SUPER ANCHOR SAFETY®

SAS-*Hinge-3006* No. 1321-CAN HLLS
Horizontal Lifeline System w/Energy Absorber
Temporary Installation Only
Instruction/Specification Manual 2018

ENGLISH VERSION

!WARNING TO USER!
You are required to read and use the Instruction/Specification manual supplied at the time this device was shipped. Improper use and installation can result in serious injury or death. Follow inspection requirements before each use.

System Specifications
Min. Tensile Strength 5,000lb(22.5kN).
Specified Use: Fixed Length HLLS for Temporary Installation on wood framed structures. This device is not intended to be installed as a permanent fixture.
Anchor Connectors Hinge No. 3006
11ga. steel yellow zinc plated.
HLL Cable max. Length 20ft(6m)
Galvanized Steel Wire rope: 3/8"x7x19.
Break strength: 14,400lb(64kN).
Terminations: Thimble splice w/2 aluminum sleeves.

Metallic Energy Absorber
SAS No. 1059 -316 SST. Fig.3a
Wt: 6.3lb(2.9kg) Serial numbered.
Performance Specifications:
Min. break strength 5,625lb(25kN)
Tension Indicator Green Arrow: ◄
Min. Activation Force: 44lb(0.2kN)
Fall Indicator Red Arrow: ►
Avg. Dynamic Activation Force: 771lb(3.5kN)
Peak Activation Force: 1,322lb(6kN)
Attachment Bolts: Grade 8 zinc plated 7/16-14x2-1/4" bolts with lock nuts.

User Specifications
Fall Arrest: 2 person
Fall Restraint: 3 person
Absorber Dimensions
Static Length: 17"(432mm)
Max. Deployed Length: 25"(635mm)
Fall Indicator Max. deployed length
Red Arrow end ►7-1/2"(191mm)
Tension Indicator Max. deployed length
Green Arrow end ◄ 1/2"(12mm)

Compliance: OSHA 1926:502/1910.66 ANSI Z359.1-07/A10.32-2012
Certified by a member of l'Ordre des ingénieurs du Québec.
Meets Safety Code for use in Québec.

Personal Protective Equipment (PPE)
All workers attached to the HLLS must be equipped with fall protection equipment compliant with current CSA, OSHA or ANSI standards for fall arrest or fall restraint (work positioning).
PPE Energy Absorber Requirement
Each worker is REQUIRED to have a personal energy absorber component as part of their fall protection equipment.

Maximum Arrest Force (MAF) system design per person:
310lb(140kg) w/E-4 Energy absorber 900lb(4kN)
340lb(154kg) w/E-6 Energy absorber 1300lb(6kN)

Fall Hazard Exposure
PPE must be rigged as follows:
Fall Arrest use: Max. free fall 6ft(1.8m).
Fall Restraint use: No free fall exposure.
Note: The use of a job specific fall protection plan (JSP) is recommended.

Non-Specified Use
Not rated for use with Self Retracting Lifelines (SRL)
Do not use for window washing or suspended work.

Temporary Use Only
WARNING! Evacuate the HLLS immediately after use. Prolonged exposure to moisture will result in deterioration of wood framing and fastener strength.

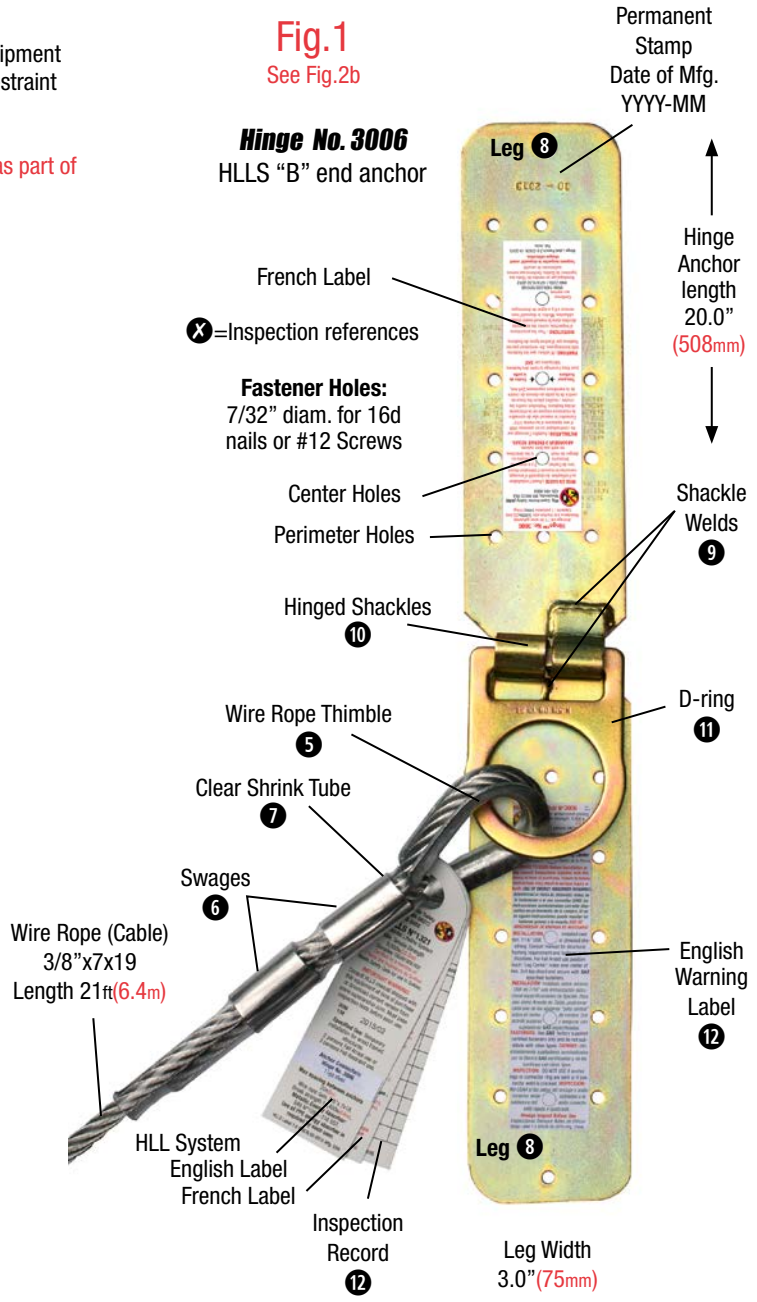
Connectors
Snaphooks and carabiners must have 3600lb(16kN) gate strengths and comply with current ANSI/CSA standards.

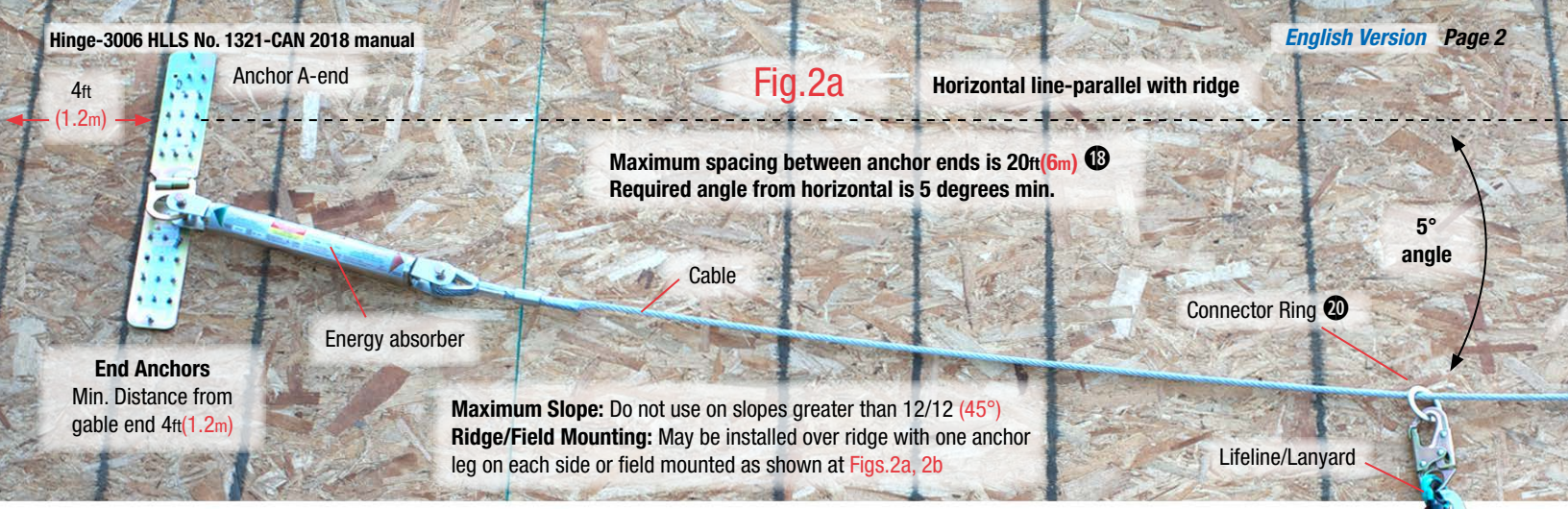
System Modification
HLL components are factory attached to the Hinge anchor D-rings. DO NOT modify, remove or attach additional components.

Storage/Maintenance
Avoid binding or bends and coil cable so it lays flat. Store indoors in a dry area to prevent oxidation of the components. DO NOT store outdoors or place materials or tools on top of the HLLS. Hinge anchor and absorber replacement labels are available upon request.

Removal From Service
1) If the HLLS is subjected to a free fall or other force that activates the metallic energy absorber. See Fig.3c
2) If any of the components show signs of wear or fail to pass daily or annual inspection.
3) **Disposal:** Do not disassemble, re-use or salvage any components of HLLS

Fig.1
See Fig.2b





Annual and Daily Inspections

All components should be inspected prior to each use and inspected at least once a year by a competent person. Inspections may be recorded on the system inspection label. See pg.4. A written plan for equipment service, maintenance, removal from service and user training should be maintained by a competent person for each component of the HLLS. The following supplemental inspection points may be used as a guideline for primary areas of normal wear, tear and abuse.

Remove equipment from service if any non-repairable conditions are present:

1. Subjected to a free fall or other force.
2. Obvious damage to any component.
3. Fails inspections or has not been inspected annually.

ADVISORY! All equipment removed from service should be tagged and disposed of in a way that prevents further use.

ACTION REQUIRED: ☒=Remove ☑=Repair

Cable (Wire Rope) Fig.3e

4. Cable Strands are cut or hocked. ☒
5. Thimble missing, broken or deformed. ☒
6. Swages are cracked, cut or missing. ☒
7. PVC swage cover tubing is missing. ☑ Does not require HLLS removal from service.

Hinge Anchor Fig.1, 3a

8. Legs are cut, bent or deformed. ☒
9. Hinge shackle welds are cracked. ☒
10. Shackles are deformed. ☒
11. D-ring is cut or deformed. ☒
12. Anchor, Absorber or system warning labels are missing or not legible. ☑ See pg.4 Request replacement labels.

No. 1059 Metallic Energy Absorber Fig.3

13. Fall Indicator is deployed. ☒ Fig.3d
14. Tension Indicator is visible. ☒ Fig.3b
15. Attachment bolts are missing. ☒ ☑ determine why. May be corrected.
16. Attachment bolt nut/s loose. ☑ Tighten.

Cable Connector Rings Fig.3e

17. Bent, cut, worn or missing. ☒

Rigging Fig. 2a, 2b

18. Distance between anchor ends is more than 20ft(6m). ☑ Check rafter spacing to confirm 20ft (6m) length per Figs. 2a, 2b
19. Distance between anchor ends is less than 20ft(6m). ☑ Check rafter spacing. Min. length is 16ft(4.8m).
20. Lifelines/Lanyards are attached to HLL cable with snaphooks or carabiners. ☑ Use connector rings. Fig.2a, 2b, 3d

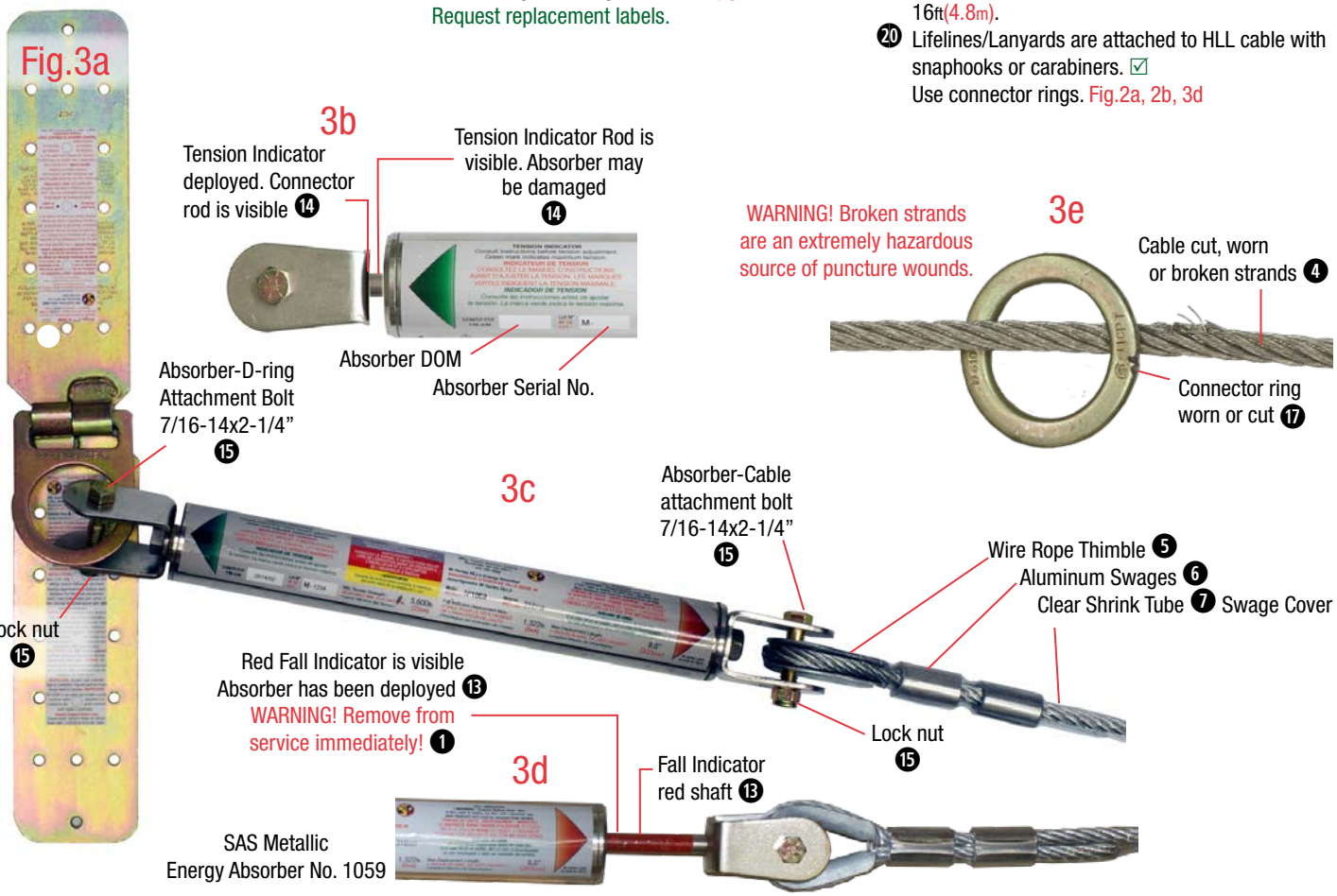


Fig.2b

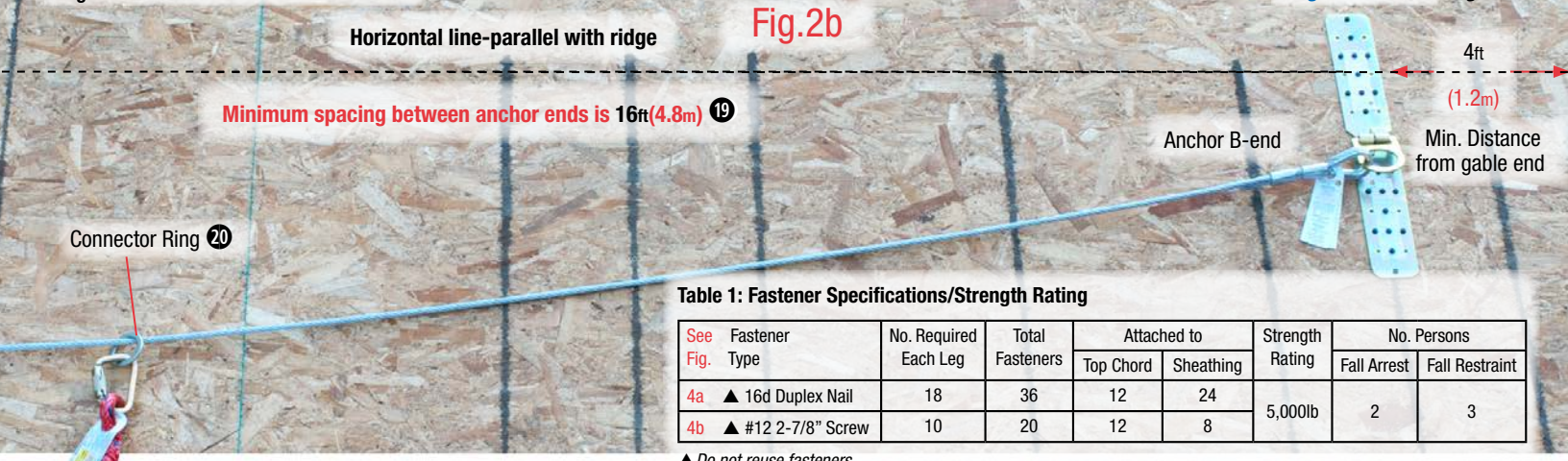


Table 1: Fastener Specifications/Strength Rating

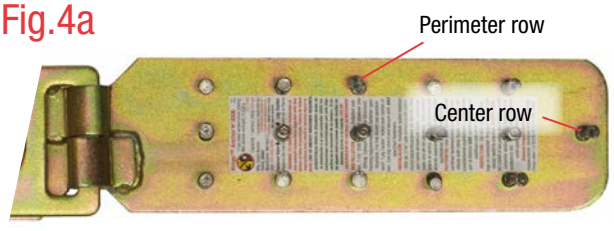
See Fig.	Fastener Type	No. Required Each Leg	Total Fasteners	Attached to		Strength Rating	No. Persons	
				Top Chord	Sheathing		Fall Arrest	Fall Restraint
4a	▲ 16d Duplex Nail	18	36	12	24	5,000lb	2	3
4b	▲ #12 2-7/8" Screw	10	20	12	8			

▲*Do not reuse fasteners.*

Fastening Specifications

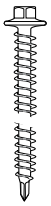
Shown at Figs.4a, 4b, required number and type of fasteners for each anchor leg.
WARNING! Use only SAS supplied fasteners. DO NOT substitute with other types.
Torque Setting: WARNING! Do not overtighten screws to prevent damage to the fasteners.
Flush mount screws to anchor leg surface with the minimum torque necessary.

Fig.4a



36-16d Duplex Nails: 18 each leg

4b



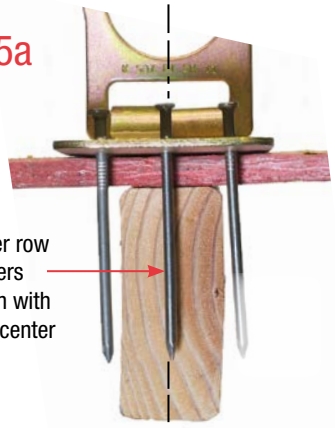
20-#12 x2-7/8" Hex Head screws: 10 each leg

Replacement Bulk Packs

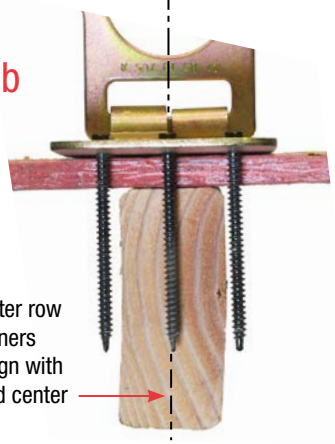
Fastener Type	Part No.	No. Pcs.	Driver No.
16d Duplex	2012-B	44/lb	Hammer
#12x2-7/8" hex	2009-B	55/lb	1/4" Hex 2010

Fig.5a

Min. 7/16" sheathing



5b



5c

WARNING!
Fastener blow out. Remove fastener, re-position anchor leg and install correctly as shown at Figs.5a-5b

Fig.6

WARNING! NON COMPATIBLE CONNECTIONS
Do not attach more than 1 connector to a connector ring or any connector directly to the cable.

Compatible Connections

Require connector to be attached only to the connector ring.

Fig.7a 7b

Installation/Framing Strength Requirement

The wood structure to which an anchorage device is attached must be capable of sustaining static loads applied in the direction of the fall hazard as follows:
a) *2 times the engineered load or
b) *5,000lb(22.5kN) without engineering.

Top Chords and Sheathing

Anchor ends must be installed onto framing sheathed with OSB or plywood with a min. thickness of 7/16" attached to a min. 2x4 top chord as shown at Fig.5a-5b.

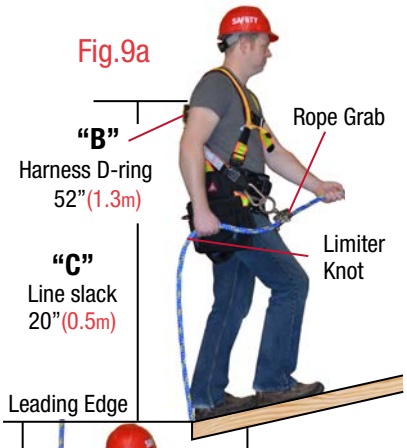
WARNING! Fastener Blow Out. Shown at Fig.5c, compromises the fastener strength rating. Prior to each use inspect underside of sheathing to confirm correct fastener installation.

**ANSI Z359.1-07section 7.2.3/OSHA 1910.66 App C(l)(10)*

Components Deployment Length of Fall Plan (LOFP)

Components stretch and deceleration values are shown in the sample plan Figs.8 and 9. A **LOFP** specific to the equipment being used is required to prevent contact with the ground or lower level in the event of a free fall.

Fig.9a



Calculating Energy Absorber Deployment Length and Cable Angle

Sample HLLS rigging for 20ft(6m) spacing between Anchors:

Fig.8a

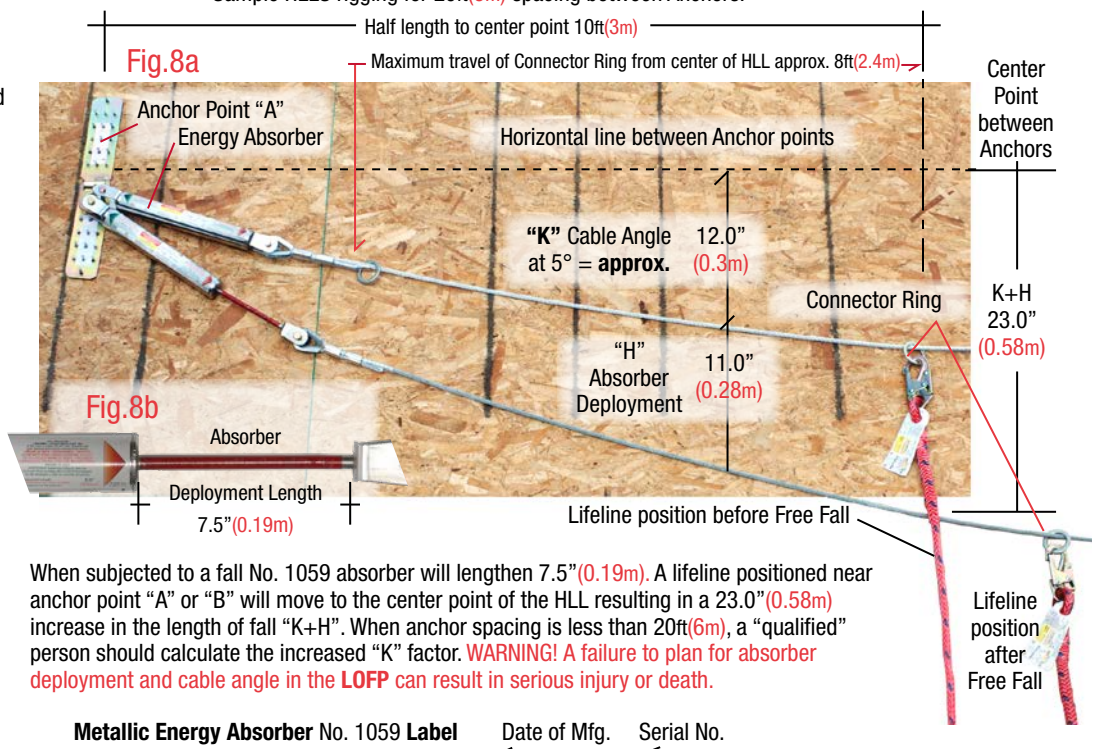
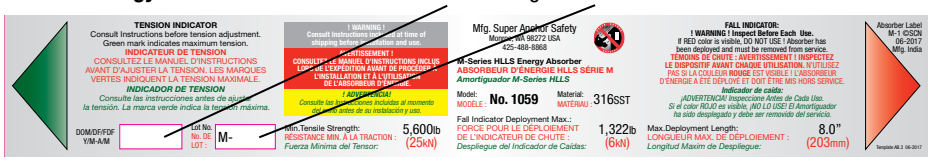


Fig.8b

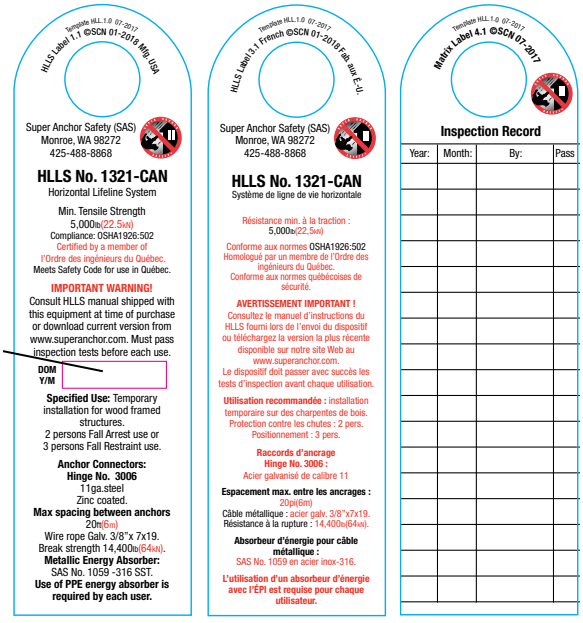
When subjected to a fall No. 1059 absorber will lengthen 7.5"(0.19m). A lifeline positioned near anchor point "A" or "B" will move to the center point of the HLL resulting in a 23.0"(0.58m) increase in the length of fall "K+H". When anchor spacing is less than 20ft(6m), a "qualified" person should calculate the increased "K" factor. WARNING! A failure to plan for absorber deployment and cable angle in the **LOFP** can result in serious injury or death.

Metallic Energy Absorber No. 1059 **Label** Date of Mfg. Serial No.



HLL Labels

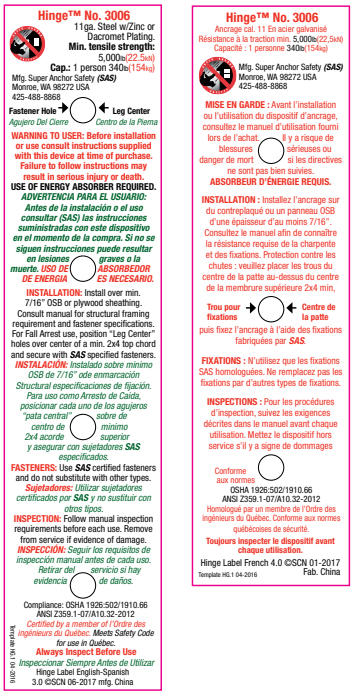
English 1.1 | French 3.1 | Inspection Label



Date of Mfg.

Hinge No. 3006 Labels

English/Spanish | French



SAMPLE LENGTH OF FALL PLAN

1) Free fall length	**"A"**	72"(1.8m)
2) Rope grab	**"D"**	24"(0.6m)
3) Absorber	**"E"**	42"(1.06m)
4) Harness	**"F"**	12"(0.3m)
HLL Factors:		
5) Cable Angle 5°	**"K"**	12"(0.3m)
6) Absorber	**"H" (8b)**	11"(0.28m)
7) Ground	**"G"**	52"(1.3m)
Total (LOF)		**225"(5.7m)**

WARNING! IN THE EVENT A FALL OCCURS:

Prompt Rescue: A plan for immediate rescue is required to avoid serious injury or death from suspension trauma. Fit harnesses w/***SAS*** No. 6060 Trauma Strap and train workers in its use.

Ground Clearance: A failure to calculate the **LOF** + ground clearance and correctly rig PPE can result in striking the ground or a lower level and may cause serious injury or death.