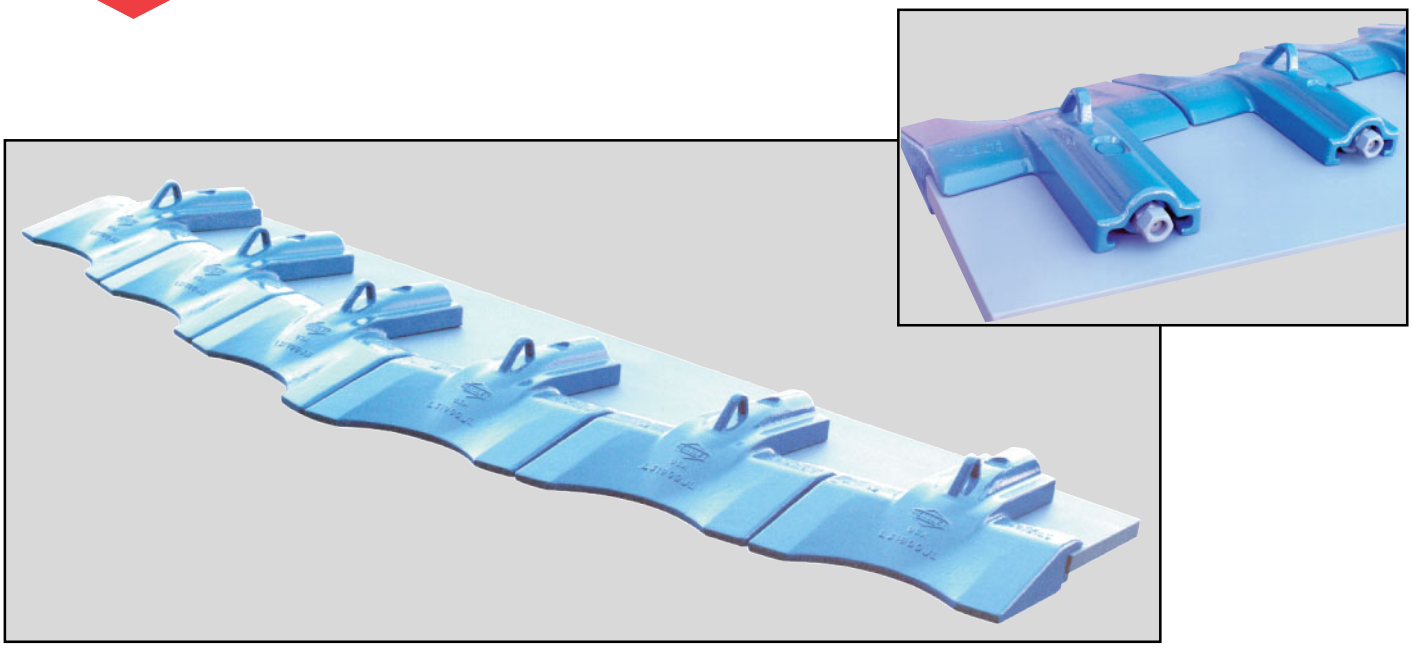
J-Bolt Edge System for LHD Trams

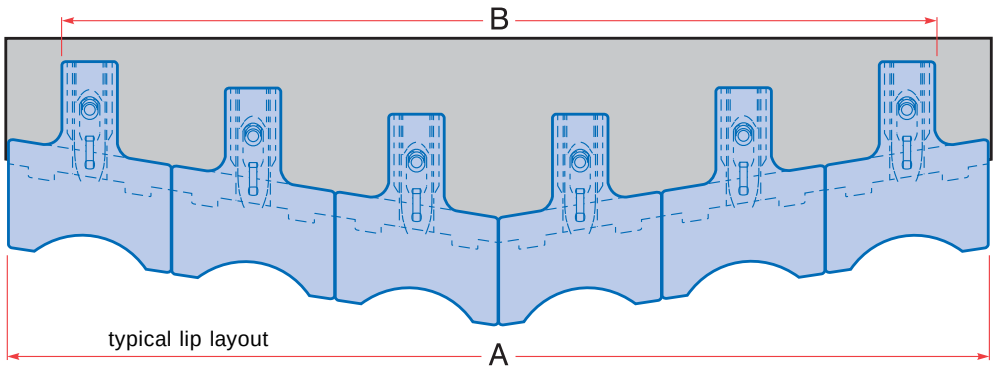


Hensley presents the **J-Bolt Edge System** for LHD (load-haul-dump) tram loaders. This patented system offers maximum bucket lip protection plus several advantages over conventional weld-on shrouds.

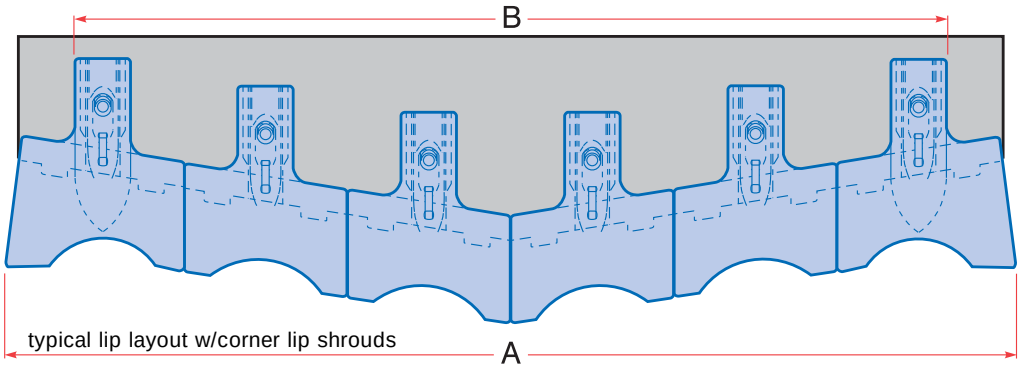
- The Hensley **J-Bolt Edge System** is designed as a bolt-on system for quick and easy assembly (some initial welding required)
- Constructed of harder alloy than weld-on cast alloy shrouds for longer wear life
- The low profile/sharp contour design gives better penetration reducing cycle times and overall wear on tires and machine
- Complete shroud changes in minutes rather than days

The Hensley **J-Bolt Edge System** gives you increased wear life, greater productivity and faster change-outs. Tram bucket life can be increased even further by also using Hensley vertical wear shrouds (VS450 recommended). So switch-out your old weld-on shrouds for the Hensley **J-Bolt Edge System** today.

System Widths

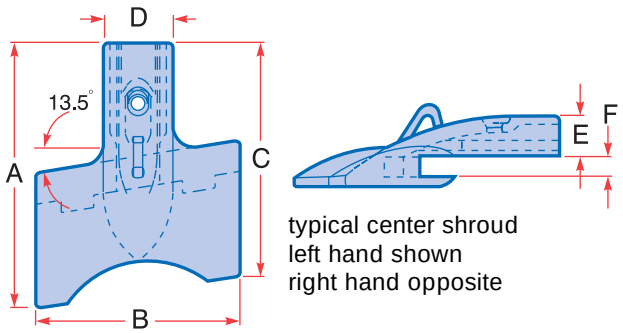


Edge System No.	Dimensions inches (mm)	
	A	B
LS1000	61.250 (1556)	56.250 (1429)
LS1200	73.250 (1861)	66.250 (1683)
LS1400	85.250 (2165)	76.250 (1937)
LS1500	91.250 (2318)	82.75 (2102)
LS1800	109.250 (2775)	97.75 (2483)
LS1900	115.250 (2928)	102.75 (2610)



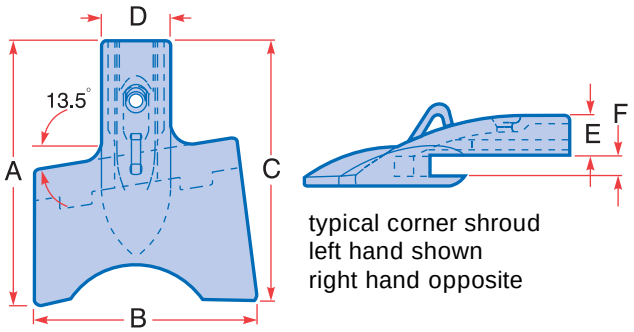
Edge System No.	Dimensions inches (mm)	
	A	B
LS1400	88.250 (2165)	76.250 (1937)
LS1800	112.250 (2775)	97.75 (2483)
LS1900	118.250 (2928)	102.75 (2610)

LHD Lip Shrouds



LIP THICKNESS	SHROUD PART NO.	DIMENSIONS: INCHES (MM) A	B	C	D	E	F	WEIGHT LBS./ KGS.	WELD BASE	J-BOLT
1"	**LS1000JL LS1000JR**	18.375 (467)	10.000 (254)	16.000 (406)	5.000 (127)	2.375 (60)	1.125 (29)	60.0 / 27.2	LSWB3	SFA34J2
1"	**LS1200JL LS1200JR**	18.531 (471)	12.000 (305)	15.750 (400)	5.000 (127)	2.375 (60)	1.125 (29)	68.0 / 30.9	LSWB3	SFA34J2
1"	**LS1400JL LS1400JR**	18.875 (479)	14.000 (356)	15.500 (394)	5.000 (127)	2.375 (60)	1.125 (29)	80.0 / 36.3	LSWB3	SFA34J2
1.5"	**LS1500JL LS1500JR**	26.063 (662)	15.000 (381)	22.437 (570)	6.500 (165)	3.500 (89)	1.687 (43)	175.0 / 79.4	LSWB1	SFA1J3
1.5"	**LS1800JL LS1800JR**	26.437 (671)	18.000 (457)	22.125 (562)	6.500 (165)	3.500 (89)	1.687 (43)	200.0 / 90.8	LSWB1	SFA1J3
1.5"	**LS1900JL LS1900JR**	26.563 (675)	19.000 (483)	22.000 (559)	6.500 (165)	3.500 (89)	1.687 (43)	210.0 / 95.3	LSWB1	SFA1J3

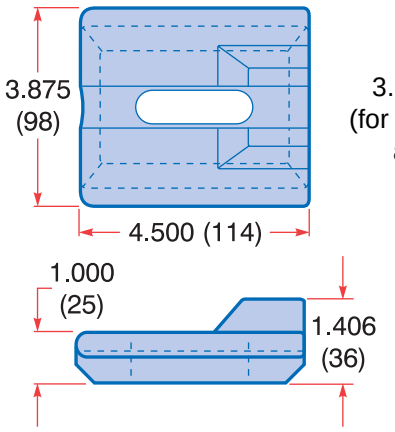
LHD Corner Lip Shrouds



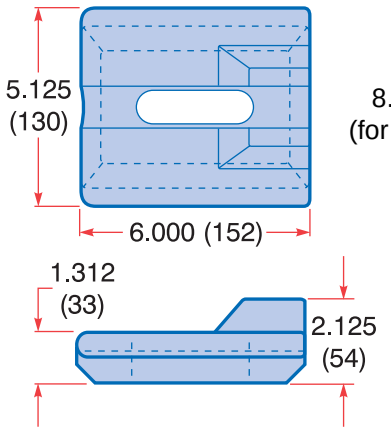
typical corner shroud
left hand shown
right hand opposite

LIP THICKNESS	SHROUD PART NO.	DIMENSIONS: INCHES (MM) A	B	C	D	E	F	WEIGHT LBS./ KGS.	WELD BASE	J-BOLT
1"	**LS1400JLC LS1400JRC**	18.875 (479)	15.500 (394)	18.875 (479)	5.000 (127)	2.375 (60)	1.125 (29)	99.0/ 44.9	LSWB3	SFA34J2
1.5"	**LS1800JLC LS1800JRC**	26.250 (667)	19.500 (495)	25.750 (654)	6.500 (165)	3.500 (89)	1.690 (43)	235.0/ 106.7	LSWB1	SFA1J3
1.5"	**LS1900JLC LS1900JRC**	26.500 (673)	20.500 (521)	26.500 (673)	6.500 (165)	3.500 (89)	1.690 (43)	245.0/ 111.2	LSWB1	SFA1J3

Weld Bases

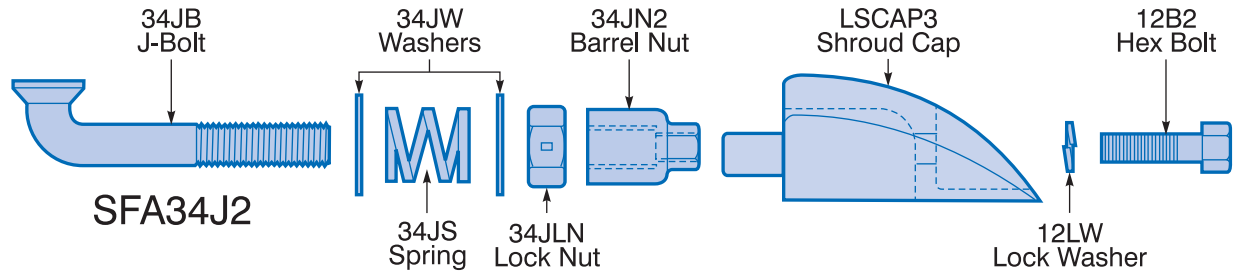


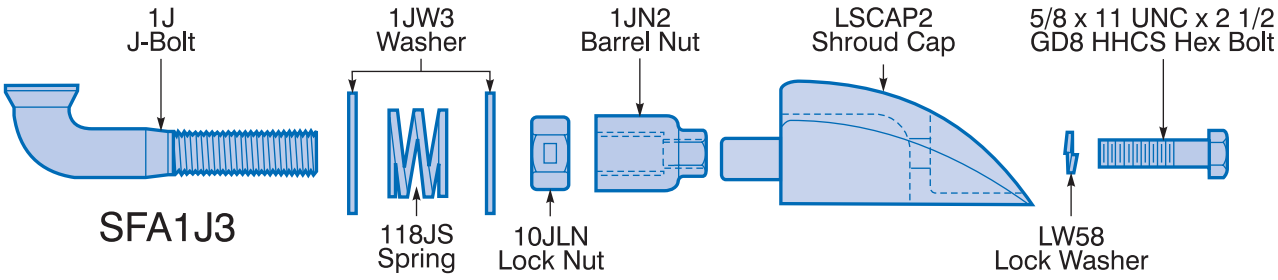
LSWB3
3.2 lbs./1.4 kgs.
(for LS1000, LS1200 and LS1400)



LSWB1
8.5 lbs./3.9 kgs.
(for LS1500, LS1800 and LS1900)

J-Bolt Assemblies





J-BOLT EDGE SYSTEM FOR LHD SCOOP TRAMS
ASSEMBLY AND WELDING INSTRUCTIONS

IMPORTANT NOTE:
READ ALL INSTRUCTIONS COMPLETELY BEFORE STARTING ASSEMBLY

FOR A NEW INSTALLATION START AT STEP 1.B
FOR A REPLACEMENT INSTALLATION START AT STEP 1.A

STEP 1.A 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 to step **1.B**

STEP 1.B Position shrouds on lip in proper position (fig. 1.1) maintaing a gap of .25" (6 mm) between shrouds (fig. 1.2). Make sure that the shroud front surface "X" contacts lip front surface "Y" (fig. 1.3). **NOTE: This contact must be maintained throughout assembly process to insure proper location of weld base.**

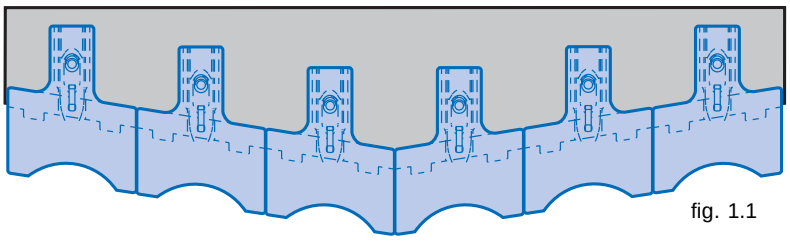


fig. 1.1

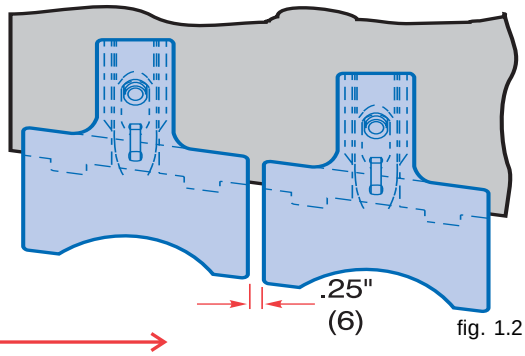


fig. 1.2

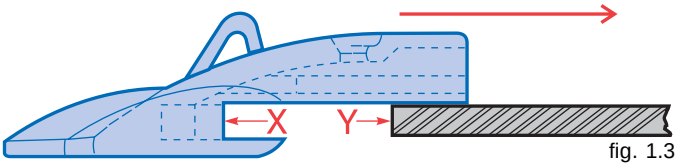


fig. 1.3

STEP 2 Slide weld base from the rear into the receiving slots of the shroud (fig. 2.1).

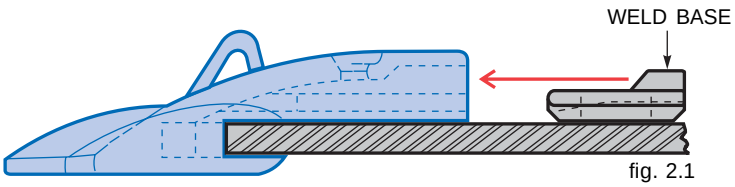


fig. 2.1

STEP 3 Position the weld base 2.25" (57.15 mm.) from end of shroud as shown (fig. 3.1).

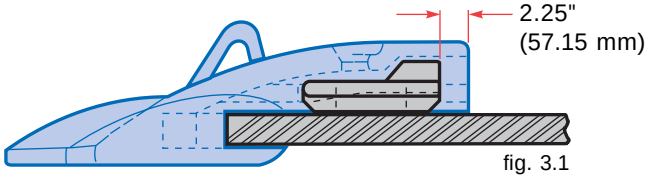


fig. 3.1

J-BOLT EDGE SYSTEM FOR LHD SCOOP TRAMS
ASSEMBLY AND WELDING INSTRUCTIONS-continued

STEP 4 Utilizing the chart (fig. 4.1) preheat the lip/weld base to the appropriate temperature. **The preheat temperature will be determined by the type and thickness of the lip material plus the thickness of the weld base**. Tack weld the weld base at the rear along weld prep surface "A" making sure that the weld base is still 2.25" (57.15 mm) from the end of the shroud (fig. 4.2)

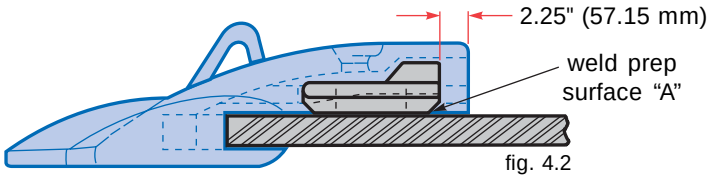


fig. 4.2

LIP THICKNESS PLUS WELD BASE THICKNESS	PREHEAT AND INTERPASS TEMPERATURES			
	LIP MATERIALS*			
	ASTM A514	ASTM A572-50	AR 400	HARDOX 400
1" + LSWB3	175°F/79°C	150°F/65°C	250°F/120°C	250°F/120°F
1.5" + LSWB1	275°F/134°C	225°F/106°F	350°F/175°C	350°F/175°C

*For lip materials not listed, consult AWS or equivalent specs for preheat and interpass temps. For AWS weldability classification, the weld bases (LSWB3, LSWB1) have a maximum carbon equivalency of 0.65.

fig. 4.1

STEP 5 Remove the shroud (fig. 5.1) and prepare to weld-out the base by re-establishing the preheat temperature that was established by the chart (fig 4.1) in **STEP 4**. Maintain this temperature throughout the welding process.

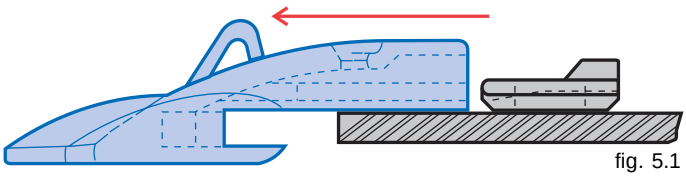


fig. 5.1

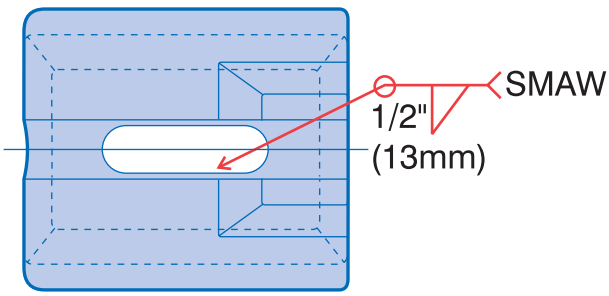
SPECIAL NOTES

Recommended filler material: AWS specification A5.1, class E7018, stick electrode. Stick electrodes should be kept in a heated rod oven at 250°/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 6 Weld-out for the base should begin with the slot weld. A 1/2" (13mm) fillet weld should be deposited in this area (fig. 6.1).



J-BOLT EDGE SYSTEM
ASSEMBLY AND WELDING INSTRUCTIONS-continued

STEP 7

Apply weld to the base perimeter next. Utilizing groove welds, fill the 1/2"(13mm) weld groove on the base completely (fig. 7.1 & fig. 7.2). 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. 7.3 & fig. 7.4)

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.

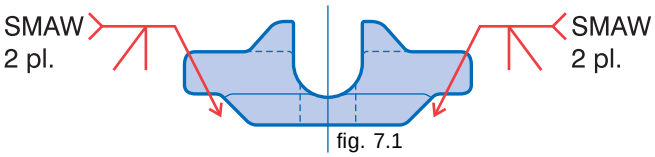


fig. 7.1

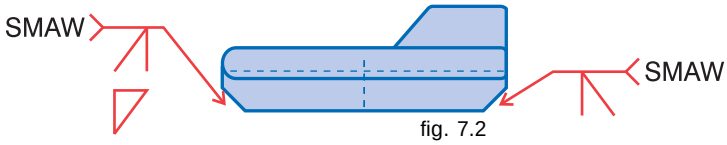


fig. 7.2

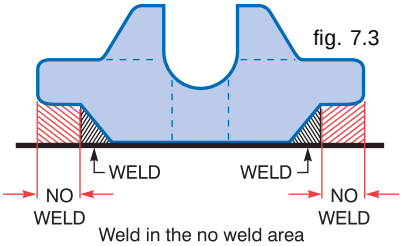


fig. 7.3

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

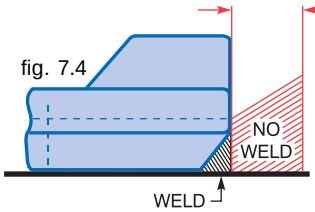
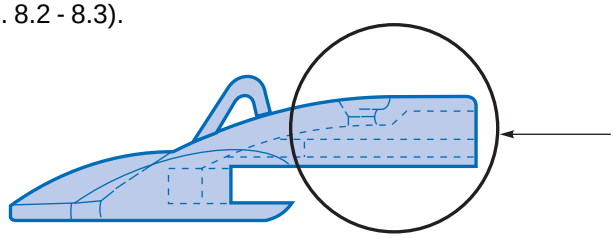


fig. 7.4

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. The washer keeps the bolt centered to allow the installation of the cap.

STEP 8

Before repositioning the shroud on the lip, insert the J-bolt into the shroud through the top hole (fig. 8.1). Rotate the bolt 90° so that the threaded end is facing the rear of the shroud (figs. 8.2 - 8.3).



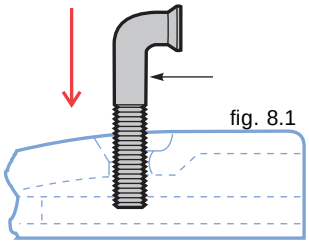


fig. 8.1

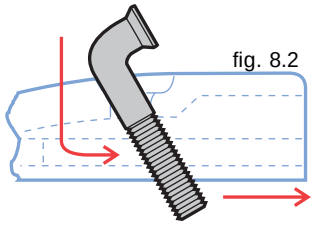


fig. 8.2

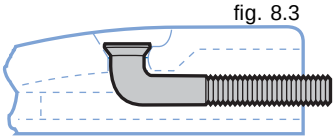


fig. 8.3

STEP 9

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. 9.1).

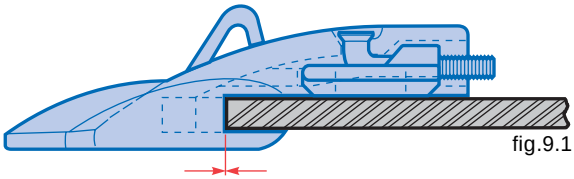


fig.9.1

J-BOLT EDGE SYSTEM
ASSEMBLY AND WELDING INSTRUCTIONS-continued

STEP 10

Attach the washers, the spring and the nuts in the order indicated (fig. 10.1), then torque to specifications below. (fig. 10.2). Finish assembly by installing cap with lock washer and cap bolt.
[**NOTE: the locking nut cannot be hand-threaded onto the J-bolt**]

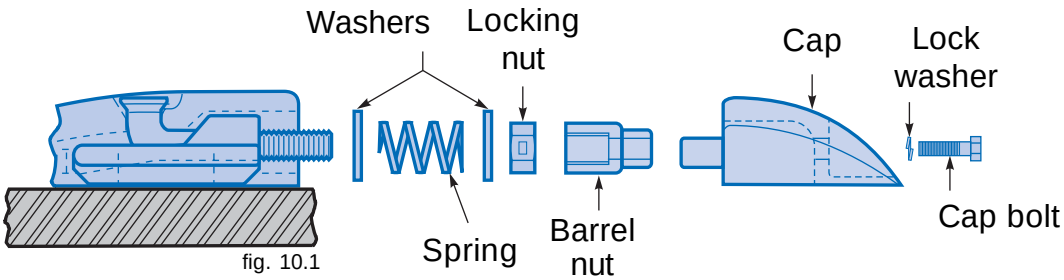


fig. 10.1

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

J-BOLT ASSEMBLY	LOCKING NUT MAX TORQUE		BARREL NUT MAX TORQUE		COUPLING NUT MAX TORQUE		GRADE 8 NUT MAX TORQUE	
	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
SFA34J2	175	237	175	237	NA	NA	NA	NA
SFA1J3	200	271	200	271	NA	NA	NA	NA

NOTES

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

Your Authorized Hensley Dealer

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