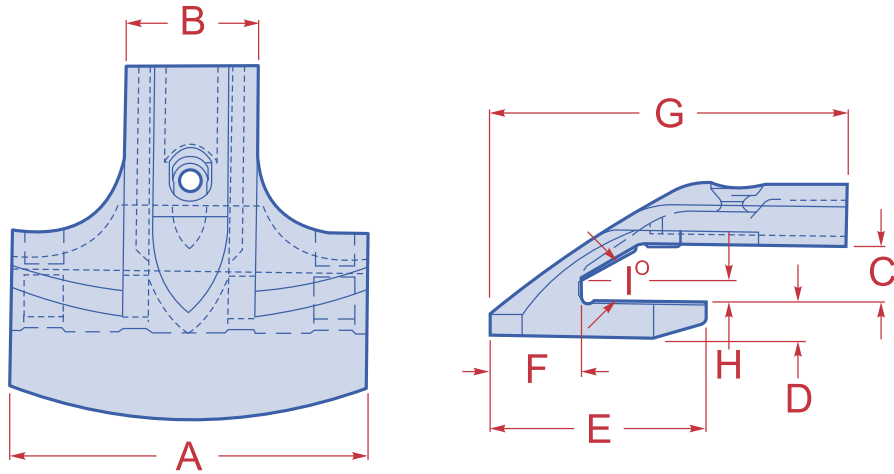


Hensley's **J-Bolt Lip Shrouds** offer a quick and effective solution to add wear protection to large loader and hydraulic shovel lips. Some simple welding is required to initially attach the mounting base to the lip. The shrouds are mechanically attached to the base making installation, removal and replacement as easy as turning a socket. Mechanically attached shrouds are made from a harder alloy, achieving greater wear and abrasion resistance than weld-on shrouds.

- The Hensley **J-Bolt Lip Shrouds** are a mechanical system for quick, safe and easy assembly.
- Higher hardness than weld-on shrouds for longer wear life!
- Currently available for 2" (51mm) through 6-1/4"(159mm) lips.
- Mechanical system is self-tightening to the lip, reducing wear.
- Shroud changes are quick, downtime is reduced!
- Safe installation and removal.

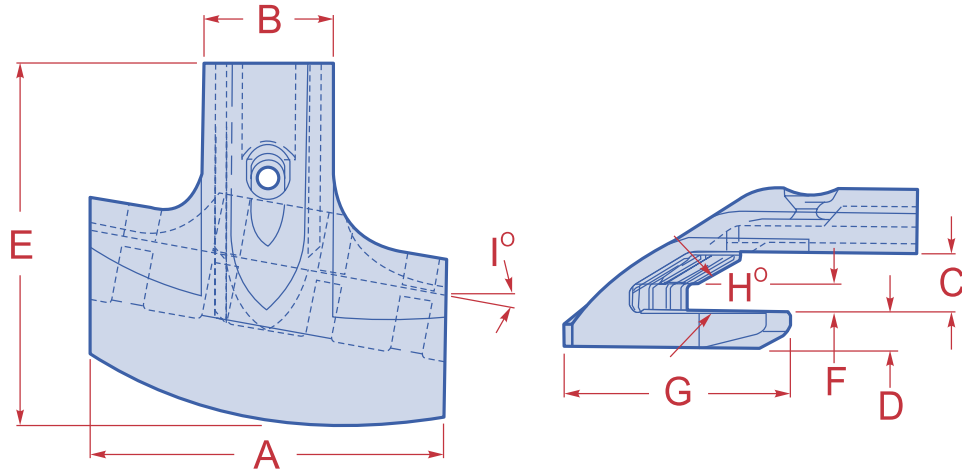


J-BOLT SHROUDS CENTER



Lip Thickness	Center Shroud	Dimensions - Inches (mm.)								Deg. I	Lbs./Kgs.	Weight Weld Base	J-Bolt
		A	B	C	D	E	F	G	H				
2"	LS200-1350J	13-1/2 (343)	5 (127)	2-1/8 (54)	1-3/8 (35)	8-1/4 (210)	3-1/2 (89)	13-5/8 (346)	3/4 (19)	30°	64.0/ 29.0	LSWB3	SFA34J4
2-1/2"	LS250-1500J	15 (381)	5 (127)	2-5/8 (67)	1-5/8 (41)	9-3/4 (248)	4-1/2 (114)	15 (381)	1-1/16 (27)	30°	82.0/ 37.2	LSWB3	SFA34J4
2-3/4"	LS275-1675J	16-3/4 (425)	6-1/2 (165)	2-7/8 (73)	1-7/8 (48)	11 (279)	6-3/8 (162)	18-3/4 (476)	1-5/8 (41)	35°	160.0/ 72.6	LSWB8	SFA1J4
3"	LS300-1000J	10 (254)	6-1/2 (165)	3-3/16 (81)	2 (51)	11-3/16 (284)	7-13/16 (198)	17-11/16 (449)	3-3/16 (81)	Blunt	125.0/ 56.7	LSWB8	SFA1J4
3-1/2"	LS350-1250J	12-1/2 (317)	6-1/2 (165)	3-11/16 (91)	2-3/4 (70)	18-1/2 (470)	6-3/8 (162)	20-11/16 (525)	1 (25)	30°	180.0/ 81.7	LSWB8	SFA1J4
4"	LS400-1175J	11-3/4 (298)	6-1/2 (165)	4-1/16 (103)	1-5/16 (33)	10-11/16 (271)	4-13/16 (122)	20-7/16 (519)	1-1/4 (32)	30°	110.0/ 50.0	LSWB1	
	LS400-1600J	16 (406)	6-1/2 (165)	4-3/16 (106)	2-3/4 (70)	12-5/8 (321)	6-3/8 (162)	21-3/4 (552)	1 (25)	30°	194.0/ 88.0	LSWB8	SFA1J4
	LS400-1750J	17-1/2 (445)	6-1/2 (165)	4-3/16 (106)	3-1/4 (83)	12-1/4 (311)	7-1/2 (191)	21-11/16 (551)	1-1/2 (38)	30°	290.0/ 131.6	LSWB8	SFA1J4
4-3/4"	LS475-1400J	14 (356)	8-3/8 (213)	4-15/16 (125)	2-1/4 (57)	14-5/8 (372)	7-3/8 (187)	26-7/8 (683)	1-3/4 (44)	30°	262.0/ 118.9	LSWB6	SFA125J4
	LS475-1700J	17 (432)	8-3/8 (213)	4-14/16 (125)	2-1/4 (57)	14-5/8 (372)	7-3/8 (187)	26-7/8 (683)	1-3/4 (44)	30°	354.0/ 160.7	LSWB6	SFA125J4
5-1/2"	LS550-1750J	17-1/2 (444)	8-3/8 (213)	5-11/16 (144)	2-1/4 (57)	15-3/4 (400)	7-3/8 (187)	27-3/4 (705)	2 (51)	30°	396.0/ 179.8	LSWB6	SFA125J4
5-1/2"	LS550-2200J	22 (559)	8-3/8 (213)	5-11/16 (144)	2-1/4 (57)	15-3/4 (400)	7-3/8 (187)	27-3/4 (705)	2 (51)	30°	388.0/ 176.0	LSWB6	SFA125J4
6-1/4"	LS625-1400J	14 (356)	8-3/8 (213)	6-1/2 (165)	2-1/4 (57)	17-3/4 (451)	8 (203)	29-13/16 (757)	2 (51)	30°	330.0/ 149.8	LSWB6	SFA125J4
		17 (432)	10-1/2 (267)	9-1/4 (235)	4-1/2 (114)	24 (610)	11 (279)	30-5/8 (778)	3-9/16 (90)	30°	840.0/ 381.4	LSWB9	SFA150J4
Replaces ESCO part# TCCF130-21A on Hitachi EX5500 (not a direct replacement)	LS130-1700J	17 (432)	10-1/2 (267)	9-1/4 (235)	4-1/2 (114)	24 (610)	11 (279)	30-5/8 (778)	3-9/16 (90)	30°	840.0/ 381.4	LSWB9	SFA150J4
Replaces ESCO part# TCCF130-3B on Liebherr 996 (not a direct replacement)	LS130-1500J	15 (381)	8-3/8 (213)	10-5/8 (270)	4 (102)	16-1/4 (413)	10-1/4 (260)	37-3/4 (959)	2-9/16 (65)	30°	640.0/ 290.3	LSWB6	SFA125J4

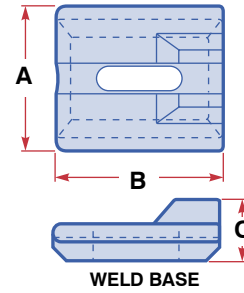
J-BOLT SHROUDS LEFT AND RIGHT HAND



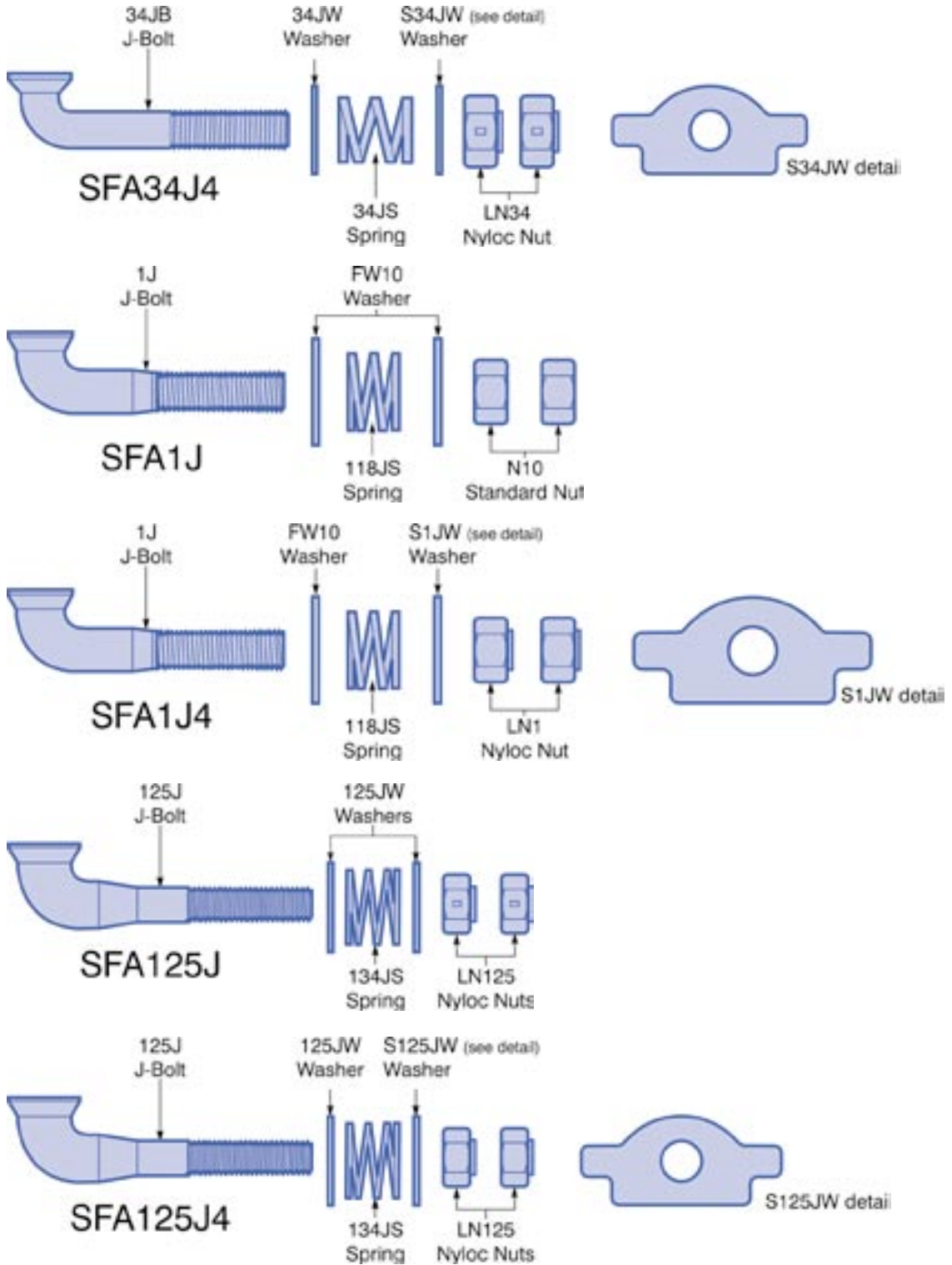
Lip Thickness	Angle Shroud [RH Shown, LH Opposite]	Dimensions - Inches (mm.)							Degree		Weight Lbs./ Kgs.	Weld Base	J-Bolt
		A	B	C	D	E	F	G	H	I			
2"	LS200-1350JR	13-1/2	5	2-1/8	1-3/8	13-5/8	3/4	8-1/4	30°	10°	59.0/ 26.8	LSWB3	SFA34J4
	LS200-1350JL	(343)	(127)	(54)	(35)	(346)	(19)	(210)					
2-1/2"	LS250-1500JR	15	5	2-5/8	1-5/8	15	1-1/16	9-3/4	30°	15°	82.0/ 37.2	LSWB3	SFA34J4
	LS250-1500JL	(381)	(127)	(67)	(41)	(381)	(27)	(248)					
2-3/4"	LS275-1675JR	16-3/4	6-1/2	2-7/8	1-7/8	18-3/4	1-5/8	11	35°	15°	160.0/ 72.6	LSWB8	SFA1J4
	LS275-1675JL	(425)	(165)	(73)	(48)	(476)	(41)	(279)					
3"	LS300-1000JR	10	6-1/2	3-3/16	2	17-13/16	3-3/16	11-3/16	Blunt	15°	127.0/ 57.6	LSWB8	SFA1J4
	LS300-1000JL	(254)	(165)	(81)	(51)	(452)	(81)	(284)					
3-1/2"	LS350-1250JR	12-1/2	6-1/2	3-11/16	2-3/4	22-1/8	1	14-15/16	30°	15°	180.0/ 81.7	LSWB8	SFA1J4
	LS350-1250JL	(317)	(165)	(91)	(70)	(562)	(25)	(379)					
4"	LS400-1600JR	16	6-1/2	4-3/16	2-3/4	21-3/4	1	12-5/8	30°	15°	207.0/ 93.9	LSWB8	SFA1J4
	LS400-1600JL	(406)	(165)	(106)	(70)	(552)	(25)	(321)					
	LS400-1750JR	17-1/2	6-1/2	4-3/16	3-1/4	21-11/16	1-1/2	12-1/4	30°	14°	300.0/ 136.1	LSWB8	SFA1J4
	LS400-1750JL	(445)	(165)	(106)	(83)	(551)	(38)	(311)					
4-3/4"	LS475-1700JR	17	8-3/8	4-15/16	2-1/4	27-1/2	1-3/4	14-3/4	30°	14°	305.0/ 138.3	LSWB6	SF125J4
	LS475-1700JL	(432)	(213)	(125)	(57)	(699)	(44)	(375)					
	LS475-1950JR	19-1/2	8-3/8	4-15/16	2-1/4	27-1/2	1-3/4	14-3/4	30°	14°	400.0/ 182.0	LSWB6	SFA125J4
LS475-1950JL	(432)	(213)	(125)	(57)	(699)	(44)	(375)						
5-1/2"	LS550-1750JR	17-1/2	8-3/8	5-11/16	2-1/4	28-1/32	2	15-3/4	30°	14°	400.0/ 181.6	LSWB6	SFA125J4
	LS550-1750JL	(445)	(213)	(144)	(57)	(712)	(51)	(400)					
5-1/2"	LS550-2200JR	22	8-3/8	5-11/16	2-1/4	28-5/8	2	13-7/8	30°	14°	405.0/ 183.7	LSWB6	SFA125J4
	LS550-2200JL	(559)	(213)	(144)	(57)	(727)	(51)	(352)					
6-1/4"	LS625-2000JR	20	8-3/8	6-1/2	2-1/4	30-3/16	2	17-3/4	30°	14°	420.0/ 190.5	LSWB6	SFA125J4
	LS625-2000JL	(508)	(213)	(165)	(57)	(767)	(51)	(451)					
	LS625-2200JR	22-1/4	8-3/8	6-7/16	2-11/16	31-11/16	2-11/16	20-9/16	30°	14°	635.0/ 288.3	LSWB6	SFA125J4
LS625-2200JL	(565)	(213)	(164)	(68)	(804)	(67)	(523)						
Replaces ESCO part# TCCF130-4RC TCCF130-4LC on Liebherr 966 (not a direct replacement)	LS130-15001JR	15	8-3/8	10-5/8	4-1/4	38-5/8	2-9/16	16-1/4	30°	15°	650.0/ 294.8	LSWB6	SFA125J4
LS130-15001JL	(381)	(213)	(270)	(108)	(981)	(65)	(413)						

J-BOLT BASES

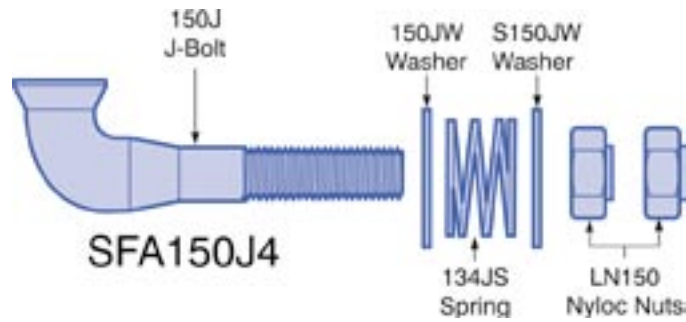
WELD BASE	WEIGHT		inches (mm)	B	C
	LBS.	KGS.	A		
LSWB1	8.5	3.9	5-1/8" (130)	6" (152)	2-1/8" (54)
LSWB3	3.2	1.5	3-7/8" (98)	4-1/2" (114)	1-7/16" (36)
LSWB6	13.5	6.1	6-5/8" (168)	6-3/4" (171)	2-3/4" (70)
LSWB7	5.0	2.3	4-3/8" (111)	4-1/2" (114)	1-7/8" (48)
LSWB8	6.5	2.9	5-1/8" (130)	5-1/4" (133)	1-7/8" (48)
LSWB9	27.5	12.5	8-1/2" (216)	9" (229)	3" (76)



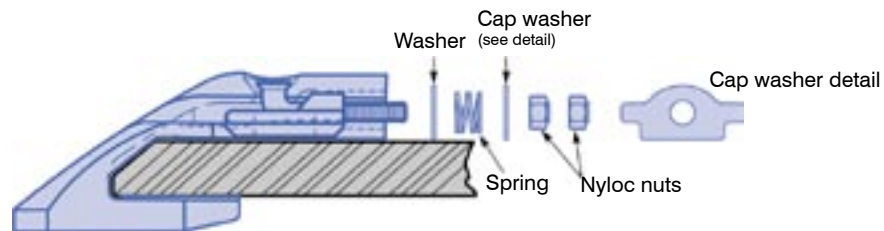
J-BOLT ASSEMBLIES



J-BOLT ASSEMBLIES



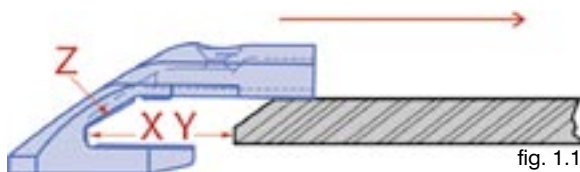
J-BOLT INSTALLATION AND WELDING INSTRUCTIONS



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

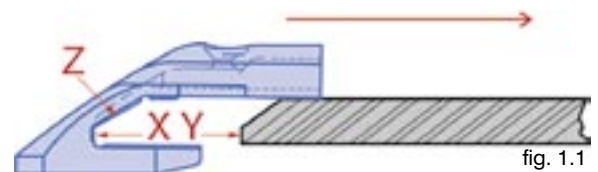
STEP 1- NEW INSTALLATION



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



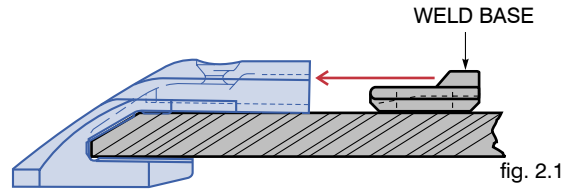
Grind the top surface of the lip material that will be affected by weld. Insure all carbon slag or other impurities from the removal of the old base are ground out. The use of non-destructive testing at this point will help determine if there are any cracks present in the base material. Repair base material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

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.

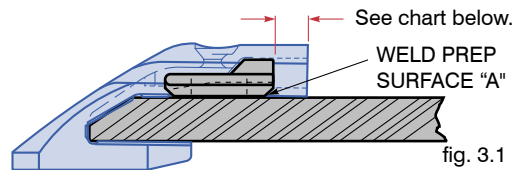
J-BOLT INSTALLATION AND WELDING INSTRUCTIONS

STEP 2



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

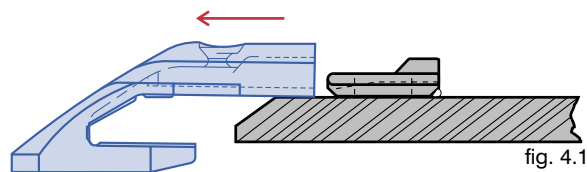
STEP 3



Position the weld base according to the chart below (a deviation of $\pm 3/32$ " (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 ($\pm 3/32$ " (2.5mm) allowable)		
BASE	INCHES	MM
LSWB1	2-1/4"	(57)
LSWB3	2-1/4"	(57)
LSWB6	3-1/2"	(89)
LSWB7	2-1/4"	(57)
LSWB8	2-1/4"	(57)

STEP 4



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 (fig.4.1). Maintain this temperature throughout the welding process.

J-BOLT INSTALLATION AND WELDING INSTRUCTIONS

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

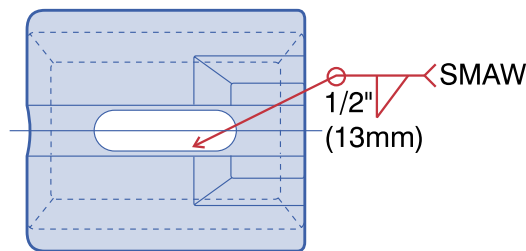
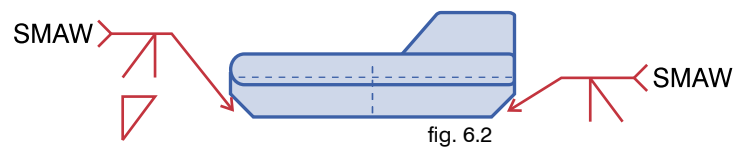
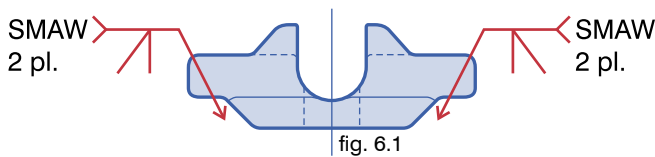


fig. 5.1

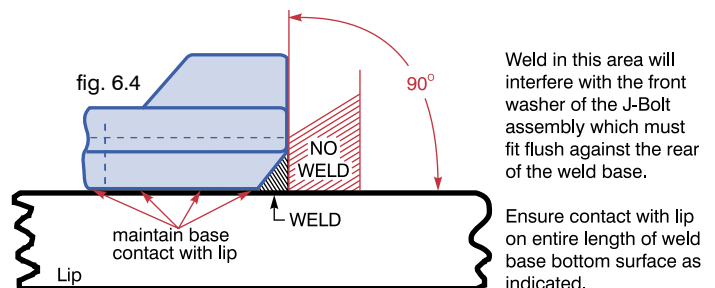
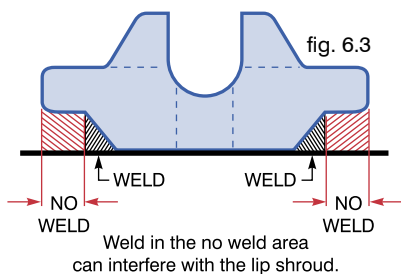
Weld-out for the base should begin with the slot weld. A 1/2" (13mm) fillet weld should be deposited in this area (fig. 5.1). **BE SURE THAT THE ENTIRE BOTTOM SURFACE OF THE WELD BASE MAINTAINS CONTACT WITH THE LIP DURING ENTIRE WELD-OUT PROCESS.**

STEP 6



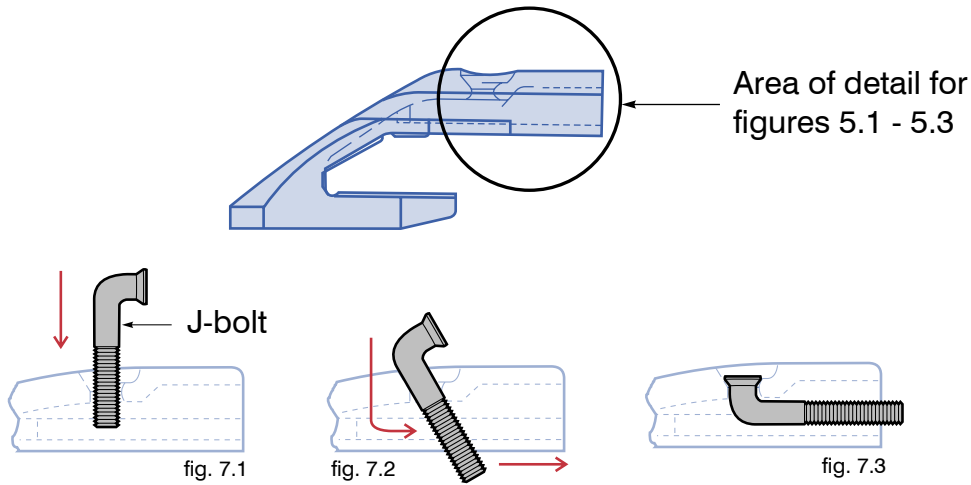
Apply weld to the base perimeter next. Utilizing groove welds, fill the 1/2" (13mm) weld groove on the base completely (fig. 6.1 & fig. 6.2). Care must be taken at this point not to add too much weld. If joint is over welded, the weld material can interfere with the lip shroud. The idea is to add as 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.



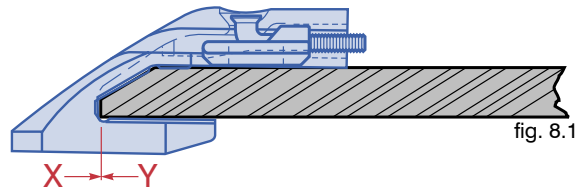
J-BOLT INSTALLATION AND WELDING INSTRUCTIONS

STEP 7



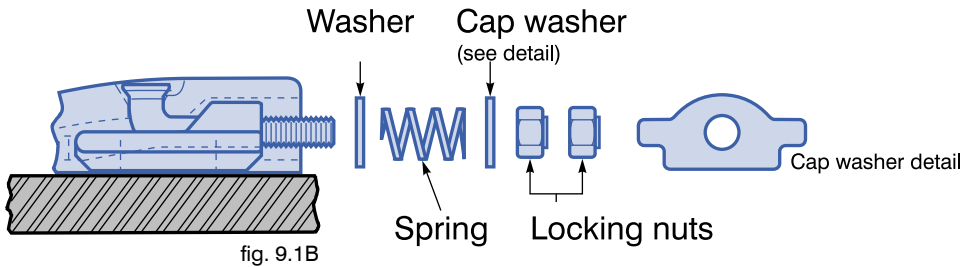
Before repositioning the shroud on the lip, insert the J-bolt into the shroud through the top hole (fig. 7.1). Rotate the bolt 90° so that the threaded end is facing the rear of the shroud (figs. 7.2 - 7.3).

STEP 8



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)



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

STEP 9 (J, J-bolt assemblies)

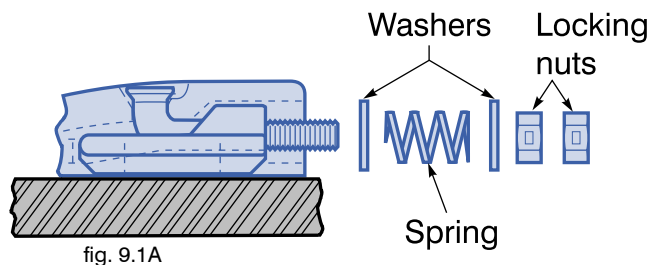


fig. 9.1A

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

Attach the washers, the spring and the nuts in the order indicated for J-bolt assembly type J, J2 & J3. (fig. 9.1A),

[NOTE: the locking nut cannot be hand-threaded onto the J-bolt] 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
SFA34J4	175	237	NA	NA
SFA1J	200	271	NA	NA
SFA1J4	200	271	NA	NA
SFA125J	225	305	NA	NA
SFA125J4	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.

NOTES

NOTES

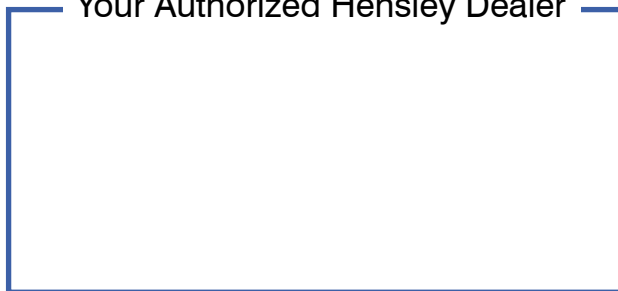
NOTES

SAFETY FIRST: Hensley recommends that you use a soft-faced hammer and ANSI-approved (Z87.1) eye protection while using our products.



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