

Temporary Roof Horizontal Lifeline Installation and Handover JHA

Worked instructional example

Work and worksite

A trained crew will install and hand over one temporary 3M DBI-SALA synthetic-rope HLL, model 7600510, between accepted structural endpoints for a defined roof zone. The qualified person's complete-system design governs installation and use. Installers retain continuous independent protection until acceptance. This fictional example contains planned controls, without inspection findings or authorization.

- The qualified person supplies the complete system design under OSHA 1926.502(d)(8), including accepted structure/endpoints, actual span, elevation, loads, compatible connections, intended users, clearance and prompt-rescue arrangements. A kit's advertised length does not establish a safe roof system.
- Current retrieved 3M User Instructions 5902179K Rev G, © 2026, include model 7600510 and an English section. The exact unit, connecting-subsystem instructions and latest applicable revisions must match. Resolve chart applicability and any non-overhead configuration with 3M before design acceptance.
- Roof setup 238160-03 and leading-edge work 238160-26 are partial connections: installation and controlled handover of this single-span synthetic system only. Anchor construction, arbitrary roof-seam clamps, guardrails, multi-span cable systems, material lifting, subsequent roofing and HLL removal are excluded.

Questions before work

- Which qualified person accepts the complete system and actual anchor loads, user limits, clearance and rescue basis?
- How do installers remain continuously protected independently while reaching both endpoints, tensioning and inspecting the unaccepted line?
- Who controls the handover so no one connects to the new HLL before its complete-system acceptance is recorded?

Task Hazard Control

1 Accept the complete system and roof work zone

Hazard: Inadequate end structures, underestimated lifeline deflection or incompatible subsystems can let a fall reach an obstruction or overload the system.

Control: Qualified person verifies the issued design against the actual 7600510 kit, endpoint structure, roof positions and complete connecting systems. Resolve anchor loads, span/elevation, permitted users, clearance throughout the zone and applicable 3M charts. Consider all people affected by line deflection. Accept a usable prompt-rescue plan before installation; unresolved clearance is a hold.

Verification: Qualified person records design acceptance and use restrictions.

Reasoning: Nominal line length cannot prove safe fall arrest.

2 Establish independent installer protection and separation

Hazard: An installer may become exposed while preparing the line or connect to a component that has not yet been accepted for personal protection.

Control: Release the roof surface and protected routes with the responsible lead. Verify continuous independent fall protection for each installation and inspection position, including transitions. Separate the area below and the line/tensioner path from others. Keep the new HLL unavailable for connection during transport or installation; communicate who controls its release.

Verification: Lead verifies independent protection, transitions and release control.

Reasoning: Installers need protection before their new system is accepted.

3 Inspect the identified components and endpoints

Hazard: Rope wear, a deployed energy absorber, incompatible connectors or an unverified endpoint can defeat the accepted design before the line is tensioned.

Control: Trained installer completes the current manual's required pre-use checks, including rope, connectors, tensioner, energy absorber and readable labels. Match actual components to the design and separately accepted endpoints. Tag defects or uncertain condition out of service; do not repair rope, substitute fittings or modify equipment. Required competent-person inspection status remains available.

Verification: Installer records component findings and configuration match.

Reasoning: The design assumes identified, intact and compatible components.

Complete the work and hand over

4 Connect and tension from protected positions

Hazard: Incorrect engagement, a twisting line or a tensioner intervention can cause release, pinch injuries and a configuration that changes loads or clearance.

Control: While independent protection remains active, connect the exact system to its designated accepted endpoints through applicable connector instructions. Arrange rope and supplied attachment components as instructed, clear of sharp edges and interference. Follow the model's prescribed slack removal and tensioning method. Keep people outside release paths; do not add force, knots or a modified tensioner to obtain a preferred appearance.

Verification: Lead checks engagement, routing and prescribed tensioning.

Reasoning: Installed geometry and tension determine system behavior.

5 Verify the completed installation before handover

Hazard: A changed span, obstructed fall path or incomplete connection can be concealed by a neat-looking tensioned line and expose the first user.

Control: Qualified person's assigned verification checks compare the actual line, endpoints, tensioning and protection from abrasion with the accepted design. Reconfirm permitted work positions, users and full connecting systems, including clearance and rescue access. Resolve deviations before release. Do not use a worker's weight, an improvised pull test or a trial fall as acceptance evidence.

Verification: Verifier records findings and disposition against the design.

Reasoning: Verification must assess the completed system.

6 Transfer controlled use and inspection responsibilities

Hazard: Users may enter before acceptance, exceed the accepted zone or continue using an impact-loaded line when the handover omits restrictions.

Control: Keep independent installer protection until the accepted transfer is communicated. Brief users on the actual allowable connections, zone, user limits, inspections and rescue process. Record system identity, acceptance and restrictions at the point of use. Immediately remove fall/impact-loaded or defective equipment from service under the applicable instructions. Future relocation or removal requires separately planned independent protection.

Verification: Receiving lead acknowledges use, inspection and rescue responsibilities.

Reasoning: Handover preserves restrictions after installers leave.

Pause and reassess

- Actual endpoints, span, elevation, users, connecting subsystem, roof work positions or clearance differ from the accepted complete-system design.
- Independent installer protection, protected transitions, exclusion or the prescribed connection/tensioning method cannot be maintained.
- Abrasion, a defect, impact loading, moved endpoints or changed lower obstructions requires use to stop and the required technical disposition.

Improve the controls

Needs improvement: The kit reaches both roof anchors, so it is ready.

More useful: Qualified person accepts the complete actual system, endpoint loads, user configuration, deflection/clearance and rescue basis before installation and controlled release.

Needs improvement: Clip to the new line while finishing its last connection.

More useful: Installers remain on independent accepted protection; no one connects to the HLL during installation or before complete-system acceptance.

Decisions that change the analysis

What if the line fits but available clearance does not?

Hold installation or use. Have the qualified person reassess the actual span, elevation, connecting subsystem, user arrangement and obstruction path through applicable 3M instructions. Obtain application-specific clarification where the manual requires it. A shorter lanyard, extra tension or a different roof clamp is not a crew-authorized solution; use another accepted protection method when the system cannot meet its criteria.

What must the team record for actual use?

Record model/manuals, complete-system design, endpoint/load basis, actual span/elevation, components, permitted users/zone, clearance and rescue determination. Add installer protection, inspections, tensioning/installation findings, deviations, disposition and handover authority. Identify actual checkers and user briefing; this example supplies no design or connection release.

Training needs

- Model-specific synthetic-HLL installation instruction, including connector compatibility, energy-absorber/rope inspection, prescribed tensioning, chart selection and boundaries of authorized adjustments.
- Installer and user instruction on independent protection, protected connection transitions, actual span/user/clearance limits, line-damage reporting, prompt rescue and immediate quarantine after a fall or impact.

Confirm applicable qualifications and actual training evidence for the people assigned. Related toolbox talks support discussion; they do not establish competence.

References and adaptation

3M synthetic-rope HLL User Instructions 5902179K Rev G, © 2026, English section; includes 7600510

<https://multimedia.3m.com/mws/media/2661641O/3m-dbi-sala-synthetic-rope-horizontal-lifeline-5902179k-user-instructions.pdf?fn=ui-5902179k-synth-rope-hll.pdf>

OSHA 1926.502(d), qualified-person HLL design, complete-system criteria and rescue

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.502>

OSHA 1926.501, surface acceptance and fall-protection duties

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.501>

References reviewed October 13, 2026. Use actual equipment and product instructions, project design and site requirements. This original draft supplies no fabricated inspection, signature or approval.