

ALLISON HYBRID

DRIVE UNIT LUG REPLACEMENT



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Drive Unit Lug Replacement

Introduction

- Allison Hybrid H 40/50 EP System drive unit high voltage lugs are replaceable.
 - Replacement lugs use a bolt rather than stud and nut for high voltage cable connection.
- SIL 6-EP-10 introduces the replacement lug and covers lug replacement procedures.



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Introduction (cont'd)

- Reference Service Manual SM3602EN for high voltage cable housing removal and installation procedures.
 - Reference 18-EP-09 for cable housing serviceability on drive units prior to serial number 7110001178.
- When performing this procedure, replace all six high voltage lugs.
 - Lug replacement can be performed without drive unit disassembly.



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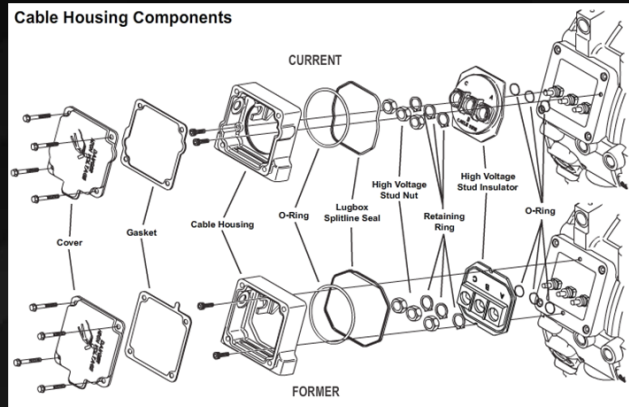
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Drive Unit Lug Replacement

Cable Housing Removal

- Before performing lug replacement or service on any H 40/50 EP System components, perform the High Voltage Disconnect Verification procedure provided in Allison technical publications.
- Remove the cable housing cover and disconnect the high voltage cables from the drive unit.
- Remove the cable housing cover and disconnect the high voltage cables from the drive unit.

Cable Housing Components



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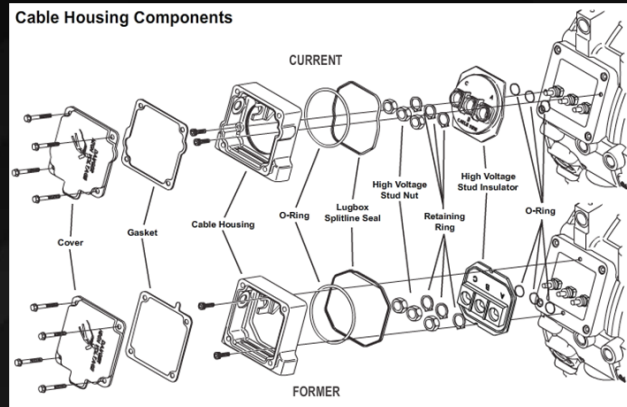
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Drive Unit Lug Replacement

Cable Housing Removal (cont'd)

- Remove the cable housing from the drive unit.
 - Inspect and if necessary replace the housing o-ring and splitline seal.*
- Remove the snap rings securing the lugs to the high voltage insulator.
- Remove the insulator.

Cable Housing Components



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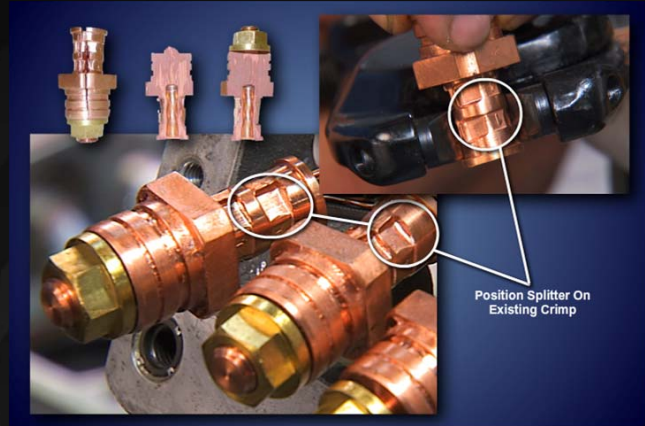


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Drive Unit Lug Replacement

Lug Removal

- Lugs are removed by splitting them using the nut splitter specified in SIL 6-EP-10.
 - *Carefully remove the protective shrink wrap.*
 - *Position the splitter on the existing crimp spots and tighten the tool.*
 - *To avoid damage, do not allow the splitter to make contact with the wires.*
 - *Gently pull the split lugs to remove them from the high voltage wires.*
- High voltage wires may be brittle and susceptible to damage.
 - *Avoid excessive tugging or twisting during lug removal.*



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RESOURCES: Shrink Wrap Removal



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Shrink Wrap Removal



RESOURCES

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Drive Unit Lug Replacement

Lug Installation

- Prepare the high voltage wires for lug installation.
 - *Wear clean nitrile gloves to minimize the possibility of oxidation which can occur from skin oils contacting the bare copper wires.*
 - *Straighten the wires using a clean pair of needle nose pliers.*
 - *Trim the wires to within 3 millimeters length of each other.*
 - *Clean the wires using Scotch Brite and contact cleaner or alcohol.*
- Install a 1-1/2 inch piece of shrink wrap over the prepped wires.
- Position the replacement lug onto the high voltage wires.



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Lug Installation (cont'd)

- Crimp the lug using the crimp tool specified in SIL 6-EP-10.
 - *Make the first crimp near the four-sided flange.*
 - *Make the second crimp just behind the first crimp.*
- Move the shrink wrap into position and apply heat as needed to conform the wrap to the wires and installed lug.
 - *Each replacement lug includes a new o-ring.*
 - *Make sure the o-rings are removed prior to heating the shrink wrap.*



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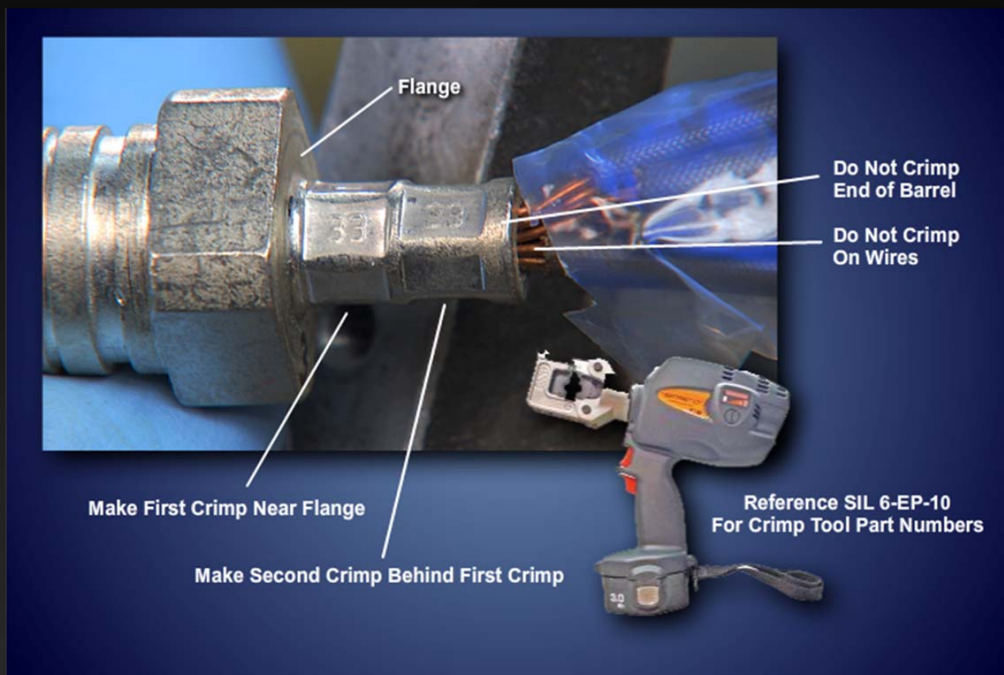
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RESOURCES: Crimp Replacement



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Crimp Replacement



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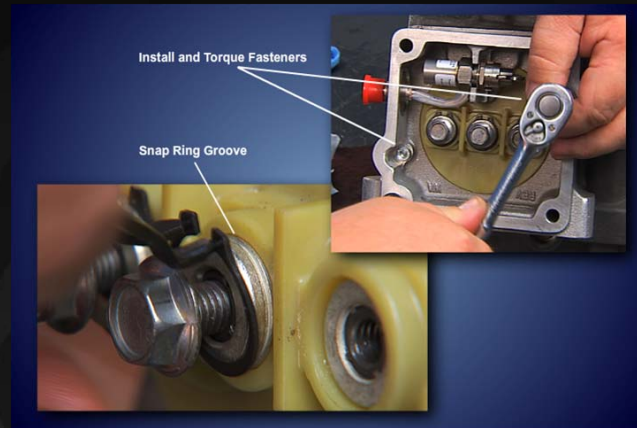


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Drive Unit Lug Replacement

Cable Housing Installation

- Install the cable housing to the drive unit following the procedures in Service Manual SM3602EN.
 - *Install the o-rings on the lugs.*
 - *Position the insulator over the lugs.*
 - *Install the lug snap rings.*
 - *Install the cable housing o-ring and splitline seal.*
 - *Install the cable housing to the drive unit.*
- Install the high voltage cables to the drive unit lugs.
- Install the cable housing cover and torque the bolts to specification.



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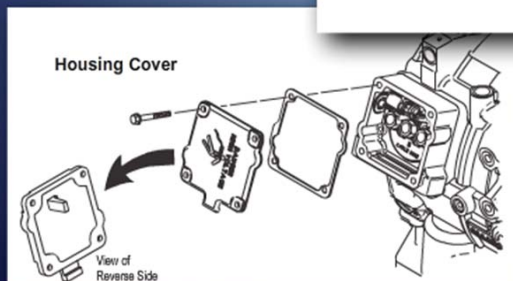
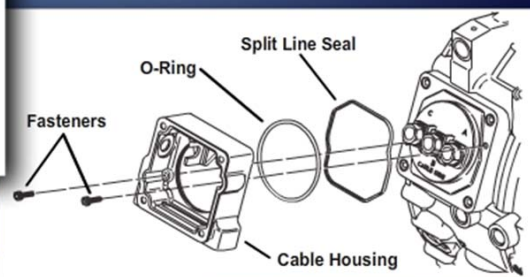
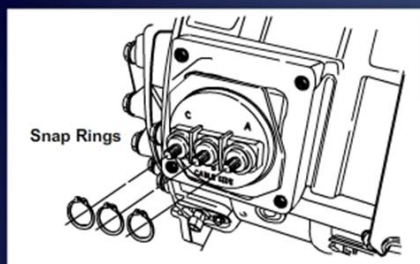


RESOURCES: Cable Housing Installation



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Cable Housing Installation



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