L-Line
A-Line

Cargo
Acterra

Condor
> 360

Sterling
Service Bulletin

General Information

The Sterling 360™ is provided with an ample set of electrical connectors for body lighting. The locations of these connectors are not shown in the workshop manual. In addition to showing the location of these connectors, this bulletin provides guidelines for adding new wiring and repairing existing wiring.

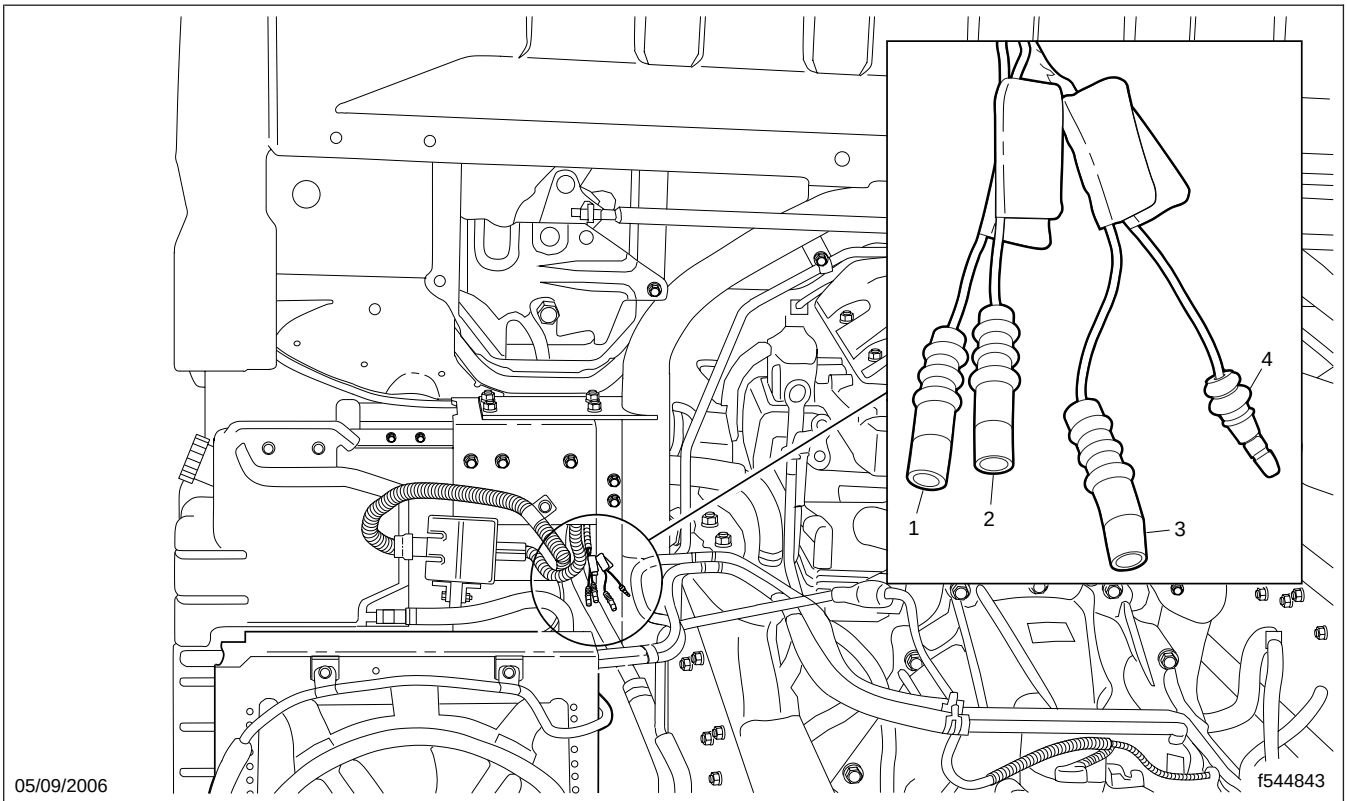
Adding Wiring to the Vehicle

Location of Connectors

See **Fig. 1** for terminals located on the left side of the chassis behind the rear cab mount. To identify connectors, see **Table 1**.

See **Fig. 2** for terminals located on the rear closing crossmember. To identify connectors, see **Table 2**.

See **Fig. 3** for the body options connector located inside the cab in the driver's footwell.



NOTE: The connectors are taped to the main wire loom with vinyl tape. To aid in recognition, each connector circuit is identified with a tag. To identify connectors, see **Table 1**.

1. Front Identification Light
2. Front Clearance Light
3. Front Dome Light (body)
4. Ground

Fig. 1, Front Chassis Connectors

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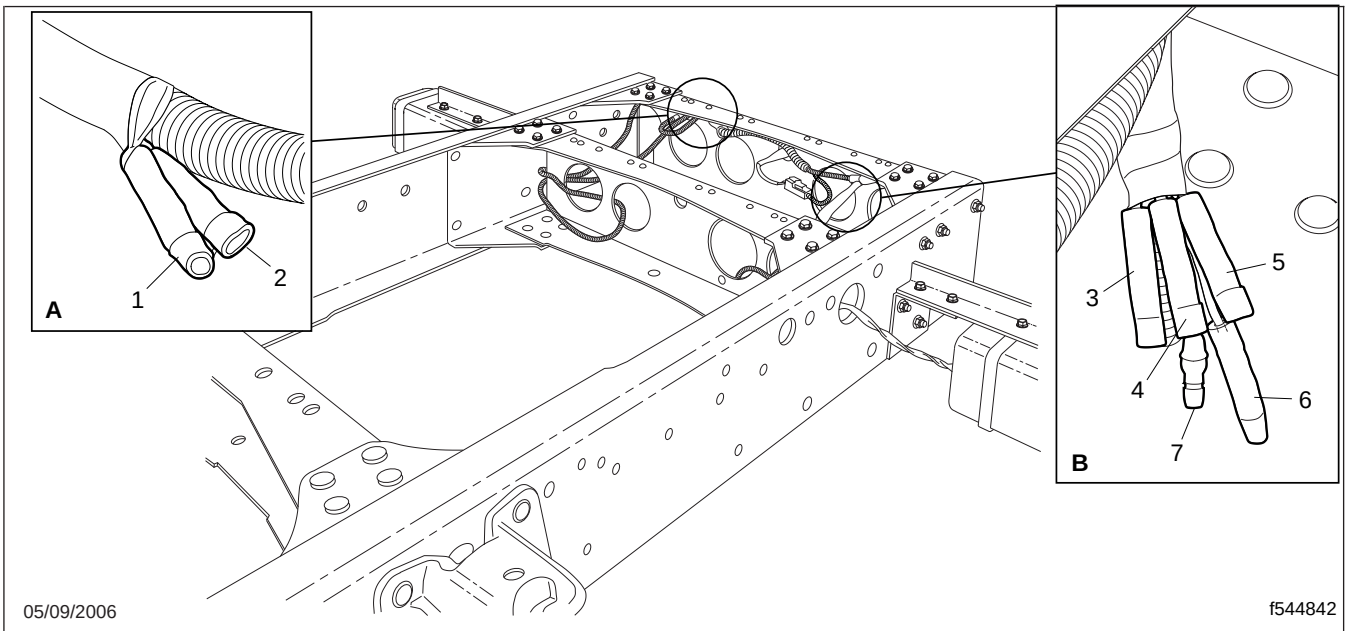


NOTE: The connectors are taped to the main wire loom with vinyl tape. To aid in recognition, each connector circuit is identified with a tag. To identify connectors, see **Table 2**.

A. Rear Connectors, RH side

1. Rear Clearance Light, RH
2. Rear Side Marker Light, RH
3. Rear Clearance Light, LH

B. Rear Connectors, LH side

4. Rear Side Marker Light, LH
5. Rear Identification Light
6. Rear Dome Light (body)
7. Ground

Fig. 2, Rear Chassis Connectors

No.	Name	Tag	Base Color–Tracer
1	Front Identification Light	ID LAMP	Green–White
2	Front Clearance Light	CL LAMP	Green–White
3	Front Dome Light (body)	VAN ROOM LAMP	Green–Red
4	Ground (GND)	VAN ROOM LAMP	Black

Table 1, Front Chassis Connectors

No.	Name	Tag	Base Color–Tracer
1	Rear Clearance Light, RH	CL LAMP	Green–White
2	Rear Side Marker Light, RH	SM LAMP	Green–White
3	Rear Clearance Light, LH	CL LAMP	Green–White
4	Rear Side Marker Light, LH	SM LAMP	Green–White
5	Rear Identification Light	ID LAMP	Green–White
6	Rear Dome Light (body)	VAN ROOM LAMP	Green–Red
7	Ground (GND)	VAN ROOM LAMP	Black

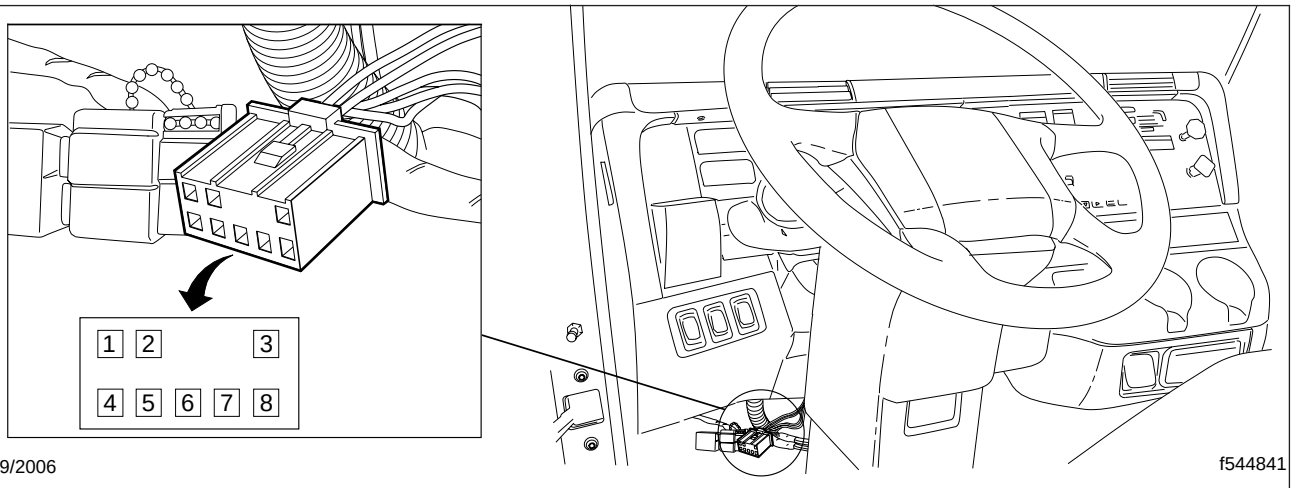
Table 2, Rear Chassis Connectors

Power Supply for Body Wiring

⚠ WARNING

Never attempt to increase the load of a circuit by replacing the existing fuse with one of a greater capacity. The excessive current flow could cause a fire, resulting in personal injury or loss of life.

1. To supply power to the body lights and other electrical equipment located in the body, use only the terminals specifically provided for this purpose. Do not add load to existing wires, or increase the fuse capacity of a circuit.
2. Use the terminals for wiring as specified:
   - 2.1 *Front Interior Dome, Clearance, and Identification Lights:* Use the connectors on the left side of the chassis behind the rear cab mount. See **Fig. 1**.
   - 2.2 *Rear Interior Dome, Clearance, Identification, and Side Marker Lights:* Use the connectors on the rear closing crossmember. See **Fig. 2**.
   - 2.3 *Auxiliary Power Unit, Additional Lighting:* Use the body options connector inside the cab in the driver's footwell. See **Fig. 3**.



NOTE: The body options connector is taped to the cab harness with vinyl tape. For pinouts on this connector, see **Table 3**.

Fig. 3, Body Options Connector

3. Use the dome light switch (body) inside the cab (lower left panel) to control illumination of any additional body dome lights, either front or rear. This switch does not control the lighting (ILL) circuit (cavity 5 on the body options connector).
4. The chassis connectors are not connected to the ignition switch. The body options connector is connected to the ignition switch through cavity 4. For pinouts on this connector, see **Table 3**.

5. The auxiliary power (IDLE UP) circuit increases the idle speed to 1000 revolutions per minute (rpm) if activated with 12V power. Normal idle speed is 625 to 675 rpm.

Body Options Connector			
Cavity	**Circuit**	**Base Color–Tracer**	**Fuse**
1	Battery (BAT)	Green–Red	10A
2	Accessory (ACC)	White–Red	10A
3	Ground (GND)	Black	—
4	Main (IGN)	Blue–Red	10A
5	Lighting (ILL)	Yellow–Red	5A
6	Not Used	—	—
7	Not Used	—	—
8	Auxiliary Power (IDLE UP)	Red–Black	—

Table 3, Body Options Connector

Extending Existing Wiring

1. When extending wires, use wire of the same color and gauge as the original wires.
2. Connect wires securely. Solder or crimp the terminals and cover them with shrink tube to be sure they are fully insulated.
3. Route wiring along the frame rails, crossmembers, and rear body plates where it will not be exposed to damage.
4. Do not extend or shorten battery cables. If the battery needs to be moved, replace the battery cables with new cables of the correct length.
5. Do not reroute the wiring between the starter and movable components connected to the frame. Do not modify any clamps on this wiring, or change the slack on the wires.
6. Do not route wiring near brake lines or fuel lines. Observe the minimum clearances in **Table 4**.

Wiring	Clearance: inch (mm)
Standard	0.4 (10)
Twisted Pairs	0.8 (20)

Table 4, Minimum Wiring Clearances (brake and fuel lines)

7. Protect wiring from sources of heat such as the exhaust pipe or muffler. Locate wires at least 7.9 inches (20 cm) from heat sources, and install a heat shield or insulating material if necessary.
8. Install metal shielding on wiring unprotected from below. Road debris, gravel, or dirt can damage unprotected wiring.
9. Route wires along with existing wiring whenever possible. Tape wire bundles together with coated or protected vinyl tape, and cover them with plastic, metallic, or rubberized loom. Allow adequate slack, particularly near engine and transmission components, to absorb motion and prevent unwanted contact.
10. When routing wires through metal plates, use grommets to protect wires from damage and possible short circuits.
11. When repairing new or existing wires, use the procedures under the heading "Repairing Electrical Wiring."

Clamping and Connecting Wires

1. When installing connectors, attach the female connector (socket) on the high (power supply) side. This can prevent a possible short circuit if the terminal works loose. Attach the male connector (pin) on the low (ground) side.
2. Clamp all wires securely and cover them with coated or protective tape. Choose locations away from moving parts and sharp corners on the chassis or body. Spot-weld or bolt bundled wires to the frame.
3. When clamping wires, use as standard the spacing in **Table 5**. Near the edges of metal parts, increase the number of clamps and cover exposed edges with protective material.

Harness Diameter: inch (mm)	Clamp Spacing: inch (mm)
0.2 (5) maximum	11.8 (300) maximum
between 0.2 and 0.4 (5–10)	about 16 (400)
between 0.4 and 0.8 (10–20)	about 20 (500)

Table 5, Standard Clamp Spacing

Repairing Electrical Wiring

Repairing Damaged Wire Insulation

1. Using shrink tubing, cover the damaged area. Overlap the damaged area at least 3/4 inch (20 mm) on both sides.

IMPORTANT: Do not repair the insulation if the wire underneath is also damaged. Remove and replace the damaged section.

2. If the insulation is chafed, find the source of chafing, and reroute the wiring away from it. If this is not possible, either cover the sharp edge with protective vinyl trim 48-02188-001, or use convoluted tubing to protect the insulation.
3. Cover the repaired section of wiring with plastic convoluted tubing.

Replacing Damaged Wire

⚠ CAUTION

Never replace a wire with a smaller gauge wire. Wire gauge is selected by electrical load and current capabilities, and overheating may occur if a wrong gauge wire is used.

1. Replace damaged wire using a solder splice. See under the heading "Repairing Broken Wire" for instructions. Use only solder splices.

IMPORTANT: If the damaged wire is 12-gauge or larger, do not replace a section of it; replace the entire wire.

2. If the insulation has been discolored, find out what is causing the wire to overheat, and correct it.
3. If the insulation has been melted, check the routing of the wiring and find the problem. Reroute the wiring if possible, and secure it with clamps. If rerouting is not possible, use a heat shield to protect the wire.

Repairing Electrical Connections

1. Find the cause of the damage or corrosion, and correct the problem.

2. Clean corroded connectors with a wire brush, using a solution of baking soda and water. Dry the area. Replace any damaged connectors.
3. Spray any exposed connectors (such as ground terminals) with dielectric red enamel. See **Table 6**.

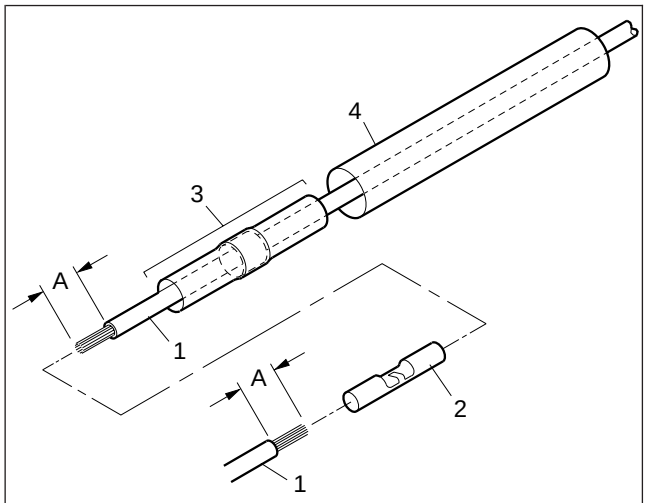
Protectant Material	Approved Brands
Spray-On Application	MMM 1602 IVI–Spray Sealer, Red Electric Grade

Table 6, Approved Dielectric Red Enamel

Repairing Broken Wire

IMPORTANT: The following procedure is the only approved method of repairing broken wires on Sterling vehicles. This procedure (solder splicing) is done using solder repair kit ESYES66-404, and is for 14- or 16-gauge wire. Do not repair wire that is 12-gauge or larger; replace it.

1. Strip the ends of the wire to be repaired. Make sure the stripped ends are 3/8- to 1/2-inch (10- to 13-mm) long.
2. If repairing an exterior wire, slip a 3-inch (75-mm) long piece of shrink tube over one end of the wire. See **Fig. 4**.



A. 3/8- to 1/2-Inch (10- to 13-mm)

1. Wire End
2. Crimp Splice
3. Solder Sleeve
4. Shrink Tube

Fig. 4, Exterior Wire Repair

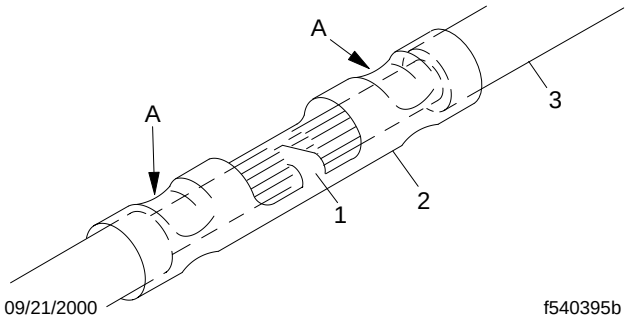
3. Slip a solder sleeve from kit ESYES66-404 over one end of the wire. See **Fig. 4**.
4. Using a suitable crimp tool and a crimp splice from the kit, crimp the ends of the wire as follows (see **Fig. 5**):

   4.1 Insert a stripped wire end into the crimp splice until it touches the wire stop in the middle of the crimp splice.

   4.2 Center the crimping tool between the wire stop and the end of the crimp splice. Crimp the wire.

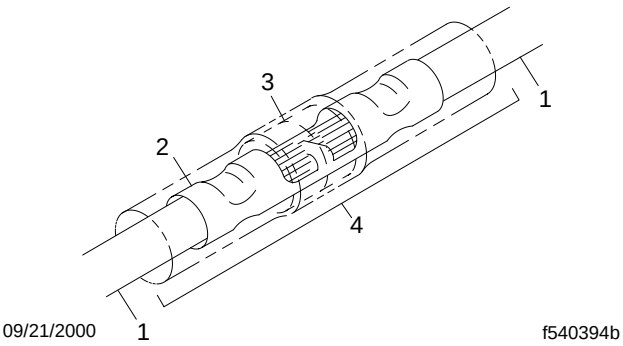
4.3 Repeat the two substeps above for the other wire end.

5. Check the crimp, making sure the crimping tool impression is on both ends of the crimp splice.
6. Slide the solder sleeve over the crimp splice so the solder ring is over the center of the crimp splice. See **Fig. 6**. Apply 250°F (121°C) heat until the solder flows into the splice crimp and the plastic sleeve has shrunk completely against the wire.



A. Center crimping tool here.
1. Wire Stop
2. Crimp Splice (shown crimped)
3. Wire

Fig. 5, Crimping Tool Centering Points



1. Wire
2. Crimp Splice (shown crimped)
3. Solder
4. Solder Sleeve

Fig. 6, Wire Portion Prepared for Soldering

7. Slide the shrink tubing over the splice. Apply 250°F (121°C) heat to it until it has completely shrunk against the wire insulation. Some of the sealant material should be bubbling out from the ends of the shrink tube.

Warranty

This is an informational bulletin only. Warranty does not apply.