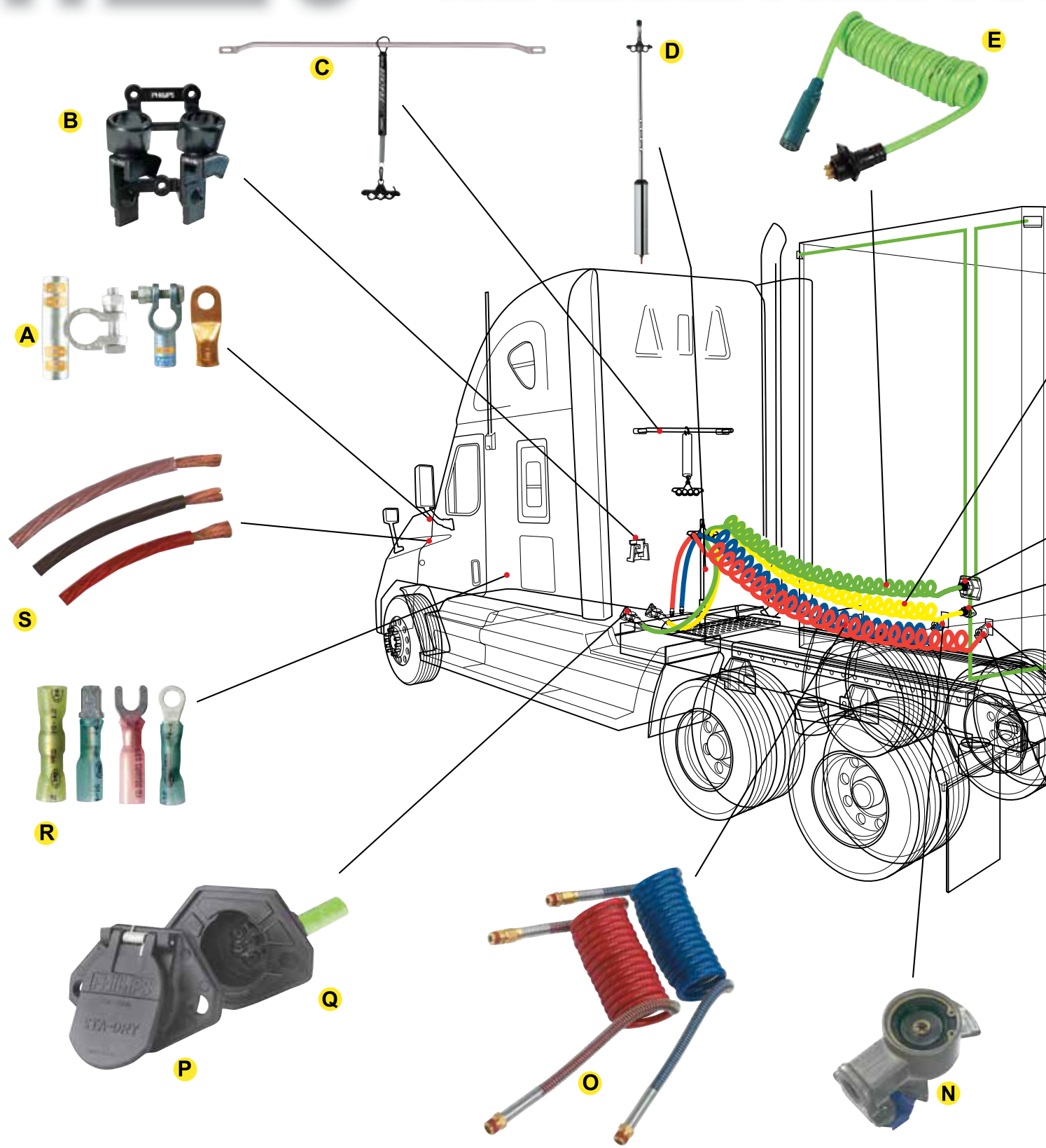


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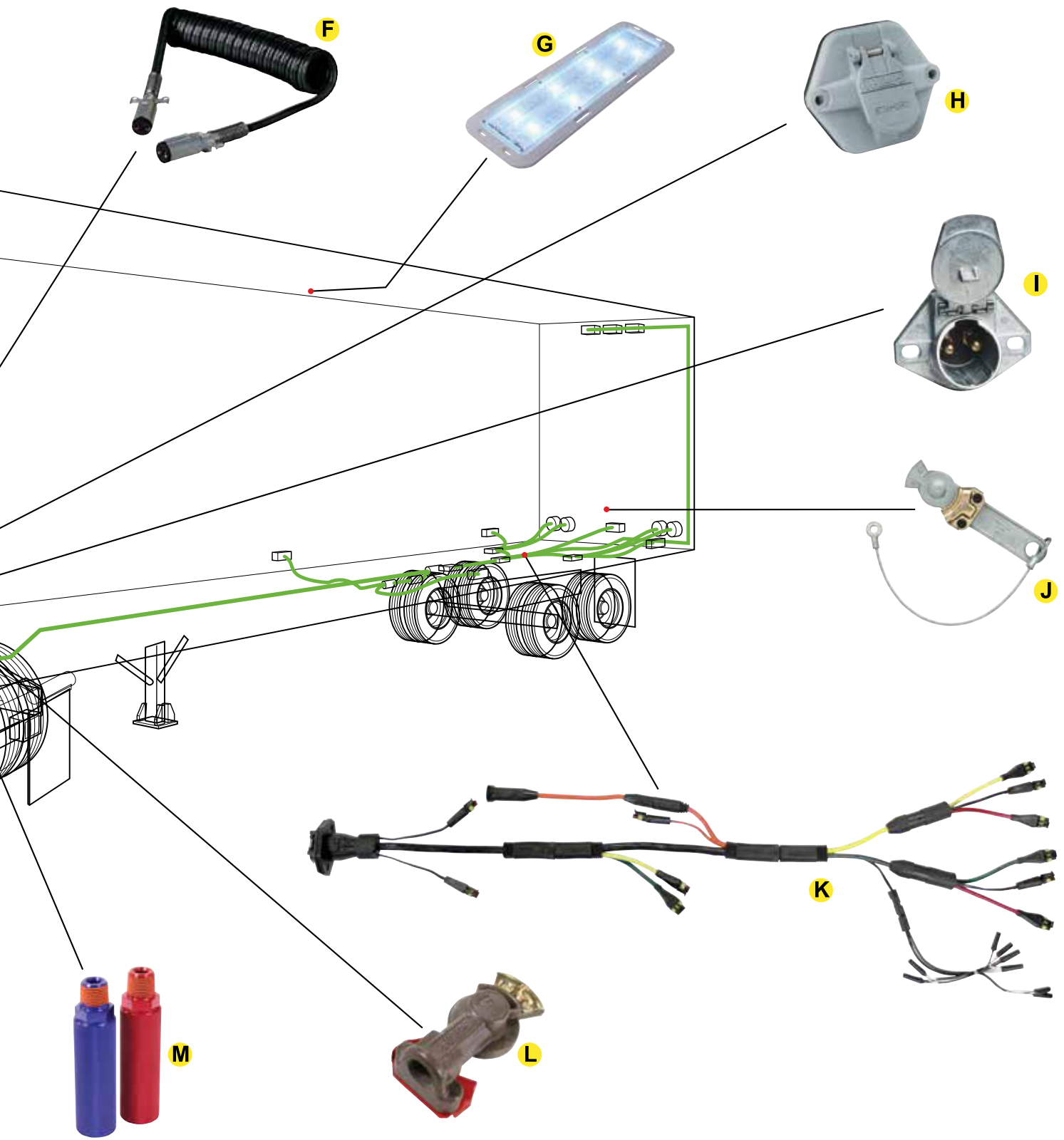
WE MAKE PRODUCTS THAT MAKE A DIFFERENCE[®]





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TS THAT MAKE A DIFFERENCE®



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Since 1928, Phillips has been driving the global transportation industry. Hugh Phillips began selling truck parts to produce haulers over 88 years ago. Seizing an opportunity, he developed and applied for a patent for a vehicle signal arm. The company began manufacturing the signal arm two years later, and this single product became the foundation on which the company's success was built.

Today, Phillips Industries is a creator as well as a distributor of a wide variety of electrical and air products, serving the transportation industry. The company is a Tier 1 supplier and partner to virtually every major tractor and trailer manufacturer in the U.S., and is a leader in the parts aftermarket for the transportation industry. The sales and customer service staff consistently rate among the top in the industry with extensive training and product knowledge.



Over the decades, Phillips has evolved from a parts distributor to an innovator and manufacturer of advanced-concept parts for the transportation industry. "In many cases, the only way to meet our specification was to build it ourselves," says Bob Phillips, CEO. This philosophy has made the company a recognized leader in quality and innovation. Phillips manufactures highly engineered, solution driven products with great attention to detail, using the highest grade materials and consistently adhere to strict TS 16949 production standards at all manufacturing facilities. Extensive testing ensures that every product made reduces fleet down time and operating expenses, saving customers millions in installation and replacement costs.

Phillips' leadership in quality and innovation has been recognized by numerous industry awards including Ford's Q1, Freightliner's Masters' of Quality, Paccar's Preferred Supplier, Volvo's ISO 9002 and Napa's Supplier of the Year. Phillips has certification of the coveted industry-wide ISO 14001 and TS 16949.

Based in Santa Fe Springs, California, Phillips Industries has manufacturing and distribution facilities throughout the U.S., Canada, Mexico, China, and Europe.





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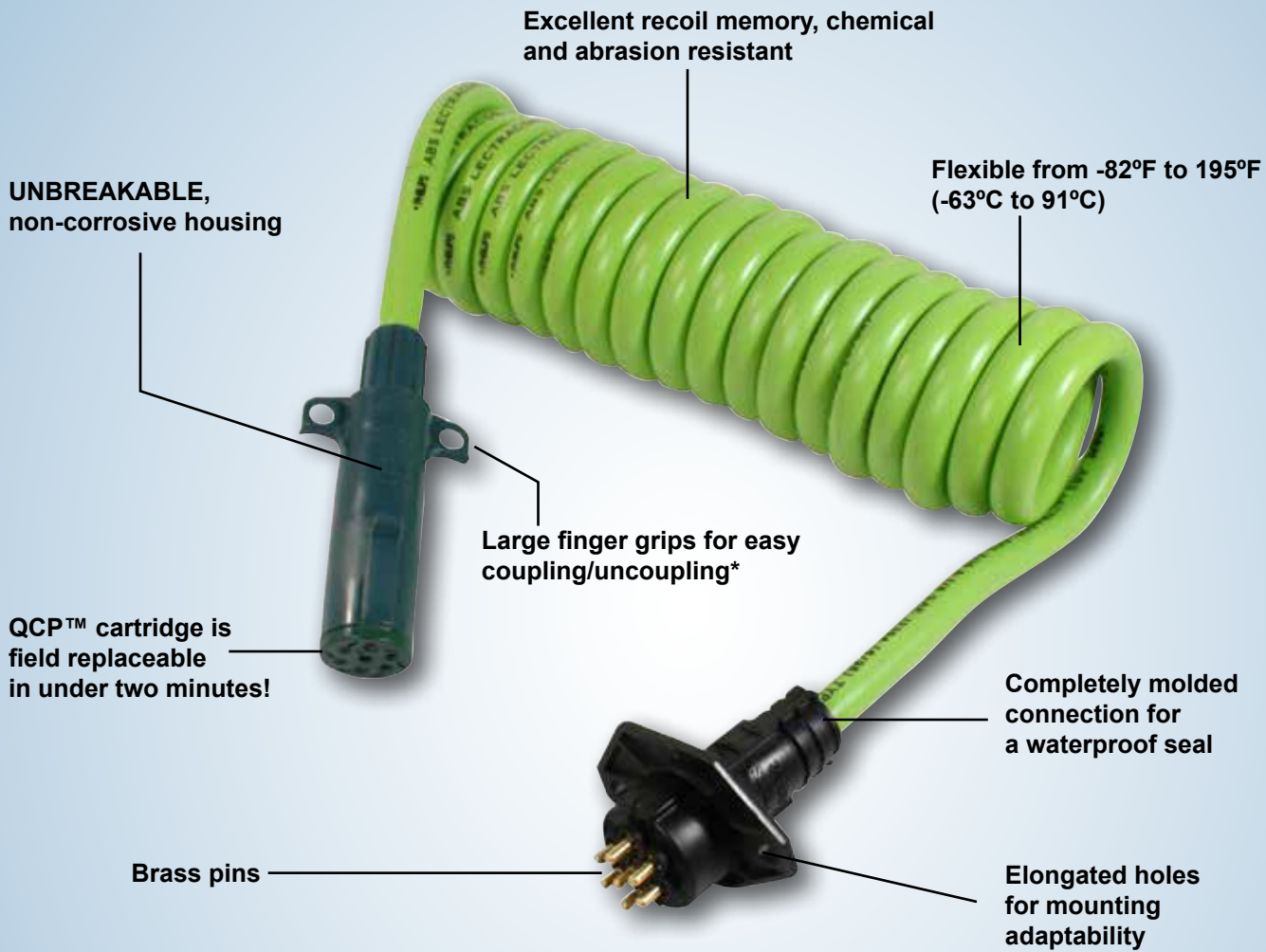
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ELECTRICAL ASSEMBLIES

STA-DRY® QCMS2™



* Standard on all Phillips electrical cable assemblies and plugs

ELECTRICAL ASSEMBLIES

- Large finger grips for coupling/uncoupling, even with gloves
- Longer plug interior for easy maintenance
- Protected with non-corrosive, non-conductive, dielectric grease
- WEATHER-TITE™ PERMAPLUGS™ have machine-crimped terminals for increased conductivity
- Meets SAE J560, J2222, J2394 or ISO 3731

STA-DRY® QCMS2™



1/8, 2/10 & 4/12 ga. ABS Applications

Part No.	Description	
30-9334	12', with QCMS2™ and QCP™	*
30-9634	15', with QCMS2™ and QCP™	*
30-9934	15', 48" lead, with QCMS2™ and QCP™	*

- A tight STA-DRY® seal locks out road contaminants, completely stopping the devastating effects of corrosion
- Plugs directly into the tractor and is rarely removed, further reducing the possibility of contaminants entering the electrical system
- Features the revolutionary QCP™ (Quick-Change Plug), with QCP™ cartridge which is field replaceable in under two minutes!
- Works with the QCS® or QCS2® boot, replaces the socket
- Flexible from -82°F to 195°F (-63°C to 91°C)
- Built-in theft deterrent
- Patent No. 6,483,200
- ABS LECTRACOIL™ jacketing
- Meets SAE J560, J2394 and J2222
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads

1/8, 2/10 & 4/12 ga. ABS Applications

QCP™ (Quick-Change Plug)		5 Year Warranty
Part No.	Description	See website for details
30-9324	12', with QCP™	*
30-9624	15', with QCP™	*
30-9924	15', 48" lead, with QCP™	*
30-9954	20', with QCP™	*

WEATHER-TITE™ PERMAPLUG™		3 Year Warranty
Part No.	Description	See website for details
30-9120	10', with WEATHER-TITE™ PERMAPLUGS™	NEW *
30-9320	12', with WEATHER-TITE™ PERMAPLUGS™	*
30-9620	15', with WEATHER-TITE™ PERMAPLUGS™	*
30-9920	15', 48" lead, with WEATHER-TITE™ PERMAPLUGS™	*
30-9820	20', 48" lead, with WEATHER-TITE™ PERMAPLUGS™	NEW *

Zinc Die-Cast Plug		3 Year Warranty
Part No.	Description	See website for details
30-9321	12', with zinc die-cast plugs	*
30-9621	15', with zinc die-cast plugs	*
30-9921	15', 48" lead, with zinc die-cast plugs	*
30-9951	20', with zinc die-cast plugs	*
30-9821	20', 48" lead, with zinc die-cast plugs	NEW *

ABS LECTRACOIL™



- Recommended for ABS applications and trailers with high voltage demands
- Flexible from -82°F to 195°F (-63°C to 91°C)
- Excellent recoil memory, chemical and abrasion resistance
- QCP™ cartridge is field replaceable in under two minutes!
- The WEATHER-TITE™ PERMAPLUG™ seal blocks contaminants from entering the electrical system
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads

* Working length - As measured by pull force per SAE J2222. Length of actual cable is significantly longer.

ABS PERMACOIL™



- Recommended for ABS applications
- Flexible from -87°F to 150°F (-66°C to 66°C)
- Good recoil memory, chemical and abrasion resistance
- QCP™ cartridge is field replaceable in under two minutes!
- The WEATHER-TITE™ PERMAPLUG™ seal blocks contaminants from entering the electrical system
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads

1/8, 2/10 & 4/12 ga. ABS Applications

QCP™ (Quick-Change Plug)

Part No.	Description	
30-4324	12', with QCP™	*
30-4624	15', with QCP™	*
30-4924	15', 48" lead, with QCP™	*
30-4954	20', with QCP™	*

WEATHER-TITE™ PERMAPLUG™

Part No.	Description	
30-4320	12', with WEATHER-TITE™ PERMAPLUGS™	*
30-4420	12', 48" lead, with WEATHER-TITE™ PERMAPLUGS™	*
30-4620	15', with WEATHER-TITE™ PERMAPLUGS™	*
30-4920	15', 48" lead, with WEATHER-TITE™ PERMAPLUGS™	*
30-4820	20', 48" lead, with WEATHER-TITE™ PERMAPLUGS™	NEW *

Zinc Die-Cast Plug

Part No.	Description	
30-4321	12', with zinc die-cast plugs	*
30-4621	15', with zinc die-cast plugs	*
30-4721	15', 72" lead, with zinc die-cast plugs	*
30-4921	15', 48" lead, with zinc die-cast plugs	*
30-4951	20', with zinc die-cast plugs	*
30-4821	20', 48" lead, with zinc die-cast plugs	NEW *

DURACOIL™



- For standard 7-way applications, NON-ABS equipped trailers
- Flexible from -82°F to 195°F (-63°C to 91°C)
- Excellent recoil memory, chemical and abrasion resistance
- UNBREAKABLE WEATHER-TITE™ PERMAPLUG™ or heavy duty reinforced zinc die-cast plugs
- The WEATHER-TITE™ PERMAPLUG™ seal blocks contaminants from entering the electrical system
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads

1/10 & 6/12 ga. NON-ABS Applications

WEATHER-TITE™ PERMAPLUG™

Part No.	Description	
22-9320	12', with WEATHER-TITE™ PERMAPLUGS™	*
22-9620	15', with WEATHER-TITE™ PERMAPLUGS™	*
22-9720	15', 72" lead, with WEATHER-TITE™ PERMAPLUGS™	*

Zinc Die-Cast Plug

Part No.	Description	
22-9321	12', with zinc die-cast plugs	*
22-9521	12', 72" lead, with zinc die-cast plugs	*
22-9621	15', with zinc die-cast plugs	*
22-9721	15', 72" lead, with zinc die-cast plugs	*
22-9921	15', 48" lead, with zinc die-cast plugs	*

1/12 & 6/14 ga. NON-ABS Applications

Part No.	Description	
24-9621	15', with zinc die-cast plugs	*

* Working length - As measured by pull force per SAE J2222. Length of actual cable is significantly longer.

NON-ABS PERMACOIL™

1/10 & 6/12 ga. NON-ABS Applications

QCP™ (Quick-Change Plug)

Part No.	Description	
22-4324	12', with QCP™	*
22-4624	15', with QCP™	*
22-4954	20', with QCP™	*

WEATHER-TITE™ PERMAPLUG™

Part No.	Description	
22-4320	12', with WEATHER-TITE™ PERMAPLUGS™	*
22-4620	15', with WEATHER-TITE™ PERMAPLUGS™	*

Zinc Die-Cast Plug

Part No.	Description	
22-4321	12', with zinc die-cast plugs	*
22-4621	15', with zinc die-cast plugs	*
22-4721	15', 72" lead, with zinc die-cast plugs	*
22-4951	20', with zinc die-cast plugs	*



1/12 & 6/14 ga. NON-ABS Applications

QCP™ (Quick-Change Plug)

Part No.	Description	
24-4324	12', with QCP™	*
24-4624	15', with QCP™	*
24-4954	20', with QCP™	*

WEATHER-TITE™ PERMAPLUG™

Part No.	Description	
24-4320	12', with WEATHER-TITE™ PERMAPLUGS™	*
24-4620	15', with WEATHER-TITE™ PERMAPLUGS™	*

Zinc Die-Cast Plug

Part No.	Description	
24-4321	12', with zinc die-cast plugs	*
24-4621	15', with zinc die-cast plugs	*
24-4951	20', with zinc die-cast plugs	*

- For standard 7-way applications, NON-ABS equipped trailers with minimal voltage demands
- Flexible from -87°F to 150°F (-66°C to 66°C)
- Good recoil memory, chemical and abrasion resistance
- QCP™ cartridge is field replaceable in under two minutes!
- The WEATHER-TITE™ PERMAPLUG™ seal blocks contaminants from entering the electrical system
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads

1/8, 2/10 & 4/12 ga. ISO Applications

Part No.	Description	
31-9323	12', with zinc die-cast plugs	*
31-9623	15', with zinc die-cast plugs	*
31-9923	15', 48" lead, with zinc die-cast plugs	*

ISOCOIL™



- For ISO (International Standard Organization) / auxiliary applications
- Flexible from -82°F to 195°F (-63°C to 91°C)
- Excellent recoil memory, chemical and abrasion resistance
- Twisted pair brown and green wires to avoid signal noise
- Male ground pin to prevent mis-connections
- Heavy duty, reinforced zinc die-cast housing
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads

* Working length - As measured by pull force per SAE J2222. Length of actual cable is significantly longer.

ACCESSORY COIL



1/8, 2/10 & 4/12 ga. ISO Applications

Part No.	Description	
31-4323	12', with zinc die-cast plugs	*
31-4623	15', with zinc die-cast plugs	*

- For auxiliary applications
- Brown and green wires are not twisted
- Flexible from -87°F to 150°F (-66°C to 66°C)
- Good recoil memory, chemical and abrasion resistance
- Male ground pin to prevent mis-connections
- Heavy duty, reinforced zinc die-cast plugs

Straight STA-DRY® QCMS2™

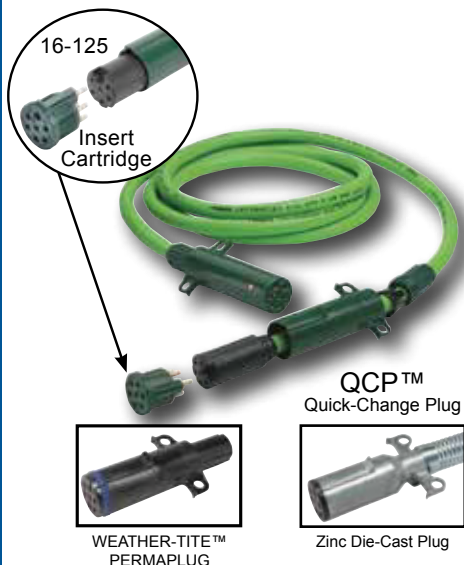


1/8, 2/10 & 4/12 ga. ABS Applications

Part No.	Description	
30-2055	12', with QCMS2™ with QCP™	
30-2075	15', with QCMS2™ with QCP™	
30-2095	20', with QCMS2™ with QCP™	

- A tight STA-DRY® seal locks out road contaminants, completely stopping the devastating effects of corrosion
- Plugs directly to the tractor and is rarely removed, further reducing the possibility of contaminants entering the electrical system
- QCP™ cartridge is field replaceable in under two minutes!
- Works with the QCS® or QCS2® boot, replaces the socket
- Built-in theft deterrent
- ABS LECTRAFLEX™ jacketing
- Flexible from -40°F to 150°F (-40°C to 66°C)
- Available in 3-IN-1 and 4-IN-1 assemblies
- Patent No. 6,483,200

Straight ABS LECTRAFLEX™



1/8, 2/10 & 4/12 ga. ABS Applications

QCP™ (Quick-Change Plug)

Part No.	Description	
30-2054	12', with QCP™	
30-2074	15', with QCP™	
30-2094	20', with QCP™	

WEATHER-TITE™ PERMAPLUG™

Part No.	Description	
30-2010	8', with WEATHER-TITE™ PERMAPLUGS™	NEW
30-2030	10', with WEATHER-TITE™ PERMAPLUGS™	
30-2050	12', with WEATHER-TITE™ PERMAPLUGS™	
30-2070	15', with WEATHER-TITE™ PERMAPLUGS™	

Zinc Die-Cast Plug

Part No.	Description	
30-2011	8', with zinc die-cast plugs	
30-2031	10', with zinc die-cast plugs	
30-2051	12', with zinc die-cast plugs	
30-2071	15', with zinc die-cast plugs	
30-2091	20', with zinc die-cast plugs	

- Spring-wrapped compression contact pins
- Chemical and abrasion resistant
- QCP™ cartridge is field replaceable in under two minutes!
- The WEATHER-TITE™ PERMAPLUG™ seal blocks contaminants from entering the electrical system
- Flexible from -40°F to 150°F (-40°C to 66°C)
- Available in 3-IN-1 and 4-IN-1 assemblies

* Working length - As measured by pull force per SAE J2222. Length of actual cable is significantly longer.

Straight NON-ABS DURAFLEX™

1/10 & 6/12 ga. NON-ABS Applications

Part No.	Description
22-2011	8', with zinc die-cast plugs
22-2031	10', with zinc die-cast plugs
22-2051	12', with zinc die-cast plugs
22-2071	15', with zinc die-cast plugs

- Chemical and abrasion resistant
- Heavy duty, reinforced zinc die-cast housing
- Spring-wrapped compression contact pins
- Flexible from -40°F to 150°F (-40°C to 66°C)
- Available in 3-IN-1 and 4-IN-1 assemblies



Straight ISOFLEX™

1/8, 2/10 & 4/12 ga. ISO Applications

Part No.	Description
31-2033	10', with zinc die-cast plugs
31-2053	12', with zinc die-cast plugs
31-2073	15', with zinc die-cast plugs
31-2093	20', with zinc die-cast plugs

- For auxiliary applications
- Twisted pair brown and green wires to reduce signal
- Spring-wrapped compression contact pins
- Good chemical and abrasion resistance
- Heavy duty, reinforced zinc die-cast housing
- Flexible from -40°F to 150°F (-40°C to 66°C)
- Available in 4-IN-1 assemblies



DOLLY CABLES

1/8, 2/10 & 4/12 ga. ABS Applications

Part No.	Description
30-4140	10', 'Y' dolly cable, with WEATHER-TITE™ PERMAPLUGS™ NEW *
30-4141	10', 'Y' dolly cable, with zinc die-cast plugs NEW *

- For trailer doubles utilizing dolly applications
- Connect electricals to the second trailer and dolly with one cable
- Recommended for ABS applications
- ABS PERMACOIL™ jacketing flexible from -87°F to 150°F (-66°C to 66°C)
- Good recoil memory, chemical and abrasion resistance
- WEATHER-TITE™ PERMAPLUG™ seal blocks all contaminants from entering the electrical system, creating a complete seal!
- Plugs meet SAE J560 specifications

'Y' Dolly Cables

NEW!



Zinc Die-Cast Plug

* Working length - As measured by pull force per SAE J2222. Length of actual cable is significantly longer.

LIGHT DUTY CABLES

6 & 4-Way Coils



Molded plug for long life!

6-Way Coil - 6/16 ga.		
Part No.	Description	
19-6708	8', with THERMOSEALED™ plugs	*
19-6710	10', with THERMOSEALED™ plugs	*
19-6712	12', with THERMOSEALED™ plugs	*
19-6715	15', with THERMOSEALED™ plugs	*

4-Way Coil - 4/16 ga.		
Part No.	Description	
19-4708	8', with THERMOSEALED™ plugs	*
19-4710	10', with THERMOSEALED™ plugs	*
19-4712	12', with THERMOSEALED™ plugs	*
19-4715	15', with THERMOSEALED™ plugs	*

- For light duty towing applications such as boats and utility trailers
- Plugs are molded for moisture and corrosion resistance
- Same heavy duty jacket as our PERMACOIL™ and ABS PERMACOIL™
- Flexible from -87°F to 150°F (-66°C to 66°C)

7-Way Light Duty PERMACOIL™



1/14 & 6/16 ga. Fine Stranded Copper		
Part No.	Description	
19-7752	11.5', with PERMAPLUGS™	*

- Light duty 7-way accessory cable for truck mounted applications such as forklifts
- Capable of running stop, turn and tail lights
- 360° compression ring secures PERMAPLUG™ to cable and eliminates moisture and corrosion
- Flexible from -87°F to 150°F (-66°C to 66°C)
- Good recoil memory, chemical and abrasion resistance
- Meets ISO 1185 and ISO 4141 specifications

LIFTGATE CHARGING CABLES

- For liftgate applications utilizing a trailer battery pack
- 4 ga. fine stranded copper for flexibility
- 100 amp continuous capacity; 200 amp intermittent capacity

Dual Pole



2/4 ga. Fine Stranded Copper		
Part No.	Description	
23-2326	12', 1 ground, 1 hot	*
23-2626	15', 1 ground, 1 hot	*
23-2926	15', 48" lead, 1 ground, 1 hot	*

- Excellent recoil memory, chemical and abrasion resistance
- Flexible from -82°F to 195°F (-63°C to 91°C)
- Internal ground to improve ground connections
- Heavy duty, reinforced zinc die-cast housing
- Mates with dual pole metal socket 15-326

* Working length - As measured by pull force per SAE J2222. Length of actual cable is significantly longer.

Dual Pole PERMACOIL™

2/4 ga. Fine Stranded Copper		
Part No.	Description	
23-2316	12', 1 ground, 1 hot	*
23-2616	15', 1 ground, 1 hot	*
23-2916	15', 40" lead, 1 ground, 1 hot	*

- Good recoil memory, chemical and abrasion resistance
- Flexible from -87°F to 150°F (-66°C to 66°C)
- Internal ground to improve ground connections
- Mates with dual pole metal socket 15-326
- Same heavy duty jacket as our PERMACOIL™ and ABS PERMACOIL™
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads



2/4 ga. Fine Stranded Copper		
Part No.	Description	
23-2630	15', 48" and 24" leads, 1 ground, 1 hot	*

- For fleets with single and dual pole trailers
- Allows dual pole tractor to connect to single or dual pole trailer
- Coil has dual pole tractor side and dual and single pole plug trailer side
- Excellent recoil memory, chemical and abrasion resistance
- Flexible from -82°F to 195°F (-63°C to 91°C)
- Heavy duty, reinforced zinc die-cast housing
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads

Dual Pole "Y" Adapter**Dual Pole to Single Pole Lead**

2/4 ga. Fine Stranded Copper		
Part No.	Description	
23-2628	15', 1 ground, 1 hot	*

- Coil has one dual pole and one single pole plug
- Excellent recoil memory, chemical and abrasion resistance
- Flexible from -82°F to 195°F (-63°C to 91°C)
- Heavy duty, reinforced zinc die-cast housing

**Single Pole**

1/4 ga. Fine Stranded Copper		
Part No.	Description	
23-4325	12', 1 hot	*
23-4625	15', 1 hot	*
23-4925	15', with 48" lead, 1 hot	*

- Good recoil memory, chemical and abrasion resistance
- Flexible from -87°F to 150°F (-66°C to 66°C)
- Heavy duty, reinforced zinc die-cast housing
- Mates with single pole metal socket 15-320
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads



* Working length - As measured by pull force per SAE J2222. Length of actual cable is significantly longer.

Straight - Single Pole



1/4 ga. Fine Stranded Copper	
Part No.	Description
23-2051	12', 1 hot
23-2071	15', 1 hot
23-2091	20', 1 hot

- Good chemical and abrasion resistance
- Heavy duty, reinforced zinc die-cast plugs
- Flexible from -82°F to 195°F (-63°C to 91°C)
- Mates with 15-320 socket
- Available in 4-IN-1 applications

Straight - Dual Pole



2/4 ga. Fine Stranded Copper	
Part No.	Description
23-2251	12', 1 ground, 1 hot
23-2271	15', 1 ground, 1 hot

- Good chemical and abrasion resistance
- Internal ground to improve ground connection
- Heavy duty, reinforced zinc die-cast plugs
- Flexible from -82°F to 195°F (-63°C to 91°C)
- Mates with 15-326 socket
- Available in 4-IN-1 applications

AUXILIARY VERTICAL DUAL POLE CABLES

- For auxiliary applications such as tarps, utilizing a trailer battery pack
- Pins are offset allowing for initial ground contact, preventing the potential for arcing
- Made with either 4 ga. or 6 ga. fine stranded copper for flexibility
- Internal ground to improve ground connections
- Heavy duty, reinforced zinc die-cast plugs
- Mates with dual pole metal socket 15-328
- Meets J3082 standards

Vertical Dual Pole - 4 Ga.



2/4 ga. Fine Stranded Copper	
Part No.	Description
23-2329	12', 1 ground, 1 hot, 4 ga. *
23-2629	15', 1 ground, 1 hot, 4 ga. *
23-2929	15', with 48" lead, 1 ground, 1 hot, 4 ga. *

- Excellent recoil memory, chemical and abrasion resistance
- Flexible from -82°F to 195°F (-63°C to 91°C)
- 100 amp continuous capacity; 200 amp intermittent capacity

Vertical Dual Pole PERMACOIL™ - 4 Ga.



2/4 ga. Fine Stranded Copper	
Part No.	Description
23-4329	12', 1 ground, 1 hot, 4 ga. *
23-4629	15', 1 ground, 1 hot, 4 ga. *
23-4929	15', with 48" lead, 1 ground, 1 hot, 4 ga. *

- Good recoil memory, chemical and abrasion resistance
- Flexible from -87°F to 150°F (-66°C to 66°C)
- 100 amp continuous capacity; 200 amp intermittent capacity
- Same heavy duty jacket as our PERMACOIL™ and ABS PERMACOIL™

* Working length - As measured by pull force per SAE J2222. Length of actual cable is significantly longer.

Vertical Dual Pole - 6 Ga.

2/6 ga. Fine Stranded Copper		
Part No.	Description	
21-2329	12', 1 ground, 1 hot, 6 ga.	*
21-2629	15', 1 ground, 1 hot, 6 ga.	*
21-2929	15', with 48" lead, 1 ground, 1 hot, 6 ga.	*

- Excellent recoil memory, chemical and abrasion resistance
- Flexible from -82°F to 195°F (-63°C to 91°C)
- 70 amp continuous capacity; 130 amp intermittent capacity

**Vertical Dual Pole PERMACOIL™ - 6 Ga.**

2/6 ga. Fine Stranded Copper		
Part No.	Description	
21-4329	12', 1 ground, 1 hot, 6 ga.	*
21-4629	15', 1 ground, 1 hot, 6 ga.	*
21-4929	15', with 48" lead, 1 ground, 1 hot, 6 ga.	*

- Good recoil memory, chemical and abrasion resistance
- Flexible from -87°F to 150°F (-66°C to 66°C)
- 70 amp continuous capacity; 130 amp intermittent capacity
- Same heavy duty jacket as our PERMACOIL™ and ABS PERMACOIL™

**Straight - Vertical Dual Pole - 4 Ga.**

2/4 ga. Fine Stranded Copper		
Part No.	Description	
23-2232	10', 1 ground, 1 hot, 4 ga.	
23-2252	12', 1 ground, 1 hot, 4 ga.	
23-2272	15', 1 ground, 1 hot, 4 ga.	
23-2292	20', 1 ground, 1 hot, 4 ga.	

- Good chemical and abrasion resistance
- 100 amp continuous capacity; 200 amp intermittent capacity

**Straight - Vertical Dual Pole - 6 Ga.**

2/6 ga. Fine Stranded Copper		
Part No.	Description	
21-2232	10', 1 ground, 1 hot, 6 ga.	
21-2252	12', 1 ground, 1 hot, 6 ga.	
21-2272	15', 1 ground, 1 hot, 6 ga.	
21-2292	20', 1 ground, 1 hot, 6 ga.	

- Good chemical and abrasion resistance
- 70 amp continuous capacity; 130 amp intermittent capacity



* Working length - As measured by pull force per SAE J2222. Length of actual cable is significantly longer.

KIT**Liftgate Dual Pole Installation/Conversion Kit**

Part No.	Description
15-327	Liftgate dual pole conversion kit
15-327-150	Liftgate dual pole conversion kit with 150 amp circuit breakers

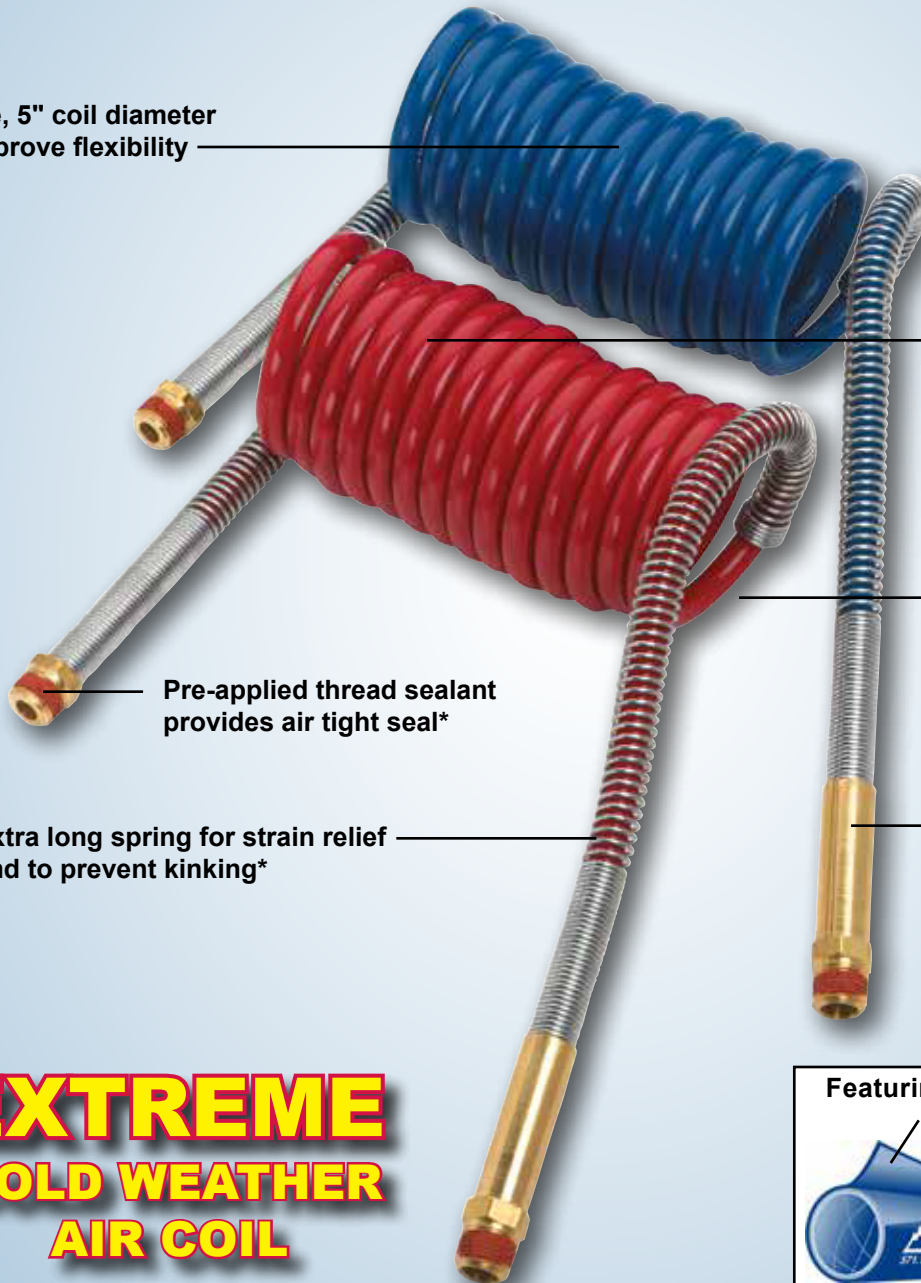
Kit Contents		
Part No.	Description	Qty.
15-326	Dual pole socket	1
15-798	Gasket	1
15-740	Boot	1
15-784	Bracket	1
23-2626	15' dual pole coiled cable	1
3-503-010	4 ga. red battery cable	10 feet
3-504-010	4 ga. black battery cable	10 feet
8-4121	4 ga. x 1/4" tin plated copper lug	4
8-4122	4 ga. x 5/16" tin plated copper lug	4
8-4123	4 ga. x 3/8" tin plated copper lug	2
6-405	4 ga. x 1.5" red shrink tubing	2
6-404	4 ga. x 1.5" black shrink tubing	2
5-712	7/16" grommets for battery box	1
5-45074	7/16" rubber cushion clamps	20
17-154	QWIK-SNAP™ 4-hose holder	1
80-250	Dielectric grease	2
53-515	150 amp circuit breakers (included with 15-327-150 only)	1

- Improve conductivity with a dual pole charge set-up
- Dual pole sockets offer a secure ground that a 5th wheel does not
- Kit is available with or without 150 amp circuit breakers

AIR ASSEMBLIES



Large, 5" coil diameter to improve flexibility



Jacketing provides superior recoil memory, chemical and abrasion resistance

Remains flexible to -85°F for extreme cold weather protection

Pre-applied thread sealant provides air tight seal*

Extra long spring for strain relief and to prevent kinking*

POWER GRIP™ long brass handle for easy coupling/uncoupling

**EXTREME
COLD WEATHER
AIR COIL**

Featuring Phillips Ultra-Protective PolarAir® Jacketing



* Standard on all Phillips air coils

COILED AIR

POLAR AIR®



3 YEAR WARRANTY

See website for details

- REMAINS FLEXIBLE AT -85°F (-65°C)!
- FOR EXTREME WEATHER CONDITIONS
- Excellent recoil memory, chemical and abrasion resistance
- POWER GRIP™ gladhand extension provides superior coupling/uncoupling leverage
- Large coil diameter prevents kinking and provides greater recoil
- Jacketing prevents fractures and provides durable rubber feel
- Meets SAE J844 and J1131 specifications
- Meets DOT 49 CFR FMVSS 571.106 specifications
- Meets DOT 49 CFR FMVSS 393.45 specifications
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads

8' Working Length	
Part No.	Description
11-5110	Pair (red and blue) NEW

12' Working Length	
Part No.	Description
11-5120	Pair (red and blue)

12' Working Length with 40" Lead	
Part No.	Description
11-5300	Pair (red and blue) with 40" lead

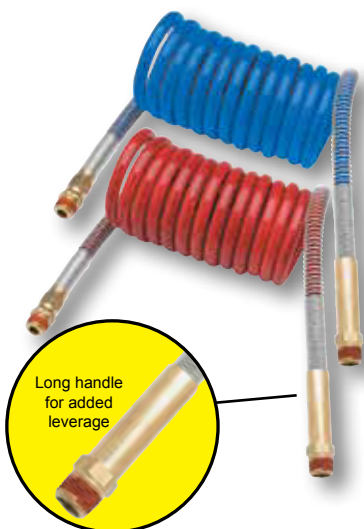
15' Working Length	
Part No.	Description
11-5150	Pair (red and blue)
11-5151	Red (emergency) coil only
11-5152	Blue (service) coil only

15' Working Length with 40" Lead	
Part No.	Description
11-5400	Pair (red and blue) with 40" lead
11-5401	Red (emergency) coil only, with 40" lead
11-5402	Blue (service) coil only, with 40" lead

20' Working Length	
Part No.	Description
11-5200	Pair (red and blue)

20' Working Length with 40" Lead	
Part No.	Description
11-5240	Pair (red and blue)

POWER GRIP™



- POWER GRIP™ gladhand extension provides superior coupling/uncoupling leverage
- Includes thread seal for secure connection to gladhand and chassis
- Single piece trailer side and three-piece swivel tractor side fittings
- Remains flexible at -40°F (-40°C)
- Meets SAE J844 and J1131 specifications
- Meets DOT 49 CFR FMVSS 571.106 specifications
- Meets DOT 49 CFR FMVSS 393.45 specifications
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads

12' Working Length	
Part No.	Description
11-3120	Pair (red and blue)
11-3100	Red (emergency) coil only
11-3110	Blue (service) coil only

15' Working Length	
Part No.	Description
11-3150	Pair (red and blue)
11-3170	Red (emergency) coil only
11-3180	Blue (service) coil only

15' Working Length with 40" Lead	
Part No.	Description
11-3400	Pair (red and blue), with 40" lead
11-3380	Red (emergency) coil only, with 40" lead
11-3390	Blue (service) coil only, with 40" lead

Heavy Duty Coiled Air



12' Working Length	
Part No.	Description
11-312	Pair (red and blue)
11-310	Red (emergency) coil only
11-311	Blue (service) coil only

12' Working Length with 48" Lead	
Part No.	Description
11-333	Pair (red and blue), with 48" lead NEW
11-331	Red (emergency) coil only, with 48" lead NEW
11-332	Blue (service) coil only, with 48" lead NEW

15' Working Length	
Part No.	Description
11-315	Pair (red and blue)
11-317	Red (emergency) coil only
11-318	Blue (service) coil only

15' Working Length with 40" Lead	
Part No.	Description
11-340	Pair (red and blue), with 40" lead
11-338	Red (emergency) coil only, with 40" lead
11-339	Blue (service) coil only, with 40" lead

20' Working Length	
Part No.	Description
11-320	Pair (red and blue)
11-321	Red (emergency) coil only
11-322	Blue (service) coil only

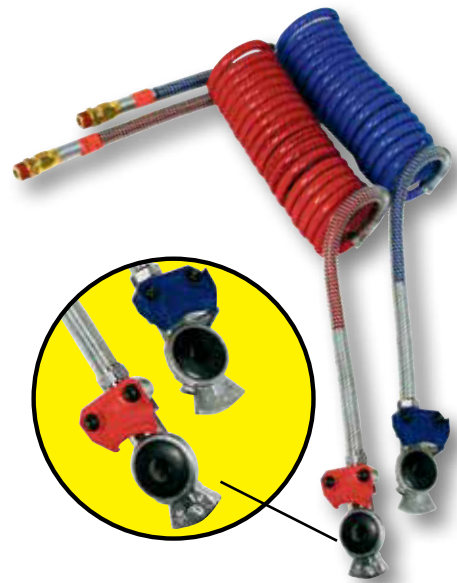
- Includes thread seal for secure connection to gladhand
- Single piece trailer side and three-piece swivel tractor side fittings
- Plated steel spring for added tubing protection
- Remains flexible at -40°F (-40°C)
- Meets SAE J844 and J1131 specifications
- Meets DOT 49 CFR FMVSS 571.106 specifications
- Meets DOT 49 CFR FMVSS 393.45 specifications
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads

12' Working Length	
Part No.	Description
11-3129	Pair, with 2 gladhands
11-51209	POLAR AIR® pair, with POWER GRIP™ and 2 gladhands

15' Working Length	
Part No.	Description
11-3159	Pair, with 2 gladhands
11-31509	POWER GRIP™ pair, with 2 gladhands
11-51509	POLAR AIR® pair, with POWER GRIP™ and 2 gladhands

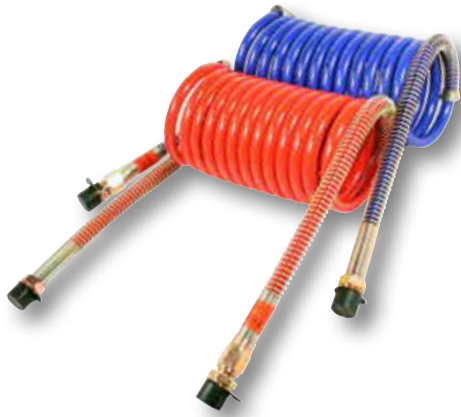
15' Working Length with 40" Lead	
Part No.	Description
11-3409	Pair, with 40" lead and 2 gladhands
11-34009	POWER GRIP™ pair, with 40" lead and 2 gladhands
11-54009	POLAR AIR® pair, with 40" lead, with POWER GRIP™ and 2 gladhands

Coiled Air with Gladhands



- Pre-installed gladhands torqued to factory specifications
- Air coils are built to "working length" to ensure coil does not kink and gladhands are secure under excessive pull force
- Gladhands are built with a heavy gauge powder-coated connector plate for corrosion protection
- Single piece trailer side and three-piece swivel tractor side fittings
- Air coils remain flexible at -40°F (-40°C) with the exception of POLAR AIR® which remains flexible at -85°F (-65°C)
- Meets DOT 49 CFR FMVSS 571.106 specifications
- Meets DOT 49 CFR FMVSS 393.45 specifications
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads

Coiled Air



12' Working Length	
Part No.	Description
11-712	Pair (red and blue)

15' Working Length	
Part No.	Description
11-715	Pair (red and blue)
11-717	Red (emergency) coil only
11-718	Blue (service) coil only

15' Working Length with 40" Lead	
Part No.	Description
11-738	Red (emergency), with 40" Lead
11-739	Blue (service) coil only, with 40" Lead
11-740	Pair (red and blue), with 40" Lead

- Includes thread seal for secure connection to gladhand
- Comes standard with temporary protective fitting caps to shield thread seal and block unwanted debris before installation
- Steel springs for added tubing protection
- Single piece trailer side and four piece swivel tractor side fittings
- Meets SAE J844 and J1131 specifications
- Meets DOT 49 CFR FMVSS 571.106 specifications
- Meets DOT 49 CFR FMVSS 393.45 specifications
- As a recommended practice, use a tracker bar spring kit or pogo stick to support cable assemblies with longer leads

Sliding Fifth Wheel Coiled Air



11-302

Part No.	Description
11-300	54" extension with 1/4" male pipe thread
11-300KT	11-300 with brass female adapter, 90° elbow fitting and 8" tie
11-302	60" extension with 1/4" quick connect swivel and coil protector
11-303	36" extension with 1/4" male pipe thread



11-300KT

- Brass ends for durability
- Industry standard nylon tubing
- Extra long spring for strain relief

STRAIGHT RUBBER AIR

Rubber Air Lines

8' Working Length

Part No.	Description	
11-81068	Red rubber, with red (emergency) grip	NEW
11-81076	Blue rubber, with blue (service) grip	NEW
11-81080	Pair, red and blue rubber, with red and blue (emergency and service) grips	NEW

12' Working Length

Part No.	Description
11-8110	Black rubber, with red (emergency) grip
11-8111	Black rubber, with blue (service) grip
11-8112	Pair, black rubber, with red and blue (emergency and service) grips
11-8113	Black rubber, with black (universal) grip
11-81108	Red rubber, with red (emergency) grip
11-81116	Blue rubber, with blue (service) grip
11-81120	Pair, red and blue rubber, with red and blue (emergency and service) grips

15' Working Length

Part No.	Description
11-8115	Pair, black rubber, with red and blue (emergency and service) grips
11-8117	Black rubber, with red (emergency) grip
11-8118	Black rubber, with blue (service) grip
11-8119	Black rubber, with black (universal) grip
11-81150	Pair, red and blue rubber, with red and blue (emergency and service) grips
11-81178	Red rubber, with red (emergency) grip
11-81186	Blue rubber, with blue (service) grip

20' Working Length

Part No.	Description
11-8120	Pair, black rubber, with red and blue (emergency and service) grips
11-8121	Black rubber, with red (emergency) grip
11-8122	Black rubber, with blue (service) grip
11-8123	Black rubber, with black (universal) grip
11-81200	Pair, red and blue rubber, with red and blue (emergency and service) grips
11-81218	Red rubber, with red (emergency) grip
11-81226	Blue rubber, with blue (service) grip



- Tractor end includes swivel fitting for easy installation and spring guard for strain relief
- Large grips for easy coupling/uncoupling and hose support
- Provides excellent abrasion resistance and resists cracking, kinking and weathering
- Meets DOT CFR 49 FMVSS 571.106 specifications
- Meet SAE J1402 hose specifications
- Red and blue rubber air lines available in 2-IN-1, 3-IN-1 and 4-IN-1 applications

2-IN-1 Air Combination Assemblies

NEW!



Part No.	Description	
11-82120	12' spiral wrapped red & blue rubber air lines, with red & blue (emergency and service) grips	NEW
11-82150	15' spiral wrapped red & blue rubber air lines, with red & blue (emergency and service) grips	NEW
11-82200	20' spiral wrapped red & blue rubber air lines, with red & blue (emergency and service) grips	NEW

- Spiral wrapped for a clean and organized look
- Includes hanging clamp and stainless steel clip for easy installation (P/N: 5-5018)
- Outstanding kink and abrasion resistance
- Tractor end includes swivel fitting for easy installation and spring guard for strain relief
- Large grips for easy coupling/uncoupling and hose support
- Meets DOT CFR 49 FMVSS 571.106 specifications
- Meet SAE J1402 hose specifications

Bulk Heavy Duty Arctic Rubber Air Hose



Arctic Protection
-65°F to 200°F
(-53°C to 93°C)

Part No.	Description
11-8185-250	3/8" I.D. 250' spool

- Heavy duty EPDM rubber air brake hose
 - 4-spiral polyester reinforced rubber
 - Resists cracking, kinking and weathering
 - Provides excellent abrasion-resistance
- -65°F to 200°F (-53°C to 93°C)
- Burst pressure: 871 PSI
- Operating pressure: 145 PSI
- Meets SAE J1402 low temperature requirements

Bulk Heavy Duty Rubber Air Hose



Part No.	Description
11-8180-250	3/8" I.D. 250' spool, black
11-8190-250	1/2" I.D. 250' spool, black
11-8186-250	3/8" I.D. 250' spool, blue
11-8188-250	3/8" I.D. 250' spool, red

- Heavy duty EPDM rubber air brake hose
 - 4-spiral polyester reinforced rubber
 - Resists cracking, kinking and weathering
 - Provides excellent abrasion-resistance
- -40°F to 200°F (-40°C to 93°C)
- Burst pressure: 871 PSI
- Operating pressure: 145 PSI
- Meets SAE J1402 specifications

ELECTRICAL & AIR COMBO ASSEMBLIES

3-IN-1 & 4-IN-1

Hanging clamp and stainless steel clip for easy installation (P/N 5-5018)



Outstanding kink and abrasion resistance

Spiral wrapped for an organized, clean look

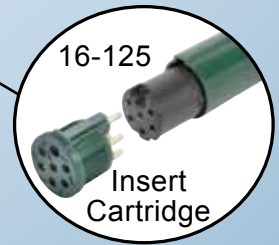
Tractor end swivel brass fittings

Large grips for easy coupling/uncoupling leverage and acts as strain relief

Connects to the QCS2® creating a tight STA-DRY® seal that locks out moisture and contaminants

NOW WITH RED AND BLUE RUBBER AIR LINES!

QCP™ (Quick-Change Plug) cartridge is field replaceable in under two minutes



ELECTRICAL & AIR COMBO ASSEMBLIES

ALL ASSEMBLIES

- Spiral wrapped for a clean organized look
- Outstanding kink and abrasion resistance
- Includes hanging clamp and clip for easy installation (P/N 5-5018)

ELECTRICAL

ABS LECTRAFLEX™ & NON-ABS DURAFLEX™

- Spring-wrapped compression contact pins
- Chemical and abrasion resistant

Liftgate Charging Cable

- For liftgate applications
- 100 amp continuous capacity, 200 amp intermittent capacity

ISOFLEX™ Cable

- For auxiliary applications
- Twisted pair of brown and green wires reduces signal noise

AIR

Rubber Air Lines

- Large grips for easy coupling/uncoupling and hose support
- Tractor end includes swivel fitting for easy installation
- Provides excellent abrasion resistance and resists cracking, kinking and weathering
- Air lines are color coded red and blue to denote emergency and service

NOW RED & BLUE

3-IN-1 Electrical & Air Assemblies



NOW WITH RED & BLUE AIR LINES

PLUGS



QCMS2™ connects to QCS2®

QCMS2™

- Connects to the QCS2® creating a tight STA-DRY® seal that locks out moisture and contaminants, stopping the devastating effects of corrosion



QCP™ (Quick-Change Plug)

QCP™ (Quick-Change Plug)

- Reduces maintenance time
- Cartridge is field replaceable in under two minutes



WEATHER-TITE™ PERMAPLUG™

WEATHER-TITE™ PERMAPLUG™

- The WEATHER-TITE™ seal resists water and contaminants from entering the electrical system creating a complete seal!



Zinc Die-Cast Plug

Zinc Die-Cast

- Heavy duty reinforced zinc die-cast housing for durability

Straight DURAFLEX™ 1/10 & 6/12 ga. NON-ABS Applications

Zinc Die-Cast Plug

Part No.	Description
22-2151	12', NON-ABS with zinc die-cast plugs, rubber air lines
22-2171	15', NON-ABS with zinc die-cast plugs, rubber air lines

Straight LECTRAFLEX™ 1/8, 2/10 & 4/12 ga. ABS Applications

QCMS2™ and QCP™ (Quick-Change Plug)

Part No.	Description
30-2155	12', ABS with QCMS2™ and QCP™, rubber air lines
30-2175	15', ABS with QCMS2™ and QCP™, rubber air lines
30-2195	20', ABS with QCMS2™ and QCP™, rubber air lines

QCP™ (Quick-Change Plug)

Part No.	Description
30-2154	12', ABS with QCP™, rubber air lines
30-2174	15', ABS with QCP™, rubber air lines
30-2194	20', ABS with QCP™, rubber air lines

WEATHER-TITE™ PERMAPLUG™

Part No.	Description
30-2150	12', ABS with WEATHER-TITE™ PERMAPLUGS™, rubber air lines
30-2170	15', ABS with WEATHER-TITE™ PERMAPLUGS™, rubber air lines
30-2190	20', ABS with WEATHER-TITE™ PERMAPLUGS™, rubber air lines

Zinc Die-Cast Plug

Part No.	Description
30-2151	12', ABS with zinc die-cast plugs, rubber air lines
30-2171	15', ABS with zinc die-cast plugs, rubber air lines
30-2191	20', ABS with zinc die-cast plugs, rubber air lines

4-IN-1 Electrical & Air Assemblies - With Single Pole

1/8, 2/10 & 4/12 ga. ABS Applications

QCMS2™ and QCP™ (Quick-Change Plug)

Part No.	Description
30-2259	12', ABS with (1) QCP™ and (1) QCMS2™, single pole, rubber air lines
30-2279	15', ABS with (1) QCP™ and (1) QCMS2™, single pole, rubber air lines
30-2299	20', ABS with (1) QCP™ and (1) QCMS2™, single pole, rubber air lines

QCP™ (Quick-Change Plugs)

Part No.	Description
30-2254	12', ABS with QCP™, single pole, rubber air lines
30-2274	15', ABS with QCP™, single pole, rubber air lines
30-2294	20', ABS with QCP™, single pole, rubber air lines

WEATHER-TITE™ PERMAPLUGS™

Part No.	Description
30-2250	12', ABS with WEATHER-TITE™ PERMAPLUGS™, single pole, rubber air lines
30-2270	15', ABS with WEATHER-TITE™ PERMAPLUGS™, single pole, rubber air lines
30-2290	20', ABS with WEATHER-TITE™ PERMAPLUGS™, single pole, rubber air lines

Zinc Die-Cast Plugs

Part No.	Description
30-2251	12', ABS with zinc die-cast plugs, single pole, rubber air lines
30-2271	15', ABS with zinc die-cast plugs, single pole, rubber air lines
30-2291	20', ABS with zinc die-cast plugs, single pole, rubber air lines



**NOW WITH
RED & BLUE
AIR LINES**

PLUGS



QCMS2™ connects to QCS2®

QCMS2™

- Connects to the QCS2® creating a tight STA-DRY® seal that locks out moisture and contaminants, stopping the devastating effects of corrosion



QCP™ (Quick-Change Plug)

QCP™ (Quick-Change Plug)

- Reduces maintenance time
- Cartridge is field replaceable in under two minutes



WEATHER-TITE™ PERMAPLUG™

WEATHER-TITE™ PERMAPLUG™

- The WEATHER-TITE™ seal resists water and contaminants from entering the electrical system creating a complete seal!



Zinc Die-Cast Plug

Zinc Die-Cast

- Heavy duty reinforced zinc die-cast housing for durability

4-IN-1 Electrical & Air Assemblies - With Dual Pole



PLUGS



QCMS2™ connects to QCS2®

QCMS2™

- Connects to the QCS2® creating a tight STA-DRY® seal that locks out moisture and contaminants, stopping the devastating effects of corrosion



QCP™ (Quick-Change Plug)

QCP™ (Quick Change Plug)

- Reduces maintenance time
- Cartridge is field replaceable in under two minutes



WEATHER-TITE™ PERMAPLUG™

WEATHER-TITE™ PERMAPLUG™

- The WEATHER-TITE™ seal resists water and contaminants from entering the electrical system creating a complete seal!



Zinc Die-Cast Plug

Zinc Die-Cast

- Heavy duty reinforced zinc die-cast housing for durability

1/8, 2/10 & 4/12 ga. ABS Applications

QCMS2™ and QCP™ (Quick-Change Plug)

Part No.	Description
30-2255	12', ABS with (1) QCMS2™ and (1) QCP™, dual pole, rubber air lines
30-2275	15', ABS with (1) QCMS2™ and (1) QCP™, dual pole, rubber air lines
30-2295	20', ABS with (1) QCMS2™ and (1) QCP™, dual pole, rubber air lines

QCP™ (Quick-Change Plugs)

Part No.	Description
30-2257	12', ABS with QCP™, dual pole, rubber air lines
30-2277	15', ABS with QCP™, dual pole, rubber air lines
30-2297	20', ABS with QCP™, dual pole, rubber air lines

WEATHER-TITE™ PERMAPLUGS™

Part No.	Description
30-2256	12', ABS with WEATHER-TITE™ PERMAPLUGS™, dual pole, rubber air lines
30-2276	15', ABS with WEATHER-TITE™ PERMAPLUGS™, dual pole, rubber air lines
30-2296	20', ABS with WEATHER-TITE™ PERMAPLUGS™, dual pole, rubber air lines

Zinc Die-Cast Plugs

Part No.	Description
30-2252	12', ABS with zinc die-cast plugs, dual pole, rubber air lines
30-2272	15', ABS with zinc die-cast plugs, dual pole, rubber air lines
30-2292	20', ABS with zinc die-cast plugs, dual pole, rubber air lines

4-IN-1 Electrical & Air Assemblies - With ISOFLEX™



1/8, 2/10 & 4/12 ga. ISO Applications

Straight ABS LECTRAFLEX™ 1/8, 2/10 & 4/12 ga with Zinc Die-Cast Plugs

Part No.	Description
30-2253	12', ABS with zinc die-cast plugs, ISOFLEX™, rubber air lines
30-2273	15', ABS with zinc die-cast plugs, ISOFLEX™, rubber air lines
30-2293	20', ABS with zinc die-cast plugs, ISOFLEX™, rubber air lines

- ISOFLEX™ cable offers a twisted pair of brown and green wires to reduce radio noise for auxiliary connections
- Heavy duty reinforced zinc die-cast plugs

ELECTRICAL CONNECTORS

STA-DRY® Socket (16-720)



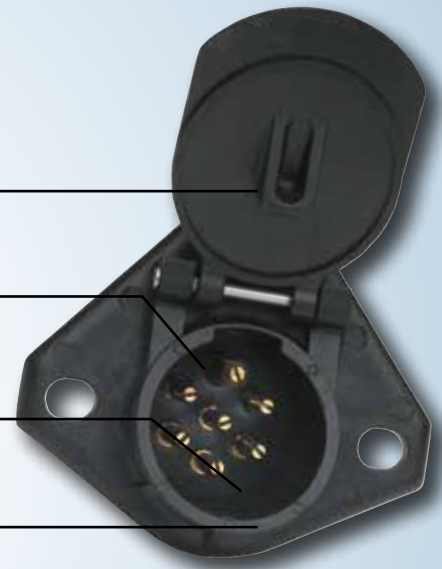
- Stainless steel hinge pin and spring*
- Durable glass-filled nylon housing
- Full-opening lid for easy plug insertion*
- Elongated holes adapt to most mounting positions*
- UNBREAKABLE lid, non-corrosive housing resists impact in cold weather

Locking tab inside lid provides solid plug-to-socket connection*

Inner cavity is sealed to prevent corrosion from passing through to wire harness

Slanted 5° for moisture drain*

Extended front barrel for additional cable support*



WEATHER-TITE™ PERMAPLUG™ (16-730)



Large finger grips for easy coupling/uncoupling**

UNBREAKABLE, non-corrosive housing

Floating brass pins for secure installation in misaligned sockets**

WEATHER-TITE™ SEAL

360° cable compression for solid cable grip

Extended housing allows for easy repair**



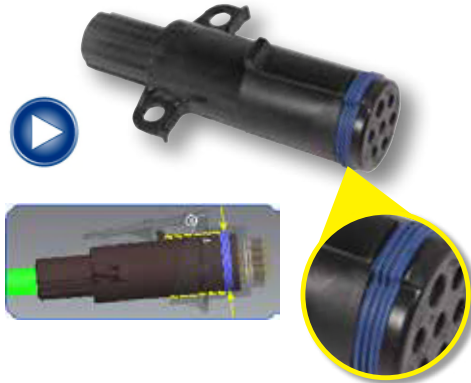
* Standard on all Phillips sockets

** Standard on all Phillips plugs

PLUGS

- Large finger grips for ease of coupling/uncoupling
- Meets SAE J560 specifications (ISO meets ISO 3731)
- Floating brass pins for secure installation in misaligned sockets
- Extended housing for easy repair
- Wire insertion on 7-way (non-blade), 6-way and 4-way plugs

WEATHER-TITE™ PERMAPLUG™



Part No.	Description
16-730	WEATHER-TITE™ PERMAPLUG™

- WEATHER-TITE™ seal blocks all contaminants from entering the electrical system, creating a complete seal!
- UNBREAKABLE, non-corrosive housing
- 360° ratcheting compression cable clamp
- Thread sealed screws prevent wire pull-out
- Spring-wrapped, machine crimped brass compression pins
- 15-715 replacement insert
- 5-750 replacement rubber seal
- Patent No. 8,192,216

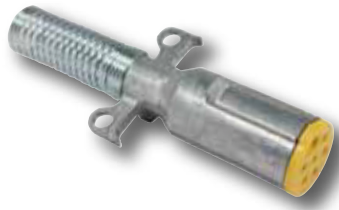
Zinc Die-Cast Connectors



Part No.	Description
15-710	Heavy duty, reinforced zinc die-cast plug
15-730	Heavy duty, reinforced zinc die-cast plug with cable guard
15-730B	Heavy duty, reinforced zinc die-cast plug with cable guard, individually bagged

- Thread sealed screws prevent wire pull-out
- Spring-wrapped, machine crimped brass compression pins
- Heavy duty, reinforced zinc die-cast housing
- Strong cable guard to support heavy cables
- 15-731 replacement cable guard
- 15-711 replacement insert

ISO Connectors



Part No.	Description
15-830	ISO plug with cable guard

- Replacement plug for ISO 3731 coiled and straight cables
- Heavy duty reinforced zinc die-cast housing for durability
- Male ground pin to prevent mis-connection
- Strong cable guard to support heavy cables
- 15-731 replacement cable guard
- 16-811 replacement insert

Cable Guard



Part No.	Description
15-731	Cable guard / replacement spring

- Heavy duty cable guard for 15-710, 15-730, 15-335, 15-336 and 15-830 plugs
- .090 galvanized steel wire
- Prevents kinking and offers strain relief for electrical cables

QCP™ (Quick-Change Plug) Cartridge



Part No.	Description
16-125	Replaceable cartridge

- Plug-in replacement cartridge for QCP™ assemblies ONLY
- High quality machined brass pins
- Floating brass pins for secure installation in mis-aligned sockets
- PUT ONE IN THE TOOL BOX OR GLOVE BOX AS A SPARE!

Replacement Inserts

6-Way	
Part No.	Description
15-611	For Phillips 6 pin plugs

7-Way	
Part No.	Description
15-711	For standard Phillips pin SAE J560 plugs, black
15-715	For Phillips WEATHER-TITE™ PERMAPLUG™
16-811	For Phillips pin ISO 3731 plug, yellow

- 15-611 fits Phillips 15-610 and 15-630 plugs
- 15-711 fits Phillips 15-710 and 15-730 plugs
- 15-715 fits Phillips 16-730 plugs
- 16-811 fits Phillips 15-830 plugs
- Floating brass pins for secure installation in mis-aligned sockets
- Thread sealed screws prevent wire pull-out



WEATHER-TITE™ PERMAPLUG™ Replacement Seal

Part No.	Description
5-750	WEATHER-TITE™ PERMAPLUG™ replacement rubber seal, 2/bag

- Thick rubberized sealing component for WEATHER-TITE™ PERMAPLUG™
- Three individual wiper rings
- Blocks all contaminants from entering the electrical system, creating a corrosion free connection
- Easily replaceable



7-Way Blade Type Connector

Part No.	Description
16-713	7-way blade type

- Light duty truck and RV connections
- Non-corrosive housing
- Large finger grips for easy coupling/uncoupling
- Brass contacts for superior conductivity
- Use with 16-714 socket



6 & 4-Way Connectors

6-Way	
Part No.	Description
15-610	6-way
15-630	6-way plug with cable guard

4-Way	
Part No.	Description
15-410	4-way
15-430	4-way plug with cable guard

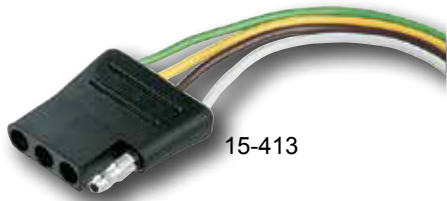
- Heavy duty, reinforced zinc die-cast housing
- Brass terminations for superior conductivity
- Rugged finger grips for easy coupling/uncoupling
- 15-611 replacement insert fits Phillips 15-610 and 15-630 plugs



15-610

15-410

4-Way Flat Connectors



Vehicle Side	
Part No.	Description
15-413	48" flat, three female pins and one male
15-414	60" flat, three female pins and one male

Trailer Side	
Part No.	Description
15-415	12" flat, three male pins and one female
15-416	48" flat, three male pins and one female

- Common connection for light duty towing
- Universal pin size and configuration
- Molded connections for durability
- 18 ga. bonded wire
- Meets SAE J1239

LIFTGATE CHARGING PLUGS

- For liftgate applications utilizing a trailer battery pack
- Heavy duty, reinforced zinc die-cast housing
- 100 amp continuous capacity; 200 amp intermittent capacity

Dual Pole



Ground Return System	
Part No.	Description
15-336	Dual pole plug

- Provides separate power and ground connections
- Accepts 4 ga. wire only
- Separate ground pin for ground return systems
- Battery terminal crimp is required for assembly

Single Pole



Chassis Ground System	
Part No.	Description
15-335	Single pole plug

- Universal single pole plug
- Industry standard plug
- Lug for 4 ga. cable included
- Installs with standard lug crimp tool (crimp code gray)
- Mates with 15-320 socket

Single Conductor Breakaway



Chassis Ground System	
Part No.	Description
15-800	Black socket
15-801	Red socket
15-805	Black plug
15-806	Red plug

- Ideal for dumptruck applications
- Breakaway plug/socket
- 10 ga. to 6 ga.
- 50 amp

VERTICAL DUAL POLE AUXILIARY PLUGS

Vertical Dual Pole Auxiliary Plugs

Part No.	Description
15-338	4 ga. vertical dual pole plug
15-339	6 ga. vertical dual pole plug

- For auxiliary applications utilizing a trailer battery pack
- Pins are offset allowing for initial ground contact, preventing the potential for arcing
- Provides separate power and ground connections
- Battery terminal crimp is required for assembly
- Heavy duty, reinforced zinc die-cast housing
- 4 ga. plug has a 100 amp continuous capacity; 200 amp intermittent capacity
- 6 ga. plug has a 70 amp continuous capacity; 130 amp intermittent capacity



STA-DRY® SOCKETS



- Inner cavity sealed to prevent contaminants from passing to wire harness
- Non-corrosive housing
- Resists magnesium chloride, salt, oil, grease and fuels
- Extended front barrel for additional cable support
- Slanted 5° for moisture drain
- Unbreakable housing and lid
- Stainless steel hinge pin and spring
- Elongated holes for mounting adaptability
- Meets SAE J560 specifications
- All part numbers below have split brass pins
- For solid pin sockets, please contact customer service

Wire Insertion

Part No.	Description
16-720	2-hole, wire insertion, split pin
16-720B	16-720, individually bagged

- Thread sealed screws prevent wire pull-out
- For added protection against moisture, use socket boot P/N 15-740



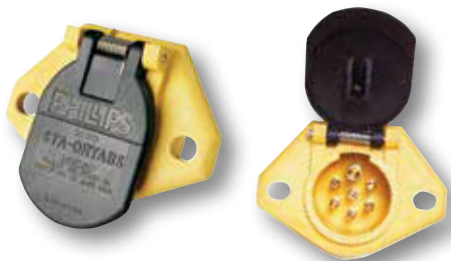
Ring & Bullet Termination

Part No.	Description
16-722	2-hole, ring termination, split pin
16-724	2-hole, bullet termination, split pin
16-725	3-hole, bullet termination, split pin
16-7222	2-hole, ring termination, solid pin
16-7242	2-hole, bullet termination, solid pin

- 16-722 and 16-7222 accept #8 ring terminals
- 16-724, 16-725 and 16-7242 accept .180 bullets
- 16-724 and 16-7242 recommended for use with Phillips QCS2®



ISO



Part No.	Description
16-822	2-hole, ring termination, ISO socket

- For ISO/auxiliary applications
- Meets ISO 3731 specifications
- Female ground pin
- Use #8 ring terminals

Straight QCS2® Harness



QCS2® (Quick-Change Socket)

Part No.	Description
16-7403	Straight back, 48" blunt-cut cable, includes socket

Replacement Socket

Part No.	Description
16-724	2-hole, bullet termination, recommended for use with Phillips QCS2®

- Significantly reduces socket replacement time, lowering maintenance costs
- Molded housing includes integrated flange to seal out moisture and corrosion
- For use with standard ABS wiring system
- **Standard on most OEM trucks**
- 6 o'clock position available
- Contact customer service for blunt cut lengths

Straight QCS® Harness



QCS® (Quick-Change Socket)

Part No.	Description
16-7401	Straight back, 48" blunt-cut cable, includes socket
16-7421	6 o'clock, 48" blunt-cut cable, includes socket

Replacement Socket

Part No.	Description
16-726	2-hole, bullet with locking clip for Phillips QCS®

- Significantly reduces socket replacement time
- For use with standard ABS wiring systems
- For use with most OEM configurations
- 3 o'clock and 12 o'clock positions available. Contact customer service for more details

ISO QCS® Harness

ISO QCS® (Quick-Change Socket)	
Part No.	Description
16-7402	Straight back, 48" blunt-cut cable, includes ISO socket
16-7422	6 o'clock, 48" blunt-cut cable, includes ISO socket

Replacement Socket	
Part No.	Description
16-826	2-hole, bullet termination with locking clip, female ground pin, recommended for Phillips ISO QCS® only

- For ISO/auxiliary applications
- Meets ISO 3731 specifications
- Uses female ground pin
- 3 o'clock, 9 o'clock and 12 o'clock positions available. Contact customer service for more details.



QCS2® Extension Cable

Part No.	Description
16-74036	36" QCS2® straight LECTRAFLEX™ extension cable with QCMS2™

- Provides a 36 in. extension for your QCS2® as needed for applications such as bulkhead racks
- For use with standard ABS wiring system
- The LECTRAFLEX™ cable jacketing is chemical and abrasion resistant and flexible from -40°F to 150°F (-40°C to 66°C)

QCMS2™

- A tight STA-DRY® seal locks out road contaminants, completely stopping the devastating effects of corrosion
- Plugs directly into the QCS® or QCS2® boot, replacing the need for a socket
- Bolts to QCS® or QCS2® boot creating a built in theft deterrent and is rarely removed further reducing the possibility of contaminants entering the electrical system

QCS2® Boot

- Works with QCS2® socket or QCMS2™ electrical cable
- Molded housing includes integrated flange to seal out moisture and corrosion



ZINC DIE-CAST SOCKETS

7-Way Sockets



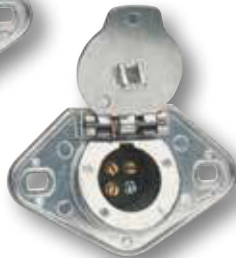
Part No.	Description
15-720	2-hole, wire insertion, split pin
15-720B	15-720, individually bagged
15-721	2-hole, wire insertion, solid pin
15-722	3-hole, wire insertion, split pin
15-724	Replacement insert for 15-720, 15-722, split pin
15-796	Replacement lid kit

- Heavy duty, reinforced zinc die-cast housing
- Thread sealed screws prevent wire pull-out
- Elongated holes for mounting adaptability
- Stainless steel hinge pin and spring
- Full-opening lid
- Reduce exposure to contaminants and moisture, use socket boot P/N 15-740

6 & 4-Way Sockets



15-600



15-400

6 Conductor	
Part No.	Description
15-600	6-way, wire insertion, split pin

4 Conductor	
Part No.	Description
15-400	4-way, wire insertion, split pin

- Heavy duty, zinc die-cast housing for durability
- Elongated holes for mounting adaptability
- Stainless steel hinge pin and spring for long life
- Full-opening lid
- Reduce exposure to contaminants and moisture, use socket boot P/N 15-640
- Closed back design

7-WAY BLADE SOCKET

7-Way Blade Socket



Part No.	Description
16-714	7-way blade socket

- Light duty truck and RV OEM connections
- Non-corrosive housing for long life
- Brass terminations for superior conductivity
- Mates with 16-713 plug

LIFTGATE CHARGING SOCKETS

- For liftgate applications utilizing a trailer battery pack
- Stainless steel hinge pin and spring for long life
- 100 amp continuous capacity; 200 amp intermittent capacity (with exception to 15-320 & 15-326)
- Zinc die-cast housing

CHARGE-BOX™

Part No.	Description
16-77712	STA-DRY® nosebox with single and dual pole socket

SOCKET

- Zinc die-cast housing for durability
- Solid brass pins
- Elongated holes for mounting adaptability
- Stainless steel hinge pin and spring for long life

STA-DRY® NOSEBOX

- Non-corrosive, nylon housing
- Impact resistant
- Steel reinforced mounting collars



Dual Pole Nosebox

Part No.	Description
16-77526	STA-DRY® nosebox with dual pole socket
15-77526	Zinc die-cast nosebox with dual pole socket

STA-DRY® HOUSING

- STA-DRY® nosebox housing is non-corrosive and impact resistant
- Steel reinforced mounting collars
- Zinc die-cast socket for durability
- Solid brass pins
- Circuit breaker not included
- Assembly includes gasket and grommet

ZINC DIE-CAST HOUSING

- Zinc die-cast nosebox housing and socket for durability
- Solid brass pins
- Circuit breaker not included
- Assembly includes gasket and grommet



S2™ Dual Pole Swivel Socket

Part No.	Description
16-9326	Dual pole swivel socket with 24" blunt cut cable
16-9328	Dual pole swivel socket with 24' (288") blunt cut cable

- Socket swivels 80 degrees side to side (40 degrees each way), following the tractor
- Tested to over 1 million cycles
- Automatic disconnect feature prevents damage to liftgate charging cable and socket
- Steel brackets and swivel housing are coated with epoxy undercoat and polyester topcoat for ultimate resistance to harsh chemicals
- Zinc die-cast socket for durability
- Includes butt splices or copper lugs and heat shrink tubing for ease of installation

16-9326 Includes:

- 8-4920: (2) butt splice
- 6-212: (1) 6 in. black heat shrink tubing

16-9328 Includes:

- 8-2121: (1) 4 ga. x 1/4 in. copper lug
- 8-2122: (1) 4 ga. x 5/16 in. copper lug
- 8-2123: (1) 4 ga. x 3/8 in. copper lug
- 6-404: (1) 1-1/2 in. black heat shrink tubing
- 6-405: (1) 1-1/2 in. red heat shrink tubing



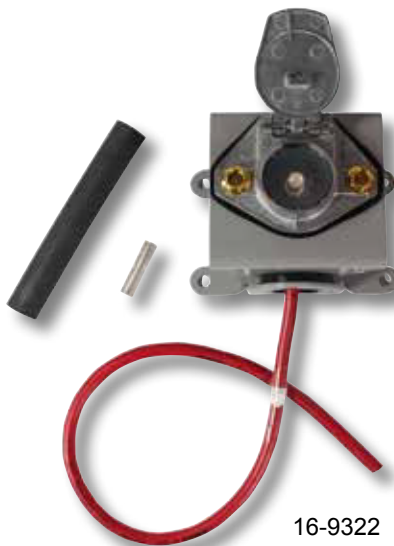
Dual Pole Socket



Part No.	Description
15-326	Dual pole socket

- Zinc die-cast housing for durability
- Solid brass pins
- Elongated holes for mounting adaptability
- Stainless steel hinge pin and spring for long life
- 1/4 in. stud size for lugs
- 150 amp continuous capacity; 200 amp intermittent capacity
- Mates with 15-336 dual pole plug

S1™ Single Pole Swivel Socket



16-9322

Part No.	Description
16-9322	Single pole swivel socket with 24" blunt cut cable
16-9324	Single pole swivel socket with 24' (288") blunt cut cable

- Socket swivels 80 degrees side to side (40 degrees each way), following the tractor
- Tested to over 1 million cycles
- Automatic disconnect feature prevents damage to liftgate charging cable and socket
- Steel brackets and swivel housing are coated with epoxy undercoat and polyester topcoat for ultimate resistance to harsh chemicals
- Zinc die-cast socket for durability
- Includes butt splices or copper lugs and heat shrink tubing for ease of installation

16-9322 Includes:

- 8-4920: (1) butt splice
- 6-212: (1) 6 in. black heat shrink tubing

16-9324 Includes:

- 8-2121: (1) 4 ga. x 1/4 in. copper lug
- 8-2122: (1) 4 ga. x 5/16 in. copper lug
- 6-405: (1) 1-1/2 in. red heat shrink tubing

Single Pole Socket



Part No.	Description
15-320	Single pole socket

- Zinc die-cast housing for durability
- Solid brass pins
- Elongated holes for mounting adaptability
- Stainless steel hinge pin and spring for long life
- 150 amp continuous capacity; 200 amp intermittent capacity
- Mates with 15-335 single pole plug
- For use with 4 ga., 5/16 in. copper lug

AUXILIARY VERTICAL DUAL POLE SOCKET

Auxiliary Vertical Dual Pole Socket

Part No.	Description
15-328	Vertical dual pole socket

- For auxiliary applications utilizing a trailer battery pack
- Pins are offset allowing for initial ground contact, preventing the potential for arcing
- Zinc die-cast housing for durability
- Solid brass pins
- Elongated holes for mounting adaptability
- Stainless steel hinge pin and spring for long life
- Includes (2) 4 ga. and (2) 6 ga. copper lugs
- 1/4 in. stud size for lugs
- 150 amp continuous capacity; 200 amp intermittent capacity
- Mates with 15-338 or 15-339 vertical dual pole plug



SOCKET ACCESSORIES

Part No.	Description
15-795	Corrosion prevention gaskets, 2/bag
15-7955	Corrosion prevention gaskets, 50/bag
80-795	Corrosion prevention gaskets, 200 count, display bucket

- Insert foam seal into base of socket to help stop corrosion
- Easy and inexpensive way to slow the devastating effects of corrosion

Foam Socket Seal



Lid Replacement Kits

Part No.	Description
15-796	Zinc die-cast - for socket and socketbreaker housing
16-797	Black - for ISO 3731 housings
16-798	Gray - for socketbreaker housings
16-799	Black - for socket housings

- Includes lid, stainless steel hinge pin and spring
- 16-797, 16-798 and 16-799 are for use with STA-DRY® sockets



Socket Boot

Part No.	Description
15-640	Fits 15-400 and 15-600
15-740	Fits 15-320, 15-720, 15-721, 15-722, 16-720, 16-721, 16-722, 16-822



Replacement Gasket

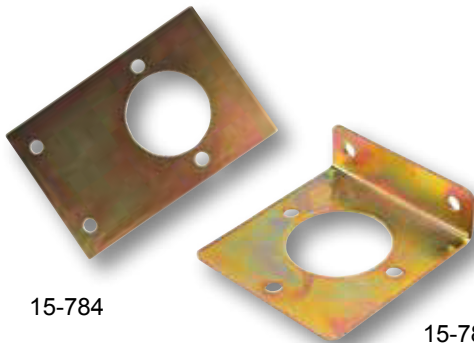


15-798

Part No.	Description
15-798	2-hole mount socket mounting gasket

- Replaceable closed cell sponge gaskets for sockets

Mounting Bracket



15-784

15-788

Part No.	Description
15-784	Flat, fits all 7-way sockets, 15-720, 15-721, 15-722, 15-326 and 15-320
15-788	90°, fits all 7-way sockets 15-720, 15-721, 15-722, 15-326 and 15-320
63-2724	Fits RV 7-way blade type 16-714

STA-DRY® TRAILER WIRE MANAGEMENT



STA-DRY® S7™



QCS2®
16-724

Part No.	Description
16-9500	Swivel socket without junction box
16-9510	Nosebox without circuit breakers
16-9520	Nosebox with 20 amp circuit breakers
16-9530	Nosebox with 30 amp circuit breakers
16-9515	STA-DRY® S7™ replacement lid *

- Socket swivels 80° side to side (40° each way), following the tractor
- Automatic disconnect feature eliminates damage to all components
- Features our award-winning QCS2® (Quick-Change Socket), for fast and easy socket replacement
- Over 50% more interior room keeps trailer wires organized and pinch-free
- Quick-change 20 amp (P/N 53-120) and 30 amp (P/N 53-130) circuit breakers available
- Durable weather-resistant housing
- Interior wiring sealed against corrosion, chemicals and extreme weather
- U.S. patent pending
- NOW AVAILABLE WITH PERMALOGIC™
- STA-DRY® S7™ QCS2® replacement kits available. See part numbers 16-7890, 16-7891 and 16-795 for more details.

* Replacement lid not available for the S7™ with PERMALOGIC™



Top 20 Products of 2013!



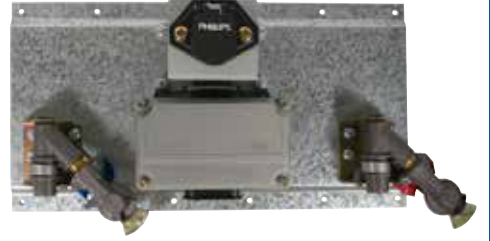
SEE THE STA-DRY® S7™ IN ACTION!

Scan the QR code with any free QR reader smart phone app!
Or go to www.phillipsind.com

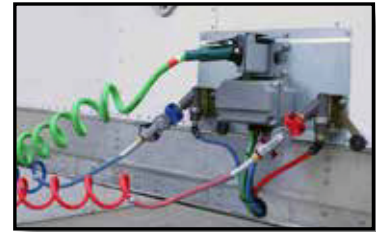


STA-DRY® S7™ System

Part No.	Description
16-95140	Nosebox without circuit breakers, anodized swinger gladhands, galvanized mounting plate
16-95240	Nosebox with 20 amp circuit breakers, anodized swinger gladhands, galvanized mounting plate
16-95340	Nosebox with 30 amp circuit breakers, anodized swinger gladhands, galvanized mounting plate



- S7™ socket swivels 80° side to side (40° each way)
- Gladhand swivels 180° without kinking air line!
- The automatic disconnect feature eliminates damage to all components
- All components offer superior corrosion protection
- Mounting plate measures 11 in. x 21 in. and comes with pre-drilled trailer mounting holes (Part Number 15-7895)
- Trailer mounting area needed to accommodate entire S7™ System: Approximately 12 1/4 in. x 24 in.
- STA-DRY® S7™ QCS2® replacement kit with ring terminals available. See part numbers 16-7890 and 16-7891 for more details
- NOW AVAILABLE WITH PERMALOGIC™
- STA-DRY® S7™ replacement lid available, part number 16-9515 (Not available for the S7™ with PERMALOGIC™)
- STA-DRY® S7™ QCS2® replacement kits available. See part numbers 16-7890, 16-7891 and 16-795 for more details.



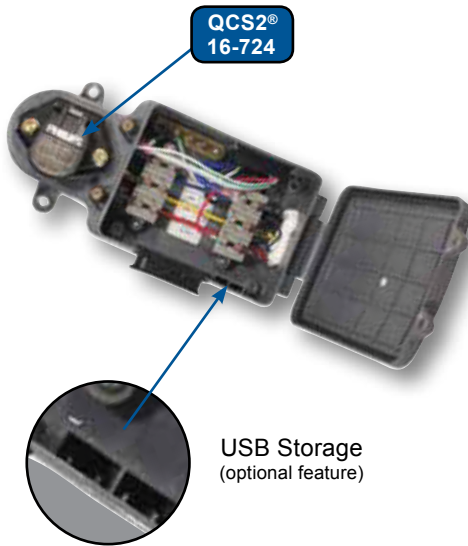
STA-DRY® S7™ System Mounting Plate

Part No.	Description
15-7895	Hot dipped galvanized mounting plate

- Hot dipped for extra corrosion protection
- Pre-drilled mounting holes for STA-DRY® S7™ and gladhands
- Pre-drilled trailer mounting holes
- Measure 11 in. x 21 in.



i-BOX™



PERMALOGIC™ and PERMALOGIC™ TC

(optional feature)



Dome lamps are on
Liftgate battery is charging (16-7812TC only)
Normal conditions/ Trailer dome lamps are off



Overloaded circuit
Constant - low voltage
Flashing - low voltage shut-off

Part No.	Description
16-7800	Without circuit breakers
16-7801	With 15 amp circuit breakers
16-7802	With 20 amp circuit breakers
16-7803	With 30 amp circuit breakers
16-7810	Without circuit breakers, with PERMALOGIC™
16-7811	With 15 amp circuit breakers and PERMALOGIC™
16-7812	With 20 amp circuit breakers and PERMALOGIC™
16-7812TC	With 20 amp circuit breakers and PERMALOGIC™ TC
16-7813	With 30 amp circuit breakers and PERMALOGIC™
16-7820	Without circuit breakers, with 1 USB memory slot
16-7821	With 15 amp circuit breakers and 1 USB memory slot
16-7822	With 20 amp circuit breakers and 1 USB memory slot
16-7823	With 30 amp circuit breakers and 1 USB memory slot
16-7830	Without circuit breakers, with PERMALOGIC™ and 1 USB memory slot
16-7831	With 15 amp circuit breakers, PERMALOGIC™ and 1 USB memory slot
16-7832	With 20 amp circuit breakers, PERMALOGIC™ and 1 USB memory slot
16-7833	With 30 amp circuit breakers, PERMALOGIC™ and 1 USB memory slot
16-780	i-BOX™ replacement lid repair kit - lid, hinge pin, (2) bolts, and gasket seal

- Features our award-winning QCS2® (Quick-Change Socket), for fast and easy socket replacement
- Over 2/3 more working room than traditional noseboxes
- Quick-change 15 amp (P/N 53-115), 20 amp (P/N 53-120) and 30 amp (P/N 53-130) circuit breakers available
- Large ground for more consistent power to the trailer
- Durable, weather-resistant housing
- Hinged lid with weather-proof gasket for easy access and convenience
- U.S. Patent No. D589,456
- Replacement lid available
- i-BOX™ QCS2® replacement kit with ring terminals available. See part number 16-7840 for more details.

Optional Features:

- Our award-winning PERMALOGIC™ Trailer Dome Lamp Controller
- USB memory stick to store important trailer schematics, bills of material maintenance documents, etc.
- QCS2® (Quick-Change Socket) available with solid or split pins

QBOX™

Part No.	Description
16-8510	Without circuit breakers
16-8511	With 15 amp circuit breakers
16-8512	With 20 amp circuit breakers
16-8513	With 30 amp circuit breakers
16-850	QBOX™ replacement lid repair kit - lid, (4) bolts, and gasket seal



- Features our award-winning QCS2® (Quick-Change Socket), for fast and easy socket replacement
- Over 50% more interior room keeps trailer wires organized and pinch-free
- Quick-change 15 amp (P/N 53-115), 20 amp (P/N 53-120) and 30 amp (P/N 53-130) circuit breakers available
- Durable, weather-resistant housing
- Interior wiring sealed against corrosion, chemicals and extreme weather
- Replacement lid available
- QBOX™ QCS2® replacement kit with ring terminals available. See part number 16-7842 for more details.

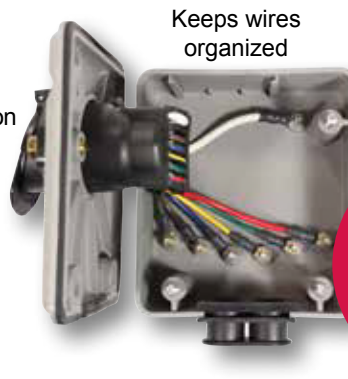
VOLT-BOX™

Part No.	Description
16-8000	VOLT-BOX™ 7-way nosebox, without circuit breakers, split pin NEW
16-80002	VOLT-BOX™ 7-way nosebox, without circuit breakers, solid pin NEW

STA-DRY® housing is resistant to impact, chemicals and harsh environments



- Compact design fits tight space constraints
- STA-DRY® housing is resistant to impact, chemicals and harsh environments
- Features the industry standard QCS2® made with high impact composite material with interchangeable mounting holes
- Available with split or solid pin
- Can be used for retrofit and features the standard 7-way trailer mounting bolt pattern
- Offers more interior room than the competition for easier wire maintenance
- Measurements: 6.5 in. high x 5.8 in. wide x 3.02 in. deep and QCS2® J560 Socket protrudes 1.5 in. from housing
- Stainless steel mounting carriage bolts for ultimate corrosion resistance
- Available with PERMALOGIC™



STA-DRY® QCS2® for fast and easy socket replacement!



REPLACEMENT KITS

STA-DRY® QCS2® Replacement Kit With Ring Terminals

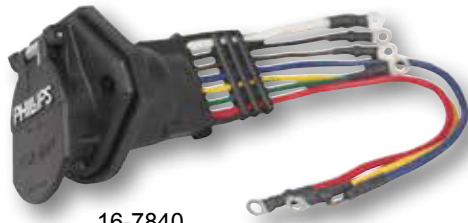


16-7890
and
16-7891

STA-DRY® S7™	
Part No.	Description
16-7890	S7™ QCS2® (Quick-Change Socket) replacement kit, with ring terminals, for junction box with circuit breakers
16-7891	S7™ QCS2® (Quick-Change Socket) replacement kit, with ring terminals, for junction box without circuit breakers

i-BOX™	
Part No.	Description
16-7840	i-BOX™ QCS2® (Quick Change Socket) replacement kit, with ring terminals for junction box with or without circuit breakers

QBOX™	
Part No.	Description
16-7842	QBOX™ QCS2 (Quick Change Socket) replacement kit, with ring terminals for junction box with or without circuit breakers



16-7840
and
16-7842

- Significantly reduces socket replacement time, lowering maintenance costs
- Molded housing includes integrated flange to seal out moisture and corrosion
- For use with standard ABS wiring systems
- Includes QCS2® socket (P/N: 16-724) with split pins
- Standard #10 ring terminals for easy mounting to studs
- 16-7890 compatible with STA-DRY® S7™ PERMALOGIC™ products
- 16-7840 compatible with i-BOX™ PERMALOGIC™ products

STA-DRY® S7™ QCS2® Replacement Kit With SLIM-7™



Part No.	Description
16-795	S7™ QCS2® (Quick-Change Socket) replacement kit, with SLIM-7™, for swivel socket without junction box

- Significantly reduces socket replacement time, lowering maintenance costs
- Molded housing includes integrated flange to seal out moisture and corrosion
- For use with standard ABS wiring systems
- Includes QCS2® Socket (P/N: 16-724) with split pins
- Molded SLIM-7™ female harness connector

STA-DRY® SOCKETBREAKERS



- Sealed to prevent contaminants from passing to wire harness
- Non-corrosive housing
- Stainless steel hinge pin and spring for long life
- Quick-change circuit breakers can be replaced in 30 seconds
- Raised interior ribs for moisture exit
- Includes neoprene closed cell sponge mounting gaskets
- Full-opening lid

Without Nosebox

Part No.	Description
16-760	Without circuit breakers, split pins
16-761	With 15 amp circuit breakers, split pins
16-762	With 20 amp circuit breakers, split pins
16-763	With 30 amp circuit breakers, split pins

With STA-DRY® Nosebox*

Part No.	Description
16-77029	Without circuit breakers, solid pins, with STA-DRY® nosebox
16-7709	Without circuit breakers, split pins, with STA-DRY® nosebox
16-77229	With 20 amp circuit breakers, solid pins, with STA-DRY® nosebox
16-7729	With 20 amp circuit breakers, split pins, with STA-DRY® nosebox
16-7739	With 30 amp circuit breakers, split pins, with STA-DRY® nosebox

*Includes 3 1/2 in. deep nosebox (16-775)

7-Way Socketbreakers



Quick-change circuit breakers

- Allows up to 5 ground circuits

7-Way Socketbreakers with 28 Pin Rear

Part No.	Description
16-7602-28	28-pin, solid pins, without circuit breakers
16-7612-28	28-pin, solid pins, 15 amp circuit breakers
16-7622-28	28-pin, solid pins, 20 amp circuit breakers
16-7632-28	28-pin, solid pins, 30 amp circuit breakers
16-7709-28	28-pin, split pins, single nosebox*, without circuit breakers
16-7719-28	28-pin, split pins, single nosebox*, 15 amp circuit breakers
16-7729-28	28-pin, split pins, single nosebox*, 20 amp circuit breakers
16-7739-28	28-pin, split pins, single nosebox*, 30 amp circuit breakers
16-77029-28	28-pin, solid pins, single nosebox*, without circuit breakers
16-77229-28	28-pin, solid pins, single nosebox*, 20 amp circuit breakers
16-77329-28	28-pin, solid pins, single nosebox*, 30 amp circuit breakers

*Includes 3 1/2 in. deep nosebox (16-775)



- Allows up to 4 connections on 1 circuit
- Accepts .180 bullet terminals

ISO Socketbreakers

Part No.	Description
16-860	Without circuit breakers, solid pins with female ground pin
16-861	With 15 amp circuit breakers, solid pins with female ground pin
16-862	With 20 amp circuit breakers, solid pins with female ground pin
16-863	With 30 amp circuit breakers, solid pins with female ground pin

- When 7 circuits are not enough
- Reverse ground pin ensures the correct cable is connected
- For ISO/auxiliary applications
- Meets ISO 3731 specifications
- Allows up to 5 ground circuits
- For use with yellow-jacket cables



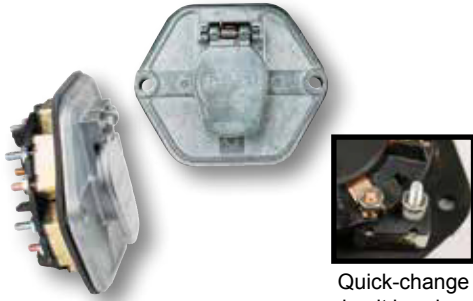
Quick-change circuit breakers

STA-DRY® ZINC DIE-CAST SOCKETBREAKERS

- Meets SAE J560 specifications
- Stainless steel hinge pin and spring
- Full-opening lid
- STA-DRY® feature seals to prevent moisture and contaminants from entering the harness system
- Raised interior ribs for moisture exit
- Includes neoprene closed cell sponge mounting gaskets
- Quick-change circuit breakers can be replaced in 30 seconds



7-Way Low Profile

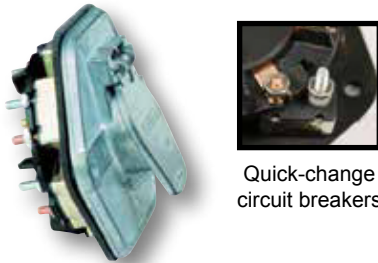


Quick-change circuit breakers

Part No.	Description
15-750	Without circuit breakers, split pin
15-751	With 15 amp circuit breakers, split pin
15-752	With 20 amp circuit breakers, split pin
15-753	With 30 amp circuit breakers, split pin

- For container chassis, piggy-back and intermodal trailers where flush applications are required
- Circuit breaker designed to be serviced in 30 seconds
- Allows up to 5 ground circuits

7-Way Extended Barrel



Quick-change circuit breakers

Part No.	Description
15-760	Without circuit breakers, split pin
15-7602	Without circuit breakers, solid pin
15-761	With 15 amp circuit breakers, split pin
15-762	With 20 amp circuit breakers, split pin
15-7622	With 20 amp circuit breakers, solid pin
15-763	With 30 amp circuit breakers, split pin

- Designed to support ABS cable weight
- Circuit breaker designed to be serviced in 30 seconds
- Allows up to 5 ground circuits

7-Way Socketbreaker with Nosebox



- 1 7/8 in. or 3 1/8 in. deep zinc die-cast nosebox
- Fits standard mounting holes
- Includes mounting hardware for socketbreaker to nosebox

Nosebox - 1 7/8" Deep	
Part No.	Description
15-7609	Without circuit breakers, split pin
15-7619	With 15 amp circuit breakers, split pin
15-7629	With 20 amp circuit breakers, split pin
15-7639	With 30 amp circuit breakers, split pin

Nosebox - 3 1/8" Deep	
Part No.	Description
15-78029	Without circuit breakers, solid pin
15-7809	Without circuit breakers, split pin
15-7819	With 15 amp circuit breakers, split pin
15-7829	With 20 amp circuit breakers, split pin

NOSEBOXES, ACCESSORIES, & FUSES

STA-DRY® Nosebox

Part No.	Description
16-775	Single cavity nosebox kit, 3 1/2" deep with gasket
16-777	Dual cavity nosebox kit, 3 1/2" deep with backplate
16-779	Single cavity nosebox kit, 2 1/2" deep with backplate

- Non-corrosive, nylon housing
- For use with 15 series or 16 series socketbreakers
- Impact-resistant
- Steel reinforced mounting collars
- Kit includes grommet and socketbreaker mounting hardware



Zinc Die-Cast Nosebox

Part No.	Description
15-775	Zinc die-cast nosebox kit

- 55% more interior space than the 15-769
- Larger interior space allows for easier access and maintenance
- 3 1/8 in. deep
- Fits 15 series and 16 series socketbreakers
- Standard hole pattern
- Kit includes gasket, grommet and socketbreaker mounting hardware
- Does not include nosebox mounting hardware



Zinc Die-Cast Nosebox Kit

Part No.	Description
15-769	Zinc die-cast nosebox kit

- 1 7/8 in. deep
- For use with 15 series or 16 series socketbreakers
- Kit includes gasket, grommet and socketbreaker mounting hardware
- Does not include nosebox mounting hardware



Adapter Plate

Part No.	Description
15-770	Adapter, powder-coated, 10 ga. steel

- Allows standard socket to mate with a nosebox
- Can be used on single and dual noseboxes



Replacement Face Plates



Part No.	Description
15-755	Low profile face plate for 15-750, 15-751, 15-752, 15-753
15-773	Extended barrel face plate for 15-760, 15-761, 15-762, 15-763

- Zinc die-cast
- Stainless steel hinge pin and spring

Replacement Gaskets & Grommets



15-765



15-766



15-767

Part No.	Description
15-765	D-shaped grommet for junction box (15-769 and 15-961)
15-766	Socketbreaker mounting gasket
15-767	Nosebox mounting gasket

- Closed cell sponge gaskets

Replacement Circuit Breakers



Part No.	Description
53-115	15 amp
53-120	20 amp
53-130	30 amp

- Longer "hot" leg for correct and easy installation
- SAE snap-in type, includes nuts and washers
- Copper leg mounts to copper strip in socketbreaker
- Meets SAE J553 standard

High Capacity Circuit Breakers



Part No.	Description
53-515	150 amp
53-520	200 amp

- Water resistant
- Panel or surface mounted
- Made of thermoset plastic
- Rated to 30 VDC, 3000 amp interrupt capacity
- Complies with SAE J1625
- Includes terminal covers

In-Line ATO/ATC Fuse Holder with Case



Part No.	Description
54-350	In-line ATO/ATC fuse holder with case

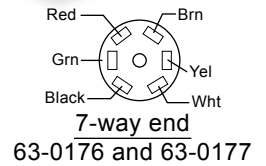
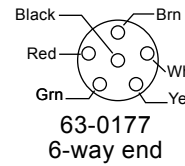
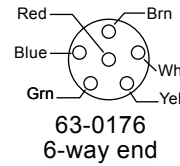
- 30 amp in-line fuse holder for ATO/ATC fuses
- Includes water resistant cap
- 12 ga. wire is 5 1/2 in. long
- Includes 30 amp fuse

TRAILER ADAPTERS

- For light duty and RV trailer applications
- Indestructible molded PVC
- High impact resistance

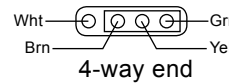
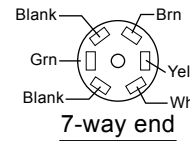
7-Way Blade to 6-Way Round Adapter

Part No.	Description
63-0176	7-way blade to 6-way round adapter, with center auxiliary pin
63-0177	7-way blade to 6-way round adapter, with center brake pin



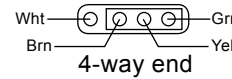
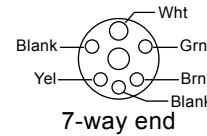
7-Way Blade to 4-Way Flat Adapter

Part No.	Description
63-0174	7-way blade to 4-way flat adapter



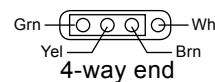
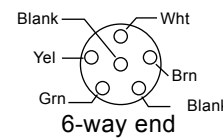
7-Way Round to 4-Way Flat Adapter

Part No.	Description
63-0074	7-way round to 4-way flat adapter



6-Way Round to 4-Way Flat Adapter

Part No.	Description
63-0064	6-way round to 4-way flat adapter



JUNCTION BOXES

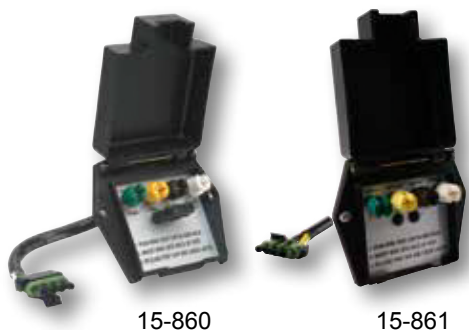
Junction Box



Part No.	Description
15-960	Black junction box
15-961	CLEAR-VU™ grey junction box

- Larger junction box accepts ABS cable and additional wiring
- Ring termination
- Pass-through grommets accommodate up to .80 O.D. cable
- Seven #10 stud posts
- Hole pattern is 7.37 in. center to center
- Box measures approximately 6 5/8 in. long x 3 3/4 in. wide x 2 1/2 in. deep at its widest points

Quick-Connect Junction Box



Part No.	Description
15-860	10" pigtail with packard plus 4-way flat connectors
15-861	10" pigtail with packard connector
15-865	Replacement lid and pin

- Easily adaptable to most trailer wiring systems
- Perfect for rental vehicles

HEAVY DUTY LIFTGATE SOLENOIDS

Intermittent Duty



Part No.	Volt	Amps	Inrush Amps
54-130	12 VDC	80	200

- Intermittent duty, 10 seconds on / 60 seconds off
- Chassis ground
- For liftgate applications

Continuous Duty

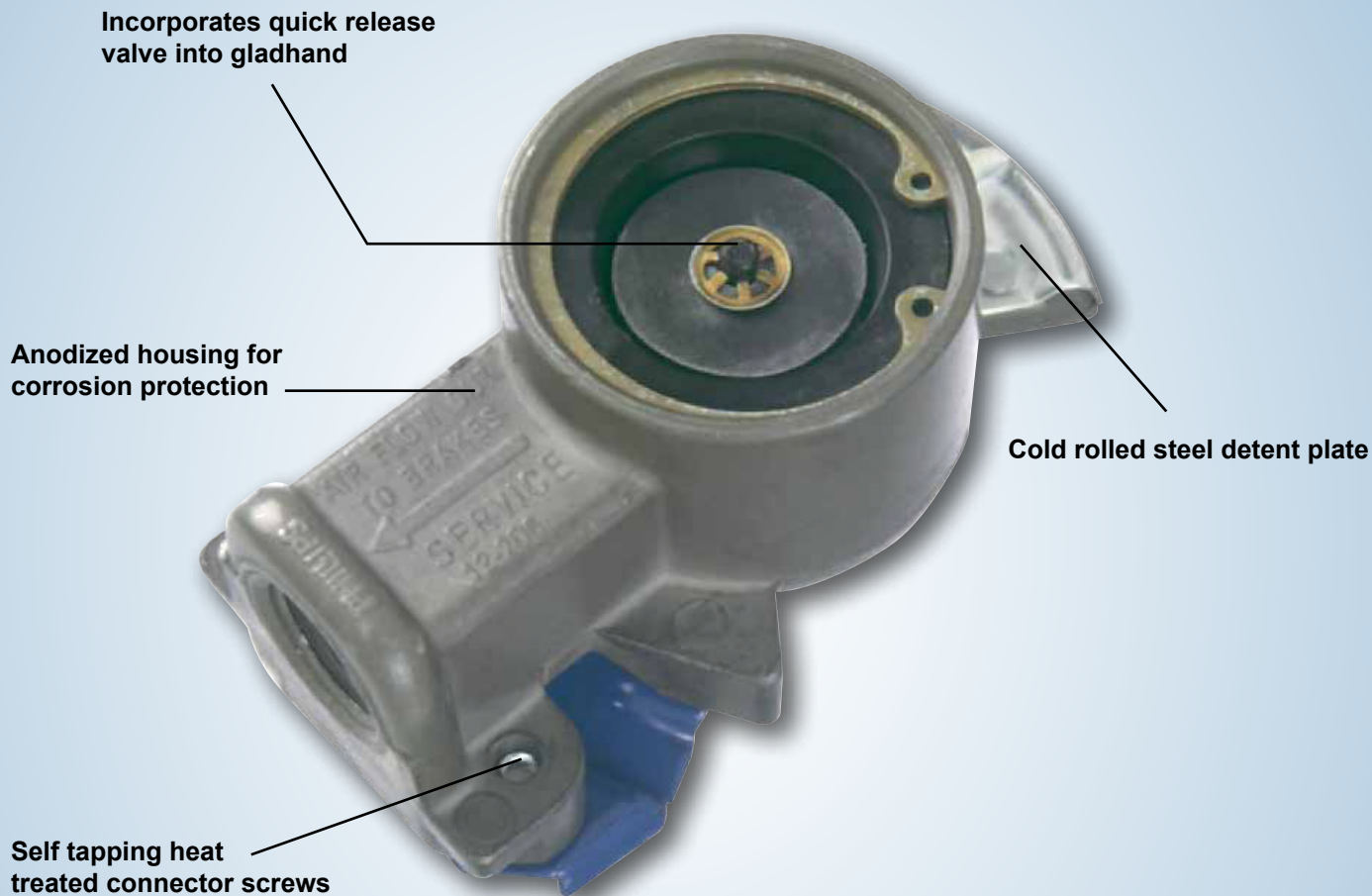


Part No.	Volt	Amps	Inrush Amps
54-140	12 VDC	80	200

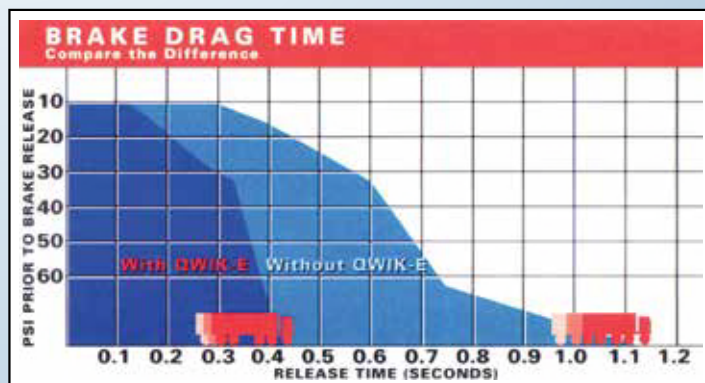
- Continuous duty
- External ground
- For liftgate applications

AIR CONNECTORS

QWIK-E® GLADHAND



Trailer brakes are released up to 50% faster than with conventional methods!



QWIK-E® GLADHANDS

- Trailer brakes are released up to 50% faster than with conventional methods
- Quick-release valve and gladhand combined
- Reduces tire flat spots
- Anodized housing for corrosion protection
- For use with ABS and non-ABS brake systems
- By reducing brake lining and drum wear, thousands of dollars are saved over the life of the trailer
- Improves response time of brake release - drivers love it!
- Standard equipment on most OEM trailers
- Meets SAE J318 specifications

QWIK-E® Gladhands



12-206



12-236

Straight Mount	
Part No.	Description
12-206	Service, blue, 1/2" female pipe thread without filter screen
12-2061	Service, blue, 1/2" female pipe thread with filter screen
12-206B	Service, blue, 12-206, individually packaged, polybag

- For use on trailer service lines only

Trailer Mount	
Part No.	Description
12-236	Service, blue, 3/8" female pipe thread bottom port
12-2361	Service, blue, 3/8" female pipe thread bottom port with filter screen
12-23617	Service, blue, 3/8" female pipe thread rear port with filter screen
12-2367	Service, blue, 3/8" female pipe thread rear port
12-236B	Service, blue, 12-236, individually packaged, polybag

- For use on trailer service lines only

QWIK-E® Service Kit



Part No.	Description
12-226	Repair service kit

- Kit includes breather valve, polyurethane seal, snap ring and gasket

Quick Exhaust Valve



Part No.	Description
12-810	Trailer side
12-811	Tractor side

- Provides quick exhaust of trailer's service air brake pressure
- Tractor side hooks to the tractor protection valve
- Zinc die-cast

Quick Release Valve



Part No.	Description
12-800	3/8" x 3/8" x 3/8"
12-801	1/2" x 3/8" x 3/8"

- Aluminum die-cast housing for corrosion resistance
- 150 psi maximum
- Crack pressure 0.5 PSI

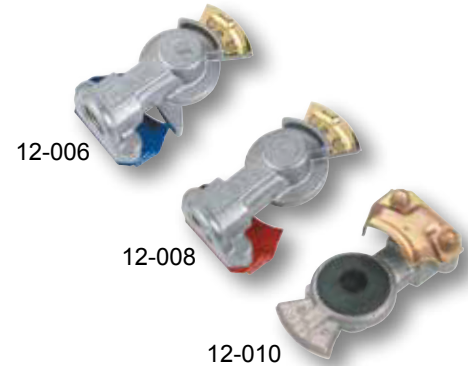
STANDARD GLADHANDS

- Wrap-around connector plate provides additional strength
- Powder-coated connector plate for corrosion resistance
- Zinc-coated detent plates
- E-coated screws for corrosion protection
- Meets SAE J318 specifications
- Stainless steel detent plates and connector plates available, please contact customer service
- Service and emergency keyed to prevent cross coupling

Straight Mount

Part No.	Description
12-006	Service, blue, 1/2" female pipe thread
12-0061	Service, blue, with filter screen, 1/2" female pipe thread
12-006B	Service, blue, 1/2" female pipe thread, individually packaged
12-008	Emergency, red, 1/2" female pipe thread
12-0081	Emergency, red, with filter screen, 1/2" female pipe thread
12-008B	Emergency, red, 1/2" female pipe thread, individually packaged
12-010	Universal, 1/2" female pipe thread
12-010B	Universal, 1/2" female pipe thread, individually packaged

- For use on air coil, tractor and trailer
- Many more options available - ask your sales representative or customer service



Trailer Mount (38°)

Part No.	Description
12-136	Service, blue, bottom port, 3/8" female pipe thread
12-1361	Service, blue with filter screen, bottom port, 3/8" female pipe thread
12-13617	Service, blue, with filter screen, rear port, 3/8" female pipe thread
12-138	Emergency, red, bottom port, 3/8" female pipe thread
12-1381	Emergency, red, with filter screen, bottom port, 3/8" female pipe thread
12-13817	Emergency, red, with filter screen, rear port, 3/8" female pipe thread

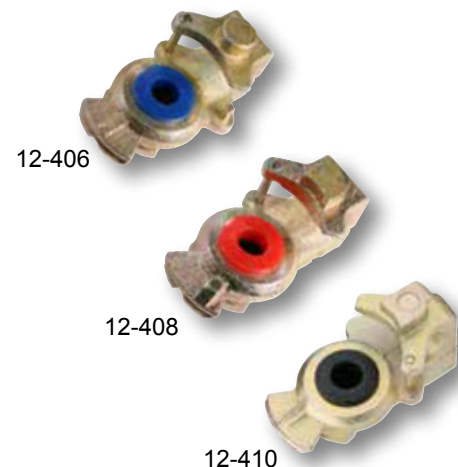
- For use on trailer



Cast Iron

Part No.	Description
12-406	Service, blue polyurethane seal, 1/2" female pipe thread
12-408	Emergency, red polyurethane seal, 1/2" female pipe thread
12-410	Universal, black polyurethane seal, 1/2" female pipe thread
12-41010	Universal, black polyurethane seal with dust flaps and screen, 1/2" female pipe thread

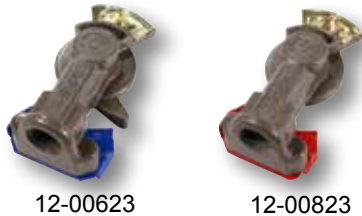
- Cast iron for durability
- Integrated connector plate
- Spring-loaded ball lock
- Polyurethane seal
- Meets SAE J318 specifications



CORROSION-RESISTANT GLADHANDS

- Anodized for increased protection against magnesium chloride, road salts and chemicals
- Designed for highly corrosive operating conditions
- Wrap-around connector plate provides additional strength
- Powder-coated connector plate for corrosion protection
- Zinc-coated detent plates
- Meets SAE J318 specifications
- Stainless steel detent plates and connector plates available, please contact customer service
- Service and emergency keyed to prevent cross coupling

Anodized Gladhands



12-00623

12-00823

Straight Mount	
Part No.	Description
12-00623	Service, blue, anodized, 1/2" female pipe thread
12-00823	Emergency, red, anodized, 1/2" female pipe thread

- For use on air coil, tractor and trailer



12-13623

12-13823

Trailer Mount	
Part No.	Description
12-13623	Service, blue, bottom port, anodized, 3/8" female pipe thread
12-13823	Emergency, red, bottom port, anodized, 3/8" female pipe thread

SPECIALTY GLADHANDS

STA-LOCK™ Gladhands



12-346

12-340

12-348

Part No.	Description
12-340	Universal, 1/2" female pipe thread
12-346	Service, blue, 1/2" female pipe thread
12-348	Emergency, red, 1/2" female pipe thread

- Durable cast iron connector plate
- Aluminum body to save weight
- Stainless steel ball-bearing provides a positive lock for gladhand mating
- Service and emergency keyed to prevent cross coupling
- Meets SAE J318 specifications

LATCH-IT™ Gladhands



12-1169

12-1189

12-1119

Part No.	Description
12-1119	Universal, 1/2" female pipe thread
12-1169	Service, blue, 1/2" female pipe thread
12-1189	Emergency, red, 1/2" female pipe thread

- **HELPS PREVENT ACCIDENTAL GLADHAND DISCONNECTIONS**
- Patented latch provides a positive lock
- Easy-grip feature ensures fast coupling/uncoupling, even with gloves
- Powder-coated for easy identification
- Stainless steel connector plate and spring for longevity
- Polyurethane seal
- Meets SAE J318 specifications
- Service and emergency keyed to prevent cross coupling

Swinger Gladhands



Part No.	Description
12-4506	45° with service gladhand, blue, 3/8" female pipe thread, bottom
12-4508	45° with emergency gladhand, red, 3/8" female pipe thread, bottom
12-450623	45° with anodized service gladhand, blue, 3/8" female pipe thread, bottom
12-450823	45° with anodized emergency gladhand, red, 3/8" female pipe thread, bottom
12-4546	45° with cast iron service gladhand, blue, 3/8" female pipe thread, bottom
12-4548	45° with cast iron emergency gladhand, red, 3/8" female pipe thread, bottom
12-4526	45° with QWIK-E® gladhand, blue, 3/8" female pipe thread, bottom

- **GLADHAND SWIVELS 180° WITHOUT KINKING AIR LINE!**
- When not in use, gladhand is automatically returned to seal, protecting the air lines
- Designed for intermodal and piggy-back trailers where straight or angled gladhands are exposed to damage
- Anodized for increased protection against magnesium chloride, road salt and chemicals
- Stainless steel return spring for long life

STA-LOCK™ Cast Iron Swinger Gladhands

Part No.	Description
12-4906	90° with service gladhand, blue, 3/8" female pipe thread, bottom
12-4908	90° with emergency gladhand, red, 3/8" female pipe thread, bottom



12-4906



12-4908



- **GLADHAND SWIVELS 180° WITHOUT KINKING AIR LINE!**
- Stainless steel ball-bearing provides a positive lock for gladhand mating
- Cast iron for durability
- Stainless steel return spring for long life
- When not in use, gladhand is automatically returned to seal, protecting the air system
- Designed for intermodal and piggy-back trailers where straight or angled gladhands are exposed to damage
- Meets SAE J318 specifications

Shut-Off Gladhands

Bulkhead Mount	
Part No.	Description
12-306	Service, blue, 3/8" female pipe thread
12-308	Emergency, red, 3/8" female pipe thread



12-306



12-308

Surface Mount	
Part No.	Description
12-336	Service, blue, 3/8" female pipe thread
12-338	Emergency, red, 3/8" female pipe thread



12-336



12-338

- For double trailers
- Comes standard with 12-0167-25 dust flap poly seal and 12-038 filter screen
- Includes bulkhead fitting
- Integrated shut-off valve or arm
- Color-coded connector plate for easy identification
- Meets SAE J318 specifications

Composite Shut-Off Gladhands



Surface Mount	
Part No.	Description
12-316	Service, blue, 3/8" female pipe thread
12-318	Emergency, red, 3/8" female pipe thread

Bulkhead Mount	
Part No.	Description
12-326	Service, blue, 3/8" female pipe thread
12-328	Emergency, red, 3/8" female pipe thread

- For double trailers
- Composite material for increased protection against magnesium chloride, road salts and chemicals
- Integrated shut-off arm to seal air system
- Molded in color for easy identification
- Standard with 12-0167-25 dust flap poly seal and 12-038 filter screen
- Patent No. 5,348,043
- Meets SAE J318 specifications

Economy Shut-Off "Dummy" Gladhand



Part No.	Description
12-0100	Economy shut-off "dummy" gladhand, aluminum

- Inexpensive way to seal rear gladhands for double trailers
- Provides air-tight shut-off
- 18 in. cable with ring terminal

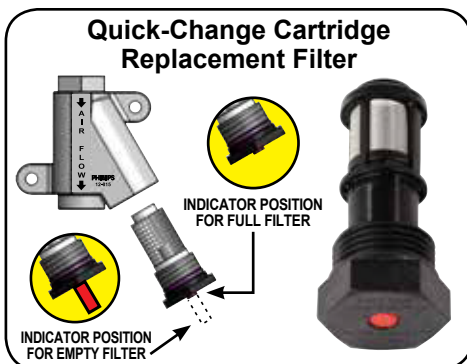
AIR ACCESSORIES

AIR-DEFENSE™ System With Quick-Change Cartridge Trailer Air Brake In-Line Filtration System



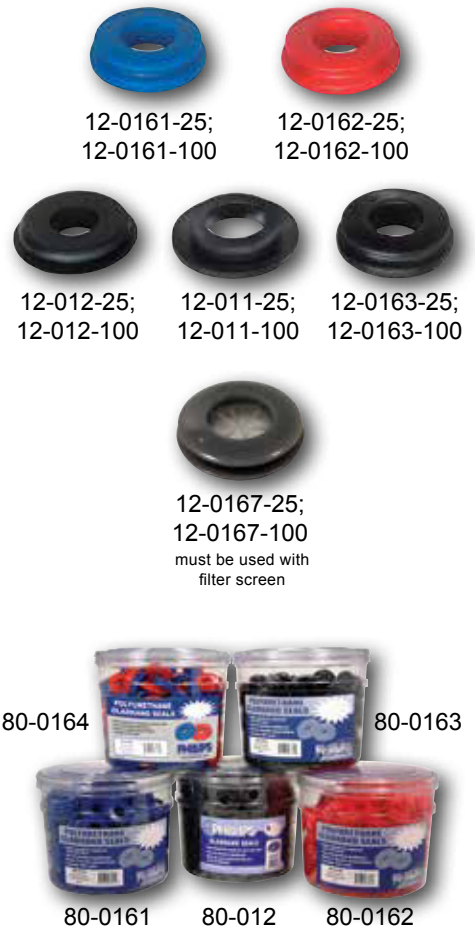
Part No.	Description	
12-815	AIR-DEFENSE™ System	NEW
12-035	Quick-Change Cartridge - replacement filter	NEW

- Debris is trapped in the Quick-Change Cartridge of the AIR-DEFENSE™ System, reducing debris entering the trailer air lines and brake valves
- The Quick-Change Cartridge features a bypass mode which ensures full airflow at all times, even when the filter is clogged
- Visual service indication: Red indicator (non-resettable) notifies mechanic or operator that it's time to replace dirty air filter cartridge
- The cartridge is replaceable in minutes and en route; simply unscrew the old filter cartridge and replace with a new one
- Can be used on both service and emergency lines
- Designed and assembled in the U.S.A.
- The AIR-DEFENSE™ System with Quick-Change Cartridge is intended to be installed between the trailer gladhands and the airlines to the brake valves
- Patent Pending



Gladhand Seals

Part No.	Description	Qty.
12-011-25	Narrow lip, rubber NEW	25
12-011-100	Narrow lip, rubber	100
12-012-25	Wide lip, tapered base for easy insertion, rubber	25
12-012-100	Wide lip, tapered base for easy insertion, rubber	100
12-0161-25	Blue (service), polyurethane	25
12-0161-100	Blue (service), polyurethane NEW	100
12-0162-25	Red (emergency), polyurethane	25
12-0162-100	Red (emergency), polyurethane NEW	100
12-0163-25	Black (universal), polyurethane	25
12-0163-100	Black (universal), polyurethane NEW	100
12-0164-04	Retail pack, 2 red, 2 blue, polyurethane	4
12-0164-100	Retail pack, 50 red, 50 blue, polyurethane NEW	100
12-0167-25	With dust flap, gray polyurethane (must be used with filter screen)	25
12-0167-100	With dust flap, gray polyurethane (must be used with filter screen) NEW	100
80-012	Gladhand seal bucket - wide lip, tapered base for easy insertion, rubber	200
80-0161	Gladhand seal bucket - blue (service), polyurethane	200
80-0162	Gladhand seal bucket - red (emergency), polyurethane	200
80-0163	Gladhand seal bucket - black (universal), polyurethane	200
80-0164	Gladhand seal bucket - 100 count blue (service), polyurethane and 100 count red (emergency), polyurethane	200
80-0167	Gladhand seal bucket - with dust flap, gray polyurethane (must be used with filter screen)	200

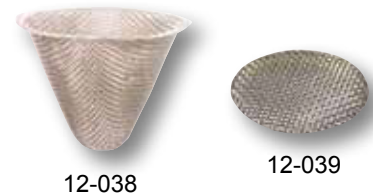


- Fits all industry standard gladhands
- Available in rubber and polyurethane
- Polyurethane available in blue and red to denote service and emergency
- Gladhand seal buckets available for countertop display or easy storage in the shop

Gladhand Filter Screens

Part No.	Description
12-038	Fits gladhand part numbers 12-006, 12-008, 12-010, 12-136, 12-138
12-039	Fits QWIK-E® gladhand part numbers 12-206, 12-236

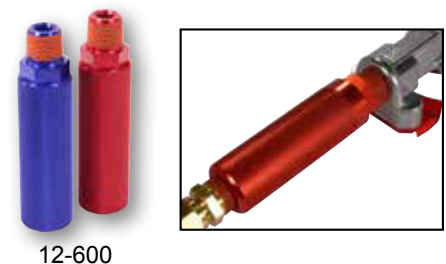
- 12-038 meets Ontario, Canada special regulations



Coiled Air Gladhand Extensions

Part No.	Description
12-600	Pair (red and blue), clamshell
80-600	Display, includes 9 pairs of 12-600, display rack and header card

- Provides strong leverage for coupling/uncoupling gladhands
- Durable and strong; made of solid machined aluminum
- One-piece body for easy installation
- Bright, corrosion-resistant anodized color coating
- Easy installation - Installs between air coil and gladhand
- Heavy diamond knurl for outstanding grip



Rubber Air Grips



Part No.	Description
12-606	Service, blue
12-608	Emergency, red
12-610	Universal, black

- Color-coded for easy identification
- One-piece body for easier installation
- Can be used on both straight air lines and Phillips POWER GRIP™ coiled air

Air Coil QWIK-REPAIR™ Kit



Part No.	Description
12-911	Air Coil QWIK-REPAIR™ kit *

12-911 Contents:

Description	Qty.
Economy nylon air tube cutter (P/N 12-90003)	1
1/2" QWIK-FIT™ straight union composite fitting with o-rings	1
1/2" QWIK-FIT™ brass male fitting with o-rings	1

- For use with 1/2 in. O.D. air tubing
- Contents will repair (1) one brass fitting on coiled assembly
- Contents makes (1) one repair to damaged portion of coiled assembly
- Easy to install and reduces downtime
- Includes instructions
- Fittings meet SAE and DOT specifications
- Great addition to your Phillips CSA QWIK-FIX™ kit!

*Repairs made with this kit should be considered as a temporary solution in an emergency situation and are not intended for long terms use. Damaged air coils should be replaced as soon as possible

Rubber Air QWIK-REPAIR™ Kit



Part No.	Description
12-050	QWIK-REPAIR™ kit, 3/8" rubber hose I.D., 1/2" fittings
12-052	QWIK-REPAIR™ kit, 3/8" rubber hose I.D., 3/8" fittings

- For 3/8 in. I.D. rubber air lines
- Easy to install
- Reduces downtime
- Contents will make two repairs
- Great addition to your Phillips CSA QWIK-FIX™ kit!
- Includes installation instructions

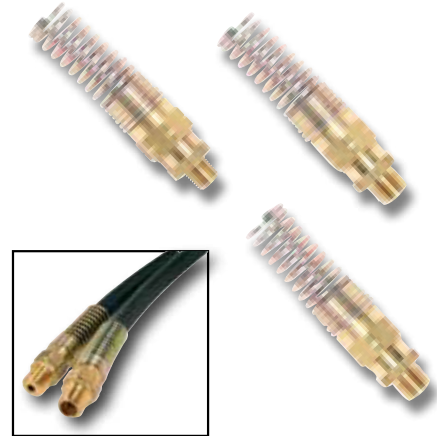
12-050 and 12-052 Contents:

- 2 - Cases (each case consist of two pieces)
- 1 - Wrench
- 2 - Assembly rings
- 2 - Male fittings with pre-applied thread sealant
- 2 - Greased lock stems

Rubber Air Hose Replacement Fittings

Part No.	Description	Qty.
12-020	1/2" pipe thread, fits 3/8" hose	5
12-022	3/8" pipe thread, fits 3/8" hose	5
12-024	1/4" pipe thread, fits 3/8" hose	5
12-042	3/8" pipe thread, fits 1/2" hose	5
12-044	1/2" pipe thread, fits 1/2" hose	5

- Designed to replace end of rubber air hose
- Includes spring guard



Bulkhead Fittings

Part No.	Clamping Overall Thread Size	Internal Pipe Thread Size	Length
12-804	3/4"	1/4"	2 1/8"
12-806	1"	3/8"	2 1/8"

- Male pipe thread is 1/2 in. NPT
- For bulkheads up to 1/2 in. thick



Rubber Hose Ferrule

Part No.	Description	Qty.
12-026	Brass ferrule for 3/8" rubber air hose	5
12-046	Brass ferrule for 1/2" rubber air hose	5

- Replacement ferrule for rubber air hose
- Can be used with 12-020, 12-022, 12-024



Heavy Duty Drain Valve

Part No.	Description	Qty.
12-820	60" cable with 1/4" pipe thread	5
12-822	60" cable with 3/8" pipe thread	5

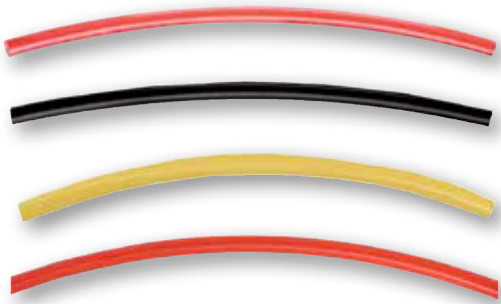
- Includes brass valve and cable



AIR BRAKE TUBING

- Phillips' nylon tubing can save as much as 75% in weight over copper tubing or rubber hose
- Resists road salts, oil, grease, gasoline, diesel fuel and moisture
- Bends easily without deforming
- Operating temperature range -40°F to 200°F

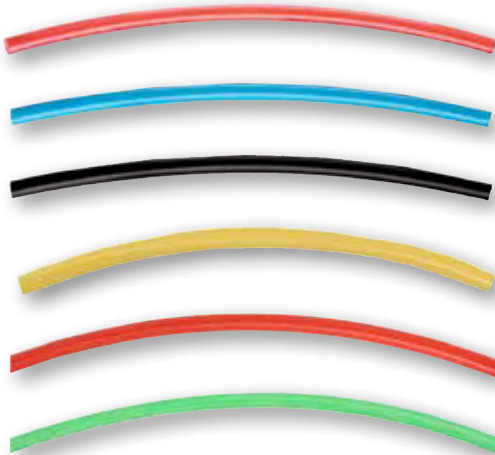
Type A - Single Wall Tubing



Part No.	Description
11-125	1/8" O.D., black, 100' box
11-250	1/4" O.D., black, 100' box
11-260	1/4" O.D., black, 250' box
11-253	1/4" O.D., orange, 100' box
11-257	1/4" O.D., red, 100' box
11-258	1/4" O.D., yellow, 100' box

- Ideal for pneumatic accessories that operate off of the air system
- Meets SAE J844 type "A" specifications
- Operating temperature range -40°F to 200°F (-40°C to 93°C)

Type B - Reinforced



Part No.	Description
11-261	3/8" O.D., black, 100' box
11-262	3/8" O.D., black, 250' box
11-263	3/8" O.D., black, 500' spool
11-273	3/8" O.D., orange, 100' box
11-274	3/8" O.D., green, 100' box
11-276	3/8" O.D., blue, 100' box
11-277	3/8" O.D., red, 100' box
11-278	3/8" O.D., yellow, 100' box
11-264	1/2" O.D., black, 100' box
11-265	1/2" O.D., black, 250' box
11-269	1/2" O.D., black, 500' spool
11-266	1/2" O.D., blue, 100' box
11-267	1/2" O.D., red, 100' box
11-268	1/2" O.D., yellow, 100' box
11-270	5/8" O.D., black, 100' box
11-271	3/4" O.D., black, 100' box

- Ideal for pneumatic accessories that operate off of the air system
- Meets SAE J844 type "B" specifications
- Operating temperature range -40°F to 200°F (-40°C to 93°C)

BRASS COMPRESSION FITTINGS

Male Connector

Part No.	Description	Qty.
12-8304	Fits 1/4" tubing, 1/8" pipe thread	10
12-8305	Fits 1/4" tubing, 1/4" pipe thread	10
12-8306	Fits 1/4" tubing, 3/8" pipe thread	10
12-8307	Fits 3/8" tubing, 1/4" pipe thread	10
12-8308	Fits 3/8" tubing, 3/8" pipe thread	10
12-8309	Fits 3/8" tubing, 1/2" pipe thread	10
12-8311	Fits 1/2" tubing, 3/8" pipe thread	10
12-8312	Fits 1/2" tubing, 1/2" pipe thread	10



Male Elbow

Part No.	Description	Qty.
12-8404	Fits 1/4" tubing, 1/8" pipe thread	10
12-8405	Fits 1/4" tubing, 1/4" pipe thread	10
12-8406	Fits 3/8" tubing, 1/4" pipe thread	10
12-8407	Fits 3/8" tubing, 3/8" pipe thread	10
12-8408	Fits 1/2" tubing, 1/4" pipe thread	10
12-8409	Fits 1/2" tubing, 3/8" pipe thread	10
12-8410	Fits 1/2" tubing, 1/2" pipe thread	10
12-8411	Fits 5/8" tubing, 1/2" pipe thread	10



Full Union

Part No.	Description	Qty.
12-8504	Fits 1/4" tubing	10
12-8506	Fits 3/8" tubing	10
12-8508	Fits 1/2" tubing	10
12-8510	Fits 5/8" tubing	10



Tee-Ends

Part No.	Description	Qty.
12-8604	Fits 1/4" tubing	10
12-8606	Fits 3/8" tubing	10
12-8608	Fits 1/2" tubing	10



Nut

Part No.	Description	Qty.
12-8704	Fits 1/4" tubing	10
12-8706	Fits 3/8" tubing	10
12-8708	Fits 1/2" tubing	10
12-8710	Fits 5/8" tubing	10



Sleeve



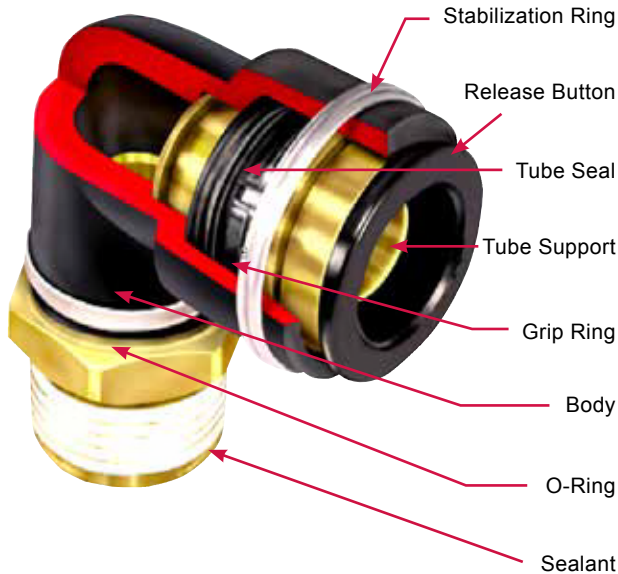
Part No.	Description	Qty.
12-8804	Fits 1/4" tubing	100
12-8806	Fits 3/8" tubing	100
12-8808	Fits 1/2" tubing	100
12-8810	Fits 5/8" tubing	100

Nylon Tubing Inserts



Part No.	Description	Qty.
12-8904	Fits 1/4" tubing	100
12-8906	Fits 3/8" tubing	100
12-8908	Fits 1/2" tubing	100
12-8910	Fits 5/8" tubing	100

QWIK-FIT™ PUSH-TO-CONNECT COMPOSITE AIR FITTINGS



Today's OEM's are turning to composite fittings over brass to save both weight and labor. In fact, a tractor equipped with Phillips QWIK-FIT™ composite fittings can typically save 5-7lbs and can be installed up to 42% faster over brass! With the durability of brass and the savings on weight and labor, the Phillips QWIK-FIT™ composite fittings are ideal for OEM's as well as all other quick air line repairs.

24% - 33% lighter than brass and saves up to 42% in labor costs!!

WARNING

- Phillips QWIK-FIT™ push-to-connect composite fittings are designed only for use in applications where air is utilized as an operating fluid
- Fittings must be used in accordance with manufacturer and industry specifications
- Phillips QWIK-FIT™ push-to-connect composite fittings are not intended for use in environments exceeding 145 PSI or 140°F
- The Department of Transportation FMVSS 49CFR571-106 prohibits the use of this type of fitting for connections between towed and towing vehicles or between a driveshaft and chassis
- Using Phillips QWIK-FIT™ fittings in a manner inconsistent with manufacturer specifications may result in serious injury or property damage

Bulkhead Union



Part No.	Tube Size	Qty.
12-90044	1/4"	10
12-90066	3/8"	10
12-90088	1/2"	5
12-90010	5/8"	5

Union Elbow

Part No.	Tube Size	Qty.
12-91022*	1/8"	10
12-91033*	3/16"	10
12-91044	1/4"	10
12-91055*	5/32"	10
12-91066	3/8"	10
12-91088	1/2"	5
12-911010	5/8"	5



Female Bulkhead Union

Part No.	Tube Size	Pipe Size	Qty.
12-92024*	1/8"	1/4"	10
12-92042	1/4"	1/8"	10
12-92044	1/4"	1/4"	10
12-92054*	5/32"	1/4"	10
12-92064	3/8"	1/4"	10
12-92066	3/8"	3/8"	10
12-92086	1/2"	3/8"	5



Female Connector

Part No.	Tube Size	Pipe Size	Qty.
12-88042	1/4"	1/8"	10
12-88044	1/4"	1/4"	10
12-88064	3/8"	1/4"	10
12-88066	3/8"	3/8"	10



Male Connector

Part No.	Tube Size	Pipe Size	Qty.
12-93022*	1/8"	1/8"	10
12-93024*	1/8"	1/4"	10
12-93032*	3/16"	1/8"	10
12-93034*	3/16"	1/4"	10
12-93042	1/4"	1/8"	10
12-93044	1/4"	1/4"	10
12-93046	1/4"	3/8"	10
12-93052*	5/32"	1/8"	10
12-93054*	5/32"	1/4"	10
12-93062	3/8"	1/8"	10
12-93064	3/8"	1/4"	10
12-93066	3/8"	3/8"	10
12-93068	3/8"	1/2"	10
12-93084	1/2"	1/4"	5
12-93086	1/2"	3/8"	5
12-93088	1/2"	1/2"	5
12-93106	5/8"	3/8"	5
12-93108	5/8"	1/2"	5
12-93126	3/4"	3/8"	5
12-93128	3/4"	1/2"	5



**Pre-applied
thread sealant
allows for quicker
installation!**

*Does not Meet DOT or SAE specifications for air brake applications. Color of fittings differs from those that meet DOT and SAE specifications. NON DOT and SAE fittings are grey and orange in color.

Male Elbow (Swivel) **



Part No.	Tube Size	Pipe Size	Qty.
12-94022*	1/8"	1/8"	10
12-94024*	1/8"	1/4"	10
12-94032*	3/16"	1/8"	10
12-94034*	3/16"	1/4"	10
12-94042	1/4"	1/8"	10
12-94044	1/4"	1/4"	10
12-94046	1/4"	3/8"	10
12-94052*	5/32"	1/8"	10
12-94064	3/8"	1/4"	10
12-94066	3/8"	3/8"	10
12-94068	3/8"	1/2"	10
12-94084	1/2"	1/4"	5
12-94086	1/2"	3/8"	5
12-94088	1/2"	1/2"	5
12-94106	5/8"	3/8"	5
12-94108	5/8"	1/2"	5
12-94128	3/4"	1/2"	5
12-941012	5/8"	3/4"	5

Straight Union



Part No.	Tube Size	Qty.
12-95022*	1/8"	10
12-95033*	3/16"	10
12-95044	1/4"	10
12-95055*	5/32"	10
12-95066	3/8"	10
12-95088	1/2"	5
12-951010	5/8"	5

Union Tee



Part No.	Tube Size	Qty.
12-96222*	1/8"	10
12-96444	1/4"	10
12-96555*	5/32"	10
12-96666	3/8"	10
12-96888	1/2"	5
12-961010	5/8"	5

*Does not meet DOT or SAE specifications for air brake applications. Color of fittings differs from those that meet DOT and SAE specifications. **NON** DOT and SAE fittings are grey and orange in color.

**Swivel to final position only. Not designed for constant rotation.

Y Union

Part No.	Tube Size	Qty.
12-96044	1/4"	10
12-96055*	5/32"	10
12-96066	3/8"	10



Male Branch Tee (Swivel)**

Part No.	Tube Size	Pipe Size	Qty.
12-97222*	1/8"	1/8"	10
12-97224*	1/8"	1/4"	10
12-97444	1/4"	1/4"	10
12-97446	1/4"	3/8"	10
12-97664	3/8"	1/4"	10
12-97666	3/8"	3/8"	10
12-97668	3/8"	1/2"	10
12-97886	1/2"	3/8"	5
12-97888	1/2"	1/2"	5
12-97106	5/8"	3/8"	5
12-97108	5/8"	1/2"	5



45° Male Elbow (Swivel)**

Part No.	Tube Size	Pipe Size	Qty.
12-98042	1/4"	1/8"	10
12-98044	1/4"	1/4"	10
12-98046	1/4"	3/8"	10
12-98052*	5/32"	1/8"	10
12-98062	3/8"	1/8"	10
12-98064	3/8"	1/4"	10
12-98066	3/8"	3/8"	10
12-98068	3/8"	1/2"	10
12-98084	1/2"	1/4"	5
12-98086	1/2"	3/8"	5
12-98088	1/2"	1/2"	5
12-98106	5/8"	3/8"	5
12-98108	5/8"	1/2"	5
12-981012	5/8"	3/4"	5
12-98126	3/4"	3/8"	5
12-98128	3/4"	1/2"	5



*Does not meet DOT or SAE specifications for air brake applications. Color of fittings differs from those that meet DOT and SAE specifications. NON DOT & SAE fittings are grey and orange in color.

**Swivel to final position only. Not designed for constant rotation.

Male Run Tee (Swivel)**



Part No.	Tube Size	Pipe Size	Qty.
12-99022	1/8"	1/8"	10
12-99024	1/8"	1/4"	10
12-99042	1/4"	1/8"	10
12-99044	1/4"	1/4"	10
12-99046	1/4"	3/8"	10
12-99052	5/32"	1/8"	10
12-99054	5/32"	1/4"	10
12-99064	3/8"	1/4"	10
12-99066	3/8"	3/8"	10
12-99068	3/8"	1/2"	10
12-99084	1/2"	1/4"	5
12-99086	1/2"	3/8"	5
12-99088	1/2"	1/2"	5
12-99108	5/8"	1/2"	5

Male Branch "Y"



Part No.	Tube Size	Pipe Size	Qty.
12-89042	1/4"	1/8"	10
12-89044	1/4"	1/4"	10

Dust Boot



Part No.	Tube Size	Qty.
12-90040	1/4"	10
12-90060	3/8"	10
12-90080	1/2"	10

- Protects air fittings from the elements, ensuring an easy release every time

Plug



Part No.	Tube Size	Qty.
12-90400	1/4"	10
12-90600	3/8"	10
12-90800	1/2"	10

- Provides a positive seal of protection for unoccupied parts.

**Swivel to final position only. Not designed for constant rotation.

QWIK-FIT™ Starter Kit

Part No.	Description
80-1290	QWIK-FIT™ starter kit

- 310 - QWIK-FIT™ pieces
- 28 – Bin boxes
- 1 set – Restock labels
- 1 – 4-color counter mat/wall chart

**80-1290 Contents:**

Part No.	Description	Tube Size	Thread Size	Assortment Qty.
12-90044	Bulkhead union	1/4"	—	10
12-90066	Bulkhead union	3/8"	—	10
12-90088	Bulkhead union	1/2"	—	5
12-91066	Union elbow	3/8"	—	10
12-91088	Union elbow	1/2"	—	5
12-93042	Male connector	1/4"	1/8"	20
12-93064	Male connector	3/8"	1/4"	20
12-93066	Male connector	3/8"	3/8"	20
12-93086	Male connector	1/2"	3/8"	10
12-94042	Male elbow	1/4"	1/8"	10
12-94044	Male elbow	1/4"	1/4"	10
12-94064	Male elbow	3/8"	1/4"	10
12-94066	Male elbow	3/8"	3/8"	10
12-94086	Male elbow	1/2"	3/8"	5
12-95022	Union	1/8"	—	20
12-95044	Union	1/4"	—	20
12-95055	Union	5/32"	—	20
12-95066	Union	3/8"	—	20
12-95088	Union	1/2"	—	10
12-96444	Union tee	1/4"	—	10
12-96666	Union tee	3/8"	—	10
12-96888	Union tee	1/2"	—	5
12-98044	45° male elbow	1/4"	1/4"	10
12-98064**	45° male elbow	3/8"	1/4"	10
12-98066**	45° male elbow	3/8"	3/8"	10
12-98086**	45° male elbow	1/2"	3/8"	5
12-98088	45° male elbow	1/2"	1/2"	5

**Swivel to final position only. Not designed for constant rotation.

QWIK-FIT™ Travel Kit



80-1291
48 pieces
6 1/2" x 10 1/2"

Part No.	Description
80-1291	QWIK-FIT™ travel kit

80-1291 Contents:

Part No.	Description	Tube Size	Thread Size	Kit Qty.
12-90040	1/4" dust boot	-	-	10
12-90060	3/8" dust boot	-	-	10
12-90080	1/2" dust boot	-	-	10
12-93044	Male connector	1/4"	1/4"	2
12-93064	Male connector	3/8"	1/4"	2
12-93066	Male connector	3/8"	3/8"	2
12-93086	Male connector	1/2"	3/8"	2
12-95044	Straight union	1/4"	-	2
12-95066	Straight union	3/8"	-	2
12-95088	Straight union	1/2"	-	2
12-98064**	45° male elbow (swivel)	3/8"	1/4"	2
12-98066**	45° male elbow (swivel)	3/8"	3/8"	2

QWIK-FIT™ Shop Kit



80-1292
110 pieces
12" x 18"

Part No.	Description
80-1292	QWIK-FIT™ shop kit

80-1292 Contents:

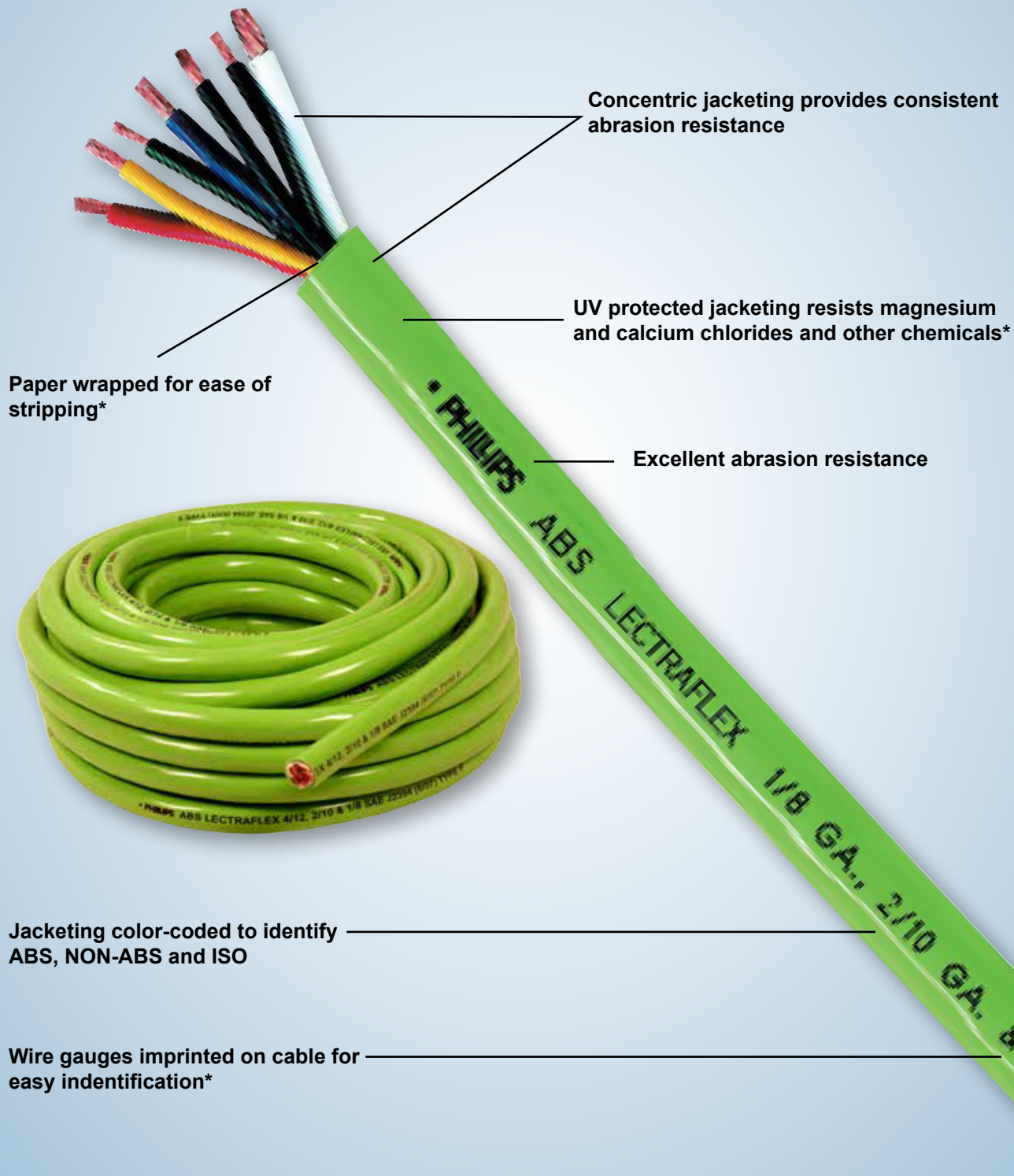
Part No.	Description	Tube Size	Thread Size	Kit Qty.
12-90040	1/4" dust boot	-	-	10
12-90060	3/8" dust boot	-	-	10
12-90080	1/2" dust boot	-	-	10
12-93022*	Male connector	1/8"	1/8"	5
12-93042	Male connector	1/4"	1/8"	5
12-93044	Male connector	1/4"	1/4"	10
12-93064	Male connector	3/8"	1/4"	10
12-93066	Male connector	3/8"	3/8"	10
12-93086	Male connector	1/2"	3/8"	5
12-95044	Straight union	1/4"	-	5
12-95066	Straight union	3/8"	-	5
12-95088	Straight union	1/2"	-	5
12-951010	Straight union	5/8"	-	5
12-98064**	45° male elbow (swivel)	3/8"	1/4"	5
12-98066**	45° male elbow (swivel)	3/8"	3/8"	5
12-98086**	45° male elbow (swivel)	1/2"	3/8"	5

*Does not meet DOT or SAE specifications for air brake applications. Color of fittings differ from those that meet DOT and SAE specifications. NON DOT and SAE fittings are grey and orange in color.

**Swivel to final position only. Not designed for constant rotation.

CABLE AND WIRE

LECTRAFLEX™



* Standard on all Phillips cable

BULK TRAILER CABLE

- Resistant to chemicals, oils and fuel
- Paper wrapped for ease of stripping
- Concentric jacketing - copper centered in jacket for consistent abrasion resistance

ARCTIC SUPERFLEX™



- Designed for durability in extreme temperatures
- Stays flexible from -85°F to 175°F (-65°C to 79°C)
- Dark blue jacket color
- Resistant to chemicals, oils and fuels

7 CONDUCTOR - 1/8, 2/10, 4/12 ga. ABS .700 O.D. Black - Brown - Blue - Green - Red - White - Yellow

Part No.	Length	Package	Stranding 12 ga.	Stranding 10 ga.	Stranding 8 ga.
3-642	100'	Spool	65 x 30	105 x 30	168 x 30
3-643	250'	Spool	65 x 30	105 x 30	168 x 30
3-644	500'	Spool	65 x 30	105 x 30	168 x 30

7 CONDUCTOR - 1/10, 6/12 ga. .640 O.D. Black - Brown - Blue - Green - Red - White - Yellow

Part No.	Length	Package	Stranding 12 ga.	Stranding 10 ga.
3-632	100'	Spool	65 x 30	105 x 30
3-633	250'	Spool	65 x 30	105 x 30

7 CONDUCTOR - 1/12, 6/14 ga. .570 O.D. Black - Brown - Blue - Green - Red - White - Yellow

Part No.	Length	Package	Stranding 14 ga.	Stranding 12 ga.
3-622	100'	Spool	41 x 30	65 x 30
3-623	250'	Spool	41 x 30	65 x 30
3-624	500'	Spool	41 x 30	65 x 30

6 CONDUCTOR - 6/14 ga. .550 O.D. Black - Brown - Green - Red - White - Yellow

Part No.	Length	Package	Stranding
3-612	100'	Spool	41 x 30
3-613	250'	Spool	41 x 30
3-614	500'	Spool	41 x 30

4 CONDUCTOR - 4/14 ga. .440 O.D. Brown - Yellow - Green - White

Part No.	Length	Package	Stranding
3-602	100'	Spool	41 x 30
3-603	250'	Spool	41 x 30
3-604	500'	Spool	41 x 30

3 CONDUCTOR - 3/14 ga. .440 O.D. Black - Red - White

Part No.	Length	Package	Stranding
3-662	100'	Spool	41 x 30
3-663	250'	Spool	41 x 30
3-664	500'	Spool	41 x 30

2 CONDUCTOR - 2/14 ga. .340 O.D. Black - White

Part No.	Length	Package	Stranding
3-652	100'	Spool	41 x 30
3-653	250'	Spool	41 x 30
3-654	500'	Spool	41 x 30
3-655	1000'	Spool	41 x 30

LECTRAFLEX™

7 CONDUCTOR - 1/8, 2/10, 4/12 ga. ABS BRIGHT GREEN .680 O.D.
 Black - Brown - Blue - Green - Red - White - Yellow

Part No.	Length	Package	Stranding 12 ga.	Stranding 10 ga.	Stranding 8 ga.
3-326	50'	Spool	65 x 30	105 x 30	168 x 30
3-327	100'	Spool	65 x 30	105 x 30	168 x 30
3-328	250'	Spool	65 x 30	105 x 30	168 x 30
3-329	500'	Spool	65 x 30	105 x 30	168 x 30
3-330	1000'	Spool	65 x 30	105 x 30	168 x 30



- For ABS applications
- Green jacket
- Superior abrasion resistance
- Stays flexible to -40°F (-40°C)
- Meets SAE J2394 specifications

DURAFLEX™

7 CONDUCTOR - 1/10, 6/12 ga. .690 O.D.
 Black - Brown - Blue - Green - Red - White - Yellow

Part No.	Length	Package
3-221	50'	Spool
3-222	100'	Spool
3-223	250'	Spool
3-224	500'	Spool
3-225	1000'	Spool



- For general trailer rewiring
- Black jacket
- Stays flexible to -40°F (-40°C)
- Meets SAE J1128 specifications

7 CONDUCTOR - 1/12, 6/14 ga. .500 O.D.
 Black - Brown - Blue - Green - Red - White - Yellow

Part No.	Length	Package
3-241	50'	Spool
3-242	100'	Spool
3-243	250'	Spool
3-244	500'	Spool
3-245	1000'	Spool

6 CONDUCTOR - 6/14 ga. .500 O.D.
 Black - Brown - Green - Red - White - Yellow

Part No.	Length	Package
3-201	50'	Spool
3-202	100'	Spool
3-203	250'	Spool
3-204	500'	Spool
3-205	1000'	Spool

4 CONDUCTOR - 4/14 ga. .400 O.D.
 Brown - Yellow - Green - White

Part No.	Length	Package
3-191	50'	Spool
3-192	100'	Spool
3-193	250'	Spool
3-194	500'	Spool
3-195	1000'	Spool

ISOFLEX™



**7 CONDUCTOR - 1/8, 2/10, 4/12 ga. ISO BRIGHT YELLOW .770 O.D.
Black - Brown - Blue - Green - Red - White - Yellow**

Part No.	Length	Package	Stranding 12 ga.	Stranding 10 ga.	Stranding 8 ga.
3-341	50'	Spool	65 x 30	105 x 30	168 x 30
3-342	100'	Spool	65 x 30	105 x 30	168 x 30
3-343	250'	Spool	65 x 30	105 x 30	168 x 30
3-344	500'	Spool	65 x 30	105 x 30	168 x 30

- Ideal for multiplexing applications
- Twisted pair (green and brown) reduces radio noise
- Good chemical and abrasion resistance
- Bright yellow jacket color
- Stays flexible to -40°F (-40°C)
- Meets ISO 3731

Welding Cable



Part No.	Gauge	Length	Package	Stranding	O.D.
3-407	2/0	25'	Spool	1273 x 30	.630

- Fine stranding for superior flexibility
- Neoprene jacketing for durability
- Resistant to chemicals, oils and fuels
- Stays flexible to -58°F (-50°C)
- Black jacket
- Rated to 600V

CLEAR-VU™ Corrosion-Detecting Battery Cable



	Size	Length	Stranding	Package	Part No.	
CLEAR RED	4 ga.	25'	133 x 25	Spool	3-545	CLEAR RED
	4 ga.	100'	133 x 25	Spool	3-545-100	
	1 ga.	25'	133 x 22	Spool	3-555	
	1 ga.	100'	133 x 22	Spool	3-555-100	
	2/0 ga.	25'	259 x 23	Spool	3-565	
	2/0 ga.	100'	259 x 23	Spool	3-565-100	
CLEAR SMOKE	4 ga.	25'	133 x 25	Spool	3-546	CLEAR SMOKE
	4 ga.	100'	133 x 25	Spool	3-546-100	
	1 ga.	25'	133 x 22	Spool	3-556	
	1 ga.	100'	133 x 22	Spool	3-556-100	
	2/0 ga.	25'	259 x 23	Spool	3-566	
	2/0 ga.	100'	259 x 23	Spool	3-566-100	
CLEAR	6 ga.	25'	133 x 27	Spool	3-526	CLEAR
	4 ga.	25'	133 x 25	Spool	3-528	
	4 ga.	100'	133 x 25	Spool	3-528-100	
	2 ga.	25'	133 x 23	Spool	3-530	
	2 ga.	100'	133 x 23	Spool	3-530-100	
	1 ga.	25'	133 x 22	Spool	3-551	
	1 ga.	100'	133 x 22	Spool	3-551-100	
	2/0 ga.	25'	259 x 23	Spool	3-532	
	2/0 ga.	100'	259 x 23	Spool	3-532-100	

- Easy to see corrosion creeping through your battery cable
- Prevents premature battery, starter and alternator replacement
- Rope-style stranding for flexibility
- Easy to strip
- Superior abrasion resistance
- Flexible from -40°F to 150°F (-40°C to 66°C)
- Meets SAE J1127 SGT specifications

Battery Cable

	Size	Length	Stranding	Package	Part No.	
RED	6 ga.	25'	133 x 27	Spool	3-501	RED
	6 ga.	100'	133 x 27	Spool	3-501-100	
	6 ga.	250'	133 x 27	Spool	3-501-250	
	4 ga.	25'	133 x 25	Spool	3-503	
	4 ga.	100'	133 x 25	Spool	3-503-100	
	4 ga.	250'	133 x 25	Spool	3-503-250	
	2 ga.	25'	133 x 23	Spool	3-505	
	2 ga.	100'	133 x 23	Spool	3-505-100	
	2 ga.	250'	133 x 23	Spool	3-505-250	
	1 ga.	25'	133 x 22	Spool	3-507	
	1 ga.	100'	133 x 22	Spool	3-507-100	
	1/0 ga.	25'	133 x 21	Spool	3-509	
	1/0 ga.	100'	133 x 21	Spool	3-509-100	
	1/0 ga.	250'	133 x 21	Spool	3-509-250	
	2/0 ga.	25'	259 x 23	Spool	3-511	
	2/0 ga.	100'	259 x 23	Spool	3-511-100	
	2/0 ga.	250'	259 x 23	Spool	3-511-250	
	3/0 ga.	25'	259 x 22	Spool	3-513	
	3/0 ga.	100'	259 x 22	Spool	3-513-100	
	4/0 ga.	25'	259 x 21	Spool	3-515	
BLACK	6 ga.	25'	133 x 27	Spool	3-502	BLACK
	6 ga.	100'	133 x 27	Spool	3-502-100	
	6 ga.	250'	133 x 27	Spool	3-502-250	
	4 ga.	25'	133 x 25	Spool	3-504	
	4 ga.	100'	133 x 25	Spool	3-504-100	
	4 ga.	250'	133 x 25	Spool	3-504-250	
	2 ga.	25'	133 x 23	Spool	3-506	
	2 ga.	100'	133 x 23	Spool	3-506-100	
	2 ga.	250'	133 x 23	Spool	3-506-250	
	1 ga.	25'	133 x 22	Spool	3-508	
	1 ga.	100'	133 x 22	Spool	3-508-100	
	1 ga.	250'	133 x 22	Spool	3-508-250	
	1/0 ga.	25'	133 x 21	Spool	3-510	
	1/0 ga.	100'	133 x 21	Spool	3-510-100	
	1/0 ga.	250'	133 x 21	Spool	3-510-250	
	2/0 ga.	25'	259 x 23	Spool	3-512	
	2/0 ga.	100'	259 x 23	Spool	3-512-100	
	2/0 ga.	250'	259 x 23	Spool	3-512-250	
	3/0 ga.	25'	259 x 22	Spool	3-514	
	3/0 ga.	100'	259 x 22	Spool	3-514-100	
3/0 ga.	250'	259 x 22	Spool	3-514-250		
4/0 ga.	25'	259 x 21	Spool	3-516		
4/0 ga.	100'	259 x 21	Spool	3-516-100		
4/0 ga.	250'	259 x 21	Spool	3-516-250		



- Rope-style stranding for flexibility
- Easy to strip
- Superior abrasion resistance
- Operating temperature range
-40°F to 150°F (-40°C to 66°C)
- Meets SAE J1127 SGT specifications

Part No.	Description
3-518	4 ga., 2 conductor, 100' spool

- High abrasion resistance
- Fine stranding for flexibility
- Operating temperature range -40°F to 140°F (-40°C to 60°C)
- Rated to 200 amps at 20 ft.
- Black/yellow jacket
- Meets SAE J1494

Bulk Booster Cable



PRIMARY WIRE

- SAE Type GPT (General Purpose Thermoplastic) wire
- Resistant to acids, greases, oils and fuels
- Good abrasion resistance
- Concentric jacketing allows for easy wire stripping
- Soft annealed copper conductors for flexibility
- Operating temperature range -40°F to 150°F (-40°C to 66°C)
- Meets SAE J1128, type GPT

4-Way Connector Chart		Phillips Plug/ Socket ID
Color	Circuits	
White	Ground return	W
Green	Right turn and brake lights	G
Yellow Red	Left turn and brake lights	R
Brown	Tail lights	B

7-Way ATA Connector Chart Per SAE J560		Phillips Plug/ Socket ID
Color	Circuits	
White	Ground return	WHT
Black	Clearance, marker and ID	BLK
Brown	Tail lights	BRN
Yellow	Left turn	YEL
Red	Stop	RED
Green	Right turn	GRN
Blue	Auxiliary/ABS	BLU

6-Way Connector Chart		Phillips Plug/ Socket ID
Color	Circuits	
White	Ground return	GD
Brown	Tail lights	TM
Yellow	Left turn	LT
Red	Stop	S
Green	Right turn	RT
Black	Auxiliary circuit	A

HOW TO USE THIS CHART:

1. Measure distance from power source/battery to the most distant lamp
2. Determine the total amp draw by adding the amp draw of all the lamps on the circuit
3. Double the distance to include the ground return wire
4. Determine wire gauge by intersecting the length and amp column on the chart. If the length or total amp draw falls in between columns, always use the higher gauge wire

WIRE GAUGE SELECTION CHART

12-Volt System Amps (APP.)	Total Length of Cable in Circuit from Battery to Most Distant Lamp Including Ground Side									
	2.5 ft	5 ft	10 ft	20 ft	30 ft	40 ft	50 ft	60 ft	80 ft	100 ft
1.0	20	20	20	20	20	20	20	20	20	18
1.5	20	20	20	20	20	20	20	20	18	18
2	20	20	20	20	20	20	18	18	16	16
3	20	20	20	20	20	18	18	16	16	14
4	20	20	20	20	18	16	16	16	14	12
5	20	20	20	18	18	16	14	14	12	12
6	20	20	20	18	16	16	14	14	12	12
7	20	20	20	18	16	14	14	12	12	10
8	20	20	20	16	16	14	12	12	10	10
10	20	20	18	16	14	12	12	12	10	10
11	20	20	18	16	14	12	12	10	10	8
12	20	20	18	16	14	12	12	10	10	8
15	20	20	18	14	12	12	10	10	8	8
18	20	20	16	14	12	10	10	8	8	8
20	20	18	16	12	12	10	10	8	8	6
22	20	18	16	12	10	10	8	8	8	6
24	20	18	16	12	10	10	8	8	6	6
36	20	16	14	10	8	8	8	6	6	4
50	18	16	12	10	8	6	6	4	4	2
100	14	12	10	6	4	4	2	2	1	1/0
150	14	10	8	4	2	2	1	1/0	2/0	3/0
200	12	8	6	4	2	1	1/0	2/0	3/0	4/0

Primary Wire

14 Gauge			
Color	20' Blister Pack	100' Spool	1000' Spool
Black	2-1213	2-121	2-121-1000
Blue	2-1223	2-122	2-122-1000
Brown	2-1233	2-123	2-123-1000
Green	2-1243	2-124	2-124-1000
Red	2-1253	2-125	2-125-1000
White	2-1263	2-126	2-126-1000
Yellow	2-1273	2-127	2-127-1000



100 FT SPOOLS



BLISTER PACK

12 Gauge			
Color	12' Blister Pack	100' Spool	1000' Spool
Black	2-1313	2-131	2-131-1000
Blue	2-1323	2-132	2-132-1000
Brown	2-1333	2-133	-
Green	2-1343	2-134	2-134-1000
Red	2-1353	2-135	2-135-1000
White	2-1363	2-136	-
Yellow	2-1373	2-137	2-137-1000

18 Gauge		
Color	40' Blister Pack	100' Spool
Black	2-1013	2-101
Blue	2-1023	2-102
Green	2-1043	2-104
Red	2-1053	2-105
White	2-1063	2-106
Yellow	2-1073	2-107

10 Gauge		
Color	8' Blister Pack	100' Spool
Black	2-1413	2-141
Blue	2-1423	2-142
Green	-	2-144
Red	2-1453	2-145
White	2-1463	2-146
Yellow	2-1473	2-147

16 Gauge			
Color	28' Blister Pack	100' Spool	1000' Spool
Black	2-1113	2-111	2-111-1000
Blue	2-1123	2-112	-
Brown	2-1133	2-113	2-113-1000
Green	2-1143	2-114	-
Red	2-1153	2-115	2-115-1000
White	2-1163	2-116	2-116-1000
Yellow	2-1173	2-117	2-117-1000

8 Gauge		
Color	6' Blister Pack	100' Spool
Black	2-1513	2-151
Red	2-1553	2-155
White	2-1563	2-156

Primary Wire Assortment



80-2006

12 spool wire assortment, fits in 80-191 rack below

Part No.	Description
80-2006	Primary wire assortment

Replacement Part No.	Description	Qty.
2-111	Primary wire, 16 ga., black, 100' spool	1
2-112	Primary wire, 16 ga., blue, 100' spool	1
2-115	Primary wire, 16 ga., red, 100' spool	1
2-121	Primary wire, 14 ga., black, 100' spool	1
2-122	Primary wire, 14 ga., blue, 100' spool	1
2-123	Primary wire, 14 ga., brown, 100' spool	1
2-124	Primary wire, 14 ga., green, 100' spool	1
2-125	Primary wire, 14 ga., red, 100' spool	1
2-126	Primary wire, 14 ga., white, 100' spool	1
2-127	Primary wire, 14 ga., yellow, 100' spool	1
2-131	Primary wire, 12 ga., black, 100' spool	1
2-135	Primary wire, 12 ga., red, 100' spool	1

Wire Rack



Part No.	Description
80-191	Wire rack

- Holds 12 ft. - 100 ft. rolls
- For rolls up to 12 ga.
- Ideal for the 80-2006 primary wire assortment

Parallel Wire



Fig. 1



Fig. 2



Fig. 3

Part No.	Gauge	Type	Jacket Color		Length	Std. Pkg.
			External	Internal		
2-401	2/16	Fig. 1	Gray	Black, white	100'	Spool
2-402	2/14	Fig. 1	Gray	Black, white	100'	Spool
2-403	2/12	Fig. 1	Gray	Black, white	100'	Spool
2-404	2/10	Fig. 1	Gray	Black, white	100'	Spool
2-422	3/16	Fig. 2	Brown, yellow, green	-	100'	Spool
2-423	4/16	Fig. 3	Brown, yellow, green, white	-	100'	Spool
2-424	3/14	Fig. 2	Brown, yellow, green	-	100'	Spool
2-425	4/14	Fig. 3	Brown, yellow, green, white	-	100'	Spool
2-426	3/12	Fig. 2	Brown, yellow, green	-	100'	Spool

U.L. Service Cord



Part No.	Gauge	Internal Wire Color	Strands	Length	Pkg.
3-112	2/14	Black, white	41 x 30	250'	Spool
3-113	3/14	Black, white, green	41 x 30	250'	Spool

- Type SJ00W cable
- Great flexibility and excellent resistance to oil and moisture
- Good tensile strength, elongation and aging characteristics
- Excellent abrasion resistance
- UL, CSA certified for indoor/outdoor use
- 300V at -40°F to 194°F (-40°C to 90°C)

BATTERY TERMINALS & ACCESSORIES

Centered bolt holes improve clamp efficiency and strength

All exceed SAE conductivity standard J163 and J1811

Smooth contact surface provides greater conductivity

Terminal provides full post contact

Gauge, polarity and crimp information printed on barrel

Chamfered barrel for easy wire entry

Made of 100% copper alloy, zinc plated

Compatible with industry-standard crimper

Color Code and Size

The size dots will help you determine the gauge of an unmarked starter cable. Measure the bare conductor only, not the insulation. Actual diameters vary depending on specific wire stranding.



6

4

2

1

1/0

2/0

3/0

4/0



COPPER BATTERY TERMINALS

- Copper battery connectors are tin plated for added conductivity and corrosion resistance
- Can be crimped or soldered
- Exceeds SAE conductivity standard J163 and J1811
- Works well with solder slugs

Straight Clamp



8-1160

Gauge	Positive	Negative	Universal
4	8-1120	8-1121	8-1122
2	8-1130	8-1131	8-1132
1	8-1140	8-1141	-
1/0	8-1150	8-1151	-
2/0	8-1160	8-1161	-
3/0	8-1170	8-1171	-
4/0	8-1180	8-1181	-

Left Elbow



Gauge	Positive	Negative
1/0	8-1250	8-1251
2/0	8-1260	8-1261

Right Elbow



Gauge	Positive	Negative
2/0	8-1360	8-1361

Flag



Gauge	Positive	Negative
2/0	8-1460	8-1461
2/0	8-1660*	-
3/0	8-1470	8-1471
4/0	8-1480	8-1481

*Accessory wire capability



GROUP 31



Straight Clamp

Gauge	3/8" Hole Single	3/8" Hole Dual
2/0	8-1763	8-1863



Heavy Duty Copper Locking Lugs

Gauge	3/8" Hole Single	1/2" Hole
2/0	8-2763	8-2765



Non-Rotating Copper Lugs

Gauge	3/8" Hole Single	3/8" Hole Dual
4	8-4723	-
1 & 2	8-4733	-
2/0	8-4763	8-4863
3/0	8-4773	-
4/0	8-4783	-

4-152
Heavy Duty
Hand-Held Crimper

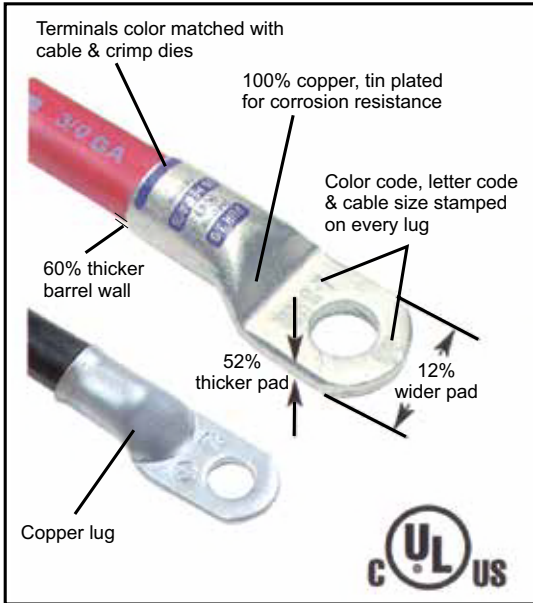


4-153
Bench Mount,
Hex Crimp



HEAVY DUTY TIN PLATED COPPER LUGS

- Wider and thicker pad for better electrical conductivity and greater strength than standard lugs
- Copper battery lugs are tin plated for added conductivity and corrosion resistance
- Exceeds SAE standards and conforms to TMC and ATA recommended practices
- Meets UL standard (UL Std. 486A)
- Lugs for every application



Starter/Ground Lug

Gauge	1/4"	5/16"	3/8"	1/2"
6	8-4111	-	-	-
4	8-4121	8-4122	8-4123	8-4125
1 & 2	8-4131	8-4132	8-4133	8-4135
1/0	-	8-4152	8-4153	8-4155
2/0	8-4161	8-4162	8-4163	8-4165
3/0	-	-	8-4173	8-4175
4/0	-	-	8-4183	8-4185



45° Lug

Gauge	3/8"	1/2"
2/0	-	8-4365



90° Lug

Gauge	3/8"	1/2"
2/0	8-4463	8-4465



Butt Splice

Gauge	Part No.
4	8-4920
1 & 2	8-4930
1/0	8-4950
2/0	8-4960
3/0	8-4970
4/0	8-4980



3/8" Elbow

Gauge	Left	Right
2/0	8-4563	8-4663



Brazed Seam Lug - Non-Insulated

Gauge	#10	1/4"	5/16"	3/8"	1/2"
8	-	8-2001	8-2002	8-2003	-
6	8-2010	8-2011	8-2012	8-2013	-
4	-	8-2021	-	8-2023	8-2025
2	-	-	-	8-2033	-
1/0	-	-	-	8-2053	8-2055
2/0	-	-	-	8-2063	8-2065
3/0	-	-	-	8-2073	-



- Serrated barrel increases pull-out strength
- 100% copper, tin plated
- Cost effective solution

COPPER LUGS

- Some copper battery lugs are tin plated for added conductivity and corrosion resistance
- Ideal for crimping or soldering
- Exceeds SAE conductivity standard J163 and J1811
- Ideal for general wiring as well as starter or ground connections

Starter/Ground Lug



Gauge	#10	1/4"	5/16"	3/8"	1/2"
8	8-2100	8-2101	-	8-2103	-
6	8-2110	8-2111	8-2112	8-2113	8-2115
4	-	8-2121	8-2122	8-2123	8-2125
2	-	8-2131	8-2132	8-2133	8-2135
1	-	8-2141	8-2142	8-2143	8-2145
1/0	-	-	8-2152	8-2153	8-2155
2/0	-	-	8-2162	8-2163	8-2165
3/0	-	-	-	8-2173	8-2175
4/0	-	-	-	8-2183	8-2185

Straight Lug - Tin Plated*



Gauge	3/8"	1/2"
8	8-2203	-
6	8-2213	-
4	8-2223	-
2	8-2233	-
1	8-2243	-
1/0	8-2253	8-2255
2/0	8-2263	8-2265
3/0	8-2273	8-2275
4/0	8-2283	8-2285

*Tin plated for added conductivity

Copper Butt Splice - Tin Plated*



Gauge	Part No.
8	8-2900
6	8-2910
4	8-2920
2	8-2930
1	8-2940
1/0	8-2950
2/0	8-2960
4/0	8-2980

*Tin plated for added conductivity

AUTOMOTIVE, HEAVY DUTY, MILITARY, MARINE

Automotive

Part No.	Description	Qty.
8-612	Automotive clamp, universal, 6-2/0 ga., lead	10
8-613	Heavy duty clamp, universal, 1-4/0 ga., lead	10



8-612



8-613

- Heavy duty design for truck, bus, construction, agriculture and industrial applications
- For temporary field repairs
- Universal size to fit 6 ga. to 2/0 ga.

Military

Part No.	Description	Qty.
8-618	Negative polarity, lead; zinc plated	10
8-619	Positive polarity, lead; zinc plated	10



- Military - complies with MIL SPEC A521425-1/A52425-2

Marine

Part No.	Description	Qty.
8-620	Top post-to 3/8" stud, positive polarity, brass; tin plated	10
8-621	Top post-to 3/8" stud, positive polarity, lead; zinc plated	10
8-622	Top post-to 5/16" stud, negative polarity, brass; tin plated	10
8-623	Top post-to 5/16" stud, negative polarity, lead; zinc plated	10

8-621
8-6238-620
8-622

- Marine conversion battery post to stud connector

Top Mount Quick Disconnect

Part No.	Description	Qty.
8-638	Top post, negative polarity, copper; brass plated	10

- Quick disconnect - 1/4 turn of knob to disconnect battery
- Great for RV's, golf carts or long term storage of any vehicle



Conversion Connectors & Adapters



Part	Description
8-6421	Stud-to-post conversion (3/8" - 16), pos. and neg., lead, 1 pair

Accessory Wire Adapters

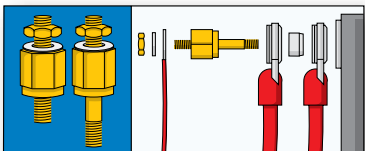


Fig. 1

Fig.	Part No.	Description	Qty.
1	8-644	Adapter bolt, side terminal accessory post for single power lead	10
1	8-645	Adapter bolt, side terminal accessory post for dual power lead	10
2	8-648	Adapter nut, terminal accessory post: 3/8" - 16 x 3/4"	10

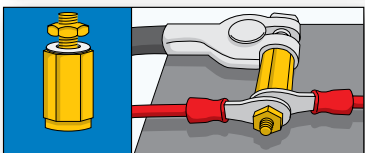


Fig. 2

- For adding accessory wire connections
- Precision-machined from solid brass, includes zinc-plated steel nut and washer
- Connects power accessories directly to battery*
- Adapter nut fits standard battery bolt
- Side terminal adapter bolt available for single and dual power leads

*Caution: Accessories directly connected to battery should be protected by fuse or circuit breaker device

HEAVY DUTY JUMPERS

- Truck, bus, farm, construction, etc.
- 2/0 gauge for parallel connections of 2 or 3 batteries
- Exceeds SAE and OEM specifications
- Ideal for Group 31 and similar batteries
- Most efficient way to connect two or three paralleled batteries for delivery of maximum starting power at same voltage

Group 31

Battery Jumpers

Description	Positive (Red)	Negative (Black)	CLEAR-VU™ (Clear)
9", 3/8" hole	9-208	9-209	9-210
12", 3/8" hole	9-211	9-212	9-213
15", 3/8" hole	9-214	9-215	9-216
17", 3/8" hole	9-217	9-218	9-219

- Non-rotating, heavy duty battery terminals
- 2/0 ga. cable and terminals

CLEAR-VU™ Battery Jumpers - OEM Replacement

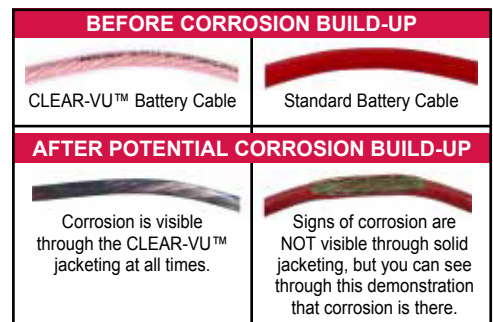
Part No.	Description
9-350	2/0 CLEAR-VU™ clear, 2 lug, 8"
9-351	2/0 CLEAR-VU™ translucent smoke, 2 lug, 8"
9-352	2/0 CLEAR-VU™ translucent red, 2 lug, 8"
9-360	2/0 CLEAR-VU™ clear, 3 lug, 17"
9-361	2/0 CLEAR-VU™ translucent smoke, 3 lug, 17"
9-362	2/0 CLEAR-VU™ translucent red, 3 lug, 17"
9-370	2/0 CLEAR-VU™ clear, 4 lug, 26"
9-371	2/0 CLEAR-VU™ translucent smoke, 4 lug, 26"
9-372	2/0 CLEAR-VU™ translucent red, 4 lug, 26"



- Replaces OEM battery cables
- Translucent cable allows you to see corrosion
- Heavy wall shrink tubing stops water and contaminants from entering charging system
- Rope-style stranding for flexibility
- Operating temperature range -40°F to 150°F (-40°C to 66°C)
- Non-rotating 3/8 in. lugs

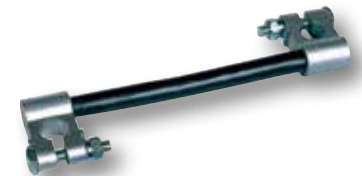
OEM Replacement Chart

PHILLIPS	Volvo/Mack	Freightliner	Peterbilt	Kenworth	International
9-351	32001404	N54-4226	D6204-3035	D6204-3035	547937C91
9-352	3201140280	N54-4883	D6207-1046	D6207-1046	546389C91
9-361	8085769	N54-4667	-	-	546889C91
9-362	8075153	N54-4688	-	-	547422C91



Battery-To-Battery Jumpers

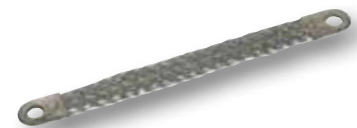
Gauge	8"	12"
2/0	9-126	9-128



- Lead terminals
- 2/0 ga. cable
- Black cable

Braided Ground Straps

Gauge	13"	18"	24"
4	9-150	9-151	9-152



- Fine stranded copper conductor for maximum conductivity and flexibility
- Corrosion resistant plating
- 3/8 in. hole

Coiled Ground Cable

Part No.	Description
9-5560	5' PERMACOIL™ coiled ground cable, 8 ga. NEW



- Cable offers more flexibility and allows for less tangling when the fifth wheel is adjusted back and forth
- 5 ft. extended working length
- PERMACOIL™ cable jacketing has good recoil memory and is UV, chemical and abrasion resistant
- Flexible from -87°F to 150°F (-66°C to 66°C)
- Tin plated copper lugs and heat shrink tubing used to help prevent corrosion at the connections

Two Battery Jumpers



Top Post-to-Power Take-Off Post

Description	Positive	Negative
7-3/8"	9-242	9-243

Stud-to-Power Take-Off Stud

Description	Positive	Negative
7-3/8"	9-262	9-263

Three Battery Jumpers



Stud-to-Power Take-Off Post

Description	Positive	Negative
14-3/4"	9-282	9-283

Stud-to-Power Take-Off Stud

Description	Positive	Negative
13-5/8"	9-290	9-291
14-3/4"	9-292	9-293

TERMINAL PROTECTORS

- Protects alternator and electrical system from shorts
- Reduces the risk of battery explosion caused by sparks
- High temperature PVC construction, rated at 190°F (90°C)
- Color-coded for easy polarity identification

Straight Clamp



Gauge	Red	Black
1 & 2	8-7122	8-7123
1/0 & 2/0	8-7124	8-7125
3/0 & 4/0	8-7126	8-7127

Right Elbow



Gauge	Red	Black
1/0 & 3/0	8-7132	8-7133

Left Elbow



Gauge	Red	Black
1/0 & 3/0	—	8-7137

Flag Clamp



Gauge	Red	Black
1/0 & 2/0	8-7142	8-7143



Heavy Duty Starter



Gauge	Red	Black
1/0 & 2/0	8-7146	8-7147

Straight or Angle Lug



Gauge	Red	Black
4	8-7150	8-7151

SOLDER SLUGS

Solder Flux

Part No.	Description	Qty.
7-259	2 oz. bottle of solder flux	1

- Cleans conductors and terminals for soldering



Solder Slugs

Part No.	Wire Gauge	Color	Qty.
7-260	6	Gray	25
7-261	4	Gray	25
7-262	2	Green	25
7-263	1	Pink	25
7-264	1/0	Black	25
7-265	2/0	Orange	25
7-266	3/0	Purple	25
7-267	4/0	Yellow	25



Solder slugs were developed as a quick way to attach a battery terminal to the cable. Solder slugs eliminate the need for a crimping tool.

- Makes an OEM quality sealed connection
- Drop slug into terminal, insert cable, heat...finished!
- Fast-easy-clean-safe
- For best results, use STA-DRY® heat shrink tubing

Solder Kit

Part No.	Description
7-1800	Solder kit

7-1800 Contents:

Replacement Part No.	Description	Qty.
6-402	STA-DRY® heat shrink tubing 6-4 ga., 1/2", black	10
6-403	STA-DRY® heat shrink tubing 6-4 ga., 1/2", red	10
6-404	STA-DRY® heat shrink tubing 2-2/0 ga., 3/4", black	10
6-405	STA-DRY® heat shrink tubing 2-2/0 ga., 3/4", red	10
7-259	Battery terminal solder flux	1
7-260	Solder slug - 6 ga., gray	20
7-261	Solder slug - 4 ga., gray	20
7-263	Solder slug - 1 ga., pink	10
7-264	Solder slug - 1/0 ga., black	10
7-265	Solder slug - 2/0 ga., orange	10



7-1800

BATTERY FASTENER HARDWARE

- Complete selection of standard and heavy duty battery related hardware
- Hardware meets or exceeds OEM, SAE or MIL specifications, where relevant

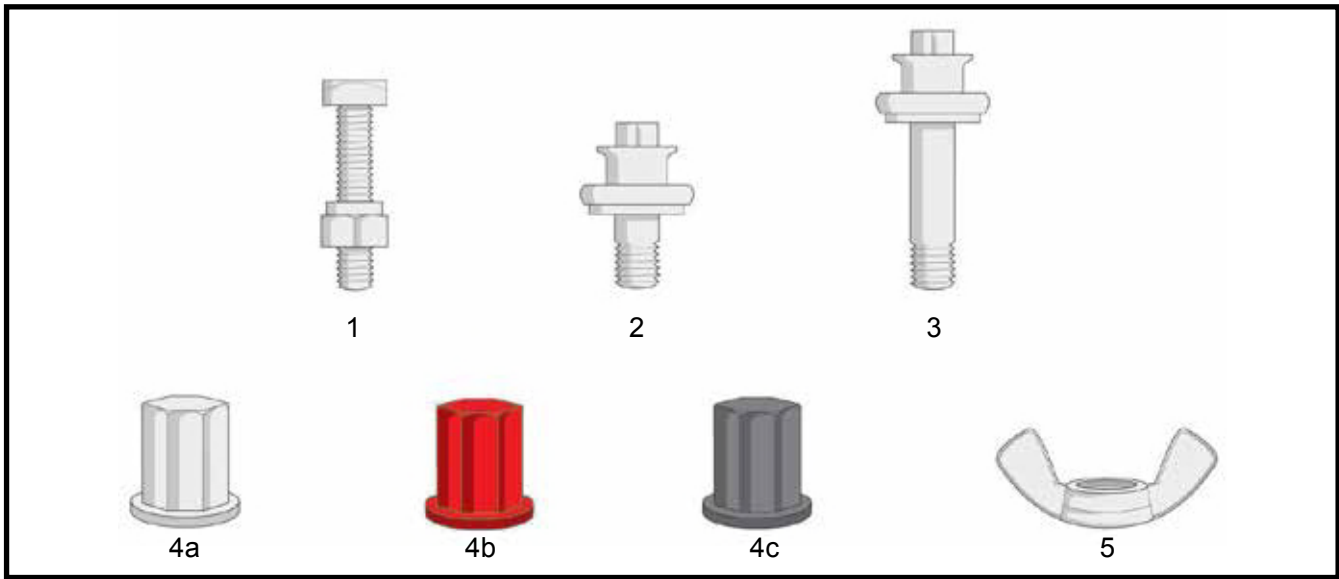


Fig.	Part No.	Description	Qty.
1	8-651	Bolt, square head and shoulder nut, 5/16" - 18 x 1-1/4", steel, tin-plated	10
2	8-656	Bolt, side terminal, 3/8" - 16 x 15/32", for single power lead, OEM type	10
3	8-657	Bolt, side terminal, 3/8" - 16 x 1", for dual power leads, OEM type	10
4a	8-662	Nut, closed-cap, 3/8" - 16, stainless steel, group 31, universal	10
4b	8-663	Nut, closed-cap, 3/8" - 16, red, stainless steel, positive	10
4c	8-664	Nut, closed-cap, 3/8" - 16, black, stainless steel, negative	10
5	8-667	Nut, wing, 3/8" - 16	10

BATTERY BOXES & HOLD-DOWNS

Commercial Battery Boxes

Part No.	Description
9-404	8D High (Inside 21"L x 11-3/4"W x 11"D, Outside 24-1/2"L x 14-1/2"W x 13"D)



- Composite
- Resists acid, gasoline, oil and solvents
- Flame resistant
- UV stabilized (rating 6)
- Rugged, durable heavy wall construction
- Top vents prevent hydrogen gas build-up
- Cover held firmly with convenient thumb screws

Heavy Duty Battery Boxes

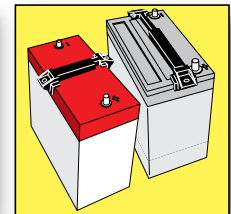
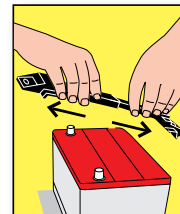
Part No.	Description
9-405	Group 24 (Inside 10-3/8"L x 7"W x 9-1/2"H, Outside 16-1/2"L x 9"W x 10-1/4"H)
9-407	Group 24-31 (Inside 12-3/4"L x 7-1/4"W x 9-3/4"H, Outside 14-3/4"L x 9"W x 10-1/2"H)



- Acid-proof, seamless polyethylene construction keeps battery clean and dry
- Top vents prevent hydrogen gas build-up
- Includes hold-down strap and mounting brackets

Battery Hold-Down

Description	5 1/2" to 9"	8 5/8" to 14 3/4"
Offset hold-down	9-413	-
Flush hold-down	-	9-416



- Infinitely adjustable and lockable
- Non-conductive; eliminates hold-down as source of shorts
- Ideal for all applications
- Fiberglass-reinforced polypropylene is rust and corrosion proof
- Does not include mounting hardware
- Standard pack of 1

Hold-Down Bolt Sets - "L" Style



Part No.	Description	Qty.
9-427	Hold-down bolt set, 8"	1
9-428	Hold-down bolt set, 10"	1

- Long thread accommodates all crossbar / frame designs
- Use with battery trays
- "L" style bend eliminates any need to shift or remove battery
- Sold as a pair - hardware included

BOOSTER CABLES

- Tangle-proof cable
- Flexible from -58°F to 221°F (-50°C to 105°C)
- 100% copper welding cable for maximum conductivity
- Solid copper 500 and 800 amp clamps

Booster Clamps



Description	500 amp	800 amp
Booster clamps	9-309	9-310

- Solid copper parrot clamps
- Sold in pairs only
- Hardware included
- 9-309 will accept up to 1/0 ga. lug and cable
- 9-310 will accept up to 3/0 ga. lug and cable

Heavy Duty Booster Cable



Part No.	Gauge	Amp	Length	Clamp Style
9-313	4	500	16'	Coated parrot
9-323	2	500	20'	Mechanic

- Resealable vinyl bag
- Carrying handle

Commercial Heavy Duty Booster Cable

Part No.	Gauge	Amp	Length	Clamp Style
9-325	2/0	800	20'	Parrot clamp

- Resealable / waterproof bucket
- Carrying handle



PREVENTIVE MAINTENANCE

Protective Spray

Part No.	Description	Qty.
8-752	Protective aerosol spray, 10 oz.	1

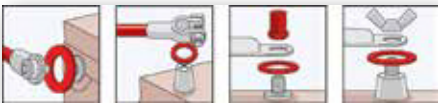
- Red spray protects exposed electrical connections from corrosion, ensuring maximum current flow
- Use on battery terminals, connectors and hardware
- Compact size fits in toolbox or pocket
- For occasional use



Protective Washers

Part No.	Description
9-435	Felt washers, top post terminal, black, 100 pieces
9-436	Felt washers, top post terminal, red, 100 pieces

- Contains long-lasting corrosion inhibitors to extend life of battery connectors and hardware
- Easy to install - slip over post



SERVICE KITS

Field Service Kit



9-1002

Part No.	Description
9-1002	2/0 battery cable field service kit

9-1002 Contents:

Replacement Part No.	Description	Qty.
-	Heavy duty handheld cable cutter	1
4-152	Heavy duty handheld hex crimp tool	1
6-211	Red 6" heat shrink tubing, 6-2/0 ga.	2
6-212	Black 6" heat shrink tubing, 6-2/0 ga.	2
8-1160	2/0 ga. straight clamps, positive	2
8-1161	2/0 ga. straight clamps, negative	2
8-1460	2/0 ga. flag clamps, positive	2
8-1461	2/0 ga. flag clamps, negative	2
8-4165	2/0 ga. heavy duty tin plated straight lugs, 1/2" stud	2
8-4763	2/0 ga. single cable locking anti-rotational lugs, 3/8" stud	2
8-4863	2/0 ga. dual cable locking anti-rotational lugs, 3/8" stud	2
8-7124	Red terminal protectors, straight clamps - fits 1/0 and 2/0 ga.	4
8-7125	Black terminal protectors, straight clamps - fits 1/0 and 2/0 ga.	4
8-7142	Red terminal protectors, flag clamps - fits 1/0 and 2/0 ga.	2
8-7143	Black terminal protectors, flag clamps - fits 1/0 and 2/0 ga.	2

- Field repair kit contains components to build or repair 2/0 battery cables
- Portable and convenient durable (7) compartment metal box with handle and latch

Field Service Kit - Heavy Duty

Part No.	Description
9-1004	Heavy duty battery cable field service kit

9-1004 Contents:

Replacement Part No.	Description	Qty.
6-404	Black 1.5" heat shrink tubing, 6-2/0 ga.	20
6-405	Red 1.5" heat shrink tubing, 6-2/0 ga.	20
8-651	5/16" x 1 1/4" tin plated battery bolts and 5/16" nuts	28
8-662	3/8" stainless steel closed cap nuts	5
8-1160	2/0 ga. straight clamps, positive	10
8-1161	2/0 ga. straight clamps, negative	10
8-1460	2/0 ga. flag clamps, positive	4
8-1461	2/0 ga. flag clamps, negative	4
8-2263	2/0 ga. tin plated straight lugs, 3/8" stud	10
8-2265	2/0 ga. tin plated straight lugs, 1/2" stud	10
8-2763	2/0 ga. terminal locking lugs, 3/8" stud	10
8-2765	2/0 ga. terminal locking lugs, 1/2" stud	5
8-4165	2/0 ga. heavy duty tin plated straight lugs, 1/2" stud	5
8-4763	2/0 ga. single cable locking anti-rotational lugs, 3/8" stud	5
8-4863	2/0 ga. dual cable locking anti-rotational lugs, 3/8" stud	4
8-7124	Red terminal protectors, straight clamps - fits 1/0 and 2/0 ga.	5
8-7125	Black terminal protectors, straight clamps - fits 1/0 and 2/0 ga.	5
8-7142	Red terminal protectors, flag clamps - fits 1/0 and 2/0 ga.	3
8-7143	Black terminal protectors, flag clamps - fits 1/0 and 2/0 ga.	3



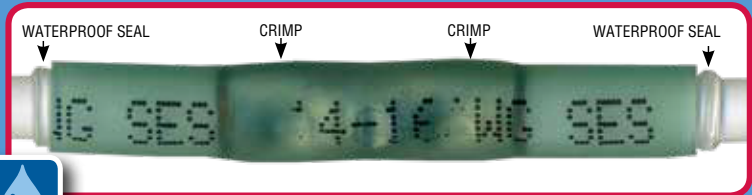
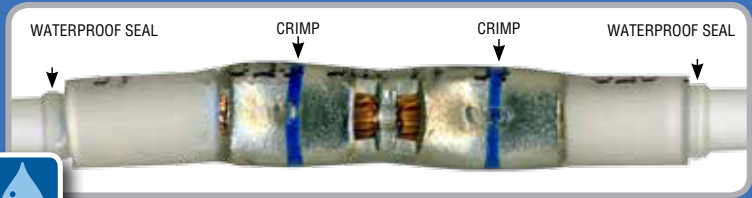
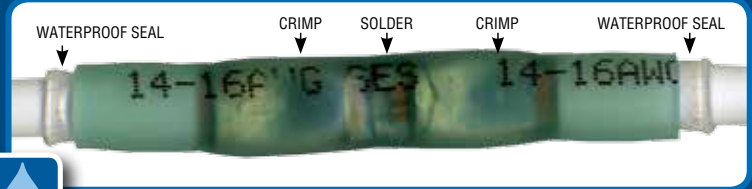
9-1004

- Assortment contains components needed to make OEM quality cables
- Durable 24 compartment metal box with handle and latch fits into standard fastener rack

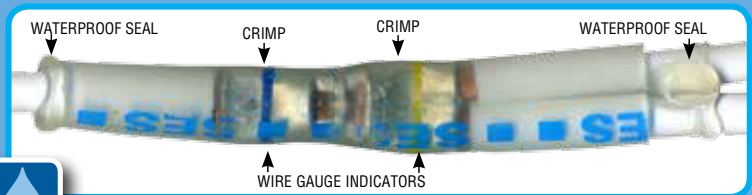
WIRE TERMINALS

PHILIPS STA-DRY® HEAT SHRINK CONNECTORS

Designed to meet the
harshest electrical
demands a tractor or
trailer will encounter!



SPECIALTY TRAILER WIRING



STOP WIRE CORROSION

Corroded Wire

Adhesive-Lined
Waterproof Seal

MAKE PERMANENT
REPAIRS

CRIMP, SOLDER & SEAL™

The Ultimate Electrical Connection!

- Crimp provides mechanical reliability and holds wires in place for soldering
- Solder provides maximum tensile strength and conductivity
- Seal prevents wire corrosion ... Keeps out moisture and road salts

1-1862



81% stronger than



CLEAR-VU™ CRIMP & SEAL™

Innovative Crimp Connectors!

- Crystal-clear tubing provides unparalleled visual inspection and weatherproof seal
- Window ensures the wire is stripped to proper length and is fully seated to wire stop
- Color-coded stripes identify wire gauge size and show where to crimp the connector

1-1662



50% stronger than



CRIMP & SEAL™

Excellent Mechanical Connection!

- Crimp provides mechanical reliability for excellent conductivity
- Seal prevents wire corrosion ... Keeps out moisture and road salts

1-1962



50% stronger than



STA-DRY® MULTIPLE WIRE CONNECTOR

- Allows splicing 2 wires to 1 wire
- Easy to crimp for a strong mechanical termination
- Window allows for visual inspection
- Seal prevents wire corrosion

1-1724

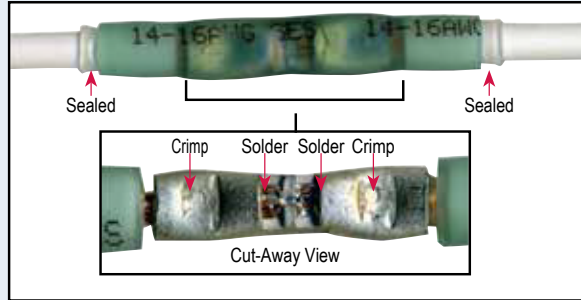


STA-DRY® CRIMP, SOLDER & SEAL™

The Ultimate Electrical Connection!



- Crimp provides mechanical reliability and holds wires in place for soldering
- Solder flows into window to solder wire to connector
- Solder provides maximum tensile strength and conductivity
- Seal prevents wire corrosion...keeps out moisture and road salts
- CRIMP, SOLDER & SEAL™ connectors meet or exceed the most stringent OEM standards
- RoHS compliant



Butt Connectors



Heat Required



Color	Gauge	Part No. (25 Pcs. Per Bag)	Part No. (100 Pcs. Per Bag)	Part No. (500 Pcs. Per Bag)	Part No. (5 Pcs. Per Clamshell)	Part No. (60 Pcs. Per Jar)	Part No. (100 Pcs. Per Jar)
Red	22-18	1-1863	1-1863-100	1-1863-500	1-1863C	-	1-1863J
Blue	16-14	1-1862	1-1862-100	1-1862-500	1-1862C	-	1-1862J
Yellow	12-10	1-1861	1-1861-100	1-1861-500	1-1861C	1-1861J	-



SHAKE JAR

Ring Terminals



Heat Required



Color	Gauge	Stud	Part No. (25 Pcs. Per Bag)	Part No. (5 Pcs. Per Clamshell)
Red	22-18	#10	1-1878	-
Blue	16-14	#10	1-1875	1-1875C
Blue	16-14	1/4"	1-1876	-
Blue	16-14	3/8"	1-1877	-
Yellow	12-10	#10	1-1871	-
Yellow	12-10	1/2"	1-1872	-
Yellow	12-10	1/4"	1-1873	1-1873C
Yellow	12-10	3/8"	1-1874	1-1874C

Spade Terminals

Color	Gauge	Stud	Part No. (25 Pcs. Per Bag)
Blue	16-14	#10	1-1880
Yellow	12-10	#10	1-1879



Heat Required



Slip-On Terminals

Color	Gauge	Tab	Style	Part No. (25 Pcs. Per Bag)	Part No. (5 Pcs. Per Clamshell)
Blue	16-14	.250"	Female	1-1893	1-1893C
Blue	16-14	.250"	Male	1-1894	1-1894C
Yellow	12-10	.250"	Female	1-1891	-
Yellow	12-10	.250"	Male	1-1892	-



Heat Required



STA-DRY® CRIMP, SOLDER & SEAL™ Kit

Part No.	Description
1-1803	STA-DRY® CRIMP, SOLDER & SEAL™ kit

1-1803 Contents:

Connector Style	Gauge & Size	Part No.	Qty.
Butt connector	12-10	1-1861	4
Butt connector	16-14	1-1862	8
Butt connector	22-18	1-1863	4
Ring	12-10, 1/4"	1-1873	4
Ring	12-10, 3/8"	1-1874	4
Ring	16-14, 10"	1-1875	4
Ring	16-14 1/4"	1-1876	4
Ring	16-14, 3/8"	1-1877	4
Ring	22-18, 10"	1-1878	3
Female slip-on	16-14, .250"	1-1893	3
Male slip-on	16-14, .250"	1-1894	3



1-1803

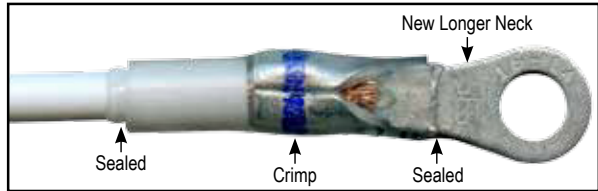
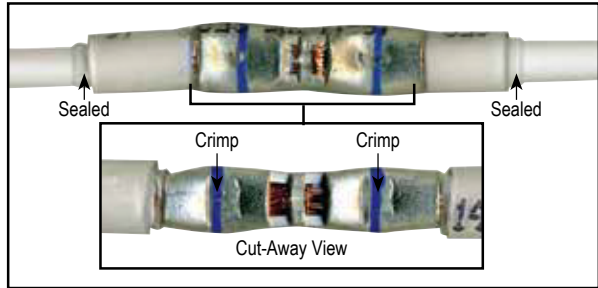
11 Part #'s, 45 Pieces
7 1/2 in. x 3 3/4 in.

STA-DRY® CLEAR-VU™ CRIMP & SEAL™

Innovative Crimp Connectors!



- CLEAR-VU™ crystal-clear tubing provides unparalleled visual inspection
- Window ensures the wire is stripped to the proper length and is fully seated to wire stop
- Color-coded stripes identify wire gauge size to use and where to crimp the connector
- Crimp provides mechanical reliability for excellent conductivity
- Waterproof seal prevents wire corrosion ... keeps out moisture and road salts
- Seamless barrel ensures superior crimp performance
- Wire-stop prevents over-insertion of wire
- Wire gauge imprint simplifies wire size identification
- RoHS compliant



CLEAR-VU™ Window Butt Connectors



Heat Required



Color	Gauge	Part No. (25 Pcs. Per Bag)	Part No. (100 Pcs. Per Bag)	Part No. (60 Pcs. Per Jar)	Part No. (100 Pcs. Per Jar)
Red	22-18	1-1661	1-1661-100	-	1-1661J
Blue	16-14	1-1662	1-1662-100	-	1-1662J
Yellow	12-10	1-1663	1-1663-100	1-1663J	-



SHAKE JAR

CLEAR-VU™ Window Step-Down Connectors



Heat Required



Gauge	TO		Part No. (25 Pcs. Per Bag)
	Side 1 ga.	Side 2 ga.	
16-14	22-18	16-14	1-1618
12-10	16-14	12-10	1-1617
8	12-10	8	1-1616

CLEAR-VU™ Ring Terminals

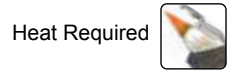
NEW!

Color	Gauge	Stud	Part No. (25 Pcs. Per Bag)
Blue	16-14	#10	1-1623
Blue	16-14	1/4"	1-1624
Blue	16-14	3/8"	1-1626
Yellow	12-10	#10	1-1633
Yellow	12-10	1/4"	1-1634
Yellow	12-10	3/8"	1-1636



CLEAR-VU™ ring terminals have a longer neck, enabling them to be stacked without the tubing impeding contact between the screw and terminal and providing a flush mount.

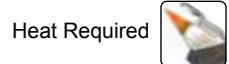
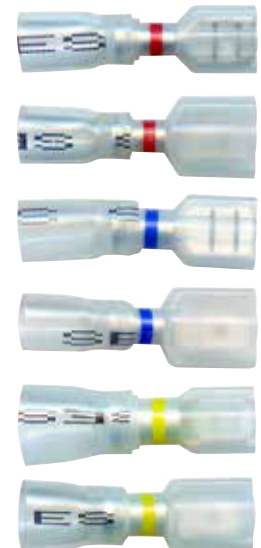
STACK WITHOUT IMPEDING



CLEAR-VU™ Fully Insulated Slip-On Terminals

NEW!

Color	Gauge	Tab	Style	Part No. (25 Pcs. Per Bag)
Red	22-18	.250"	Female	1-1675
Red	22-18	.250"	Male	1-1676
Blue	16-14	.250"	Female	1-1671
Blue	16-14	.250"	Male	1-1672
Yellow	12-10	.250"	Female	1-1665
Yellow	12-10	.250"	Male	1-1666



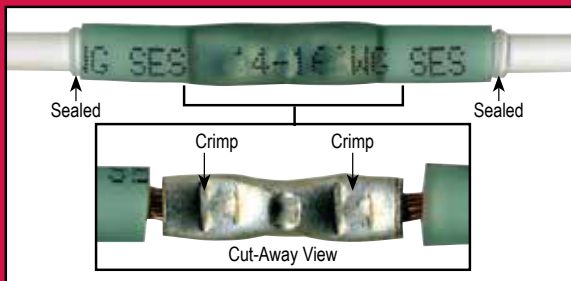
WIRE TERMINALS

STA-DRY® CRIMP & SEAL™

A Strong Electrical Connection!

 **50% stronger than** 

- Crimp provides mechanical reliability for excellent conductivity
- Seal prevents wire corrosion ... Keeps out moisture and road salts
- RoHS compliant



Butt Connectors



Heat Required

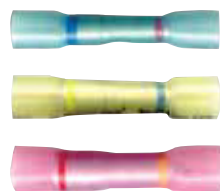


Color	Gauge	Part No. (25 Pcs. Per Bag)	Part No. (100 Pcs. Per Bag)	Part No. (500 Pcs. Per Bag)	Part No. (5 Pcs. Per Clamshell)	Part No. (60 Pcs. Per Jar)	Part No. (100 Pcs. Per Jar)
Red	22-18	1-1961	1-1961-100	1-1961-500	1-1961C	-	1-1961J
Blue	16-14	1-1962	1-1962-100	1-1962-500	1-1962C	-	1-1962J
Yellow	12-10	1-1963	1-1963-100	1-1963-500	1-1963C	1-1963J	-
Red	8	1-1964	-	-	-	-	-



SHAKE JAR

Step-Down Connectors



Heat Required



Color	Gauge	Side 1 ga.	TO	Side 2 ga.	Part No. (10 Pcs. Per Bag)
Blue	16-14	22-18		16-14	1-1728
Yellow	12-10	16-14		12-10	1-1727
Red	8	12-10		8	1-1726

- Connects 2 different wire gauges
- Each end color coded



Ring Terminals

Color	Gauge	Stud	Part No. (10 Pcs. Per Bag)	Part No. (25 Pcs. Per Bag)	Part No. (100 Pcs. Per Bag)	Part No. (5 Pcs. Per Clamshell)
Red	22-18	#6	-	1-1917	-	-
Red	22-18	#8	-	1-1918	-	-
Red	22-18	#10	-	1-1919	-	1-1919C
Red	22-18	1/4"	-	1-1920	-	-
Blue	16-14	#6	-	1-1921	-	-
Blue	16-14	#8	-	1-1922	-	-
Blue	16-14	#10	-	1-1923	1-1923-100	1-1923C
Blue	16-14	1/4"	-	1-1924	1-1924-100	1-1924C
Blue	16-14	5/16"	-	1-1925	-	-
Blue	16-14	3/8"	-	1-1926	1-1926-100	1-1926C
Yellow	12-10	#8	-	1-1932	-	-
Yellow	12-10	#10	-	1-1933	1-1933-100	1-1933C
Yellow	12-10	1/4"	-	1-1934	1-1934-100	1-1934C
Yellow	12-10	5/16"	-	1-1935	-	-
Yellow	12-10	3/8"	-	1-1936	1-1936-100	-
Yellow	12-10	1/2"	-	1-1937	-	-
Red	8	#10	1-1945	-	-	-
Red	8	1/4"	1-1946	-	-	-
Red	8	5/16"	1-1947	-	-	-
Red	8	3/8"	1-1948	-	-	-

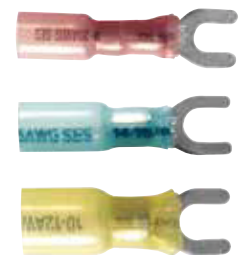


Heat Required



Spade Terminals

Color	Gauge	Stud	Part No. (25 Pcs. Per Bag)
Red	22-18	#8	1-1939
Blue	16-14	#6	1-1940
Blue	16-14	#8	1-1941
Blue	16-14	#10	1-1942
Yellow	12-10	#10	1-1944



Heat Required



Fully Insulated Slip-On Terminals



Heat Required



Color	Gauge	Tab	Style	Part No. (25 Pcs. Per Bag)	Part No. (100 Pcs. Per Bag)	Part No. (5 Pcs. Per Clamshell)
Red	22-18	.250"	Female	1-1975	-	1-1975C
Red	22-18	.250"	Male	1-1976	-	1-1976C
Blue	16-14	.250"	Female	1-1971	1-1971-100	1-1971C
Blue	16-14	.250"	Male	1-1972	1-1972-100	1-1972C
Yellow	12-10	.250"	Female	1-1965	1-1965-100	1-1965C
Yellow	12-10	.250"	Male	1-1966	1-1966-100	-

Slip-On Terminals

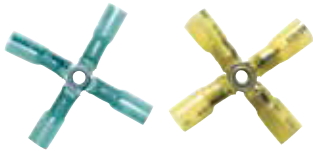


Heat Required



Color	Gauge	Tab	Style	Part No. (25 Pcs. Per Bag)
Red	22-18	.110"	Female	1-1950
Red	22-18	.250"	Female	1-1951
Red	22-18	.250"	Male	1-1952
Blue	16-14	.187"	Female	1-1953
Blue	16-14	.250"	Female	1-1954
Blue	16-14	.250"	Male	1-1955
Yellow	12-10	.250"	Female	1-1956
Yellow	12-10	.250"	Male	1-1957

4-Wire Connectors



Heat Required



Color	Gauge	Part No. (25 Pcs. Per Bag)
Blue	16-14	1-2241
Yellow	12-10	1-2242

Bullet Connectors

Color	Gauge	Diameter	Style	Part No. (25 Pcs. Per Bag)	Part No. (100 Pcs. Per Bag)	Part No. (5 Pcs. Per Clamshell)
Red	22-18	.157"	Male	1-1982	-	-
Red	22-18	.180"	Male	1-2268	-	-
Red	22-18	.157"	Female	1-1981	-	-
Red	22-18	.180"	Female	1-2266	-	-
Blue	16-14	.157"	Male	1-1984	-	-
Blue	16-14	.180"	Male	1-2269	1-2269-100	1-2269C
Blue	16-14	.157"	Female	1-1983	-	-
Blue	16-14	.180"	Female	1-2267	1-2267-100	1-2267C



Heat Required



STA-DRY® CRIMP & SEAL™ Kits



Part # 1-1905
4 Part #'s
30 Pieces
1 Mini-Torch
7 1/2 in. x 3 3/4 in.



Part # 1-1903
12 Part #'s
56 Pieces
7 1/2 in. x 3 3/4 in.

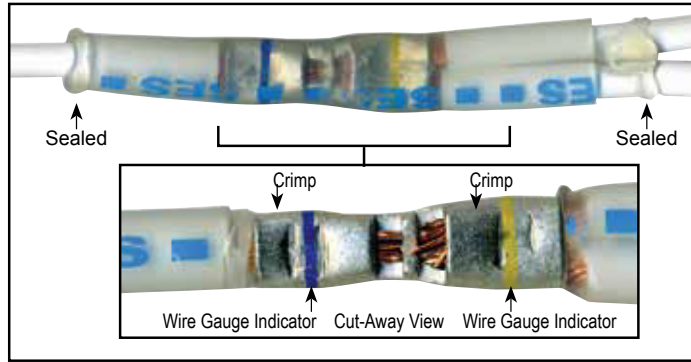


Part # 1-1900
12 Part #'s
115 Pieces
11 in. x 6 3/4 in.

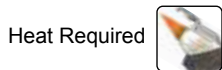
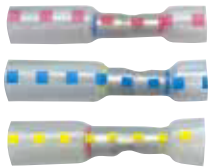
Connector Style	Wire Gauge & Size	Part No.	1-1905 Mini Kit	1-1903 Mini Kit	1-1900 Kit
Ring	22-18, #10	1-1919	-	4	5
Ring	16-14, #10	1-1923	-	4	5
Ring	16-14, 1/4"	1-1924	-	4	5
Ring	16-14, 3/8"	1-1926	-	4	5
Ring	12-10, #10	1-1933	-	4	5
Ring	12-10, 1/4"	1-1934	-	4	5
Butt connector	22-18	1-1961	10	5	20
Butt connector	16-14	1-1962	10	10	30
Butt connector	12-10	1-1963	10	5	20
Butt connector	24-22	1-1967	-	-	1
Female slip-on	16-14, .250"	1-1971	-	4	5
Male slip-on	16-14, .250"	1-1972	-	4	5
Female slip-on	22-18, .250"	1-1975	-	4	-
Mini-jet torch		4-054	1	-	-

STA-DRY® MULTIPLE WIRE CONNECTORS

- Window ensures the wire is stripped the proper length and is fully seated to wire stop
- Allows for "daisy chain" by joining 3 wires in-line
- Active adhesive seals between multiple wires to prevent corrosion
- Tapered barrel has a uniform copper wall, making it easy to crimp with a strong termination
- Color-coded stripes identify wire gauge size to use and where to crimp the connector
- Crimp provides mechanical reliability for excellent conductivity
- RoHS compliant



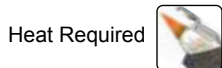
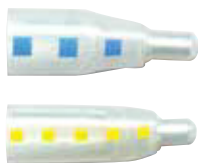
Multiple Wire Connectors



Color	Gauge	Tubing Color	Part No. (10 Pcs. Per Bag)	Part No. (100 Pcs. Per Bag)	Part No. (25 Pcs. Per Jar)
Red	22-18	Clear/Red	1-1725	1-1725-100	-
Blue	16-14	Clear/Blue	1-1724	1-1724-100	1-1724J NEW
Yellow	12-10	Clear/Yellow	1-1723	1-1723-100	-



Closed-End Connectors



Color	Gauge	Tubing Color	Part No. (10 Pcs. Per Bag)
Blue	22-14	Clear/Blue	1-1730
Yellow	18-10	Clear/Yellow	1-1729





WIRE TERMINALS


PVC TERMINALS


STUD HOLE CHART


Actual-Size Stud Hole Gauge



#6

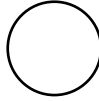

#8


#10


1/4"


5/16"


3/8"


1/2"

Stud Size	6	8	10	1/4	5/16	3/8	1/2
Hole Diam. - in	.143	.169	.196	.262	.323	.388	.516
Hole Diam. - mm	3.3632	4.292	4.978	6.655	8.204	9.855	13.106

Butt Connectors - PVC

Color	Gauge	Part No. (25 Pcs. Per Bag)	Part No. (100 Pcs. Per Bag)
Red	22-18	-	1-51006
Blue	16-14	1-51104	1-51106
Yellow	12-10	1-51204	1-51206
Blue	6	1-51304 NEW	-



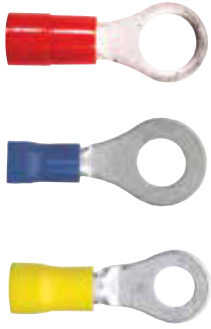
Hook Terminal - PVC

Color	Gauge	Stud	Part No. (25 Pcs. Per Bag)
Blue	16-14	#10	1-52424



WIRE TERMINALS

Ring Terminals - PVC



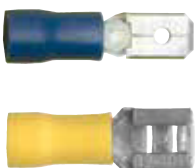
Color	Gauge	Stud	Part No. (25 Pcs. Per Bag)	Part No. (50 Pcs. Per Bag)	Part No. (100 Pcs. Per Bag)
Red	22-18	#10	-	-	1-52026
Red	22-18	1/4"	1-52034	-	-
Red	22-18	5/16"	1-52044	-	-
Red	22-18	3/8"	1-52054	-	-
Blue	16-14	#6	1-52104	-	-
Blue	16-14	#8	1-52114	-	1-52116
Blue	16-14	#10	1-52124	-	1-52126
Blue	16-14	1/4"	1-52134	-	1-52136
Blue	16-14	5/16"	1-52144	-	1-52146
Blue	16-14	3/8"	1-52154	-	1-52156
Yellow	12-10	#8	1-52214	-	1-52216
Yellow	12-10	#10	1-52224	-	1-52226
Yellow	12-10	1/4"	1-52234	-	1-52236
Yellow	12-10	5/16"	1-52244	-	1-52246
Yellow	12-10	3/8"	1-52254	-	1-52256
Yellow	12-10	1/2"	-	1-52265	-
Blue	6	1/4"	1-52334 NEW	-	-
Blue	6	3/8"	1-52354 NEW	-	-
Blue	6	1/2"	1-52364 NEW	-	-

Spade Terminals - PVC



Color	Gauge	Stud	Part No. (25 Pcs. Per Bag)
Red	22-18	#8	1-54014
Red	22-18	#10	1-54024
Blue	16-14	#6	1-54104
Blue	16-14	#8	1-54114
Blue	16-14	#10	1-54124
Yellow	12-10	#10	1-54224
Yellow	12-10	1/4"	1-54234

Slip-On Terminals - PVC

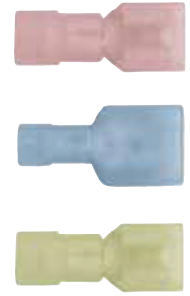


Color	Gauge	Tab	Style	Part No. (25 Pcs. Per Bag)	Part No. (50 Pcs. Per Bag)	Part No. (100 Pcs. Per Bag)
Blue	16-14	.250"	Male	1-53104	1-53105	-
Blue	16-14	.250"	Female	1-53114	1-53115	-
Blue	16-14	.187"	Female	1-53134	-	-
Yellow	12-10	.250"	Male	1-53204	-	1-53206
Yellow	12-10	.250"	Female	1-53214	-	1-53216

WIRE TERMINALS

Fully Insulated Slip-On Terminals - PVC

Color	Gauge	Tab	Style	Part No. (25 Pcs. Per Bag)	Part No. (50 Pcs. Per Bag)
Red	22-18	.250"	Male	1-53304	-
Red	22-18	.250"	Female	1-53314	-
Blue	16-14	.250"	Male	1-53404	-
Blue	16-14	.250"	Female	1-53414	-
Yellow	12-10	.250"	Male	1-53504	1-53505
Yellow	12-10	.250"	Female	1-53514	1-53515



Bullet Connectors - PVC

Color	Gauge	Diameter	Style	Part No. (25 Pcs. Per Bag)	Part No. (50 Pcs. Per Bag)	Part No. (100 Pcs. Per Bag)
Blue	16-14	.157"	Male	1-55104	-	1-55106
Blue	16-14	.157"	Female	1-55114	-	1-55116
Blue	16-14	.188"	Male	1-55124	1-55125	-
Blue	16-14	.188"	Female	1-55134	1-55135	-



Quick Splice - PVC

Color	Gauge	Style	Part No. (5 Pcs. Per Bag)	Part No. (15 Pcs. Per Bag)	Part No. (25 Pcs. Per Bag)	Part No. (100 Pcs. Per Bag)
Red	22-18	In-line	1-56001	1-56003	-	-
Red	22-18	T-tap	1-56011	1-56013	-	-
Blue	16-14	In-line	1-56101	-	1-56104	1-56106
Blue	16-14	T-tap	1-56111	-	1-56114	1-56116
Yellow	12-10	In-line	1-56201	1-56203	-	-
Yellow	12-10	T-tap	1-56211	1-56213	-	-



Wire Terminal Kit - PVC



1-2200

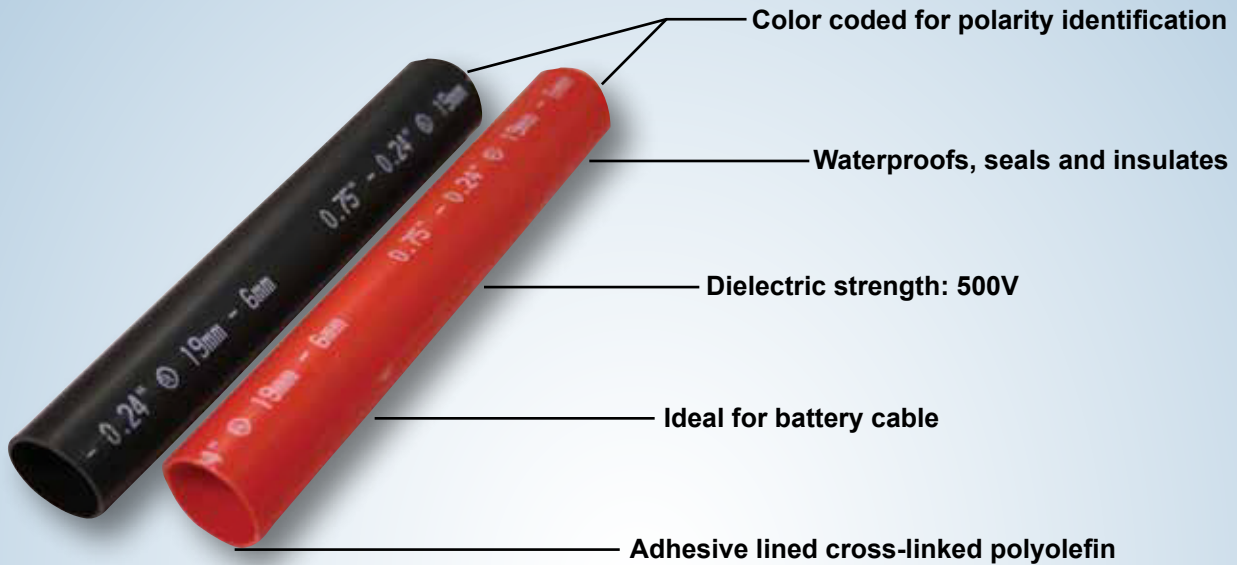
Part No.	Description
1-2200	PVC wire terminal kit

1-2200 Contents:

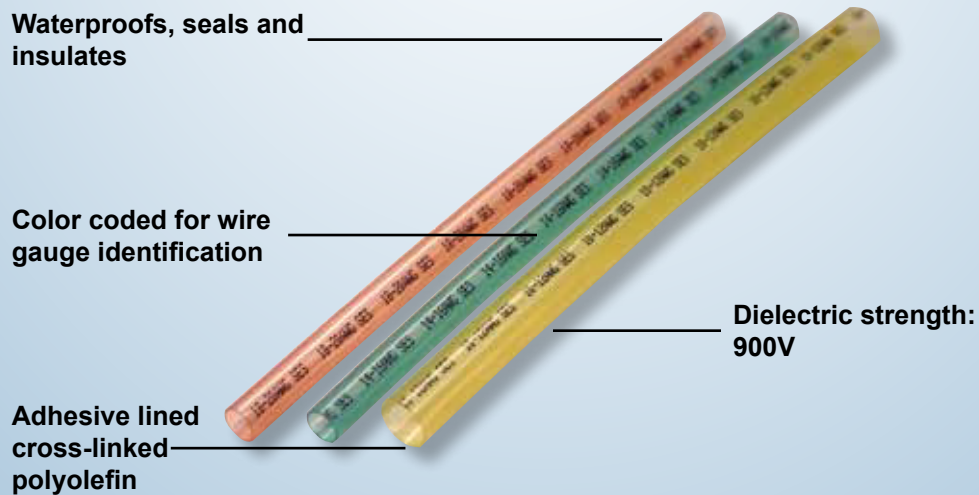
Equivalent Replacement Part No.	Description	Qty.
1-51006	Butt connector - 22-18 ga., insulated PVC	50
1-51106	Butt connector - 16-14 ga., insulated PVC	50
1-51206	Butt connector - 12-10 ga., insulated PVC	50
1-52104	Ring terminal - 16-14 ga., #6, insulated PVC	25
1-52126	Ring terminal - 16-14 ga., #10, insulated PVC	25
1-52136	Ring terminal - 16-14 ga., 1/4", insulated PVC	25
1-52156	Ring terminal - 16-14 ga., 3/8", insulated PVC	25
1-52226	Ring terminal - 12-10 ga., #10, insulated PVC	25
1-52236	Ring terminal - 12-10 ga., 1/4", insulated PVC	25
1-52256	Ring terminal - 12-10 ga., 3/8", insulated PVC	25
1-53105	Slip-on terminal - 16-14 ga., .250 male, insulated PVC	25
1-53115	Slip-on terminal - 16-14 ga., .250 female, insulated PVC	25
1-53404	Slip-on terminal - 16-14 ga., .250", male, fully insulated PVC	25
1-53414	Slip-on terminal - 16-14 ga., .250", female, fully insulated PVC	50
1-54124	Spade terminal - 16-14 ga., #10, PVC	25
1-54224	Spade terminal - 12-10 ga., #10, PVC	25
1-55106	Bullet connector - 16-14 ga., .157", male, insulated PVC	25
1-55125	Bullet connector - 16-14 ga., .188", male, insulated PVC	25
1-56106	Quick splice - 16-14 ga., inline, PVC	25
4-214	Shop tool - wire stripping and crimping tool	1
8-48087	Cable tie - 8" blade, nylon, 50lb.	20

HEAT SHRINK TUBING

STA-DRY® Heavy Duty Dual Wall



STA-DRY® CLEAR-VU™ Dual Wall



HEAT SHRINK TUBING



Phillips STA-DRY® heat shrink tubing provides the best protection for connections subject to extreme conditions. Heat shrink tubing provides outstanding defense from calcium and magnesium chlorides, heat, shock, cold, vibration, moisture and other critical environmental conditions.

DO IT ONCE. DO IT RIGHT.

Heat shrink tubing can extend the life of terminals indefinitely and assures reliable electrical performance. When heated, the inner wall of adhesive within Dual Wall tubing conforms to the size and shape of the underlying materials making a fast, easy, semi-permanent seal with natural strain-relief properties.

	Heavy Duty Dual Wall	CLEAR-VU™ Hi-Flow	CLEAR-VU™ Dual Wall	Flexible Dual Wall	Single Wall
Material	Cross-Linked Polyolefin	Cross-Linked Polyolefin	Cross-Linked Polyolefin	Cross-Linked Polyolefin	Cross-Linked Polyolefin
Shrink Ratio	3:1	4:1	3:1	3:1	2:1
Colors	Red and Black	Clear	Translucent Red, Blue, Yellow	Red, Black and Clear	Red, Blue, Yellow
Meltable Sealant	Yes	Yes	Yes	Yes	No
UL	486 D	No	E157227	E157227	E35506
CSA	C622.2	No	No	No	LR31929
Military Spec.	MIL-DTL-23053/15, Class 2	No	MIL-DTL-23053/4	MIL-DTL-23053/4 Class 3	MIL-DTL-23053/5, Class 1
Flame Retardant	Yes	No	No	Red and Black	Yes
Operating Temperature	-67°F To 230°F (-55°C To 110°C)	-67°F To 230°F (-55°C To 110°C)	-67°F To 230°F (-55°C To 110°C)	-67°F To 230°F (-55°C To 110°C)	-67°F To 275°F (-55°C To 135°C)

STA-DRY® Heavy Duty Dual Wall



Heat Required

- Waterproofs, seals and insulates
- Adhesive lined cross-linked polyolefin
- Color-coded for polarity identification
- Dielectric strength: 500V
- "C" in part number denotes clamshell package
- Ideal for battery cable

	Color	Wire Gauge*	Expanded ID	After Recovery	Qty.	Length	Part No.
RED	Red	8-6	.500"	.0167"	6	6"	6-210
	Red	8-6	.500"	.0167"	6	1.5"	6-403
	Red	1-2/0	.750"	.250"	6	6"	6-211
	Red	1-2/0	.750"	.250"	1	6"	6-211C
	Red	1-2/0	.750"	.250"	6	1.5"	6-405
	Red	1/0-4/0	1.100"	.367"	6	6"	6-207
	Red	1/0-4/0	1.100"	.367"	6	2"	6-401
	Red	1/0-4/0	1.100"	.367"	1	48"	6-209
	BLACK	Black	12-10	.400"	.150"	6	6"
Black		8-6	.500"	.167"	6	6"	6-204
Black		8-6	.500"	.167"	6	1.5"	6-402
Black		1-2/0	.750"	.250"	6	6"	6-212
Black		1-2/0	.750"	.250"	1	6"	6-212C
Black		1-2/0	.750"	.250"	6	1.5"	6-404
Black		1/0-4/0	1.100"	.367"	6	6"	6-206
Black		1/0-4/0	1.100"	.367"	6	2"	6-400
Black		1/0-4/0	1.100"	.367"	1	48"	6-208

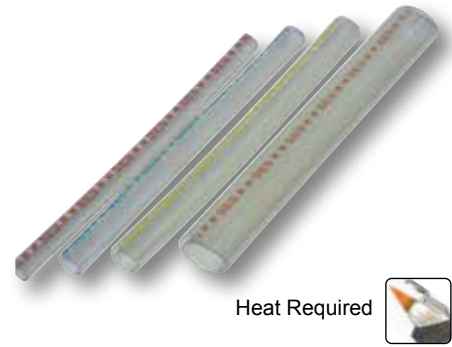
*Recommended wire gauge

STA-DRY® Hi-Adhesive Flow Tubing

Color	Wire Gauge*	Expanded ID	After Recovery	Qty.	Length	Part No.
Red	20-10	0.30"	0.06"	6	6"	6-351
Blue	16-8	0.35"	0.08"	6	6"	6-353
Yellow	14-4	0.45"	0.105"	6	6"	6-355
Orange	8-2/0	0.70"	0.175"	6	6"	6-357

* Recommended wire gauge

- Waterproofs, seals and insulates
- Adhesive-lined, cross-linked polyolefin
- Active adhesive seals between multiple wires to prevent corrosion
- Dielectric strength: 500V



STA-DRY® Flexible Dual Wall

	Color	Wire Gauge*	Expanded ID	After Recovery	Qty.	Length	Part No.	
RED	Red	1-2/0	0.750"	0.250"	6	6"	6-306	RED
	Red	1/0-4/0	1.000"	0.320"	6	6"	6-308	
BLACK	Black	22-18	0.125"	0.040"	6	6"	6-309	BLACK
	Black	20-16	0.187"	0.062"	6	6"	6-300	
	Black	16-14	0.250"	0.080"	6	6"	6-301	
	Black	12-10	0.375"	0.120"	6	6"	6-302	
	Black	8-6	0.500"	0.160"	6	6"	6-304	
	Black	1-2/0	0.750"	0.250"	6	6"	6-305	
	Black	1/0-4/0	1.000"	0.320"	6	6"	6-307	
	Black	1/0-4/0	1.000"	0.320"	6	6"	6-307	
Clear	Clear	22-18	.125"	.040"	6	6"	6-310	Clear
	Clear	20-16	.187"	.062"	6	6"	6-311	
	Clear	16-14	.250"	.080"	6	6"	6-312	
	Clear	12-10	.375"	.120"	6	6"	6-313	
	Clear	8-6	.500"	.160"	6	6"	6-314	
	Clear	4-2/0	.750"	.250"	6	6"	6-315	

*Recommended wire gauge

- Waterproofs, seals and insulates
- Adhesive lined cross-linked polyolefin
- Color-coded for polarity identification
- Dielectric strength: 700V

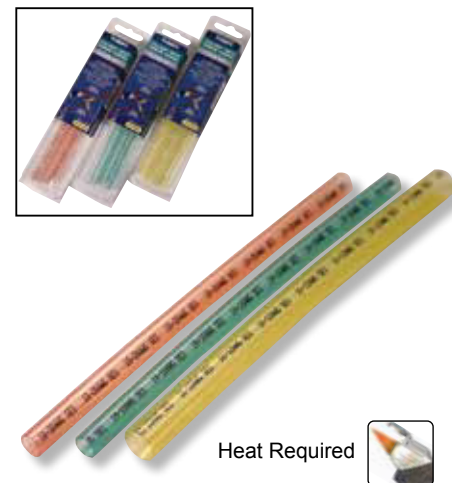


STA-DRY® CLEAR-VU™ Dual Wall

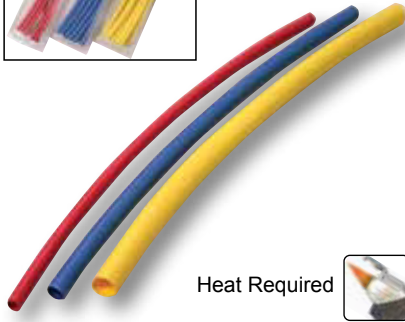
	Color	Wire Gauge*	Expanded ID	After Recovery	Qty.	Length	Part No.	
RED	Red	22-18	0.245"	0.045"	6	6"	6-103	RED
	Red	22-18	0.245"	0.045"	3	6"	6-103C	
BLUE	Blue	16-14	0.245"	0.080"	6	6"	6-105	BLUE
	Blue	16-14	0.245"	0.080"	3	6"	6-105C	
Yellow	Yellow	12-10	0.360"	0.100"	6	6"	6-107	Yellow
	Yellow	12-10	0.360"	0.100"	3	6"	6-107C	

*Recommended wire gauge

- Waterproof seal and insulates
- Adhesive lined cross-linked polyolefin
- Color-coded for wire gauge identification
- "C" in part number denotes clamshell package
- Dielectric Strength: 900V



Single Wall



Heat Required

	Color	Wire Gauge*	Expanded ID	After Recovery	Qty.	Length	Part No.	
RED	Red	22-18	.1875"	0.093"	6	6"	6-102	RED
	Red	22-18	.1875"	0.093"	6	6"	6-102C	
BLUE	Blue	16-14	.375"	0.187"	6	6"	6-104	BLUE
	Blue	16-14	.375"	0.187"	6	6"	6-104C	
YELLOW	Yellow	12-10	.2500"	0.125"	6	6"	6-106	YELLOW
	Yellow	12-10	.2500"	0.125"	6	6"	6-106C	

*Recommended wire gauge

- Insulates
- Flexible polyolefin
- Color-coded for wire gauge identification
- "C" in part number denotes clamshell package
- Dielectric strength: 900 Volts

STA-DRY® Heat Shrink Tubing Kits



STA-DRY® Flexible Dual Wall Part # 6-1800

12 Part #'s
78 Pieces
11 in. x 6 3/4 in.

**PRIMARY WIRE
APPLICATIONS**



STA-DRY® Flexible Dual Wall Part # 6-1801

12 Part #'s
150 Pieces
Fits in Standard Cabinets

**PRIMARY WIRE
APPLICATIONS**

Part No.	Type	Wire Gauge	6-1800 Mini Kit	6-1801 Drawer
6-300	STA-DRY® flexible dual wall	20-16 AWG	10	15
6-301	STA-DRY® flexible dual wall	16-14 AWG	10	15
6-302	STA-DRY® flexible dual wall	12-10 AWG	5	10
6-304	STA-DRY® flexible dual wall	8-6 AWG	2	10
6-305	STA-DRY® flexible dual wall	1-2/0 AWG	2	10
6-309	STA-DRY® flexible dual wall	22-18 AWG	10	15
6-310	STA-DRY® flexible dual wall	22-18 AWG	10	15
6-311	STA-DRY® flexible dual wall	20-16 AWG	10	15
6-312	STA-DRY® flexible dual wall	16-14 AWG	10	15
6-313	STA-DRY® flexible dual wall	12-10 AWG	5	10
6-314	STA-DRY® flexible dual wall	8-6 AWG	2	10
6-315	STA-DRY® flexible dual wall	4-2/0 AWG	2	10

Self-Sealing Shrink Tape

Part No.	Description
6-521	1" x 30'
6-522	1" x 10'

- For watertight connections that cannot use heat
- Tape seals to itself and creates a tight, yet flexible waterproof bond
- Can be applied in any weather condition
- Withstands hard cleaning chemicals and steam
- Conforms to the contours of oddly shaped objects
- Seals to rubber, plastics and metals
- Rated from -40°F to 212°F (-40°C to 100°C)



Self-Sealing Pads

Part No.	Description	Qty.
6-532	2.5" x 2.5" pads	25

- Designed for moisture protection on all electrical connections, such as battery terminals
- 45 mil thickness provides outstanding corrosion, chemical and UV protection
- Compatible with plastic, rubber and metal
- Rated from 0°F to 220°F (-18°C to 105°C)
- Rated to 600V



Torches

Part No.	Description
4-054	Mini-jet torch
4-057	Professional torch
4-058	Heavy duty torch

- Refillable butane tanks from 30 to 220 minute capacity depending on selected torch (butane not included)
- All torches meet Consumer Product Safety Commission 16CFR Part 1212 - Safety Standard for Multi-Purpose Lighter (Child Resistant)
- See page 157 and 158 for more details regarding each individual torch



Torches for any job big or small

CABLE/WIRE SUPPORT & ACCESSORIES

Tracker Spring Kit



Keep cables off the deck plate!



Metal snap-on clip - quickly unhook the spring assembly without unbolting the tracker bar (P/N: 17-160)

Pin keeps the sleeve at the top of the spring

Durable PVC sleeve tubing - stays with the top of the spring

Heavy gauge galvanized wire (.095) - better recoil memory and longer spring life. Designed to hold heavier ABS cables and rubber air hoses with ease

Heavy gauge metal snap-on clip - unhook the hose holder in seconds

QWIK-SNAP™ patented "scissor" design - allows cable/hose replacement in seconds!

Quick change - save up to 5 minutes!

Watch our side by side comparison video and see how quickly our Tracker Bar Spring Kit can be changed out versus conventional methods.

Scan the QR code with any free QR reader smart phone app!
Or go to www.phillipsind.com



STOW-A-WAY™

Part No.	Description
15-041	1 plug, 2 gladhand holder
15-042	2 plug, 2 gladhand holder

- 32% of truckers Workmen's Comp claims are from accidents occurring behind the cab, according to leading insurance carriers
- STOW-A-WAY™ offers safe, easy storage for coiled electrical cables, liftgate cables and air lines when not in use
- Corrosion resistant and extremely durable
- Air and electrical can be coupled/uncoupled with both feet on the ground
- Angled for easy access



15-041

15-042

Mounting Kit

Part No.	Description
17-039	Mounting kit

- Securely mounts STOW-A-WAY™ to pogo sticks



Pogo Sticks

Part No.	Description
17-0240	24" chrome
17-0241	24" gold chromate
17-0400	40" chrome
17-0401	40" gold chromate

- Designed for heavier ABS cables
- Extra heavy duty internal spring
- Can accept STOW-A-WAY™ (15-041, 15-042), with 17-039 mounting kit
- Includes QWIK-SNAP™ 3-hose holder
- 8 in. coated spring for corrosion resistance
- Heavy duty 7/16 in. mounting bolt



Keep cables off the deck plate!

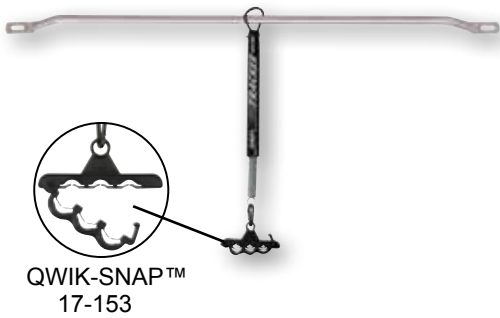


17-0241

17-0400

17-0401

Tracker Bar Kits



Part No.	Description
17-149	Kit with 43" bar and 20" spring
17-246	Kit with 36" bar and 25" spring
17-249	Kit with 36" bar and 20" spring

- Back of cab cable support
- Kits include bar, snap-on clip, PVC sleeve, QWIK-SNAP™ 3-hose holder and spring
- Stainless steel bar



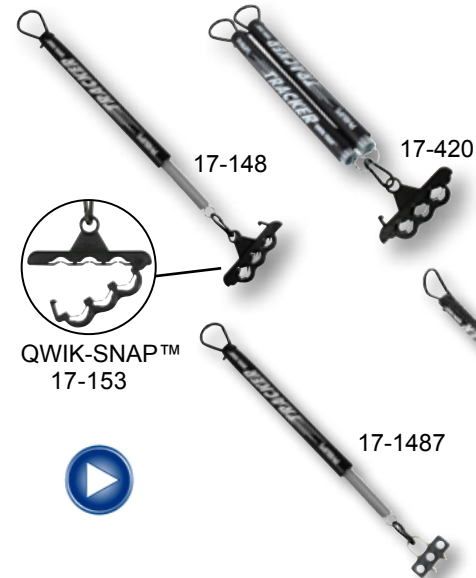
Tracker Bars



Part No.	Description
17-147	Tracker bar, 43"
17-247	Tracker bar, 36"

- Stainless steel

Tracker Spring Kits

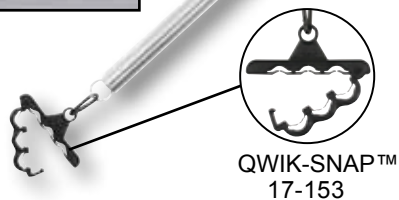


Part No.	Description
17-145	Kit with single heavy duty spring, 25", with QWIK-SNAP™
17-148	Kit with single heavy duty spring, 20", with QWIK-SNAP™
17-1487	Kit with single heavy duty spring, 20", with U-bolt holder
17-1488	Kit with 20.5" extra heavy duty spring, with cable clamp holder
17-420	Kit with dual 16" springs, with QWIK-SNAP™

- Replacement spring and hardware for tracker bars
- Kits include snap-on clip, PVC sleeve, spring(s) and 3-hose holder or cable clamp holder
- Ideal for ABS cable use



Sliding Axle Spring Kits



Part No.	Description
17-182	Single 16" spring with QWIK-SNAP™ 2-hose holder
17-183	Single 16" spring with QWIK-SNAP™ 3-hose holder

- Quick change - save up to 5 minutes!
- Great spring memory
- Won't chaff hoses

Replacement Springs

Sliding Axles

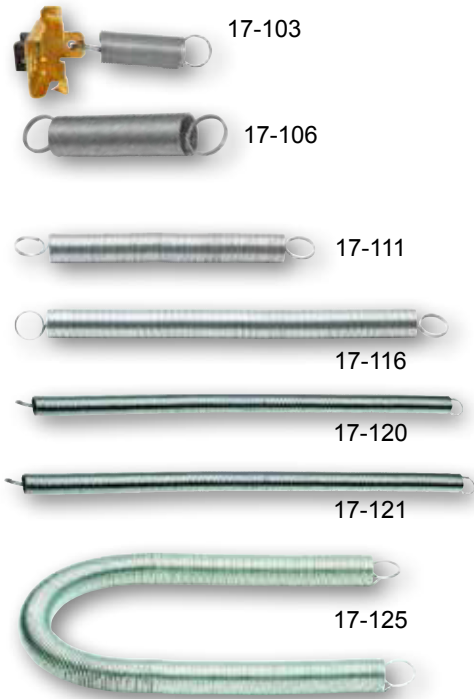
Part No.	Description
17-103	3" spring with tandem frame clip (5-5007), 3/4" O.D.
17-106	6" spring, 1.10" O.D.

- For use on trailers with sliding axles
- Supports air lines to rear axle
- 17-106 has pre-galvanized hard drawn wire per SAE-ASTM-A227-77

Cable & Hose Support

Part No.	Description
17-111	11", tandem cable and air line support, 1.10" O.D.
17-116	16", recommended for straight cable assemblies, 1.10" O.D.
17-120	20", extra heavy duty, for use with ABS coiled assemblies, 0.90" O.D.
17-121	20.5", extra heavy duty, for use with combination electrical and air assemblies and with hydraulic lines, 0.93" O.D.
17-125	25", extra heavy duty, for use with ABS coiled assemblies, 0.90" O.D.

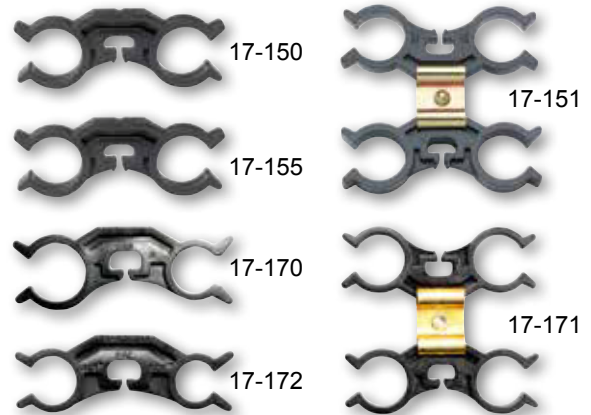
- Pre-galvanized hard drawn wire per SAE-ASTM-A227-77



Hose Separators

Part No.	Description
17-150	2-hose separator, 3/8" hose
17-151	4-hose separator, 3/8" hose
17-155	2-hose separator, 1/2" hose
17-170	2-hose separator, 1/2" and 3/8" hose
17-171	4-hose separator, 1/2" hose
17-172	2-hose separator, 3/8" and 1/4" hose

- Keeps nylon air hoses secure and out of the way
- For tractor coiled air, trailer slider hose applications



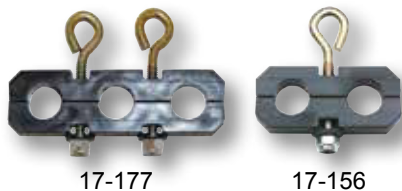
QWIK-SNAP™ Hose Holders

Part No.	Description
17-152	2-hose holder
17-153	3-hose holder
17-154	4-hose holder

- Easy to use with gloves - no loose parts
- Positive lock - stays connected at over 80 lbs. of pull force
- Durable nylon for extreme weather, corrosion and impact resistance
- Quicker than conventional hose holders - change hoses in seconds!
- Versatile design adjusts to accommodate 3/8" and 1/2" hoses
- Tested over 30,000 cycles with no sign of failure
- Patent No. 8,408,501



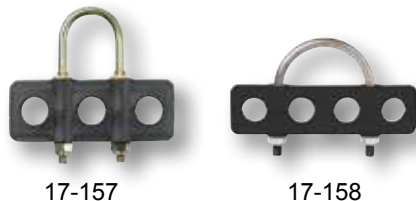
Eye Bolt Hose Holders



Part No.	Description
17-156	2-hose holder, 3/4" O.D.
17-177	3-hose holder, 3/4" O.D.

- Zinc-plated hardware
- 2-piece ABS clamp

U-Bolt Hose Holders



Part No.	Description
17-157	3-hose holder, 3/4" O.D.
17-158	4-hose holder (2) 3/4" O.D. and (2) 5/8" O.D.

- Zinc-plated hardware
- 2-piece ABS clamp

Cable Clamp Holder



Part No.	Description
5-5008	Cable clamp holder
5-5018	Cable clamp holder with stainless steel snap-on clip (17-173) NEW

- Designed for use with the electrical and air combo assemblies (3-IN-1 and 4-IN-1)
- Offers easy installation

Snap-On Clip



Part No.	Description
17-160	Large snap-on clip, black, 4"
17-163	Small snap-on clip, black, 2.4"
17-169	Large snap-on clip, stainless steel, 4"
17-173	Small snap-on clip, stainless steel, 2.4"

- Offers easy replacement for spring kits
- No need to unhook tracker bar

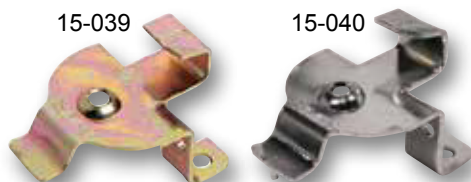
Tandem Frame Clip



Part No.	Description	Qty.
5-5007	Frame clip	5

- For wire, air hoses and tubing
- Easy to install, simply slide clip into place (can also be used with rivets or self-tapping screws)
- Secure hose or tubing in place with spring or cable ties

Universal Gladhand Holder



Part No.	Description
15-039	Gold chromate
15-040	Chrome plated

- Accepts individual gladhands
- Mounts at back of cab or attaches to pogo stick

CABLE TIES

Phillips Cable Ties

Manufactured to combine the lowest insertion force with the highest tensile strength. The design of the pawl (locking mechanism) makes Phillips cable ties superior in strength and allows our products to exceed the required industry standard tensile strengths.

Phillips Mounting Pads

Incorporates a unique no-slip tab that holds cable ties in place during installation.

Storage Recommendations for Cable Ties* and Mounting Pads**:

Store at room temperature in at least 50% humidity (recommended 80%RH) in a completely sealed polyethylene bag if not being used. In extreme heat and cold, limit the exposure of unused cable ties and/or mounting pads. If after being exposed to extreme temperatures and/or extreme relative humidities, the cable ties and/or mounting pads must be allowed to be stored at room temperature and at least 50% humidity (recommended 80%RH) for at least 24 hrs. in a sealed bag before being used again.

*Includes Assortment Pack

**Excludes Dual Tie Wraps – See Below For This Information

Storage Recommendations for Dual Tie Wraps:

Store at 73°F with 50%RH in a completely sealed polyethylene bag if not being used and avoid direct, prolonged exposure to heat sources and sunlight.

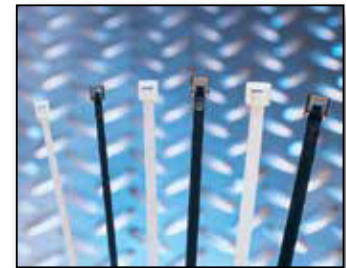
Light & Medium Duty Nylon - 18 & 50 lb

18 lb. Nylon

Length	Per Bag	Tie Tensile	Bundle Diameter Inches (mm)	Part No.	Color
4"	100	18 lb.	0.157" (4) - 0.9" (22)	8-41047	UV Black

50 lb. Nylon

Length	Per Bag	Tie Tensile	Bundle Diameter Inches (mm)	Part No.	Color
7.5"	100	50 lb.	0.276" (7) - 1.97" (50)	8-33087	Natural
11"	100	50 lb.	0.276" (7) - 2.76" (70)	8-33117	Natural
14"	100	50 lb.	0.276" (7) - 4.016" (102)	8-33147	Natural
7.5"	40	50 lb.	0.276" (7) - 1.97" (50)	8-43084	UV Black
	100			8-43087	UV Black
11"	100	50 lb.	0.276" (7) - 2.76" (70)	8-43117	UV Black
14"	100	50 lb.	0.276" (7) - 4.016" (102)	8-43147	UV Black
17"	100	50 lb.	0.276" (7) - 4.331" (110)	8-43177	UV Black

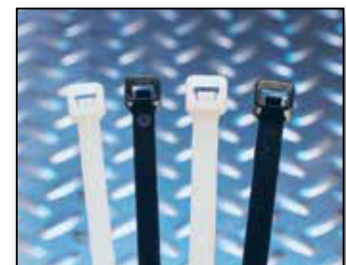


- UL recognized / CSA approved
- Operating temperature -4°F to 185°F (-20°C to 85°C)
- Minimum installation temperature: 5°F (-15°C)

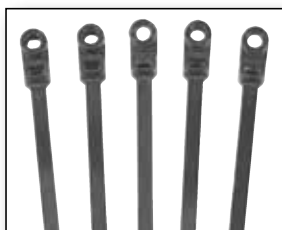
Heavy Duty Nylon - 120 lb.

Length	Per Bag	Tie Tensile	Bundle Diameter Inches (mm)	Part No.	Color
15"	100	120 lb.	0.551" (14) - 4.016" (102)	8-34147	Natural
15"	100	120 lb.	0.551" (14) - 4.016" (102)	8-44147	UV Black

- UL recognized / CSA approved
- Operating temperature -4°F to 185°F (-20°C to 85°C)
- Minimum installation temperature: 5°F (-15°C)



Mounting Hole - 50 & 120 lb.



Length	Per Bag	Tie Tensile	Screw Size	Bundle Diameter Inches (mm)	Part No.	Color
8"	100	50 lb.	#10	0.276" (7) - 1.811" (46)	8-49077	UV Black
15"	100	120 lb.	1/4"	0.551" (14) - 3.86" (98)	8-49157	UV Black

- 8 in. UL recognized / CSA approved
- ROHS compliant
- Operating temperature -4°F to 185°F (-20°C to 85°C)
- Minimum installation temperature: 5°F (-15°C)

Releasable - 50 lb.



Length	Per Bag	Tie Tensile	Bundle Diameter Inches (mm)	Part No.	Color
8"	100	50 lb.	0.276" (7) - 1.97" (50)	8-48087	UV Black
14"	100	50 lb.	0.551" (14) - 4.02" (102)	8-48147	UV Black

- 8 in. UL recognized / CSA approved
- ROHS compliant
- Operating temperature -4°F to 185°F (-20°C to 85°C)
- Minimum installation temperature: 5°F (-15°C)

Assortment Packs



8-61020

Length	Per Pack	Tie Tensile	Bundle Diameter Inches (mm)	Part No.	Color
4"	200	18 lb.	0.157" (4) - 0.9" (22)	8-61020	UV Black
8"	100	50 lb.	0.276" (7) - 2.76" (70)		
11"	100	50 lb.	0.276" (7) - 1.97" (50)		

- UL recognized / CSA approved
- Clamshell dimensions: 15 in. x 7 1/8 in. x 2 in.
- Great for shop use
- Operating temperature -4°F to 185°F (-20°C to 85°C)
- Minimum installation temperature: 5°F (-15°C)

Mounting Pads



Makes installation easy!!!

Length	Per Bag	Height	Slot Height	Slot Width	Adhesive	Part No.	Color
.74"	10	.19"	.05"	.20"	Rubber	8-30050	Natural
	100					8-30057	Natural
.74"	10	.19"	.05"	.20"	Rubber	8-40050	UV Black
	100					8-40057	UV Black

- UL recognized / CSA approved, excluding sticky adhesive
- Operating temperature -4°F to 185°F (-20°C to 85°C)
- Minimum installation temperature: 5°F (-15°C)

Dual Tie Wraps

Part No.	Description	Pkg. Qty. Test	Weight	Recommended Stud Size In. (mm)	Min. Tensile Strength	Max. Bundle Dia. In. (mm)	Approx. Length In. (mm)	Approx. Width In. (mm)
8-45194	Dual clamp cable ties black, 19" length	25	1.3 lbs	1/4" (6.35)	150 lbs	2.3" each side (58.42)	19.2" (487.68)	0.50"



- Dual-head design lets you wrap two separate bundles with a single cable tie
- Mounting holes allow easy attachment to walls, trailers, and vehicle chassis
- Minimum 150 lb. tensile strength
- Provides parallel spacing between cable bundles, hoses, tubing or wires
- Made of high impact black nylon 6/6
- Operating temperature -40°F to 230°F (-40°C to 110°C)
- Minimum installation temperature: -40°F (-40°C)

Cable Tie Installation Tool

Part No.	Description
4-231	Plastic cable tie installation tool



- Secures nylon cable ties
- Good for light duty or occasional use, 18-50 lb ties

WIRE SUPPORT & ACCESSORIES

Part No.	Description	Length
5-525	3/8" I.D.	100'
5-527	1/2" I.D.	100'
5-530	5/8" I.D.	100'
5-532	3/4" I.D.	100'
5-534	1" I.D.	100'
5-536	1 3/8" I.D.	100'
5-538	2" I.D.	100'

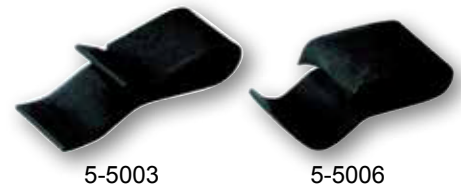
Spiral Wrap



- For wrapping cables, wires, hoses or tubing
- Protects against abrasion, tangling, chaffing and wire pull-out
- High abrasion resistance
- Unaffected by most solvents
- UV resistant
- Operating range -40°F to 280°F (-40°C to 137°C)

Frame Clips

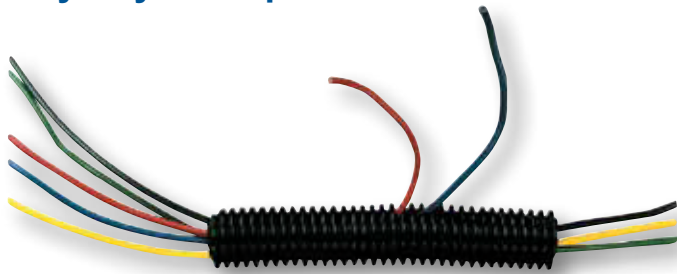
Part No.	Description	Qty.
5-5003	Holds 2-3, 14 ga. wires	100
5-5006	Holds 5-6, 14 ga. wires	100



5-5003

5-5006

Polyethylene Split Loom



Popular choice for routing and protection of wires

- Provides crush-resistant protection for electrical wires
- Protects electrical wires even when bent or twisted
- Wires are inserted quickly, eliminating the time needed for tape, braid or cloth loom
- Lightweight with excellent flexibility
- Good abrasion and chemical resistance
- Operating temperature range -40°F to 200°F

Part No.	I.D.	Length	Std. Pack
5-023	1/4"	100'	Box
5-023-250	1/4"	250'	Box
5-023-1000	1/4"	1000'	Spool
5-025	3/8"	100'	Box
5-025-250	3/8"	250'	Box
5-025-1000	3/8"	1000'	Spool
5-027	1/2"	100'	Box
5-027-250	1/2"	250'	Box
5-027-1000	1/2"	1000'	Spool
5-029	5/8"	100'	Box
5-029-250	5/8"	250'	Box

Part No.	I.D.	Length	Std. Pack
5-030	3/4"	100'	Box
5-030-250	3/4"	250'	Box
5-030-500	3/4"	500'	Spool
5-032	1"	100'	Box
5-032-250	1"	250'	Box
5-032-500	1"	500'	Spool
5-034	1 1/4"	100'	Box
5-034-250	1 1/4"	250'	Box
5-036	1 1/2"	100'	Box
5-036-250	1 1/2"	250'	Box
5-040	2"	100'	Box

Neoprene Grommets



Part No.	Groove Width	Drill Diameter	Center Hole	Qty.
5-710	1/16"	5/16"	3/16"	50
5-711	1/16"	7/16"	5/16"	50
5-712	1/16"	11/16"	7/16"	50
5-713	1/16"	7/8"	5/8"	50
5-714	1/4"	13/16"	9/16"	50
5-715	1/4"	1"	11/16"	50
5-716	1/4"	1 1/6"	3/4"	50

Protect your wire and cable from sharp edges

- Eliminates sharp and rough edges from through-holes
- Made from neoprene for durability and flexibility
- Adds a neat, clean look to any installation
- High resistance to acids, greases, oils and diesel fuels
- Grommets for 1/16 in. and 1/4 in. panels

Nylon Insulating Bushings



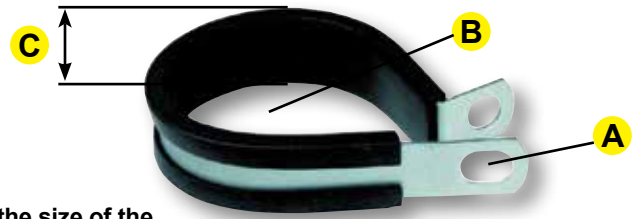
Part No.	Hole Diameter	Max. Thickness	Center Hole	Qty.
5-811	3/4"	1/8"	5/8"	50
5-812	1"	1/8"	3/4"	50
5-813	1 1/4"	1/8"	15/16"	50
5-814	1 1/2"	1 1/4"	1 1/16"	50
5-815	1 3/4"	1 1/4"	1 3/8"	50
5-816	2"	1 1/4"	1 5/8"	50

DRILL HOLE - SNAP IN - RUN CABLE OR HOSE. IT'S THAT EASY!

- Easy to mount by quickly snapping into place
- Multiple locks ensure secure fit
- Protects wire, cable or tubing from sharp, unfinished edges
- Adds a neat, clean look to any installation
- Spring-like fingers snap out to hold the grommet in place

Rubber Cushion Clamps

- Provides electrical insulation and vibration absorption
- Allows for easy adding or rerouting of wires
- Recommended for long-term applications
- Galvanized steel for corrosion protection
- Elongated holes allow for minor adjustments of clamped parts



Note: When using with split loom, select the next size up from the size of the split loom. Example: 3/8 in. split loom needs 7/16 in. clamp

1/4" Mounting Hole				
Part No.	Mounting Hole Size (A)	Tube Size (B)	Width (C)	Qty.
5-45034	1/4"	3/16"	1/2"	25
5-45044	1/4"	1/4"	1/2"	25
5-45054	1/4"	5/16"	1/2"	25
5-45064	1/4"	3/8"	1/2"	25
5-45074	1/4"	7/16"	1/2"	25
5-45084	1/4"	1/2"	1/2"	25
5-45094	1/4"	9/16"	1/2"	25
5-45104	1/4"	5/8"	1/2"	25
5-45124	1/4"	3/4"	1/2"	25
5-45144	1/4"	7/8"	1/2"	25
5-45164	1/4"	1"	1/2"	25
5-45224	1/4"	1-1/8"	1/2"	25
5-45241	1/4"	1-1/4"	1/2"	5
5-45261	1/4"	1-3/8"	1/2"	5
5-45271	1/4"	1-7/16"	1/2"	5

3/8" Mounting Hole				
Part No.	Mounting Hole Size (A)	Tube Size (B)	Width (C)	Qty.
5-46034	3/8"	3/16"	5/8"	25
5-46044	3/8"	1/4"	5/8"	25
5-46054	3/8"	5/16"	5/8"	25
5-46064	3/8"	3/8"	5/8"	25
5-46074	3/8"	7/16"	5/8"	25
5-46084	3/8"	1/2"	5/8"	25
5-46094	3/8"	9/16"	5/8"	25
5-46104	3/8"	5/8"	5/8"	25
5-46124	3/8"	3/4"	5/8"	25
5-46144	3/8"	7/8"	5/8"	25
5-46164	3/8"	1"	5/8"	25
5-46224	3/8"	1-1/8"	5/8"	25
5-46241	3/8"	1-1/4"	5/8"	5
5-46261	3/8"	1-3/8"	5/8"	5
5-46271	3/8"	1-7/16"	5/8"	5
5-46281	3/8"	2"	5/8"	5
5-46291	3/8"	2-1/2"	5/8"	5
5-46301	3/8"	3"	5/8"	5

3/8" Clamp Assortment Kit

Part No.	Description
5-1000	3/8" clamp assortment kit

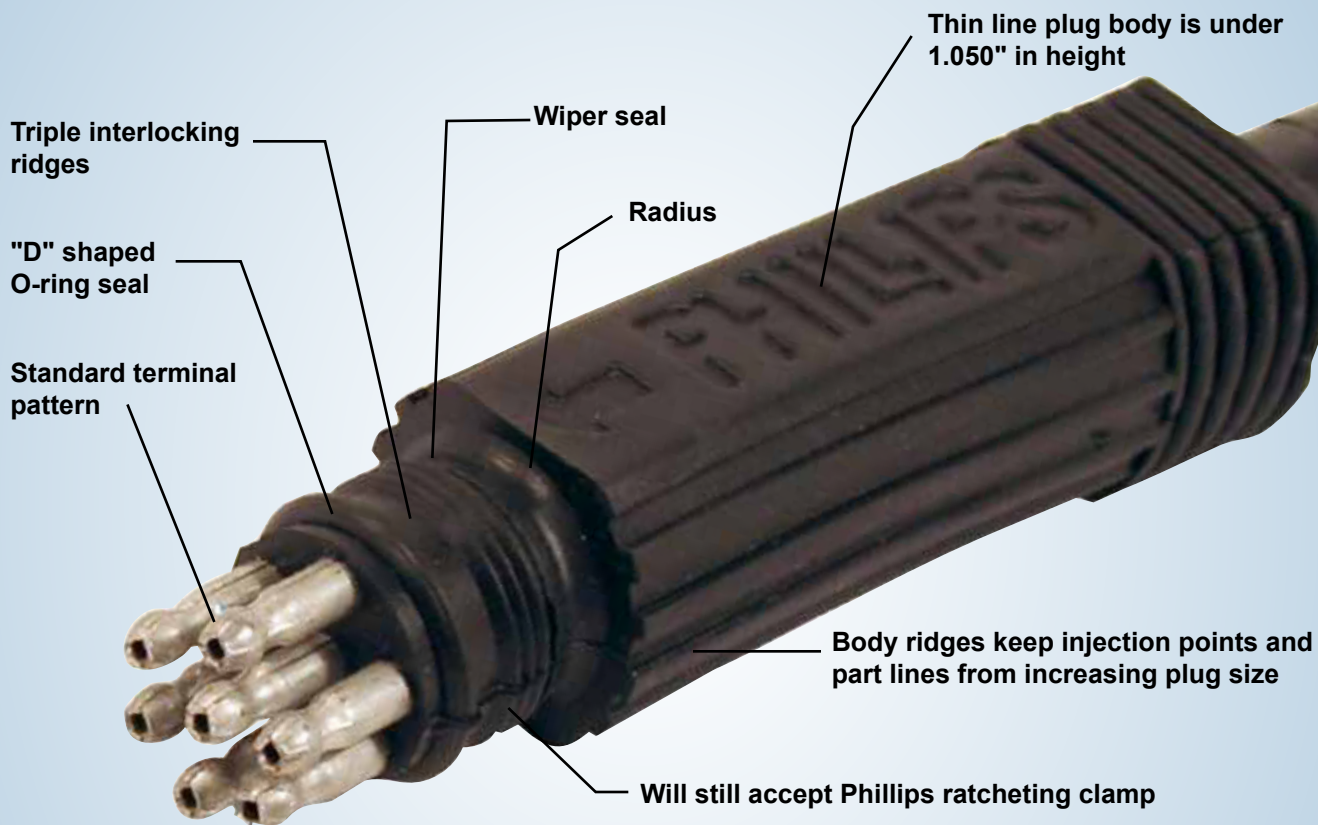
5-1000 Contents:			
Replacement Part No.	Mounting Hole Size	Tube size	Qty.
5-46034	3/8"	3/16"	50
5-46044	3/8"	1/4"	50
5-46064	3/8"	3/8"	50
5-46084	3/8"	1/2"	50
5-46104	3/8"	5/8"	50
5-46124	3/8"	3/4"	50
5-46164	3/8"	1"	25



5-1000

ELECTRICAL HARNESS SYSTEMS

STA-DRY® SLIM-7™



- Incredibly strong seal
- Extraordinary corrosion protection
- Slim design allows for tight squeezes
- Shape transitions from a round cable to a square plug making pull-through easier
- Accepts a wide array of cables and wires providing many harness design options
- Provides the best moisture barrier in the market by using less space than any other standard heavy duty truck 7 pole connection

STA-DRY® HARNESSSES

Protect against moisture, corrosion and failure by choosing an electrical harness system built to withstand the most extreme environmental conditions. Phillips has the capability to handle your custom harness needs from design through production.

Superior Quality

-100% factory tested components

Corrosion-Resistant

- Corrosion-inhibiting grease on all modules
- Molded material on all plugs adheres / bonds to cables
- Molded connections keep moisture and contaminants from penetrating the electrical system

Easy to Install

- Industry-standard lamp pigtails
- Indexed plugs ensure proper connection

Easy to Maintain

- Harness modules allow for easy replacement should accidental damage occur
- Universal pigtail modules eliminate the need to stock separate "curbside" and "roadside" pigtails

CUSTOM CAPABILITIES

All STA-DRY® Electrical Harness System part numbers are recommendations. Additional lengths, molded ends and other options are available.

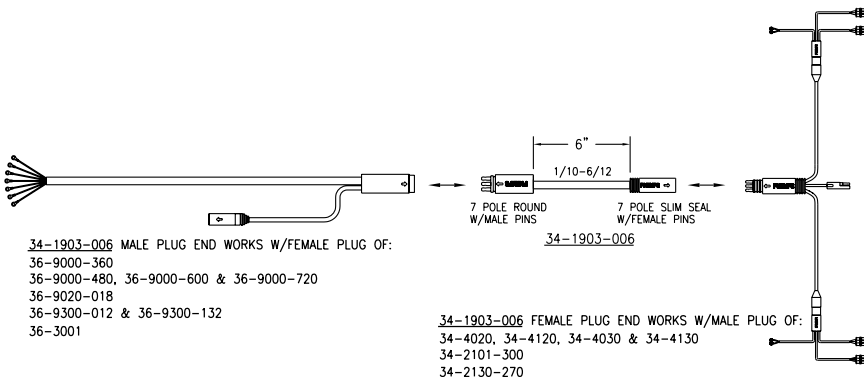
34 series (STA-DRY® SLIM-7™ System) is not interchangeable with the 36 series (STA-DRY® System) except where noted. Adapter available below.



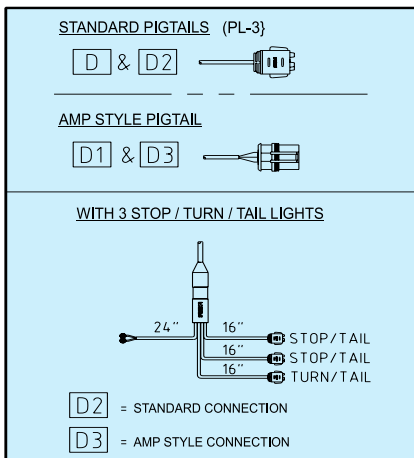
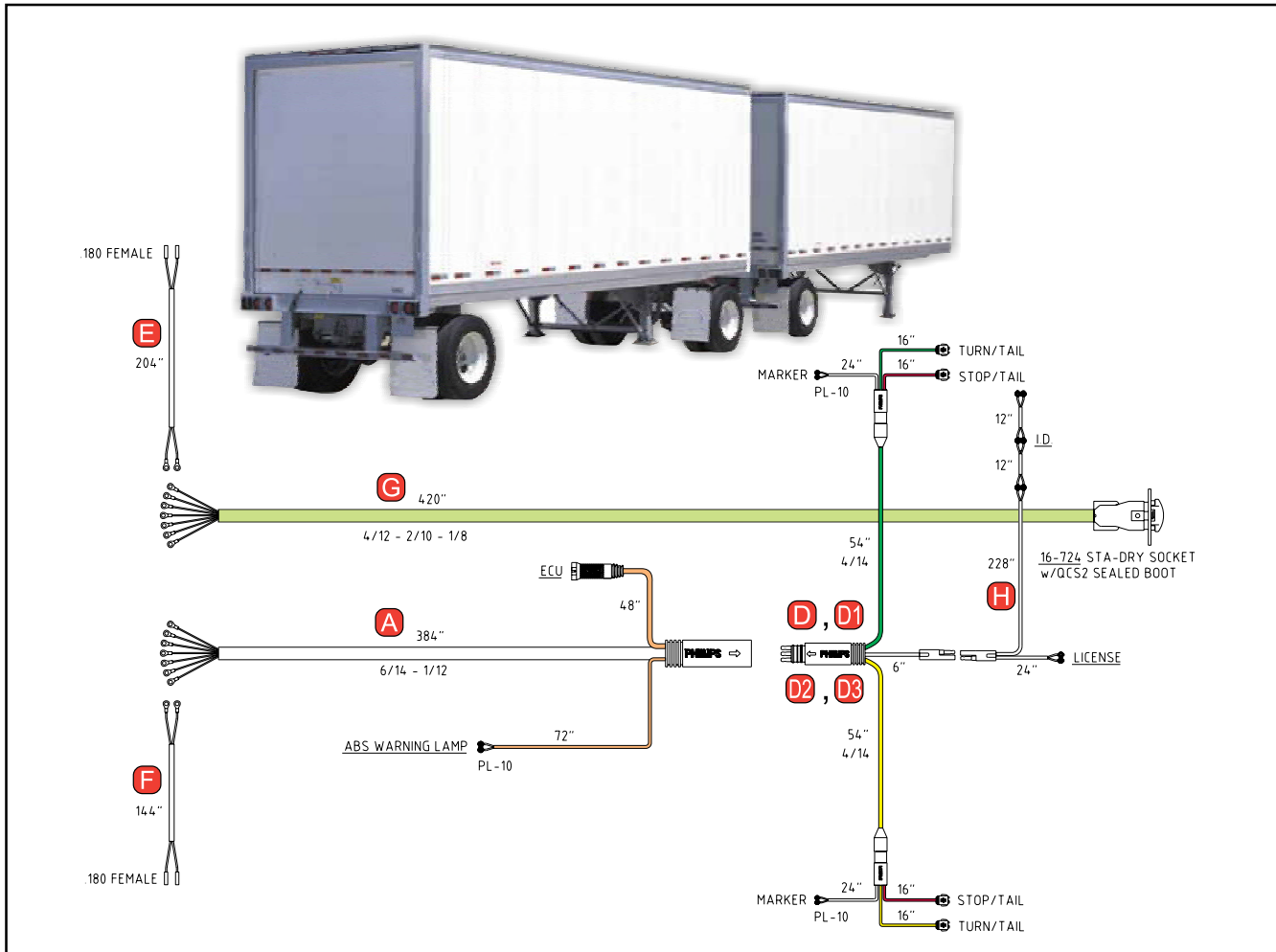
Harness Adapter

Part No.	Description
34-1903-006	7 way round male to 7-way SLIM-7™ female harness adapter

- Connects main and/or mid-main 36 series STA-DRY® modular harness systems to the 34 series STA-DRY® SLIM-7™
- Molded plug connections keep moisture and contaminants from penetrating the electrical system
- Corrosion resistant pre-applied dielectric grease
- Easy to install



STA-DRY® SLIM-7™ System - Van Doubles (28 ft.)



Standard (Length as shown above)

28 ft.		
Part No.	Description	Key
34-1300-384	Main with ECU and ABS warning lamp drop, 384" (32')	A
34-5100-204	Front marker, 204" (17')	E
34-5100-144	Front marker, 144" (12')	F
34-1402-420	Main with socket for pintle hook connection, 420" (35')	G
36-9601-228	ID / license *	H

2-Lamp Rear Sill Harness Options

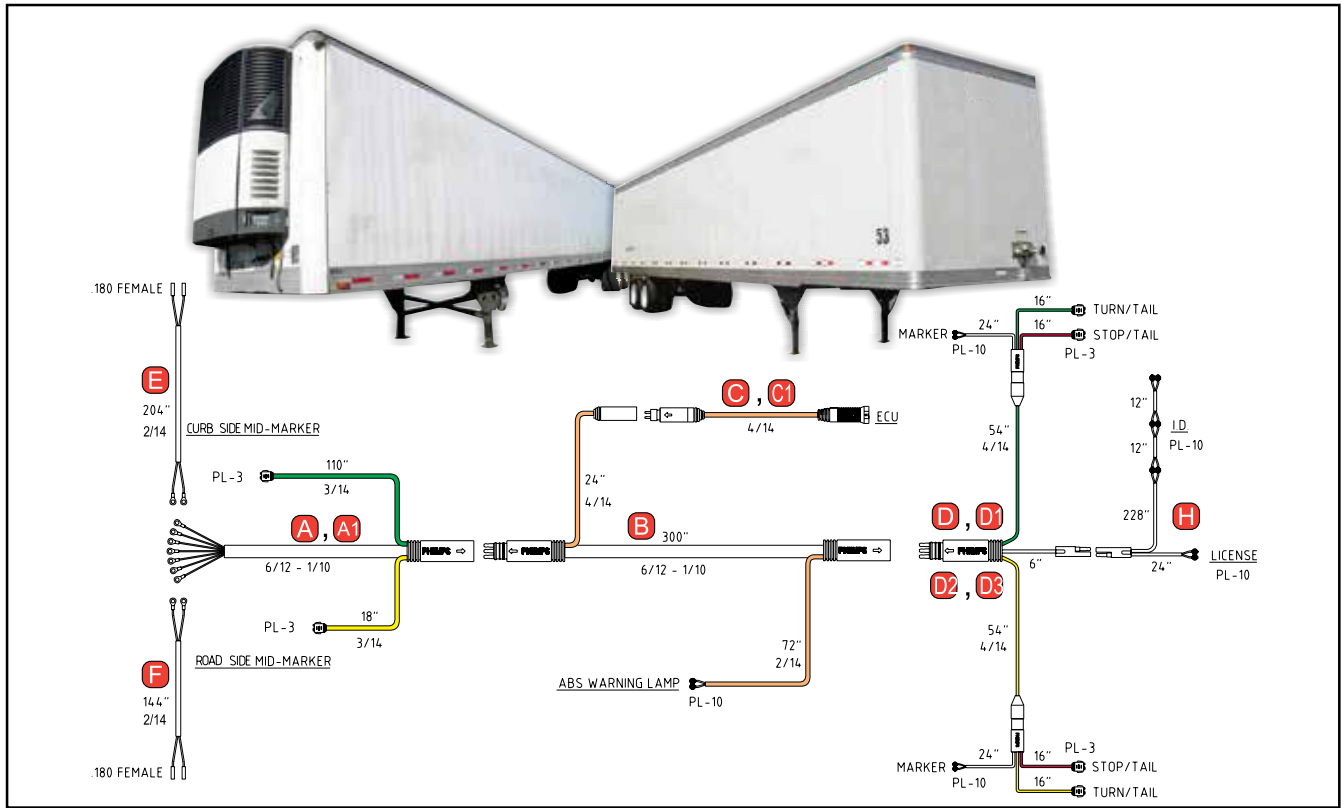
Part No.	Description	Key
34-4020	With 2 stop/turn/tail, standard pigtails	D
34-4120	With 2 stop/turn/tail, amp style pigtails	D1

3-Lamp Rear Sill Harness Options

Part No.	Description	Key
34-4030	With 3 stop/turn/tail, standard pigtails	D2
34-4130	With 3 stop/turn/tail, amp style pigtails	D3

* Will fit both 34 series (STA-DRY® SLIM-7™ System) and 36 series (STA-DRY® System)

STA-DRY® SLIM-7™ System - Reefer & Dry Freight Van (48ft. to 53ft.)



Standard (Length as shown above)

48 ft. & 53 ft.

Part No.	Description	Key
34-2101-300	Mid-main with ECU and ABS warning lamp drop, 300" (25')	B
34-5100-204	Curb side front marker, 204" (17')	E
34-5100-144	Road side front marker, 144" (12')	F
36-9601-228	ID / license	* H

Main Options

Part No.	Description	Key
34-1231-324	Main, 324" (27'), 48' trailer	A
34-1231-384	Main, 384" (32'), 53' trailer	A1

ABS Options

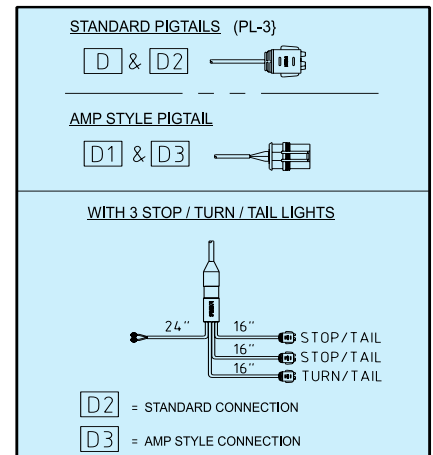
Part No.	Description	Key
34-3000-156	ABS power harness, 156" (13')	C
34-3000-288	ABS power harness, 288" (24')	C1

2-Lamp Rear Sill Harness Options

Part No.	Description	Key
34-4020	With 2 stop/turn/tail, standard pigtails	D
34-4120	With 2 stop/turn/tail, amp style pigtails	D1

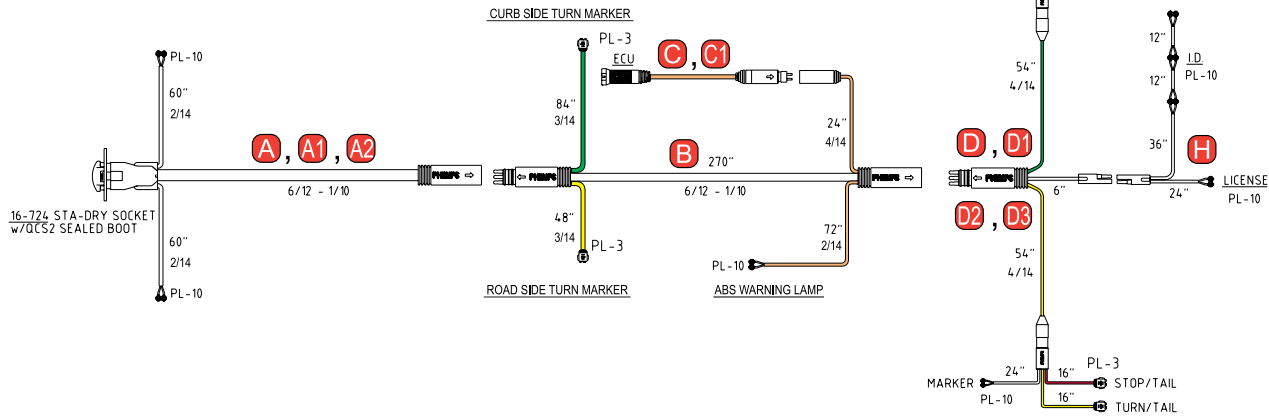
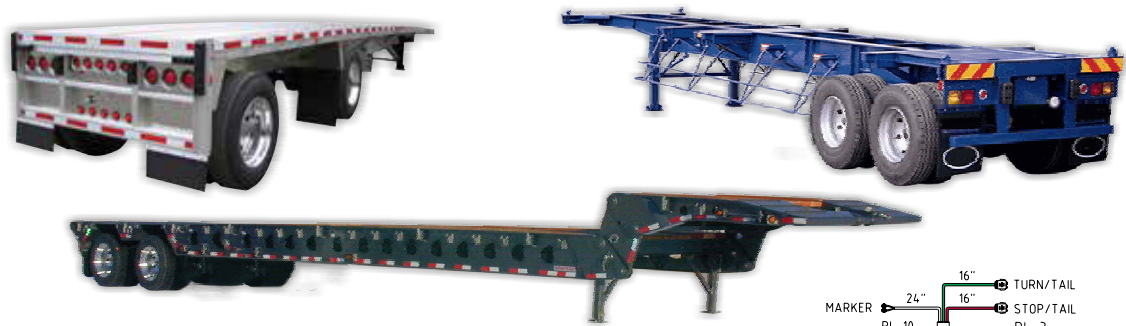
3-Lamp Rear Sill Harness Options

Part No.	Description	Key
34-4030	With 3 stop/turn/tail, standard pigtails	D2
34-4130	With 3 stop/turn/tail, amp style pigtails	D3



* Will fit both 34 series (STA-DRY® SLIM-7™ System) and 36 series (STA-DRY® System)

STA-DRY® SLIM-7™ System - Flatbed & Container Chassis



ELECTRICAL HARNESS SYSTEMS

STANDARD PIGTAILS (PL-3)

D & D2

AMP STYLE PIGTAIL

D1 & D3

WITH 3 STOP / TURN / TAIL LIGHTS

D2 = STANDARD CONNECTION
D3 = AMP STYLE CONNECTION

Standard (Length as shown above)

Part No.	Description	Key
34-2130-270	Mid-main with mid-marker, ECU and ABS warning lamp drop, 270" (22'-5")	B
36-9601-036	ID / license	* H

Main Options

Part No.	Description	Key
34-1010-300	45' trailer main, 300" (25')	A
34-1010-336	48' trailer main, 336" (28')	A1
34-1010-396	53' trailer main, 396" (33')	A2

ABS Options

Part No.	Description	Key
34-3000-156	ABS power harness, 156" (13')	C
34-3000-288	ABS power harness, 288" (24')	C1

2-Lamp Rear Sill Harness Options

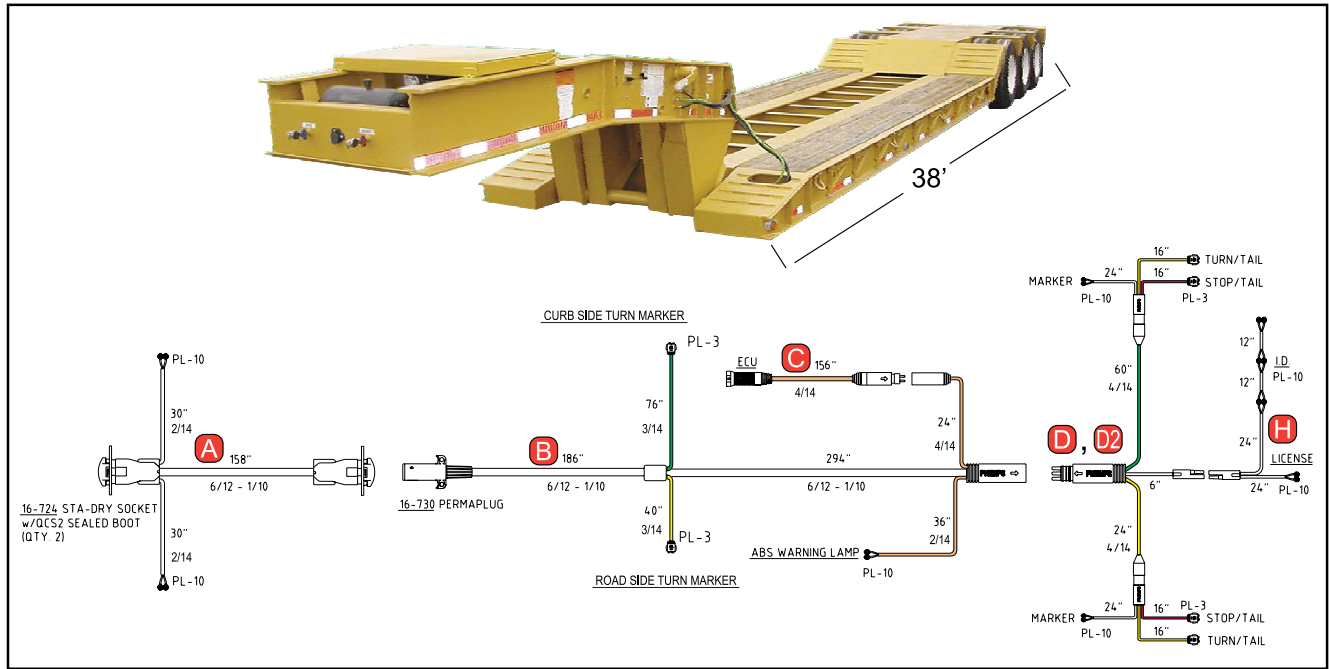
Part No.	Description	Key
34-4020	With 2 stop/turn/tail, standard pigtails	D
34-4120	With 2 stop/turn/tail, amp style pigtails	D1

3-Lamp Rear Sill Harness Options

Part No.	Description	Key
34-4030	With 3 stop/turn/tail, standard pigtails	D2
34-4130	With 3 stop/turn/tail, amp style pigtails	D3

* Will fit both 34 series (STA-DRY® SLIM-7™ System) and 36 series (STA-DRY® System)

STA-DRY® SLIM-7™ System - Detachable Gooseneck



Standard (Length as shown above)

Part No.	Description	Key
34-1111-158	Main, 158" (13'-2")	A
34-2231-480	Mid-main with mid-marker, ECU and ABS warning lamp drop, 480" (40')	B
34-3000-156	ABS power harness, 156" (13')	C
36-9601-024	ID / license	* H

2-Lamp Rear Sill Harness Options

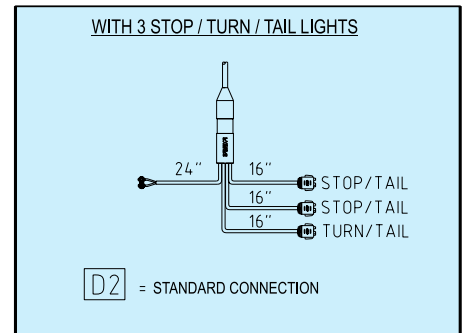
Part No.	Description	Key
34-4020	With 2 stop/turn/tail, standard pigtails	D

3-Lamp Rear Sill Harness Options

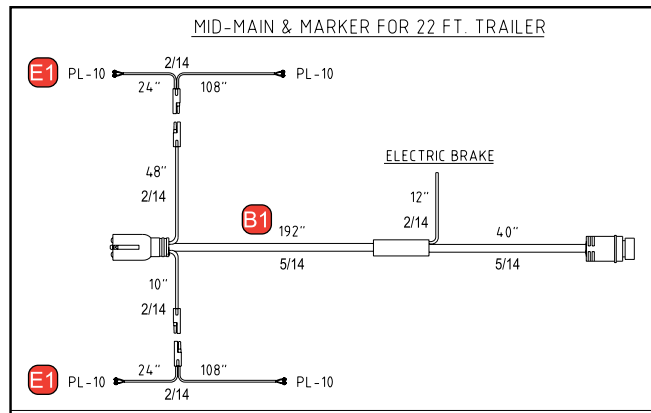
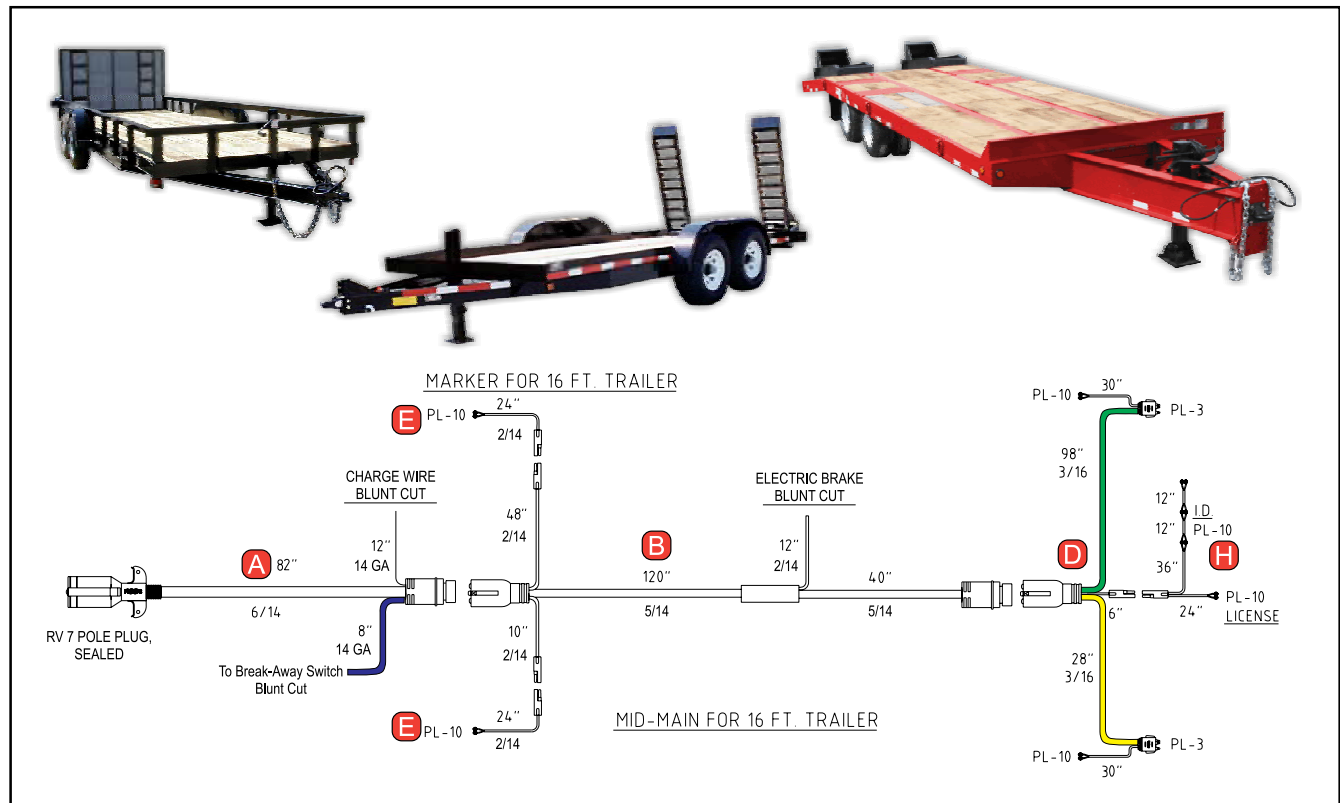
Part No.	Description	Key
34-4030	With 3 stop/turn/tail, standard pigtails	D2

* Will fit both 34 series (STA-DRY® SLIM-7™ System) and 36 series (STA-DRY® System)

REAR SILL HARNESS STOP/TURN/TAIL LIGHT OPTIONS



STAY-DRY® SLIM-7™ System - Tagalong, Equipment & Landscape - Electric Brakes



Standard (Length as shown above)

Part No.	Description	Key
34-1703-082	Main, 82" (6'-10")	A
34-4010	Rear sill	D
36-9601-036	ID / license *	H

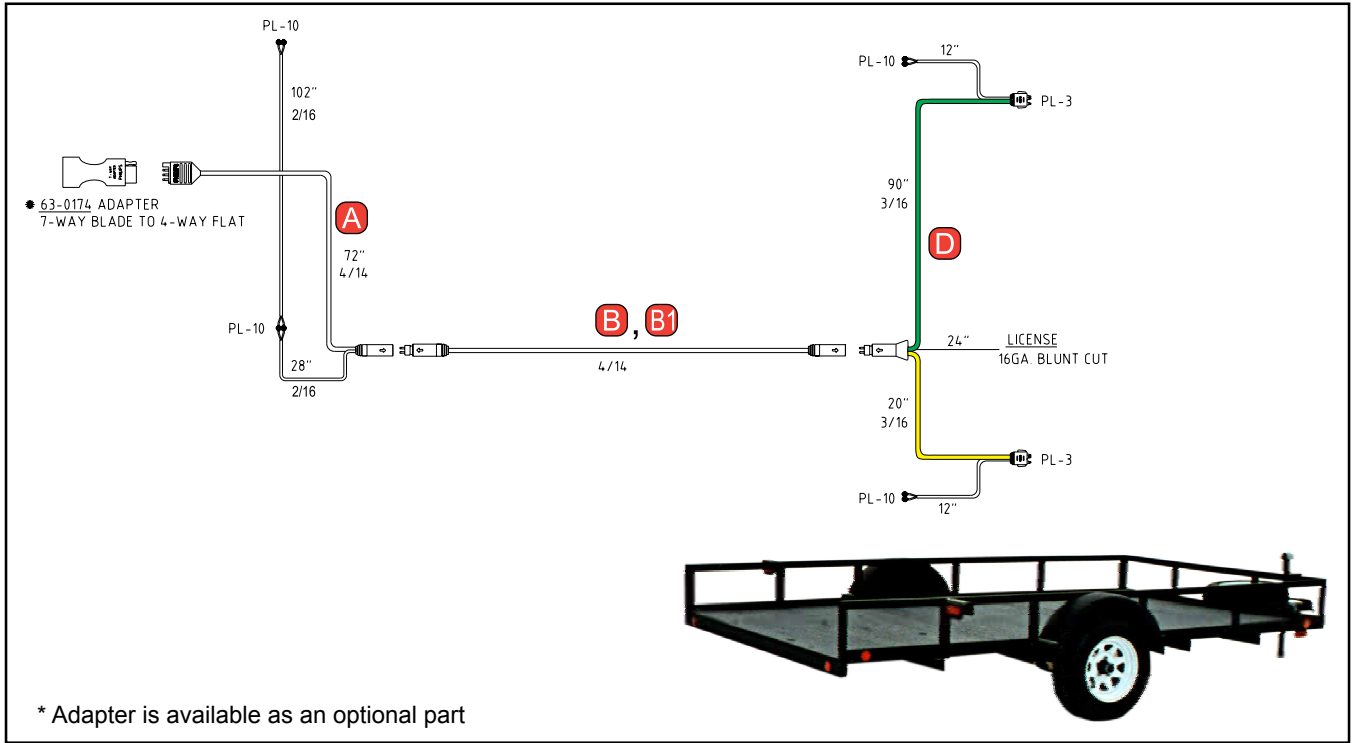
* Will fit both 34 series (STA-DRY® SLIM-7™ System) and 36 series (STA-DRY® System)

Part No.	Description	Key
34-2023-160	16' trailer mid-main with marker and electric brake drop, 160" (13'-4")	B
34-2023-232	22' trailer mid-main with marker and electric brake drop, 232" (19'-4")	B1

Marker Lamp Lead Options

Part No.	Description	Key
34-5211-024	16' trailer mid-marker, 24" (2')	E
34-5221-024108	22' trailer mid-marker, 24"/108" (2'/9')	E1

STA-DRY® System - Utility Trailer



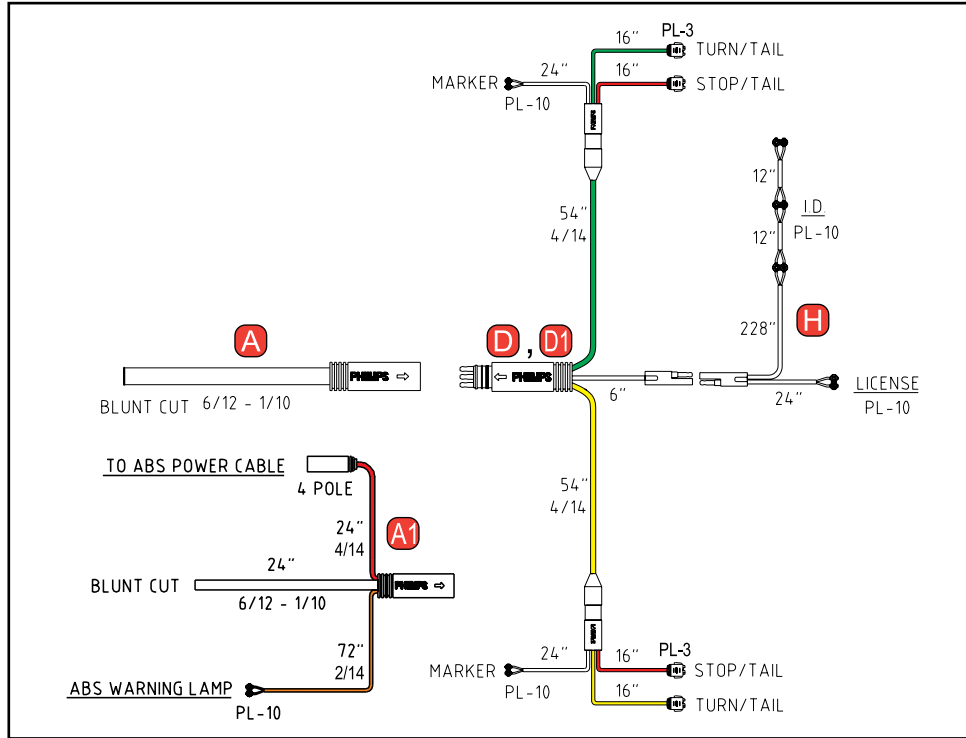
Standard (Length as shown above)

Part No.	Description	Key
34-1824-072	Main, 72" (6')	A
34-4012	Rear sill	D

Mid-Main Harness Options

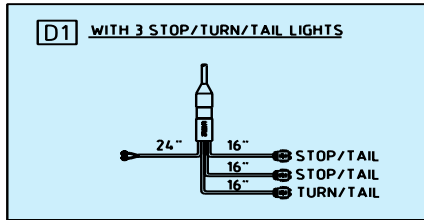
Part No.	Description	Key
34-2004-066	8' trailer mid-main, 66" (5'-6")	B
34-2004-114	12' trailer mid-main, 114" (9'-6")	B1

STA-DRY® SLIM-7™ System - Retrofit Trailer



ELECTRICAL HARNESS SYSTEMS

REAR SILL HARNESS STOP/TURN/TAIL LIGHT OPTIONS



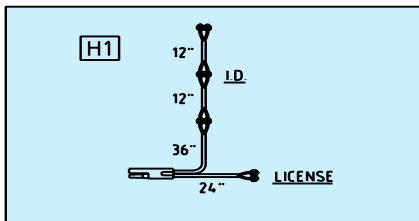
Main Harness

Part No.	Description	Key
34-1901-024	Main, 24" (2')	A
34-1902-024	Main, 24" (2') with ABS drop	A1

2-Lamp Rear Sill Harness Options

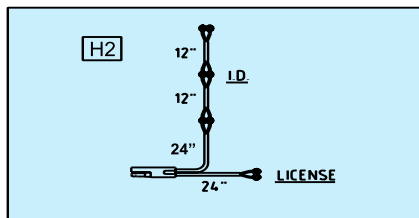
Part No.	Description	Key
34-4020	With 2 stop/turn/tail, standard pigtails	D

ID / LICENSE OPTIONS



3-Lamp Rear Sill Harness Options

Part No.	Description	Key
34-4030	With 3 stop/turn/tail, standard pigtails	D1



ID / License Rear Sill Harness Options

Part No.	Description	Key
36-9601-024	ID / license, 24" (2')	* H2
36-9601-228	ID / license, 228" (19')	* H
36-9601-036	ID / license, 36" (3')	* H1

* Will fit both 34 series (STA-DRY® SLIM-7™ System) and 36 series (STA-DRY® System)

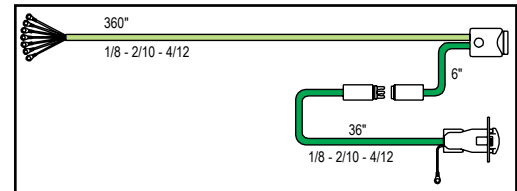
34 series (STA-DRY® SLIM-7™ System) is not interchangeable with the 36 series (STA-DRY® System) except where noted. Adapter available, page 119.

STA-DRY® MAIN MODULE

Double Trailer

Part No.	Description
36-9000-360	30' with 3' QCS® extension

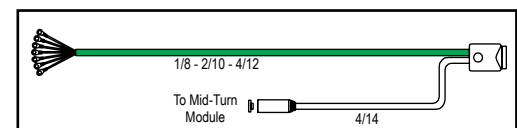
- 1/8, 2/10 and 4/12 ga. conductors exceed the maximum power requirements for the ABS unit
- Equipped with a detachable 36 in. molded QCS® socket for double trailer use
- Ring terminals



Single Trailer

Part No.	Description
36-9000-480	40' with 20' mid-turn module outlet
36-9000-600	50' with 25' mid-turn module outlet
36-9000-720	60' with 30' mid-turn module outlet

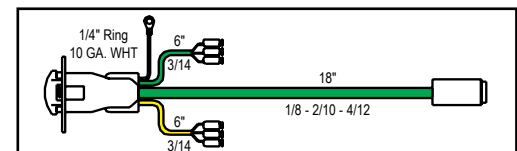
- 1/8, 2/10 and 4/12 ga. conductors exceed the maximum amperes
- Easy connection to mid-turn module
- All mid-turn outlets are "dummy" plugged
- Ring terminals
- See page 125 for mid-turn modules



QCS2® Main

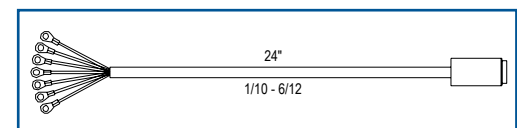
Part No.	Description
36-9020-018	18" with 6" marker drop and 7 pole female

- 1/8, 2/10 and 4/12 ga. conductors
- QCS2® socket



Rear Main Repair Harness

Part No.	Description
36-3001	24" with 7 pole female, 1/10 - 6/12 ga.

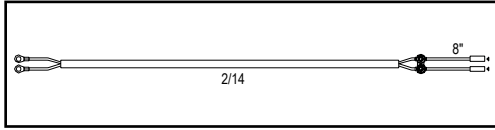


34 series (STA-DRY® SLIM-7™ System) is not interchangeable with the 36 series (STA-DRY® System) except where noted.
Adapter available, page 119.



JUMPER HARNESS

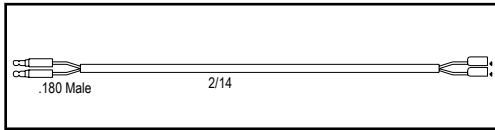
Marker Harness



Part No.	Description
36-9100-060	5', lower marker/clearance lamps
36-9100-192	16', upper marker/clearance lamps

- For use with front (nosebox) marker lamps
- Standard with #10 ring terminals for a positive connection
- Standard with female .180 bullets to add additional lamps
- Dummy plugged female bullets
- Custom harness lengths available in 12 in. increments

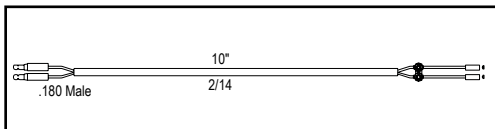
Male/Female Jumper Harness



Part No.	Description
36-9101-060	5', with 2 pole female bullets
36-9101-192	16', with 2 female bullets

- Female bullets connect to pin lamp pigtails
- 2 female bullets per conductor for additional connections
- Color coded conductors to ensure proper connections
- Custom harness lengths available in 12 in. increments

Clearance/Marker Harness



Part No.	Description
36-9701	10" marker/clearance lamps with additional marker connection

- Unique design enables any amount of lamps to be connected using marker modules or additional pigtails

34 series (STA-DRY® SLIM-7™ System) is not interchangeable with the 36 series (STA-DRY® System) except where noted. Adapter available, page 119 .



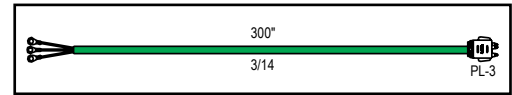
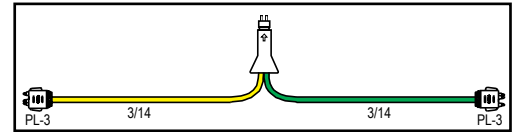
MID-TURN MODULE

Mid-Turn Module

Part No.	Description
36-9200-6060	Center, 60" roadside, 60" curbside
36-9200-2484	Offset, 24" roadside, 84" curbside

- Provides a moisture proof connection to main harness
- See page 127 for front main

Part No.	Description
36-9202-300	Mid-turn, 25' extension

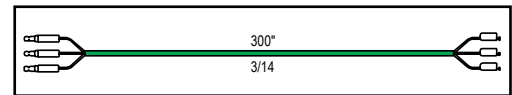
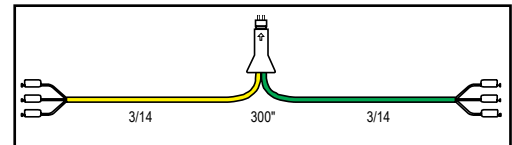


LED & Male Pin

Part No.	Description
36-9201-6060	Center, 60" roadside, 60" curbside
36-9201-2484	Offset, 24" roadside, 84" curbside

- Provides a moisture proof connection to main harness

Part No.	Description
36-9203-300	Mid-turn, 25' extension

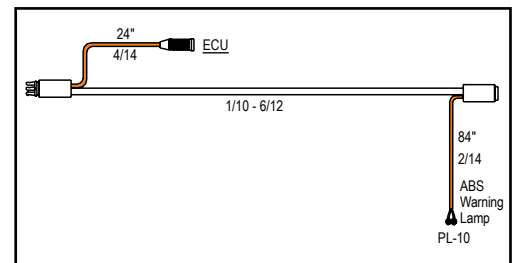


ALL OTHER MODULES

ABS Module

Part No.	Description
36-9300-012	1' for forward axle ABS position, 1/10 - 6/12 ga.
36-9300-132	11' for rear axle ABS position, 1/10 - 6/12 ga.

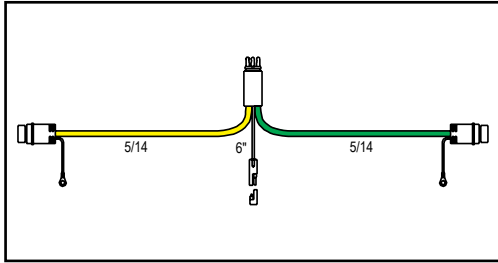
- Sealed thermo-plastic ABS ECU connector
- ECU connector is industry-standard
- ECU and warning lamp cables color coded orange for easy identification



34 series (STA-DRY® SLIM-7™ System) is not interchangeable with the 36 series (STA-DRY® System) except where noted.
Adapter available, page 119.

Additional ABS harness configurations are available, please ask your sales representative.

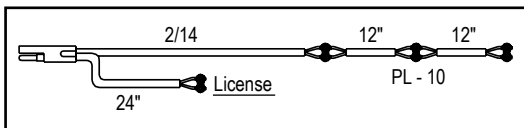
Rear "T" Module



Part No.	Description
36-9400-2484	Offset, 24" roadside, 84" curbside
36-9400-5050	Center, 50" roadside, 50" curbside

- Additional ground wires ensure a solid ground
- 2 pole plug from center for ID and license module connection, dummy plugged

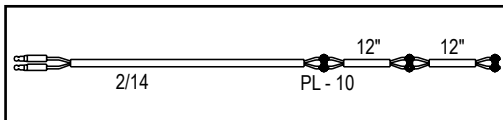
Rear "T" License & I.D. Marker Harness Module



Part No.	Description	
36-9601-024	2', lower ID lamps and 2' license lamp	*
36-9601-036	3', lower ID lamps and 2' license lamp	*
36-9601-228	19', upper ID lamps and 2' license lamp	*

- Plugs to rear "T" for a sealed connection
- Dimensions fit standard upper and lower position ID lamp, plus a license lamp connection

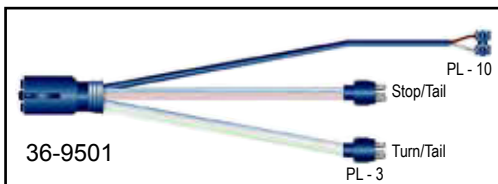
Pigtail Module, License & I.D. Marker Harness



Part No.	Description
36-9603-036	3', lower ID lamps
36-9603-228	19', upper ID lamps

- Connect to pigtail module with a male .180 bullet

Lamp Rear "T" Plug-In Pigtail Module - Standard

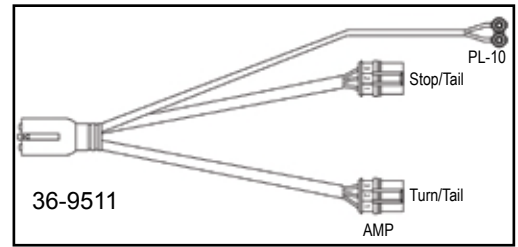


Part No.	Description
36-9501	2 stop/turn/tail and 1 PL-10 sealed marker
36-9502	2 stop/turn/tail and 4 .180 double female bullets
36-9503	3 stop/turn/tail and 1 PL-10 sealed marker
36-9504	3 stop/turn/tail and 4 .180 double female bullets

* Will fit both 34 series (STA-DRY® SLIM-7™ System) and 36 series (STA-DRY® System)

LED Model 44 & 60 Lamp Module - AMP Connector

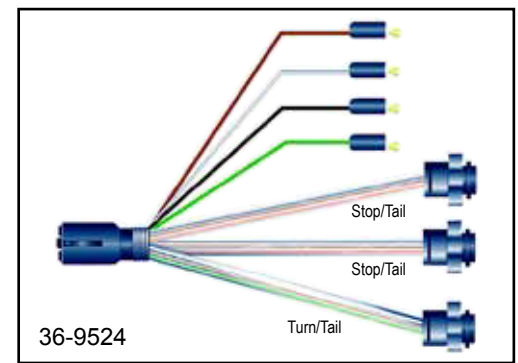
Part No.	Description
36-9511	2 stop/turn/tail and 1 PL-10 marker
36-9512	2 stop/turn/tail and 4 .180 double female bullets
36-9513	3 stop/turn/tail and 1 PL-10 marker
36-9514	3 stop/turn/tail and 4 .180 double female bullets



Female Pin Plugs, Mates to Male Pin Lamp Module

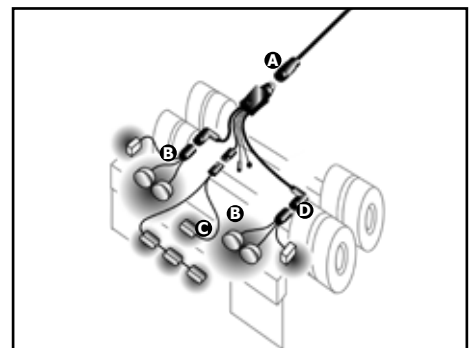
Part No.	Description
36-9523	3 stop/turn/tail and 1 PL-10 sealed marker
36-9524	3 stop/turn/tail and 4 .180 double female bullets

- 2 or 3 stop-tail-turn lamp connections
- Available with 4 double female .180 bullets for connecting additional lamps
- Clear shield protects wire conductors and makes it easy to see wire color and function
- Green and yellow stripe wire indicates turn signal function and eliminates the need to stock separate curbside and roadside pigtails
- Unique "pop" together mold design keeps pigtails connected to rear "T" and keeps moisture and contamination out



STA-DRY® System - Repair Kit

Part No.	Description	Key
36-3001	Main	A
36-9501	Marker modules	B
36-9601-036	ID/license	C
36-9400-2484	Rear "T"	D



34 series (STA-DRY® SLIM-7™ System) is not interchangeable with the 36 series (STA-DRY® System) except where noted.
Adapter available, page 119.

LITE-SENTRY™

LITE-SENTRY™

Know instantly if a trailer light or trailer lighting connection has failed!

NEW!



Find out how this can be customized to fit your new fleet spec or retrofit application!

Part No.	Description
34-1107-024	2' LITE-SENTRY™ indicator, with QCS2® socket and SLIM-7™* NEW

*Current design shown (P/N: 34-1107-024) is for OEM only

- Works with all 12V LED lights that draw more than 19mA
- Designed to work with LED exterior trailer lighting only
- Integrated and completely sealed into a Phillips STA-DRY® electrical harness
- Optional: Lighting and connection failure notifications can also be sent via telematics to fleet managers or any other individual that would benefit from this knowledge
- Integrated short circuit protection: No more electrical harnesses burning up due to "dead shorts"
- Contact your local sales representative to find out how to integrate the LITE-SENTRY™ into your electrical harness system with custom lengths and terminations available for both OEM and retrofit applications
- Patent Pending

The LITE-SENTRY™ monitors the exterior trailer lighting for lighting connection failures and notifies the driver by an indicator light mounted at the front of the trailer.



HOW IT WORKS

SYSTEM INTEGRATION:

The LITE-SENTRY™ is integrated into the front of the trailer harness system and monitors the current that flows through the trailer's electrical system while the vehicle is powered on.

UPON INITIAL START UP:

When power is supplied to the electrical system, the amber indicator light will turn on for approximately 3 seconds to confirm that the LITE-SENTRY™ is functioning.

DURING THE RIDE:

With the vehicle powered on, and after initial start-up, the indicator light should be monitored regularly, similarly to how the lights on the dashboard of a tractor are monitored.

DETECTION OF LIGHTING FAILURES:

With power supplied to the trailer, when the driver engages any exterior trailer lighting, if a significant drop in electrical current is detected within the electrical system, the indicator light will turn on, and stay on, to notify the driver of possible lighting failure.

NORMAL LIGHT OPERATION

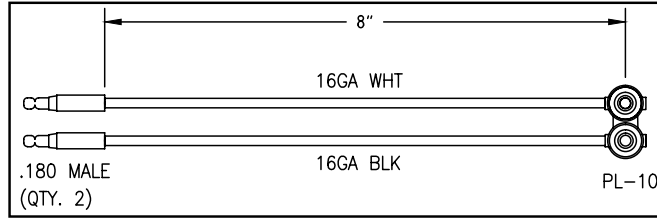
If the indicator light remains off during the ride, no problems are detected.

MARKER / CLEARANCE LIGHT PIGTAILS

PL-10 Connector

Part No.	Description
51-96010	PL-10 connector, (2) bullets, 8"

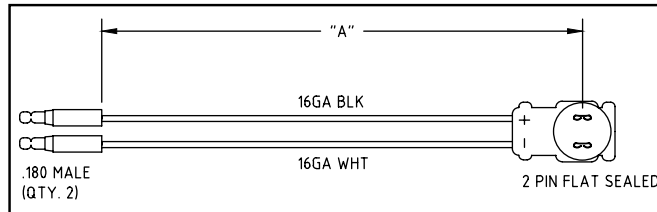
- Molded connections to protect against contaminants
- 16 ga. black and white wires
- .180 male bullets



Flat Seal Connector

Part No.	Description
51-96110	Flat seal connector, (2) bullets, 6"

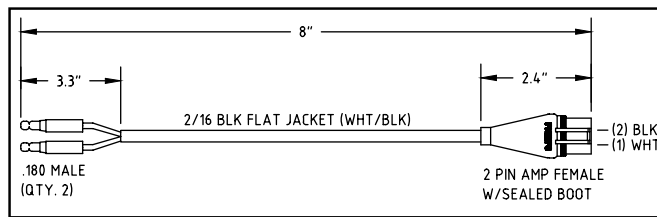
- Molded connections to protect against contaminants
- Molded o-ring ensures water-tight connection
- 16 ga. black and white wires
- .180 male bullets



2 Pin AMP Connector with STA-DRY® Sealed Boot

Part No.	Description
51-96310	2 pin amp connector with STA-DRY® sealed boot, (2) bullets, 8"

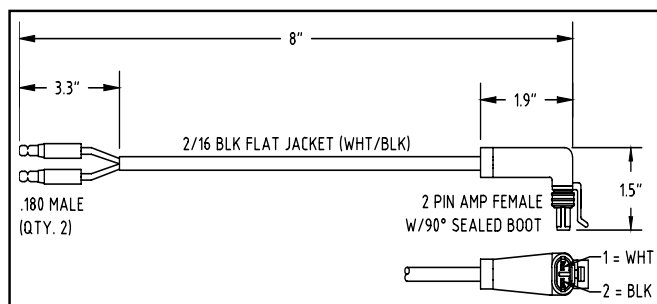
- 2 pin amp connector with STA-DRY® sealed boot adds additional protection to help seal out moisture and contaminants
- 16 ga. black and white wires
- .180 male bullets



90° 2 Pin AMP Connector with STA-DRY® Sealed Boot

Part No.	Description
51-96319	90° 2 pin amp connector with STA-DRY® sealed boot, (2) bullets, 8" NEW

- For use with LED lights
- For use in tight spaces
- STA-DRY® sealed boot adds additional protection to help seal out moisture and contaminants



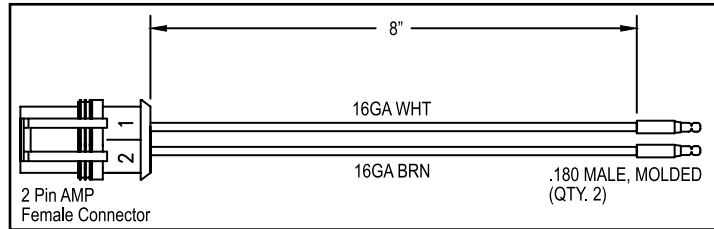
ELECTRICAL HARNESS SYSTEMS

2 Pin AMP Connector



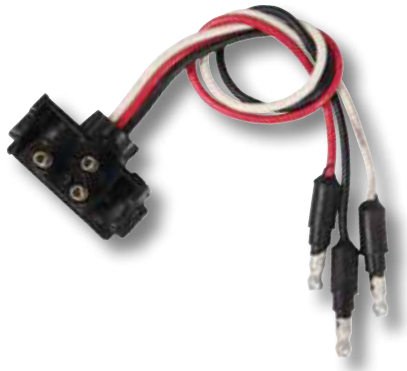
Part No.	Description
51-96210	2 pin amp connector, (2) bullets, 8"

- For use with LED lights
- For use in tight spaces
- Molded connections to protect against contaminants
- 16 gauge white and brown wires
- .180 male bullets



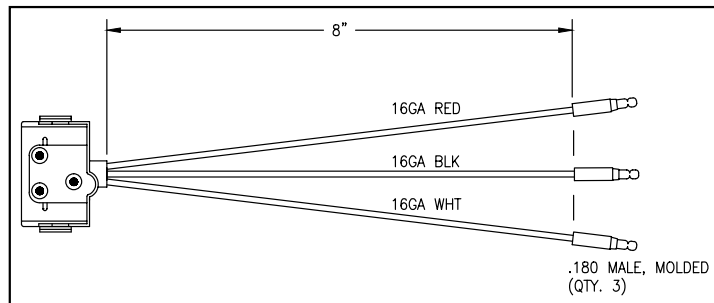
STOP-TAIL-TURN & MID-TURN LIGHT PIGTAILS

90 Degree PL-3 Connector



Part No.	Description
51-96510	90 degree, PL-3 connector, (3) bullets, 8"

- Molded connections to protect against contaminants
- 90° plug-in connection with splash guard for added protection
- 16 ga. black, white, and red wires
- .180 male bullets

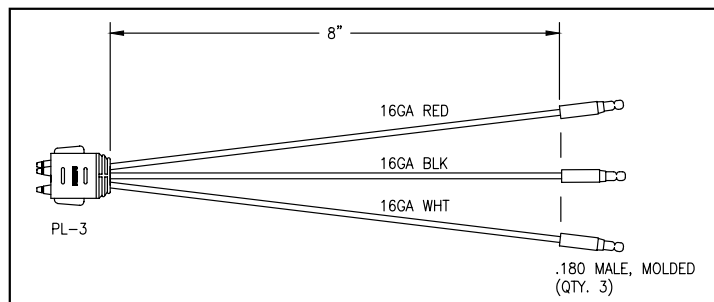


PL-3 Connector



Part No.	Description
51-96410	PL-3 connector, (3) bullets, 8"

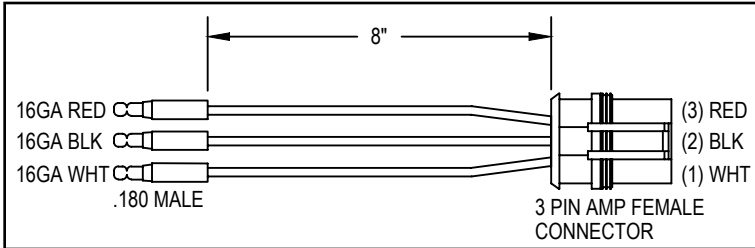
- Molded connections to protect against contaminants
- 16 ga. black, white, and red wires
- .180 male bullets
- Can be used with adapter 51-97470 to convert the PL3 connection to a 3 pin amp connection



3 Pin AMP Connector

Part No.	Description
51-96610	3 pin amp connector, (3) bullets, 8"

- For use with LED lights
- For use with LED lights
- For use in tight spaces
- For use in tight spaces
- Molded connections to protect against contaminants

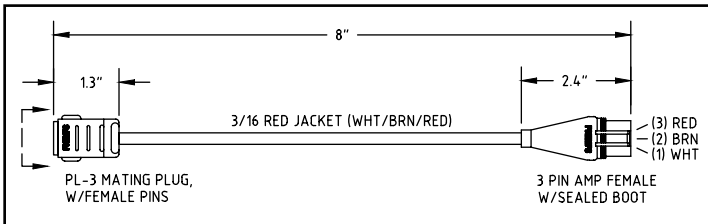


PIGTAIL ADAPTERS

- Converts the PL-3 connection to a 3 pin amp connection
- 3 pin amp connector with STA-DRY® sealed boot adds additional protection to help seal out moisture and contaminants
- For use with stop-tail-turn or mid-turn lights
- Molded connections to protect against contaminants
- 16 ga. white, brown, and red wires

PL-3 to 3 Pin AMP Pigtail Adapter

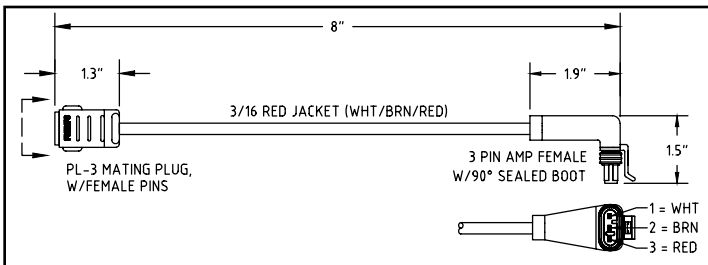
Part No.	Description
51-97470	PL-3 to 3 pin amp connector adapter, 8"



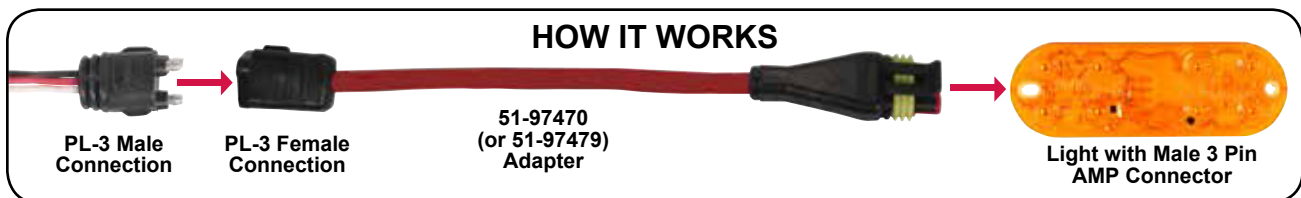
PL-3 to 90° 3 Pin AMP Connector Adapter

Part No.	Description
51-97479	PL-3 to 90° 3 pin amp connector adapter, 8" NEW

- For use in tight spaces



HOW IT WORKS



PERMALITE™ HD TRAILER LIGHTING



Front Marker Light



PERMALITE™ XB



Clearance / Marker Light

OR

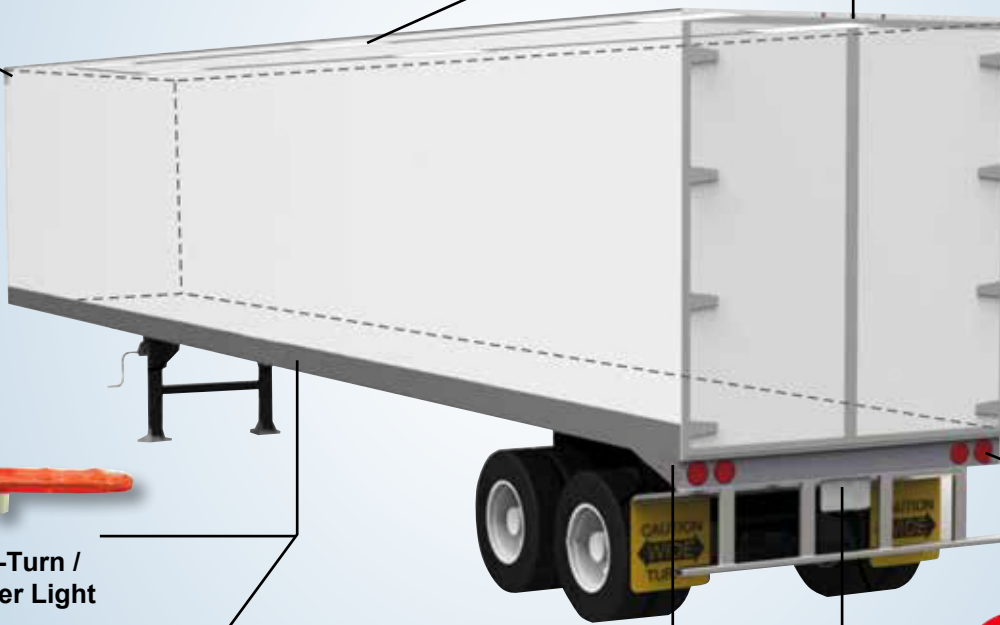


Front Marker Light

OR



Identification Light



Mid-Turn / Marker Light

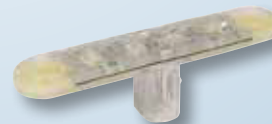
OR



Mid-Turn / Marker Light
(J2039 Compliant)



ABS Light



License Plate Light



Stop Tail Turn Light

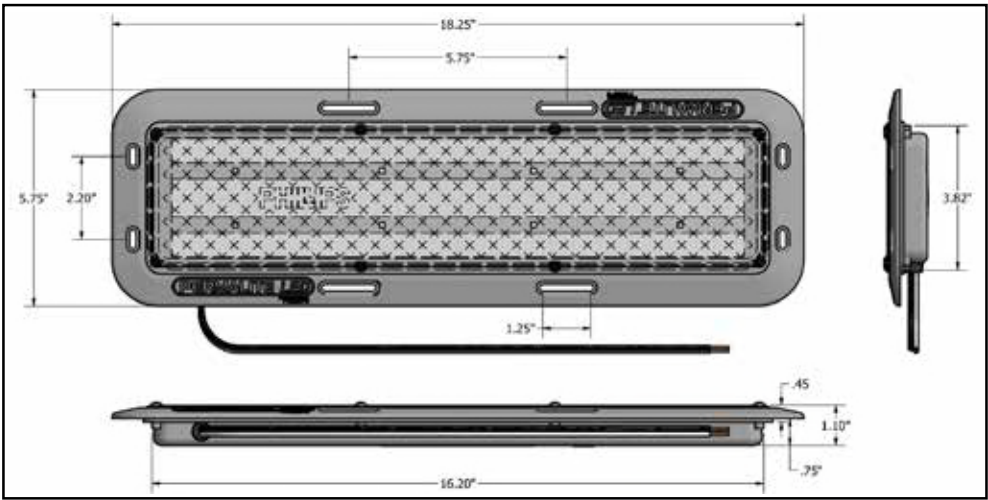
PERMALITE™ XB DOME LAMP

PERMALITE™ XB LED

Part No.	Description	Qty.
51-22111	PERMALITE™ XB LED, individual retail box	1
51-22114	PERMALITE™ XB LED, bulk pack	6



- Draws 1.7A at 12V DC
- Universal mounting holes
- 1600 lumen output
- 18.25 in. X 5.75 in. X 1.10 in. (.75" recessed) design can fit just about any application
- Polycarbonate lens and housing
- Designed for extreme temperatures: -40°F to 140°F (-40°C to 60°C)
- Reverse polarity protection
- 175° light spread offers more lit area inside the trailer
- Silicone seal protects components from moisture build-up
- 3 year limited warranty – see website for details



PERMALITE™ FLUORESCENT ACCESSORIES

PERMALITE™ Fluorescent Accessories

Part No.	Description	Qty.
51-22104	Lens replacement kit (lens and screws)	1
51-22107	Replacement bulb	6

- Polycarbonate lens
- Universal mounting holes
- Stainless steel screws
- 12,000 hour, 24 watt fluorescent bulb



PERMALITE™ HD TRAILER LIGHTING

PERMALITE™ XT TRAILER LIGHTING WITH BOARDFREE® TECHNOLOGY

A patented LED lighting solution that uses an in mold process and eliminates the need for a traditional printed circuit board.

Manufactured by Innotec for exclusive distribution by Phillips Industries - A California Corporation

- Superior durability and impact resistance
- Resistance to corrosion, harsh chemicals and UV exposure
- Solid molded construction of lens and housing
- High efficiency optical design
- Environmentally friendly - no printed circuit board means no hazardous waste
- BOARDFREE® construction allows for optimal heat management, leading to longer life expectancy
- When it is time to replace, there is no hazardous waste
- Lights exceed FMVSS 108
- Made in the USA
- BOARDFREE® is a registered trademark of Innotec Group

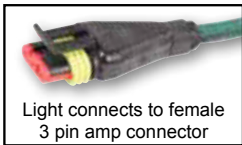
4.0" Round Flange Mount Stop-Tail-Turn Light

NEW!



Part No.	Description
51-40202	4.0" round flange mount stop-tail-turn light, red NEW
51-40904	Trim ring for 4.0" round stop-tail-turn light NEW

- ABS and acrylic construction
- BOARDFREE® technology with 9 diodes
- Sealed and greased male 3 pin amp connector
- Meets SAE S2 and T2
- Slotted low stress mounting holes with standard mounting dimensions
- Can be mounted any direction and meets DOT specifications
- Stainless steel trim ring available (optional)

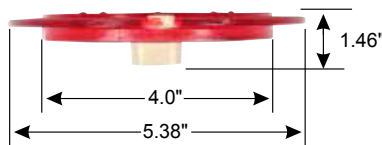
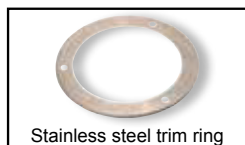
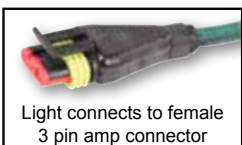


4.0" Round Stop-Tail-Turn Light



Part No.	Description
51-40102	4.0" round stop-tail-turn light, red
51-40904	Trim ring for 4.0" round stop-tail-turn light NEW

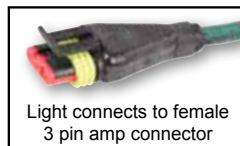
- ABS and acrylic construction
- BOARDFREE® technology with 8 diodes
- Sealed and greased male 3 pin amp connector
- Meets SAE S2 and T2
- Slotted low stress mounting holes with standard mounting dimensions
- Stainless steel trim ring available (optional)



4.0" Anti-Theft Round Stop-Tail-Turn Light

Part No.	Description
51-40122	4.0" round stop-tail-turn light, with black anti-theft overmold, for 3/16" trailer plate thickness, red NEW
51-40142	4.0" round stop-tail-turn light, with black anti-theft overmold, for 1/4" trailer plate thickness, red NEW
51-40132	4.0" round stop-tail-turn light, with silver anti-theft overmold, for 3/16" trailer plate thickness, red NEW
51-40152	4.0" round stop-tail-turn light, with silver anti-theft overmold, for 1/4" trailer plate thickness, red NEW

- ABS and acrylic construction
- BOARDFREE® technology with 8 diodes
- Sealed and greased male 3 pin amp connector
- Meets SAE S2 and T2
- Molded anti-theft ring is designed to install in a 4.5 in. mounting hole with a trailer plate thickness of 3/16 in. or 1/4 in.
- Patent pending



4.0" Round Grommet Mount Stop-Tail-Turn Light and Grommet

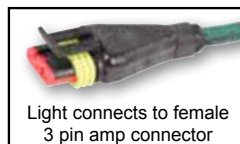
Part No.	Description
51-40212	4.0" round grommet mount stop-tail-turn light, red* NEW
51-40500	4.0" round stop-tail-turn light grommet NEW

Grommet Mount Light*

- ABS and acrylic construction
- BOARDFREE® technology with 9 diodes
- Sealed and greased male 3 pin amp connector
- Meets SAE S2 and T2
- Can be mounted any direction and meets DOT specifications

Grommet

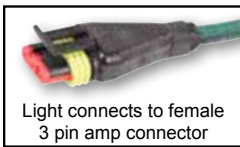
- Grommet provides additional protection to the light against vibration and shock
- Fits in standard 4.5 in. openings
- Grommet mounts up to a .25 in. plate
- Made of UV protected EPDM



*Grommet sold separately from light

6.5" Grommet Mount Oval Light and Grommet

NEW!



Light connects to female 3 pin amp connector

Part No.	Description	
51-60113	6.5" grommet mount oval side / turn marker light, amber*	NEW
51-60112	6.5" grommet mount oval stop-tail-turn light, red*	NEW
51-60500	6.5" oval light grommet	NEW

Grommet Mount Light*

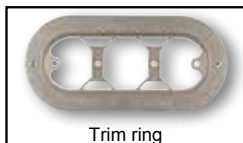
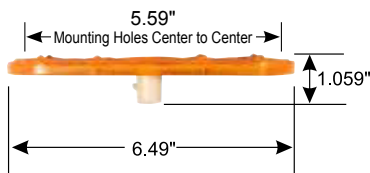
- ABS and acrylic construction
- BOARDFREE® technology with 8 diodes
- Sealed and greased male 3 pin amp connector
- Side turn light meets SAE I, P2 and P3 for turn signals and side markers
- Stop-tail-turn light meets SAE S2 and T2

Grommet

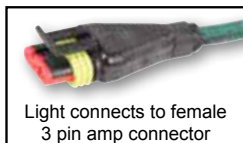
- Grommet provides additional protection to the light against vibration and shock
- Fits in standard openings
- Grommet mounts up to a .25 in. plate
- Made of UV protected EPDM

*Grommet sold separately from light

6.5" Surface Mount Oval Side Turn / Marker & Stop-Tail-Turn Lights



Trim ring



Light connects to female 3 pin amp connector

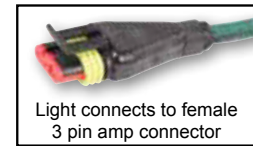
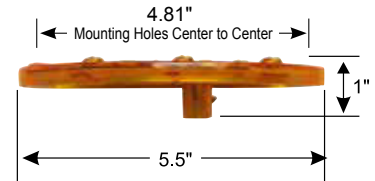
Part No.	Description	
51-60103	6.5" surface mount oval side turn / marker light, amber	
51-60102	6.5" surface mount oval stop-tail-turn light, red	
51-60904	Trim ring for 6.5" surface mount oval side turn/marker and stop-tail-turn lights (optional)	NEW

- ABS and acrylic construction
- BOARDFREE® technology with 8 diodes
- Sealed and greased male 3 pin amp connector
- Side turn light meets SAE I, P2 and P3 for turn signals and side markers
- Stop-tail-turn light meets SAE S2 and T2
- Low stress mounting holes
- Stainless steel trim ring available (optional)

5.5" J2039 Mid-Turn / Marker Light

Part No.	Description
51-60213	5.5" J2039 mid-turn / marker light, amber

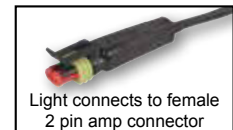
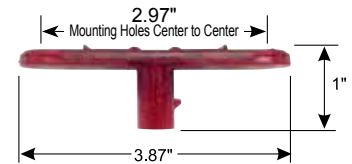
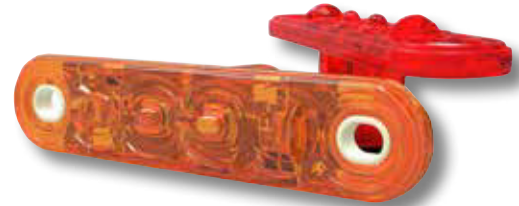
- ABS and acrylic construction
- 10 times thinner than any other J2039 mid-turn light on the market
- BOARDFREE® technology with 9 diodes
- Sealed and greased male 3 pin amp connector
- Meets SAE P2 E for turn signals and side markers
- Low stress mounting holes



4.0" Low Profile Marker / Clearance Lights

Part No.	Description
51-18313	4.0" low profile marker / clearance light, amber
51-18312	4.0" low profile marker / clearance light, red
51-18500	Mounting gasket for low profile marker / clearance light (optional)

- ABS and acrylic construction
- BOARDFREE® technology with 4 diodes
- Sealed and greased male 2 pin amp connector
- Meets SAE PC standards for marker lights
- Meets FMVSS 108
- Slotted low stress mounting holes
- Optional mounting gasket available

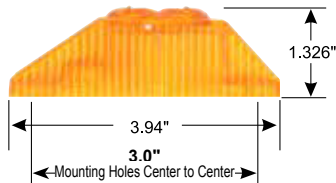


4.0" Rectangular Marker Light

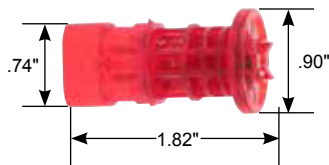


Part No.	Description
51-17313	4.0" rectangular marker light, amber
51-17312	4.0" rectangular marker light, red

- ABS and acrylic construction
- BOARDFREE® technology with 2 diodes
- Sealed and greased male 2 pin flat seal connector
- Meets SAE PC2 standard for use as a marker light by FMVSS
- Low stress mounting holes



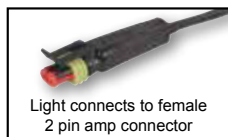
3/4" PC2 Rated Round Marker / Clearance Light



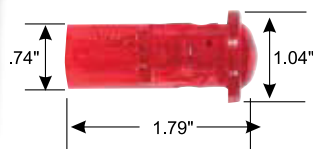
Part No.	Description
51-34303	3/4" PC2 rated round marker / clearance light, amber
51-34302	3/4" PC2 rated round marker / clearance light, red
51-34500	Mounting grommet for 3/4" PC2 rated round marker / clearance light*
51-34550	Anti-theft mounting ring
51-34904	Trim ring for 3/4" PC2 rated round / marker clearance light** NEW

*Mounting grommet works with PC2 rated round marker / clearance light only
**PC2 light must be mounted with 51-34500 grommet against trim ring

- Acrylic construction
- BOARDFREE® technology with a single diode
- Sealed and greased male 2 pin amp connector
- Meets SAE PC2 standard for marker lights
- Anti-theft mounting ring or mounting grommet available*
- Optional stainless steel trim ring available**

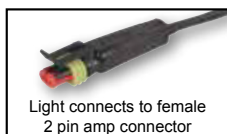


3/4" P2 Rated Round Marker / Clearance Light



Part No.	Description
51-34103	3/4" P2 rated round marker / clearance light, amber
51-34102	3/4" P2 rated round marker / clearance light, red
51-34550	Anti-theft mounting ring

- Acrylic construction
- BOARDFREE® technology with a single diode
- Sealed and greased male 2 pin amp connector
- Meets SAE P2 standard for marker lights
- Anti-theft mounting ring available

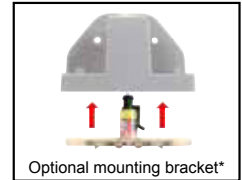
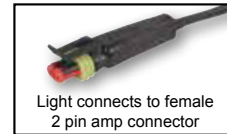


4.0" Low Profile License Light

Part No.	Description
51-18701	4.0" low profile license light, clear
51-18900	Low profile license light mounting bracket (optional)* NEW

*When installing the light with this bracket, a 2 pin amp connector without a sealed boot must be used to accommodate for spacing within the bracket for the pigtail wiring.

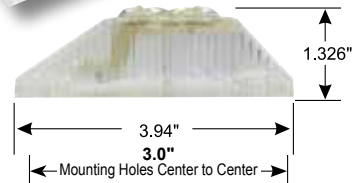
- ABS and acrylic construction
- BOARDFREE® technology with 4 diodes
- Sealed and greased male 2 pin amp connector
- Meets SAE L standard for use as a license light by FMVSS when mounted properly
- Slotted low stress mounting holes
- Optional mounting bracket available (P/N: 51-18900)



4.0" Rectangular License Light

Part No.	Description
51-17701	4.0" rectangular license light, clear
51-17900	License light mounting bracket (optional)

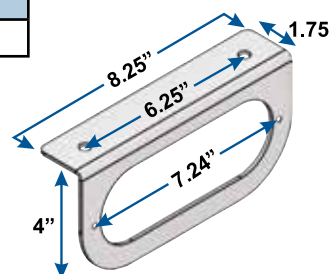
- ABS and acrylic construction
- BOARDFREE® technology with 2 diodes
- Sealed and greased male 2 pin flat seal connector
- Meets SAE L standard for use as a license light by FMVSS when mounted properly
- Low stress mounting holes
- Optional mounting bracket available (P/N: 51-17900)



BRACKET AND MOUNTING ACCESSORIES

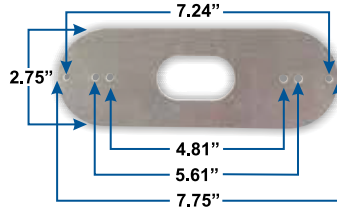
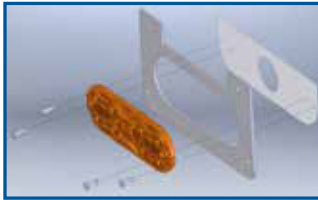
Part No.	Description
51-60900	Mounting bracket for mid-turn lights

- Features high-strength 12 ga. 304 stainless steel construction with 90 degree flange for mounting
- 6.25 in. mounting hole spacing
- 0.365 in. mounting holes
- Accommodates standard grommet or flange mounted 6 in. oval mid-turn light products on the market
- Requires back plate adapter (P/N: 51-60910) when used with PERMALITE™ XT surface mount mid-turn lights



Mid-Turn Light Mounting Bracket

Back Plate Adapter

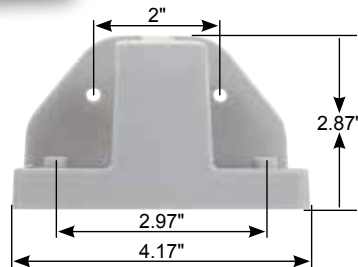
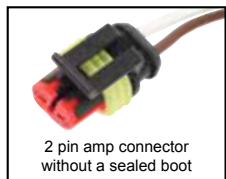


Part No.	Description
51-60910	Back plate adapter for mid-turn lights

- Features high-strength 12 ga. 304 stainless steel construction
- Designed to mount PERMALITE™ XT mid-turn lights on standard industry mounting brackets (Phillips mounting bracket P/N 51-60900)

4.0" Low Profile License Light Bracket

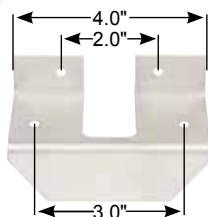
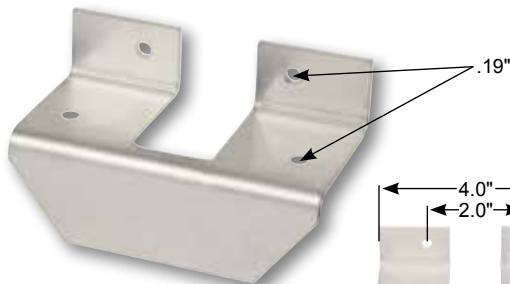
NEW!



Part No.	Description
51-18900	Low profile license light mounting bracket NEW

- Adds additional protection to the PERMALITE™ XT 4.0 in. low profile license light
- Made of UV resistant non-corrosive polycarbonate material
- The 2 pin amp connector without a sealed boot must be used to accommodate for spacing within the bracket for the pigtail wiring

4.0" Rectangular License Light Bracket



Part No.	Description
51-17900	Rectangular license light mounting bracket

- For use with the PERMALITE™ XT 4.0 in. rectangular license light
- Features high-strength 12 ga. 304 stainless steel construction

Mounting Grommet for 4.0" Round Grommet Mount Stop-Tail-Turn Light

Part No.	Description
51-40500	Mounting grommet for 4.0" round grommet mount stop-tail-turn light* NEW

*Grommet sold separately from light

- Grommet provides additional protection to the light against vibration and shock
- Fits in standard 4.5 in. openings
- Grommet mounts up to a .25 in. plate
- Made of UV protected EPDM



Mounting Grommet for 6.5" Grommet Mount Oval Stop-Tail-Turn and Side/Turn Marker Lights

Part No.	Description
51-60500	Mounting grommet for 6.5" grommet mount oval stop-tail-turn and side/turn marker lights* NEW

*Grommet sold separately from light

- Grommet provides additional protection to the light against vibration and shock
- Fits in standard openings
- Grommet mounts up to a .25 in. plate
- Made of UV protected EPDM



Mounting Grommet for 3/4" PC2 Rated Round Marker/Clearance Lights

Part No.	Description
51-34500	Mounting grommet for 3/4" PC2 rated round marker/clearance lights

- For use with the PERMALITE™ XT 3/4 in. PC2 rated round marker/clearance light only
- Constructed of EPM rubber and is resistant to the weather elements



Anti-Theft Mounting Ring for 3/4" PC2 and P2 Rated Round Marker/Clearance Lights

Part No.	Description
51-34550	Anti-theft mounting ring

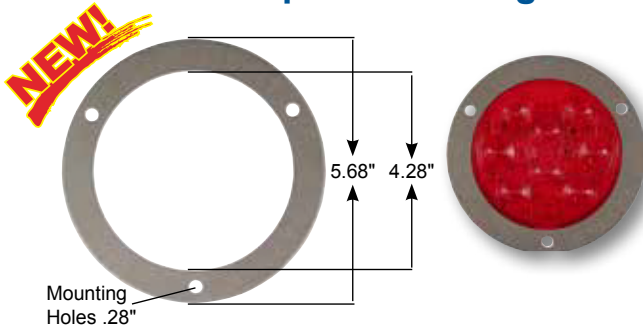
- For use with the PERMALITE™ XT 3/4 in. PC2 and P2 rated round marker/clearance lights
- Constructed of high-strength POM material which is abrasion and heat resistant



LIGHTING STAINLESS STEEL TRIM RINGS

- Attractive add-on feature
- Provides added anti-theft benefits when installed using rivets
- All trim rings are made of stainless steel for durability and corrosion resistance

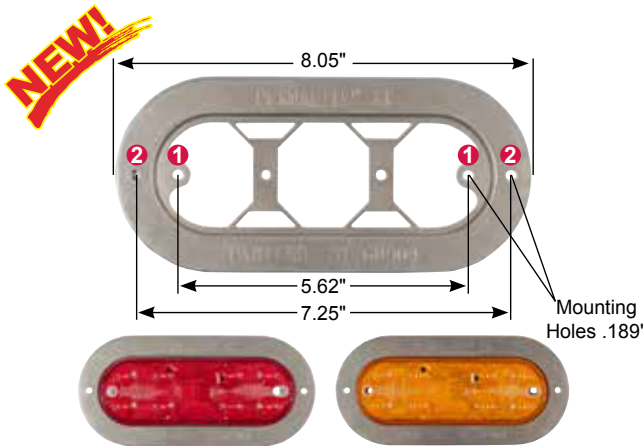
4.0" Round Stop-Tail-Turn Light Trim Ring



Part No.	Description
51-40904	Trim ring for 4.0" round stop-tail-turn light NEW

- For use with PERMALITE™ XT 4.0 in. round stop-tail-turn lights (P/N: 51-40102 and 51-40202)
- Can also be used on similar flanged lights
- Install using 1/4 in. rivets for additional protection against theft

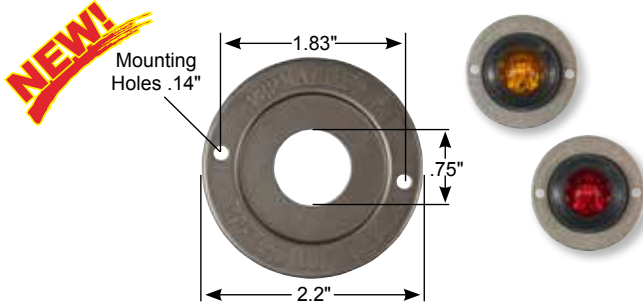
6.5" Oval Side Turn/Marker & Stop-Tail-Turn Light Trim Ring/Adapter Plate



Part No.	Description
51-60904	Trim ring/adapter plate for 6.5" oval side turn/marker and stop-tail-turn lights NEW

- For use with PERMALITE™ XT 6.5 in. oval side turn/marker light (P/N: 51-60103) and PERMALITE™ XT 6.5 in. oval stop-tail-turn light (P/N: 51-60102)
- Can be used to install the light in a standard opening without the use of an additional adapter plate by:
 1. Riveting the light directly to the trim ring
 2. Then riveting the trim ring to the mounting surface around the opening
 (Mounting holes for 1 & 2 can be referenced in the figure to the left)

3/4" PC2 Rated Round Marker / Clearance Light Trim Ring

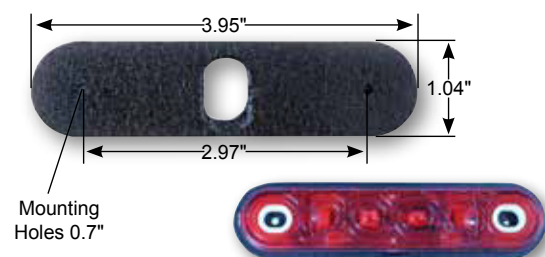


Part No.	Description
51-34904	Trim ring for 3/4" PC2 rated round marker / clearance light NEW

- For use with PERMALITE™ XT PC2 rated round marker / clearance lights (P/N: 51-34302; red and 51-34303; amber)
- Light must be mounted with 51-34500 grommet against trim rings
- Trim rings come with installation holes for optional riveting to the surface around the light

LIGHTING GASKET

4.0" Low Profile Marker/Clearance Light Mounting Gasket



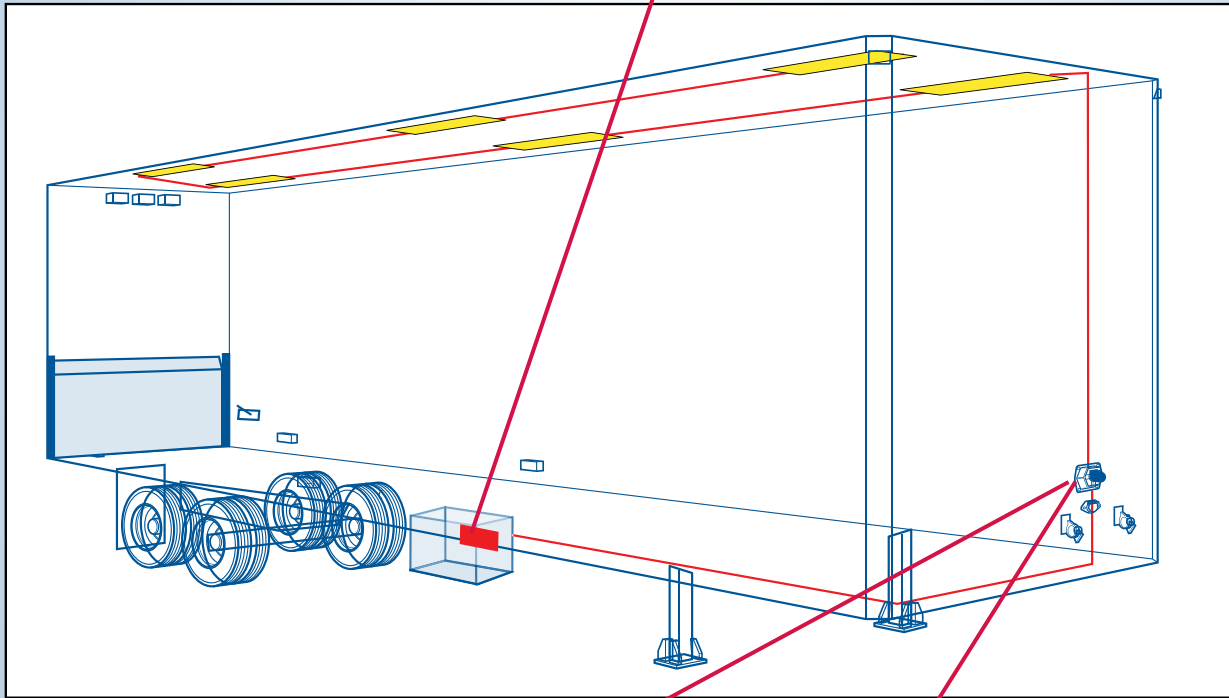
Part No.	Description
51-18500	Mounting gasket for low profile marker / clearance lights

- Helps prevent water intrusion and corrosion
- For use with the PERMALITE™ XT 4.0 in. low profile marker/clearance lights (P/N: 51-18312; red and 51-18313; amber)
- Constructed of PE foam with adhesive back

V-CHECK™ II & DOME LAMP CONTROLLERS



V-CHECK™ II



PERMALOGIC™ NOSEBOX



PERMALOGIC™ REMOTE



Battery Status Indicator

One look is all it takes to ensure your batteries have all the power they need. V-CHECK™ II digitally monitors the state of power for any battery, particularly liftgate batteries.

V-CHECK™ II



Part No.	Description
60-9100	V-CHECK™II battery status indicator, digital with 'Go/No-Go' LED, 12V

- Provides a digital display of the battery voltage (9-16 volts), and the battery state of charge
- Features the 'Go / No-Go' LED – Know instantly if your battery is ready for the ride!
- Easy to install
- Measurement 2.25 in. x 2.25 in.
- Voltage color guide sticker included



HOW IT WORKS

DIGITAL VOLT DISPLAY

- Voltage measurement and battery state of charge will appear every 15 seconds
- If the voltage is 15.0V – 16.0V the state of charge will be displayed as 'HI'
- If the voltage is 9.0V – 11.2V the state of charge will be displayed as 'SOS'
- If the voltage is below 9.0V, the digital display will read as _9.0 with a state of charge displayed as 'SOS'

GO/NO-GO LED COLOR CODE

- GREEN: 12.6V – 16.0V
- YELLOW: 12.4V – 12.5V
- RED: 12.3V and below

SLEEP MODE

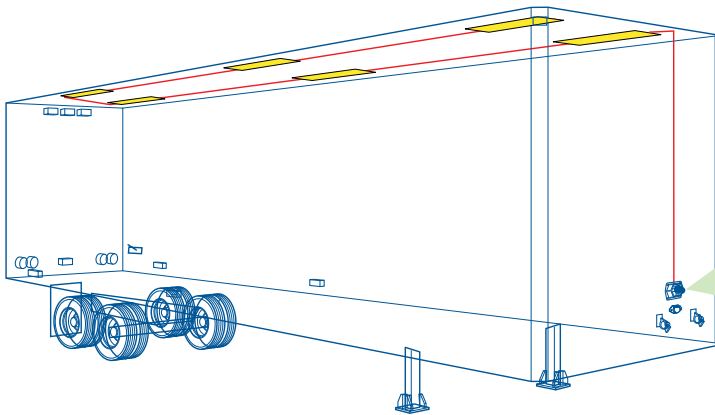
- Unit will enter sleep mode after 2 days of no activity
- Unit will wake when voltage fluctuates +/- 0.2V

Voltage Measurement	State of Charge	LED Color Code
15.0V - 16.0V	HI	GREEN ●
12.6V - 14.9V	95% - 100%	GREEN ●
12.4V - 12.5V	75% - 80%	YELLOW ●
11.3V - 12.3V	10% - 70%	RED ●
11.2V - 9.0V	SOS	RED ●
_9.0V (Below 9.0V)	SOS	RED ●

PERMALOGIC™

Trailer Dome Lamp Controller

PERMALOGIC™ is an all-weather, all-electronic controller designed to manage power to trailer dome lamps. By simply stepping on the brake pedal, allowing the automatic timer to turn off the lamps, manually flipping a switch, or low battery voltage disconnect - you'll save the life of your battery and the expense of a road call.



Lamps are on



Overloaded circuit



Normal conditions/
Trailer dome lamps
are off



Constant - low voltage
Flashing - low voltage
shut-off

- Eliminates any chance of leaving trailer dome lamps on
- Turns off trailer dome lamps by stepping on the brake pedal
- Fully electronic - eliminates mechanical air pressure switch
- Visual indicator of tractor battery condition
- Weatherproof, solid-state electronics
- Patent No. 7,498,687

REMOTE

Part No.	Description
60-2500	Single circuit, remote unit
60-2502	Dual circuit, remote unit



REMOTE UNIT

NOSEBOX

Part No.	Description
60-2520	Single circuit, without circuit breakers, composite nosebox
60-2520-20	Single circuit, with 20 amp circuit breakers, composite nosebox
60-2520-30	Single circuit, with 30 amp circuit breakers, composite nosebox
60-2522	Dual circuit, without circuit breakers, composite nosebox
60-2522-20	Dual circuit, with 20 amp circuit breakers, composite nosebox



NOSEBOX KIT

• All -20 part numbers contain 20 amp circuit breakers, 30 amp on blue wire

STA-DRY® S7™ NOSEBOX

Part No.	Description
16-9520PL	STA-DRY® S7™ nosebox with 20 amp circuit breakers
16-9530PL	STA-DRY® S7™ nosebox with 30 amp circuit breakers
16-95246PL	STA-DRY® S7™ nosebox with 20 amp circuit breakers, emergency and QWIK-E® gladhands on mounting plate



STA-DRY® S7™ NOSEBOX

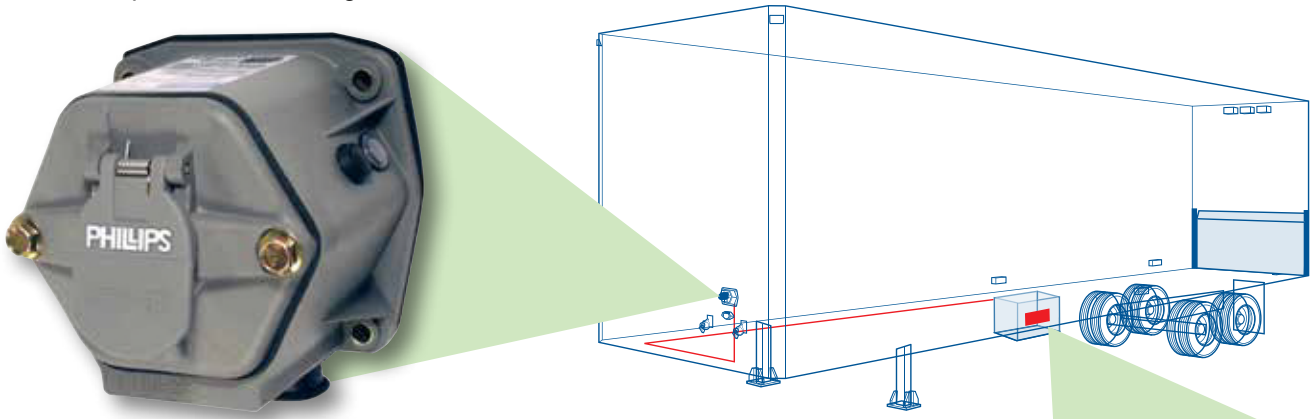


STA-DRY® S7™ SYSTEM

PERMALOGIC™ TC

Liftgate Battery Charging System

PERMALOGIC™ TC can eliminate the need for a single or dual pole set-up in most situations* by providing a 14.4 volt charge to the liftgate battery. By stepping up the voltage, the liftgate battery is charged to capacity, allowing for more frequent use of the liftgate.



Liftgate battery is charging



Normal conditions/
Trailer dome lamps are off



- FOR USE WITH TRAILER LIFTGATE AND NO TRAILER DOME LAMPS
- Provides a 14.4V, 20A charge to the liftgate battery
- Eliminates a single or dual pole set-up in most situations*
- Brake light activated - If brakes are activated at any time, the PERMALOGIC™ TC automatically turns off the charge to the liftgate battery. By doing this, all power is available for the trailer ABS braking system.
- Patent No. 7,498,687



REMOTE UNIT

REMOTE UNIT	
Part No.	Description
60-2600	Remote unit

NOSEBOX KIT	
Part No.	Description
60-2620KT	Without circuit breakers, composite nosebox
60-2620-20KT	With 20 amp circuit breakers, composite nosebox

• Kit contents: PERMALOGIC™ TC nosebox, 50 ft. plug-in harness and TRAIL CHARGER™



NOSEBOX KIT

REPLACEMENT PARTS	
Part No.	Description
60-2620	Without circuit breakers, composite nosebox
60-2690	50' plug-in harness, 2/8 and 1/14 ga.
60-2699	TRAIL CHARGER™ - liftgate battery charger

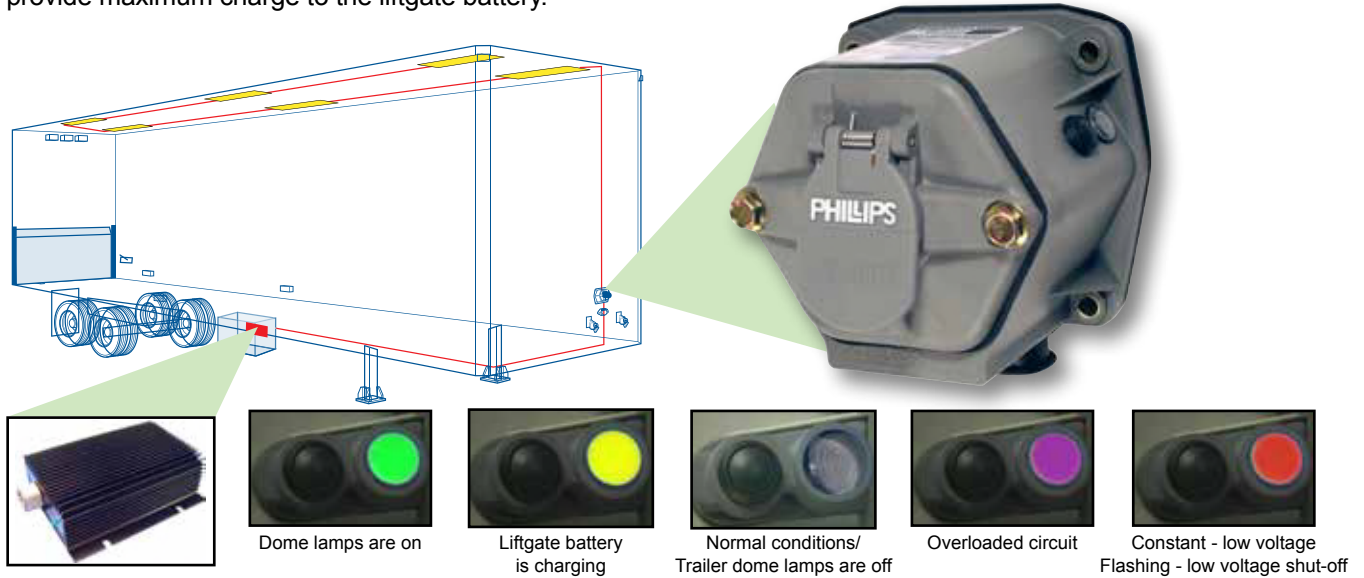
• All -20 part numbers contain 20 amp circuit breakers, 30 amp on blue wire

* Depending on liftgate load, size and cycles

PERMALOGIC™ TC PLUS

Complete Trailer Power Management System

PERMALOGIC™ TC PLUS offers both the trailer dome lamp controller and liftgate charger, in one package. Trailer dome lamps can be controlled normally and the liftgate charger is automatically used when needed to provide maximum charge to the liftgate battery.



- FOR USE WITH TRAILER LIFTGATE AND TRAILER DOME LAMPS
- Provides a 14.4V, 20A charge to the liftgate battery
- Automatically charges liftgate batteries when the trailer dome lamps are not in use
- Brake light activated - By simply stepping on the brake pedal the PERMALOGIC™ TC PLUS automatically turns off the trailer dome lamps and the charge to the liftgate battery. By doing this, all power is available for the trailer ABS braking system.
- Patent No. 7,498,687

NOSEBOX KIT	
Part No.	Description
60-2720KT	Single circuit, without circuit breakers, composite nosebox
60-2720-20KT	Single circuit, with 20 amp circuit breakers, composite nosebox

- Kit contents: PERMALOGIC™ TC PLUS nosebox, 50 ft. plug-in harness and TRAIL CHARGER™



REPLACEMENT PARTS	
Part No.	Description
60-2700	Single circuit, remote unit
60-2720	Single circuit, without circuit breakers, composite nosebox
60-2720-20	Single circuit, with 20 amp circuit breakers, composite nosebox
60-2690	50' plug-in harness, 2/8 and 1/14 ga.
60-2699	TRAIL CHARGER™ - liftgate battery charger

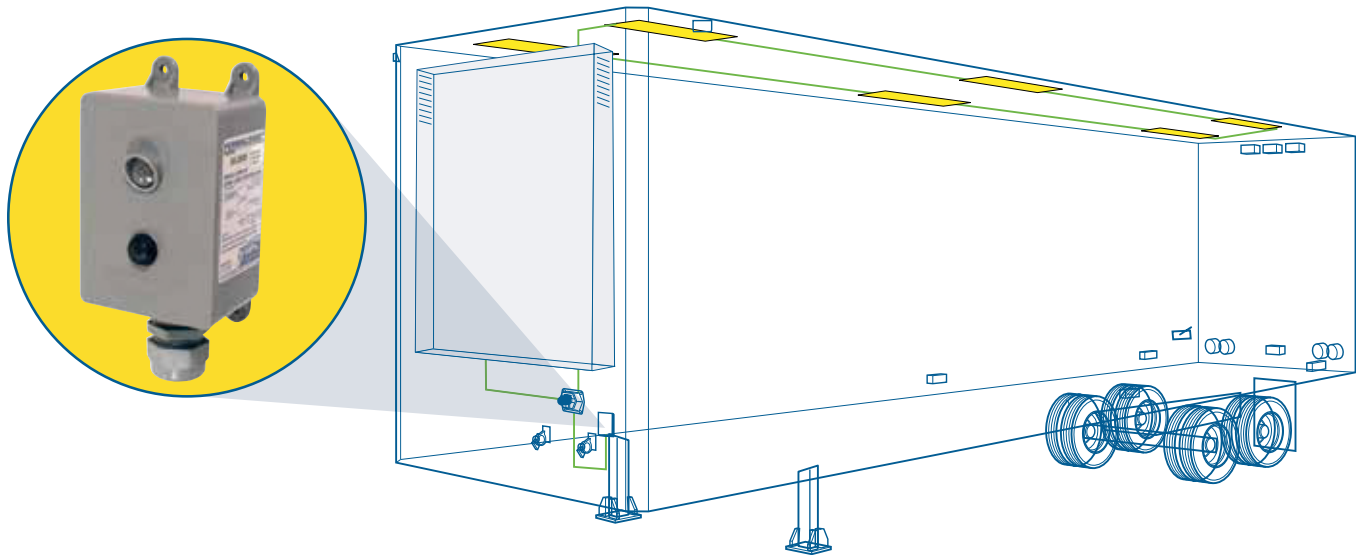
- All -20 part numbers contain 20 amp circuit breakers, 30 amp on blue wire



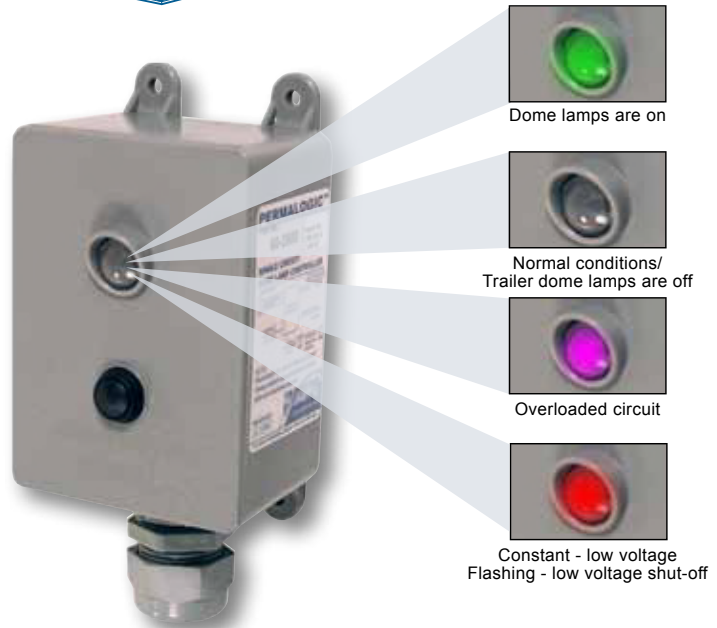
PERMALOGIC™ REEFER

Trailer Dome Lamp Controller For Refrigeration Units

PERMALOGIC™ REEFER is an all-weather, all-electronic controller designed to manage power to trailer dome lamps in trailers with refrigeration units. By simply stepping on the brake pedal, allowing the automatic timer to turn off the lamps, or manually flipping a switch - you'll save the life of your battery and the expense of a road call.



- For trailers with dome lamps powered by a reefer battery
- Eliminates any chance of leaving trailer dome lamps on
- Brake pedal activated
- Fully electronic - eliminates mechanical air pressure switch
- Weatherproof - sealed to prevent contaminants from passing to the wire harness
- Anti-corrosive housing to protect against magnesium and calcium chlorides
- Circuit breakers can be changed in under one minute
- Patent No. 7,498,687



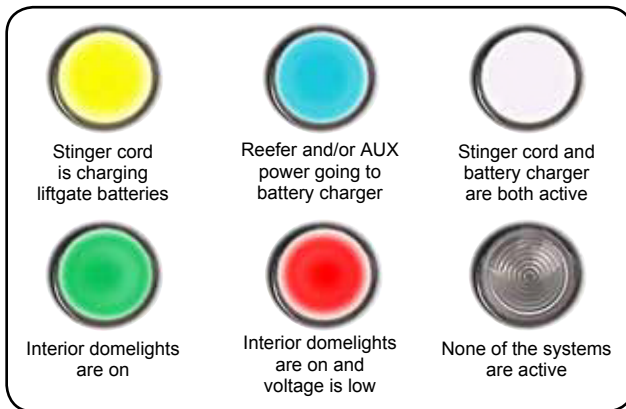
REMOTE	
Part No.	Description
60-2800	Single circuit, stand-alone

PERMALOGIC™ SMART-CHARGE

Trailer Power Management

The PERMALOGIC™ Smart-Charge is a “smart” charging system for liftgate and auxiliary battery banks that recognizes and automatically manages the best power source(s) to charge your batteries from ALL available sources collectively at the same time.

- Regulates power draw from ALL available sources collectively
- Recognizes and automatically manages the best power source(s) to charge your batteries
- Has built-in low voltage detection to avoid draining power sources
- LED indicator displays which power input source is being utilized



How it works

- With the PERMALOGIC™ Smart-Charge, the STA-CHARGE™ Battery Charger pulls power at no more than a maximum combined 28 Amps from the following sources collectively:
 1. J560 7-way AUX/BLUE circuit
 2. Reefer unit
 3. Additional input to accommodate for technological charging input advances – ie. solar
- If these sources run low or become depleted, and power from the STA-CHARGE™ Battery Charger is no longer enough, the PERMALOGIC™ Smart-Charge will automatically engage the liftgate/auxiliary charging system to supplement the charging.
- The liftgate/auxiliary charging system will work in conjunction with the STA-CHARGE™ battery charger, or independently.

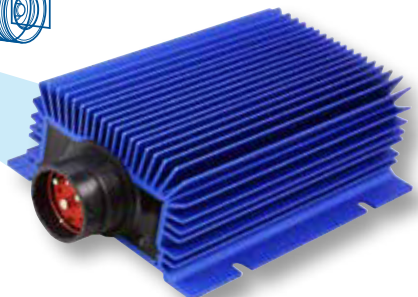
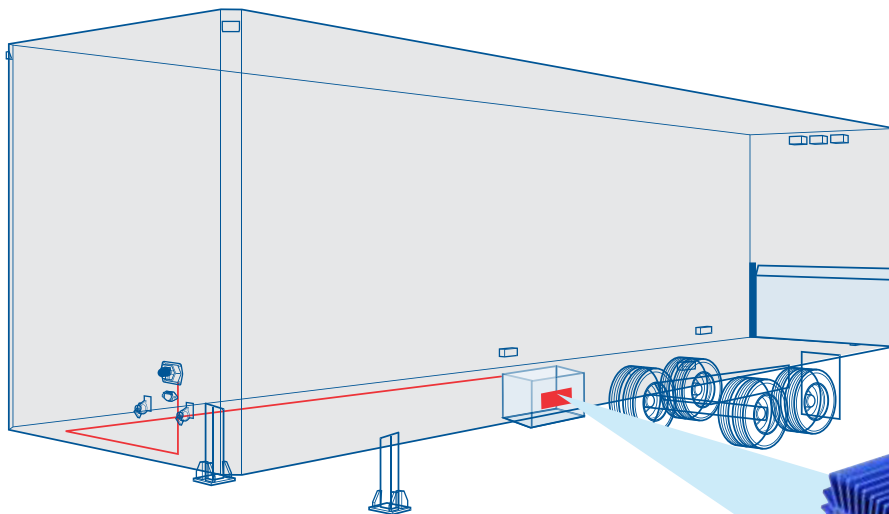
PERMALOGIC™ SMART-CHARGE Kit

Part No.	Description
60-3000KT	PERMALOGIC™ Smart-Charge Kit

60-3000KT Contents

Part No.	Description
60-3000	PERMALOGIC™ Smart-Charge – Dual Nosebox
60-3600	STA-CHARGE™ - Liftgate Battery Charger
60-3650-540	45', STA-CHARGE™ Harness
60-2687	45', Dual Pole/Single Pole (Stinger) Cable, 2 ga.
60-2691	5', 7-Way AUX Harness
60-2692	10', Reefer Harness

STA-CHARGE™ Battery Charger



STA-CHARGE™	
Part No.	Description
60-3600	STA-CHARGE™ Battery Charger

- For 12V liftgate/load batteries
- Input voltage: 8V – 16V
- Output voltage: 14.4V**
- Maximum input current: 27A
- Maximum output current: 23A
- Automatically adjusts output voltage depending on temperature
- Environmentally sealed connector
- Anodized cooling heatsink

- Visual indicator shows status of charging
- Phillips patented Lock Out feature: stops charging batteries when brakes are pressed
-When tied to the BLUE circuit, this ensures all power is available during an ABS event
- Standard mounting pattern
- Must be used with a Phillips STA-CHARGE™ harness or available harness adapters (see below)

**Voltage is temperature compensated so that in cold temperature the batteries are charged at a higher voltage.



STA-CHARGE™ Harness	
Part No.	Description
60-3650-540	45' STA-CHARGE™ Harness

- Other charging systems use 10 ga. wire harnesses, which increase the time it takes to charge the batteries. The STA-CHARGE™ 8 ga. harness allows for a faster charge rate, resulting in an increased number of liftgate cycles sooner.
- Other lengths are available
- Contact your sales representative for more information



Harness Adapters	
Part No.	Description
60-3651	Harness Adapter – TRAIL-CHARGER™ harness to STA-CHARGE™ assembly

- For retrofitting a STA-CHARGE™ with existing TRAIL-CHARGER™ harness

Part No.	Description
60-3652	Harness Adapter – STA-CHARGE™ harness to TRAIL-CHARGER™ assembly

- For retrofitting a new STA-CHARGE™ harness with an existing TRAIL-CHARGER™ unit

TOOLS & GENERAL ACCESSORIES



BATTERY TOOLS

Heavy Duty Hand-Held Cable Cutter



Part No.	Description
4-101	Heavy duty hand-held cable cutter

- Cuts up to 2/0 cable
- For use with copper cable only

Hammer Crimper



Part No.	Description
4-140	Hammer style crimping tool

- Crimps 8 thru 4/0 ga. connectors
- Use with hammer
- Fits in any tool box

6/0 Cable Cutters



Part No.	Description
4-146	Heavy duty cutter, bench mount
4-147	Heavy duty cutter, hand held

- Cuts cable up to 6/0 ga. (250 MCM)
- Blades made of carbon steel for strength and long life
- 26 in. handle(s)

Battery Terminal Crimper



Part No.	Description
4-150	Crimper, lever style

- Designed for light and medium duty battery terminals
- Crimps 8 ga. thru 1/0 ga.
- 15 in. handles

Heavy Duty Battery Terminal Crimpers

Part No.	Description
4-152	Hand-held, hex crimp
4-153	Bench mount, hex crimp

- Hand-held and bench mount models
- Bench mount also attaches to wall, service trucks, etc.
- Bench mount tools are easier and safer to use
- Crimps 8 ga. thru 6/0 ga.
- 26 in. handle(s)



Wire Stripping & Crimping Tool

Part No.	Description
4-214	Wire stripping and crimping tool

- Multi-purpose tool
- Strips wire sizes from 22 thru 10 ga.
- Crimps insulated and non-insulated terminals
- Machined for precision wire cuts and strips
- Color-coded to ensure proper crimp
- Overlapping teeth provide a consistent cut
- Insulated handles for safety



Self-Adjusting Wire Stripper/Cutter

Part No.	Description
4-220	Self-adjusting wire stripper/cutter

- Strips wire from 20 thru 12 ga.
- Blades adjust automatically to the wire being stripped
- Built-in cutter blades
- One set of teeth grip the wire and the second set cuts and strips the insulation



Cable Stripper



Part No.	Description
4-221	Cable stripper

- Strips 10 thru 4/0 ga. cable and 2 to 7 conductor round cable
- Easily removes cable insulation
- Adjustable stripper depth
- Contains replacement blade

Ratcheting Crimper



Part No.	Description
4-230	Ratcheting crimper

- Calibrated for STA-DRY® heat shrink connectors
- Assures the proper crimp force will be applied to heat shrink connectors every time
- Color-coded crimp nest for ease and accurate crimp
- Designed to install 20 thru 8 ga. terminals

Cable Tie Installation Tool



Part No.	Description
4-231	Plastic cable tie installation tool

- Secures nylon cable ties
- Plastic is good for light duty or occasional use

Heavy Duty Wire Stripper & Cutter



Part No.	Description
4-507	Heavy duty wire stripper and cutter

- Cuts and crimps 22 thru 6 ga. wire and terminals

QWIK-FIT™ Tubing Release Tool

Part No.	Description
12-90005	QWIK-FIT™ tubing release tool

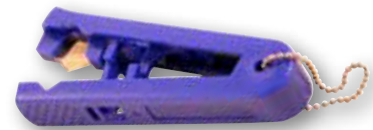
- Designed to push and connect tubing to fittings in hard to reach places such as under the dash board
- Accommodates 1/8 in. and 1/4 in. sized fitting



Nylon Air Tube Cutters

Part No.	Description
12-90003	Nylon tube cutter - economy

- Compact – Ideal for emergency situations
- Preset tubing guides



Economy

Part No.	Description
12-90002	Nylon tube cutter – standard

- Ideal for shop use
- 1/2 in. tubing maximum
- Preset tubing guides



Standard

Part No.	Description
12-90004	Nylon tube cutter – heavy duty*
4-904	Replacement blade for nylon tube cutter heavy duty

- Ideal for heavy use or production lines
- Shortened nose for greater clearance during installation
- Preset tubing guides

* Replaceable blade sold separately



Heavy Duty

POCKET CONTINUITY TESTERS

- Checks conductivity of all circuits
- Fits all standard 7-way round, 7-way blade type and 4-way flat connectors
- LED lights glow when circuit is functioning correctly
- All testers are internally grounded
- Handy and essential tool for every shop
- Many drivers carry these LED circuit checkers to quickly identify lighting problems prior to leaving yard

7-Way Socket Circuit Checker



Part No.	Description
15-200	7-way LED circuit checker for J560 system

- For SAE J560 sockets
- For use on tractor side or back of trailer when there is a 7-way socket available

7-Way Plug Circuit Checker



Part No.	Description
15-208	7-way LED circuit checker for J560 system

- For SAE J560 plugs
- For use on tractor side

7-Way E-Z Tester



Part No.	Description
63-0170	7-way tester for 7-way blade socket type

- For 7-way RV type sockets

4-Way E-Z Tester



Part No.	Description
63-0040	4-way tester

- For 4-way flat connections

Digital Multimeter



Part No.	Description
4-532	Digital multimeter

Check fuses, plugs, sockets, electrical cables, extension cords, control panels, small appliance, batteries, wall receptacles, etc.

- Pocket size
- Large LED display
- Temperature display
- Overload protection
- Accurate within .5%
- Low battery indicator

SHOP TOOLS & ACCESSORIES

66 LED with Flashlight

Part No.	Description
8-120	Rechargeable LED work lamp

- 66 bright white LED floodlight runs up to 4 hours
- 6 bright white LED flashlight runs up to 24 hours
- Rechargeable – charges in about 3 hours on 110/220V AC or 12V DC power
- Dual mode switch – operates floodlight or flashlight



Professional Fluorescent Work Lamp with Tool

Part No.	Description
8-110	26 watt fluorescent work lamp

- 26 watts, equivalent to 125 watt incandescent bulb
- Spot work light on top
- 90 degree swivel cord pivots for hands-free, stand-up use
- 3 wire, 25 ft. cord
- Retractable and removable nylon-tipped double hang hook rotates 360 degrees
- Polarized plug with 12 amp grounded receptacle



Retractable Triple Outlet Cord Reel

Part No.	Length	Gauge
8-103	30'	3/16

- Triple outlet retractable cord reel provides three grounding outlets
- Rugged cord reel and jacketed cord give superior performance under the toughest conditions
- Complete with mounting hardware
- 3 conductor SJTW-A, 300V



SHOP TOOLS & ACCESSORIES

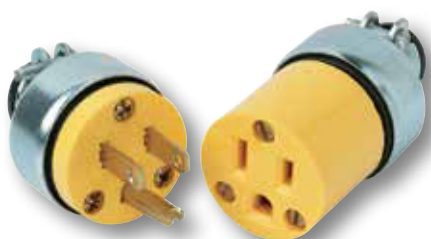
110 Volt Drop Light



Part No.	Gauge	Length
8-101	3/16	50'

- High-visibility, heavy duty jacketing resists oil, grease, fuel, acids and abrasion
- 3 conductor drop light
- Metal bulb shield (bulb not included)
- UL listed

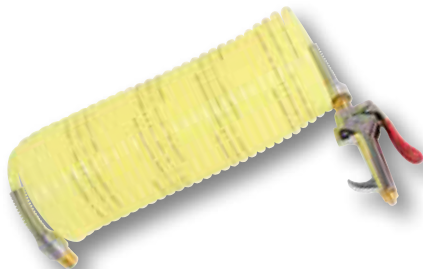
110 Volt Plug & Socket



Part No.	Description
8-210	15a. - 125v. male plug
8-211	15a. - 125v. female plug

- 2-pole, 3-wire, enclosed parallel grounding
- Armored cap yellow vinyl

Air Cab Blower



Part No.	Description
11-304	Cab blower kit
4-500	Air gun only

- Cleans the cab in a hurry
- 18 ft. working length
- Swivel fitting on one end
- 1/4 in. M.P.T. on both ends
- Desirable safety yellow color per U.S. Government OSHA directives
- Service temperature range: -40°F to 200°F (-40°C to 93°C)
- 225 PSI maximum working pressure

Retractable Shop Air Hose



Part No.	I.D.	Working Length	Each End
11-414	1/4"	18'	1/4" NPT
11-416	3/8"	18'	3/8" NPT

- For work bench, overhead air supply and low pressure air powered equipment and tools
- Swivel fitting on one end
- 225 PSI maximum working pressure
- Desirable safety yellow color per U.S. Government OSHA directives
- Service temperature range: -40°F to 200°F (-40°C to 93°C)

HEAVY DUTY TIRE INFLATOR

Heavy Duty Tire Inflator

Part No.	Description
11-301	50' heavy duty tire inflator

- For use on trucks with air brake systems
- 50 ft. straight PVC air hose to reach all tires
- Includes universal gladhand (12-010) and air chuck



HEAT GUN & TORCHES

Heat Gun

Part No.	Description
4-046	Heavy duty heat gun

- Includes stand and deflector shield for easy use
- Lightweight - 2 1/2 lbs
- Built-in circuit breaker protects operator and unit
- Adjustable air intake and heat settings
- Double jacketed nozzle helps insulate heat
- Heat range 500°F to 750°F
- 115V; 14 amps



Mini-Jet Torch

Part No.	Description
4-054	Mini-jet torch, blister pack
4-055	Mini-jet torch, 2 clip strips with 6 blister packs per strip

- For small jobs and quick repairs
- Lifetime waterproof ignition system
- Refillable tank provides up to 30 minutes of butane capacity
- Adjustable gas flow with wind-resistant flame
- Protective flip-open cap
- See-through fuel tank
- Meets Consumer Product Safety Commission 16CFR Part 1212 - Safety Standard for Multi-Purpose Lighters (Child Resistant)

Specifications	
Length	35 mm (1.4 in)
Height	71 mm (2.8 in)
Width	20 mm (0.8 in)
Weight (when gas-filled)	46 g
Flame temperature	1300°C (2500°F)
Gas container capacity	5 ml
Operating capacity (one gas filling)	30 min.



Professional Torch



Part No.	Description
4-057	Professional torch, box

- For daily professional use
- Adjustable flame
- Refillable tank provides up to 220 minutes of butane capacity
- Brass body covered with a protective grip
- Waterproof piezoelectric ignition system
- Removable base provides for storage flexibility
- Meets Consumer Product Safety Commission 16CFR Part 1212 - Safety Standard for Multi-Purpose Lighters (Child Resistance)

Specifications	
Length	100 mm (1.4 in)
Height W/O stand	138 mm (2.8 in)
Width	36 mm (0.8 in)
Weight (when gas-filled)	280 g
Flame temperature	1300°C (2500°F)
Gas container capacity	60 ml
Operating capacity (one gas filling)	220 min.



Heavy Duty Torch



Part No.	Description
4-058	Heavy duty torch, clamshell

- For battery terminals and heavy wall shrink tubing
- Highest BTU output of all Phillips torches
- Adjustable flame
- Waterproof piezoelectric ignition system
- Refillable tank provides up to 120 minutes of butane capacity
- Powerful wind-resistant flame
- Meets Consumer Product Safety Commission 16CFR Part 1212 - Safety Standard for Multi-Purpose Lighters (Child Resistance)
- **Due to large flame, this torch is not recommended for use with heat shrink terminals**

Specifications	
Length	128 mm (4.73 in)
Height	172 mm (6.8 in)
Grip Diameter	45 mm (1.78 in)
Base Diameter	65 mm (2.56 in)
Weight (Empty)	460 g
Flame temperature	2600°F (1350°C)
Gas container capacity	60 ml
Operating capacity (one gas filling)	120 min.



BRUSHES

Heavy Duty Battery Post & Terminal Cleaner

Part No.	Description
4-120	Battery post and terminal brush

- Internal wire brush



6 & 7-Way Plug & Socket Brush

Part No.	Description
4-121	7-way plug and socket brush
4-122	6-way plug and socket brush

- Stainless steel bristles for durability
- Perfect for glove box or tool box



Flush-Mounted 7-Way Plug Brush

Part No.	Description
15-121	Brush
15-124	Replacement brush insert
15-788	Mounting bracket
15-784	Flat mounting bracket

- Keeps corrosion under control
- Durable stainless steel bristles
- Mount next to regular socket for cleaning convenience
- Shop mounted, flush mounted or bracket mounted to vehicle
- Great for storing and cleaning cables when not in use
- Mounting bracket available, 15-788 and 15-784



CHARGING CLIPS AND TEST CLIPS

Test Clips

Part No.	Description	Qty.
7-410	5 amp miniature alligator clip	25

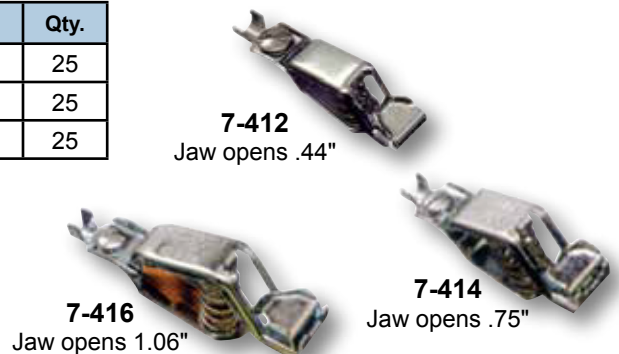
- Nickel-plated steel
- Full-meshing teeth
- Jaw opens .19 in.



Charging Clips

Part No.	Description	Qty.
7-412	10 amp center squeeze charging clip	25
7-414	25 amp center squeeze charging clip	25
7-416	50 amp center squeeze charging clip	25

- Screw or crimp connection
- Full-meshing teeth
- Zinc-plated steel



CSA KITS

CSA QWIK-FIX™ Kit



Keep cables off the deck plate!

New regulations deliver harsher penalties to the driver and fleet for electrical and air system failures. Our CSA QWIK-FIX™ KIT keeps standard electrical and air products at your fingertips, so if the situation arises, you'll be prepared!

Part No.	Description
80-850	CSA QWIK-FIX™ KIT

80-850 Contents

Replacement Part No.	Description	Qty.
16-720	STA-DRY® 7-way socket	1
16-730	STA-DRY® WEATHER-TITE™ PERMAPLUG™ 7-way plug	1
4-121	7-way plug and socket brush	1
4-250	QWIK-SHOT™ grease tubes	2
12-010	Universal gladhands	2
12-012-25	Gladhand rubber seals	5
12-95066	3/8" QWIK-FIT™ composite air fittings - union	2
12-95088	1/2" QWIK-FIT™ composite air fittings - union	2
12-90003	Economy nylon air tube cutter	1
17-153	QWIK-SNAP™ 3-hose holder	1
8-43087	7.5" cable ties	100
17-150	2-hose separators	4

DOCUMENT HOLDERS

STA-DRY® Document Holder

Part No.	Description
16-802	STA-DRY® document holder
16-801	STA-DRY® document holder replacement lid*

*Tether not included with replacement lid.

- Waterproof – documents remain dry in extreme weather
- Stainless steel tether - prevents misplacement of lid
- Twist-on lens with large grips – easy to use with gloves
- Stainless steel hardware – keeps documents rust free
- Mounts with most competitive document holders - 8 mounting holes
- Large interior for multiple documents

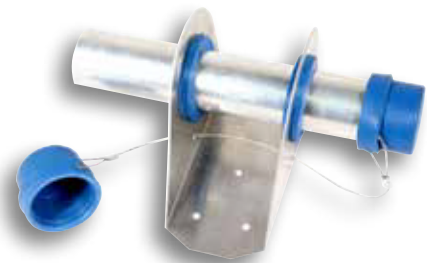


Tube-Document Holder

Part No.	Description
16-803	Aluminum tube document holder with mounting bracket
16-804	Replacement rubber cap*

*Tether not included with replacement cap.

- Features a sturdy, light-weight aluminum tubular body and mounting bracket with cushioned tube support
- UV protected rubber end caps with watertight seal
- Stainless steel tether – prevents misplacement of rubber end cap
- Easy to install – mounts to any flat surface



LOCKS

Gladhand Lock

Part No.	Description
12-700	Gladhand lock

- Constructed of corrosion resistant material
- Includes two numbered keys for easy identification
- Uniquely designed to fit standard, angled or swinger style gladhands
- Upon request, multiple orders can be keyed alike



TRAFFIC BUILDERS



Air & Electrical Center

Part No.	Description
80-130	Air and electrical center wall assortment

- Get organized
- Increase gross profit through impulse sales
- Includes top moving items - designed to turn at least 6 times per year

Assortment Includes:

- Products
- Gondola header card
- Re-order stickers
- Floor talkers
- 25 Products pull-through sales flyers
- Detailed planogram



Gondola Header Card



Re-order Stickers



Floor Talkers



80-130 Contents:*

Replacement Part No.	Description	Qty.
11-315	Heavy duty coiled air, 15' pair (red and blue)	5
11-3150	POWER GRIP™, 15' pair (red and blue)	5
11-5150	POLAR AIR®, 15' pair (red and blue)	5
12-006	Gladhand - service, straight mount	25
12-008	Gladhand - emergency, straight mount	25
15-042	STOW-A-WAY™, gladhand and plug holder	10
15-720	7-way zinc die-cast socket	25
15-730	7-way zinc die-cast plug	25
15-762	7-way zinc die-cast plug with extended barrel socketbreaker	10
16-720	STA-DRY® socket, 2-hole, wire insertion	25
16-730	WEATHER-TITE™ PERMAPLUG™	25
22-4621	NON-ABS PERMACOIL™, 15', with zinc die-cast plugs, 1/10 and 6/12 ga.	5
24-4621	NON-ABS PERMACOIL™, 15', with zinc die-cast plugs, 1/12 and 6/14 ga.	5
30-4621	ABS PERMACOIL™, 15', with zinc die-cast plugs, 1/8, 2/10 and 4/12 ga.	5

* Does not come with shelves, fences or gondola

Air Center



Part No.	Description
80-131	Air center wall assortment

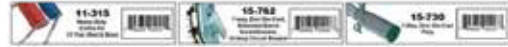
- Get organized
- Increase gross profit through impulse sales
- Includes top moving items - designed to turn at least 6 times per year

Assortment Includes:

- Products
- Gondola header card
- Re-order stickers
- Floor talkers
- 25 products pull-through sales flyers



Gondola Header Card



Re-order Stickers



Floor Talkers

80-131 Contents:*

Replacement Part No.	Description	Qty.
11-312	Heavy duty coiled air, 12' pair (red and blue)	5
11-315	Heavy duty coiled air, 15' pair (red and blue)	5
11-320	Heavy duty coiled air, 20' pair (red and blue)	5
11-340	Heavy duty coiled air, 15' pair (red and blue) with 40" lead	5
11-3150	POWER GRIP™, 15' pair (red and blue)	5
11-5150	POLAR AIR®, 15' pair (red and blue)	5
12-006	Gladhand - service, straight mount	25
12-008	Gladhand - emergency, straight mount	25
12-010	Gladhand - universal, straight mount	25
12-600	Coiled air gladhand grips, pair (red and blue)	12
12-136	Gladhand - service, angle mount	25
12-138	Gladhand - emergency, angle mount	25
12-0100	Gladhand - dummy	25
12-012-25	Gladhand seal - wide lip, polybag	25

* Does not come with shelves, fences or gondola

Deluxe Air & Electrical Center Bucket Display

Part No.	Description
80-110	Deluxe air and electrical display

80-110 Contents:

Replacement Part No.	Description	Qty.
11-315	Heavy duty coiled air, 15' pair (red and blue)	5
11-3150	POWER GRIP™, 15' pair (red and blue)	5
11-5150	POLAR AIR®, 15' pair (red and blue)	5
12-006	Gladhand - service, straight mount	25
12-008	Gladhand - emergency, straight mount	25
15-042	STOW-A-WAY™, gladhand and plug holder	10
15-720	7-way zinc die-cast socket	25
15-730	7-way zinc die-cast plug	25
15-762	7-way zinc die-cast socket with extended barrel socketbreaker	10
16-720	STA-DRY® socket, 2-hole, wire insertion	25
16-730	WEATHER-TITE™ PERMAPLUG™	25
22-4621	NON-ABS PERMACOIL™, 15', with zinc die-cast plugs, 1/10 and 6/12 ga.	5
24-4621	NON-ABS PERMACOIL™, 15', with zinc die-cast plugs, 1/12 and 6/14 ga.	5
30-4621	ABS PERMACOIL™, 15', with zinc die-cast plugs, 1/8, 2/10 and 4/12 ga.	5
80-106	Bucket rack with 8 buckets	1
80-107	Side attachment set	1
80-1078	Bucket sticker set	1

- Contains 14 of our top-moving gladhands, plugs, sockets, air and electrical assemblies
- Great as an end and aisle display
- Easy to assemble and maintain
- Dimensions: 68 in. x 34 in. x 12 in.



80-110

Air & Electrical Center Bucket Display

Part No.	Description
80-105	Air and electrical display

80-105 Contents:

Replacement Part No.	Description	Qty.
12-006	Gladhand - service, straight mount	25
12-008	Gladhand - emergency, straight mount	25
15-042	STOW-A-WAY™, gladhand and plug holder	10
15-720	7-way zinc die-cast socket	25
15-730	7-way zinc die-cast plug	25
15-762	7-way zinc die-cast socket with extended barrel socketbreaker	10
16-720	STA-DRY® socket, 2-hole, wire insertion	25
16-730	WEATHER-TITE™ PERMAPLUG™	25
80-106	Bucket rack with 8 buckets	1

Replacement Part No.	Description
80-801	Phillips display bucket



80-801



80-105

STA-DRY® Heat Shrink Display



80-1850

25"

- Contains the most popular heat shrink connectors
- Includes:
 - Heat shrink connectors
 - Kits
 - Shrink tubing
 - Stripper/crimper
 - Heat tools
- Profit builder
- Silent salesman
- Vending machine
- Dimensions:
 - 25 in. wide
 - 69.5 in. tall
 - 21 in. deep

Part No.	Description
80-1850	STA-DRY® heat shrink display

80-1850 Contents:

Replacement Part No.	Description	Qty.
1-1723	STA-DRY® CRIMP & SEAL™ - butt connector, daisy chain, 12-10 ga., 10 pcs/bag	2
1-1724	STA-DRY® CRIMP & SEAL™ - butt connector, daisy chain, 16-14 ga., 10 pcs/bag	2
1-1803	STA-DRY® CRIMP, SOLDER & SEAL™ - plastic kit with 45 assorted connectors	1
1-1861	STA-DRY® CRIMP, SOLDER & SEAL™ - butt connector 12-10 ga., 25 pcs/bag	2
1-1861C	STA-DRY® CRIMP, SOLDER & SEAL™ - butt connector 12-10 ga., 5 pcs/clamshell	5
1-1862	STA-DRY® CRIMP, SOLDER & SEAL™ - butt connector 16-14 ga., 25 pcs/bag	2
1-1862C	STA-DRY® CRIMP, SOLDER & SEAL™ - butt connector 16-14 ga., 5 pcs/clamshell	5
1-1863	STA-DRY® CRIMP, SOLDER & SEAL™ - butt connector 22-18 ga., 25 pcs/bag	2
1-1863C	STA-DRY® CRIMP, SOLDER & SEAL™ - butt connector 22-18 ga., 5 pcs/clamshell	5
1-1903	STA-DRY® CRIMP & SEAL™ - plastic kit with 56 assorted connectors	1
1-1922	STA-DRY® CRIMP & SEAL™ - ring terminal, 16-14 ga., #8 stud, 25 pcs/bag	2
1-1923	STA-DRY® CRIMP & SEAL™ - ring terminal, 16-14 ga., #10 stud, 25 pcs/bag	2
1-1923C	STA-DRY® CRIMP & SEAL™ - ring terminal, 16-14 ga., #10 stud, 5 pcs/clamshell	5
1-1924	STA-DRY® CRIMP & SEAL™ - ring terminal, 16-14 ga., 1/4" stud, 25 pcs/bag	2
1-1926	STA-DRY® CRIMP & SEAL™ - ring terminal, 16-14 ga., 3/8" stud, 25 pcs/bag	2
1-1933	STA-DRY® CRIMP & SEAL™ - ring terminal, 12-10 ga., #10 stud, 25 pcs/bag	2
1-1935	STA-DRY® CRIMP & SEAL™ - ring terminal, 12-10 ga., 5/16" stud, 25 pcs/bag	2
1-1936	STA-DRY® CRIMP & SEAL™ - ring terminal, 12-10 ga., 3/8" stud, 25 pcs/bag	2
1-1961	STA-DRY® CRIMP & SEAL™ - butt connector, 22-18 ga., 25 pcs/bag	3
1-1961C	STA-DRY® CRIMP & SEAL™ - butt connector, 22-18 ga., 5 pcs/clamshell	5
1-1962	STA-DRY® CRIMP & SEAL™ - butt connector, 16-14 ga., 25 pcs/bag	3
1-1962C	STA-DRY® CRIMP & SEAL™ - butt connector, 16-14 ga., 5 pcs/clamshell	5
1-1963	STA-DRY® CRIMP & SEAL™ - butt connector, 12-10 ga., 25 pcs/bag	3
1-1963C	STA-DRY® CRIMP & SEAL™ - butt connector, 12-10 ga., 5 pcs/clamshell	5
1-1964	STA-DRY® CRIMP & SEAL™ - butt connector, 8 ga., 25 pcs/bag	2
1-1971	STA-DRY® CRIMP & SEAL™ - slip-on terminal, fully insulated, 16-14 ga., female 25 pcs/bag	2
1-1972	STA-DRY® CRIMP & SEAL™ - slip-on terminal, fully insulated, 16-14 ga., male 25 pcs/bag	2
1-2267	STA-DRY® CRIMP & SEAL™ - bullet terminal 16-14 ga., .180, female, blue, 25 pcs/bag	2
1-2269	STA-DRY® CRIMP & SEAL™ - bullet terminal 16-14 ga., .180, male, blue, 25 pcs/bag	2
1-2269C	STA-DRY® CRIMP & SEAL™ - bullet terminal 16-14 ga., .180, male, blue, 5 pcs/clamshell	5
4-054	Mini-jet torch, clamshell	3
4-057	Professional torch, box	1
4-214	Shop tool - wire stripping and crimping tool	1
6-103C	STA-DRY® dual wall heat shrink tubing - CLEAR-VU™, 22-18 ga., red, 6", 3 pcs/clamshell	5
6-105C	STA-DRY® dual wall heat shrink tubing - CLEAR-VU™, 16-14 ga., blue, 6", 3 pcs/clamshell	5
6-107C	STA-DRY® dual wall heat shrink tubing - CLEAR-VU™, 12-10 ga., yellow, 6", 3 pcs/clamshell	5
6-206	STA-DRY® heavy dual wall heat shrink tubing - 1-4/0 ga., black, 6", 6 pcs/bag	2
6-211C	STA-DRY® heavy dual wall heat shrink tubing - 6-2 ga., red, 6", 1 pc/clamshell	5
6-212C	STA-DRY® heavy dual wall heat shrink tubing - 6-2 ga., black, 6", 1 pc/clamshell	5
6-300	STA-DRY® flexible dual wall heat shrink tubing - 16-14 ga., black, 6", 6 pcs/bag	2
6-301	STA-DRY® flexible dual wall heat shrink tubing - 12-10 ga., black, 6", 6 pcs/bag	2
6-302	STA-DRY® flexible dual wall heat shrink tubing - 8 ga., black, 6", 6 pcs/bag	2
6-304	STA-DRY® flexible dual wall heat shrink tubing - 6-2 ga., black, 6", 6 pcs/bag	2
6-1800	STA-DRY® heat shrink tubing kit - plastic kit with 78 pieces (6"), flexible dual wall, clear & black	1

Tracker Bar Display

Part No.	Description
80-420	Tracker bar display

80-420 Contents:

Replacement Part No.	Description	Qty.
17-148	Kit with single heavy duty spring, 20"	5
17-420	Kit with dual heavy duty springs, 16"	5
-	20" tracker bar	1
-	Header card for easy identification and product replenishment	1

- Replacement spring and hardware for tracker bars
- Kits include snap-on clip, PVC sleeve, spring and our revolutionary QWIK-SNAP™ 3-hose holder

Does not include pegboard



2/0 CLEAR-VU™ Battery Jumper Display

TAKE CARE OF CORROSION BEFORE CORROSION TAKES CARE OF YOU!

Part No.	Description
80-903	2/0 CLEAR-VU™ battery jumper display in English and French

80-903 Contents:

Replacement Part No.	Description	Qty.
9-350	2/0 CLEAR-VU™ clear, 2 lug, 8"	3
9-351	2/0 CLEAR-VU™ translucent smoke, 2 lug, 8"	3
9-352	2/0 CLEAR-VU™ translucent red, 2 lug, 8"	3
9-360	2/0 CLEAR-VU™ clear, 3 lug, 17"	3
9-361	2/0 CLEAR-VU™ translucent smoke, 3 lug, 17"	3
9-362	2/0 CLEAR-VU™ translucent red, 3 lug, 17"	3
9-370	2/0 CLEAR-VU™ clear, 4 lug, 26"	3
9-371	2/0 CLEAR-VU™ translucent smoke, 4 lug, 26"	3
9-372	2/0 CLEAR-VU™ translucent red, 4 lug, 26"	3
-	Display poster	1
-	Pegboard hooks	9



- 9 of the fastest moving Phillips 2/0 battery jumpers
- OEM replacement for standard red and black cables
- Easy to assemble, even easier to sell!
- Free 4-color display poster helps drive impulse sales
- Poster comes double sided with English on one side and French on the reverse side
- Poster has OEM replacement chart for ease of interchangeability between manufacturers

Does not include pegboard

STA-DRY® Heat Shrink Connector Shake Jar Display



Includes Product Sample Board!

- Contains nine of our most popular STA-DRY® heat shrink connectors in easy to sell shake jars!
- Increase profit through impulse sales!
- Comes pre-assembled
- Dimensions are approximately 12 in. x 12 in. x 12 in., the header card is approximately 8 in. x 12 in.
- Also available in Spanish or French
- Includes product sample board

STA-DRY® Heat Shrink Connector Shake Jar Display WITH Replacement Jars

Part No.	Description
80-1860	Shake jar display - English (includes 21 jars)
80-1860F	Shake jar display - French (includes 21 jars)
80-1860S	Shake jar display - Spanish (includes 21 jars)

STA-DRY® Heat Shrink Connector Shake Jar Display WITHOUT Replacement Jars

Part No.	Description
80-1861	Shake jar display - English (includes 12 jars)
80-1861F	Shake jar display - French (includes 12 jars)
80-1861S	Shake jar display - Spanish (includes 12 jars)

Contents:

Part No.	Description	80-1860; 80-1860F; 80-1860S; Contents	80-1861; 80-1861F 80-1861S; Contents
1-1661J	STA-DRY® CRIMP & SEAL™, CLEAR-VU™ window, 22-18 ga., 100 pcs/jar	2	1
1-1662J	STA-DRY® CRIMP & SEAL™ CLEAR-VU™ window, 16-14 ga., 100 pcs/jar	3	2
1-1663J	STA-DRY® CRIMP & SEAL™, CLEAR-VU™ window, 12-10 ga., 60 pcs/jar	2	1
1-1861J	STA-DRY® CRIMP, SOLDER & SEAL™, 12-10 ga., 60 pcs/jar	2	1
1-1862J	STA-DRY® CRIMP, SOLDER & SEAL™, 16-14 ga., 100 pcs/jar	3	2
1-1863J	STA-DRY® CRIMP, SOLDER & SEAL™, 22-18 ga., 100 pcs/jar	2	1
1-1961J	STA-DRY® CRIMP & SEAL™, 22-18 ga., 100 pcs/jar	2	1
1-1962J	STA-DRY® CRIMP & SEAL™, 16-14 ga., 100 pcs/jar	3	2
1-1963J	STA-DRY® CRIMP & SEAL™, 12-10 ga., 60 pcs/jar	2	1
-	PHILLIPS STA-DRY® heat shrink connectors sample board	1	1

QWIK-SNAP™ Display



Part No.	Description
80-153	QWIK-SNAP™ hose holder counter top display

80-153 Contents:

Replacement Part No.	Description	Qty.
17-152	QWIK-SNAP™ 2-hose holder	10
17-153	QWIK-SNAP™ 3-hose holder	10
17-154	QWIK-SNAP™ 4-hose holder	10
-	Display header card	1
-	Counter rack	1

- Contains all three of our QWIK-SNAP™ hose holders
- Increase gross profit through impulse sales
- Quicker than conventional hose holders - change hoses in seconds

Coiled Air Gladhand Extension Display

Part No.	Description
80-600	Coiled air gladhand extension counter top display

80-600 Contents:

Part No.	Description	Qty.
12-600	Coiled air gladhand extension pairs (red and blue)	9
-	Display header card	1
-	Counter rack	1

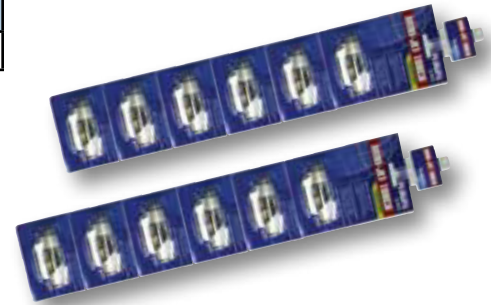
- Provides strong leverage for coupling/uncoupling gladhands
- One-piece body for easy installation
- Durable and strong; made of solid aluminum
- Corrosion-resistant anodized color coating
- Easy installation - installs between air coil and gladhand



Mini-Jet Torch Clip Strips

Part No.	Description
4-055	2 clip strips with 12 blister packs of 4-054

- Contains 12 mini-torches 4-054
- Packaged as 2 clip strips with 6 torches each



Wire Rack

Part No.	Description
80-191	Primary wire rack

- Ideal for the 80-2006 primary wire assortment
- Holds 12 ft. - 100 ft. primary wire spools
- Keeps wire organized and accessible
- Printed 1 ft. ruler for easy measuring
- Wall mountable or freestanding
- Sturdy rack that is built to last
- 21 in. x 15.5 in. x 5.5 in.



Gladhand Seal Buckets

80-0164 80-0163



80-0161 80-012 80-0162

Part No.	Description
80-012	Black rubber, 200 count
80-0161	Blue polyurethane, 200 count
80-0162	Red polyurethane, 200 count
80-0163	Black polyurethane, 200 count
80-0164	Blue and red polyurethane, 200 count (100 blue, 100 red)
80-0167	Grey polyurethane with dust flap, 200 count

- Great for countertop impulse sales
- Place to "write in" price
- Barcode on label for scanning
- Fits all industry standard gladhands
- **SILENT SALESMAN FOR THE COUNTER!**

QWIK-SHOT™ Grease Tube Bucket



Part No.	Description
80-250	Grease tubes, 6 grams, 200 count bucket

- Perfect for use on plug/socket connection
- Great for countertop impulse sales
- Convenient one-use tubes
- High film strength and exceptional anti-wear properties
- Creates non-conductive, watertight barrier for electrical connections
- Unlimited applications - heavy duty, automotive, marine, agriculture, construction, material handling
- **SILENT SALESMAN FOR THE COUNTER!**

Foam Socket Seal Bucket



Part No.	Description
80-795	Corrosion prevention gaskets, 200 count bucket

- Keep corrosion out of the electrical system!
- Easy to install in 7-way J560 socket only
- Weather and chemical resistant
- Great for counter top impulse sales
- **SILENT SALESMAN FOR THE COUNTER!**

OUR TOP MOVERS IN A NO-HASSLE DISPLAY!

Bulk Merchandisers

Coiled Air

Part No.	Description
11-315G	15', Pair (red and blue)

- Most popular coiled air sets; packaged for easy sales
- Contains 50 individually bagged sets of 11-315



NON-ABS PERMACOIL™

Part No.	Description
24-4621G	15', with two zinc die-cast plugs *

- Most popular NON-ABS coiled electrical; packaged to move
- Contains 100 individually bagged sets of 24-4621



ABS PERMACOIL™

Part No.	Description
30-4621G	15', with two zinc die-cast plugs *

- Most popular ABS coiled electrical; guaranteed to increase sales
- Contains 100 individually bagged sets of 30-4621



* Working length - As measured by pull force per SAE J2222. Length of actual cable is significantly longer.

ASSORTMENT TRAYS

Empty Tray



Part No.	Description
80-1901	Tray only

- Great for creating your own assortment
- 24 compartments

3/8" Assortment Clamp Kit



Part No.	Description
5-1000	3/8" Assortment clamp kit

- Please see page 113 for complete contents

Flexible Heat Shrink Tubing



Part No.	Description
6-1801	STA-DRY® flexible dual wall shrink tubing assortment

- Please see page 102 for complete contents

2/0 Heavy Duty Crimp Kit



Part No.	Description
9-1004	Heavy duty 2/0 ga. crimp assortment

- Please see page 83 for complete contents

INDUSTRY TECH TIPS & SOLUTIONS

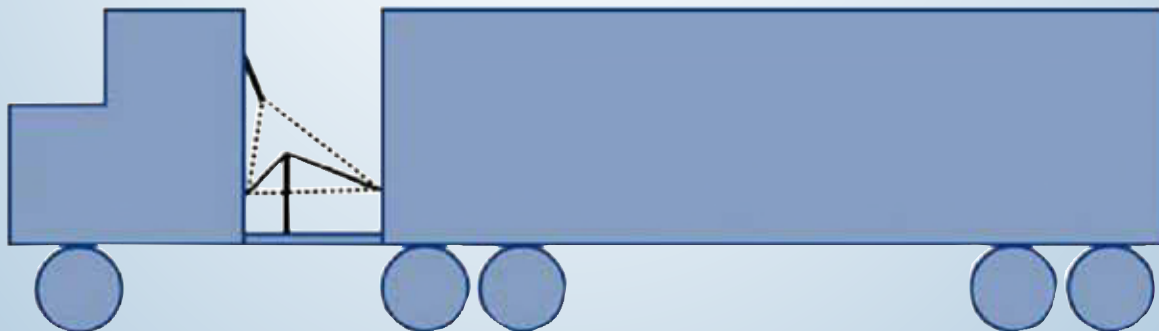
Our industry tech tips and solutions offer ideas for troubleshooting situations such as flickering trailer lights, how-to step-by-step instructions on processes such as measuring cable assembly lengths between the tractor and trailer, as well as informative articles on topics such as electrical terminology and SAE J560.



Troubleshoot your flickering lights!



Learn about SAE J560



Measure cable length between your tractor and trailer!

INDUSTRY TECH TIPS & SOLUTIONS



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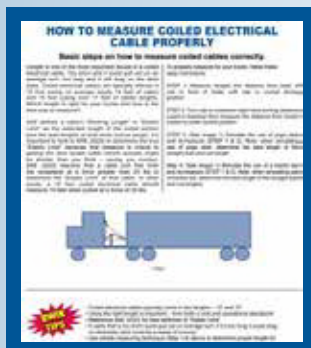
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CORROSION AND YOUR ELECTRICAL SYSTEM

Suggested maintenance practices and product changes to help keep corrosion out of your electrical system.

Corrosion is a big concern for trucking fleets and the electrical system is a place where it can do lots of damage, resulting in costly repairs. The electrical system, wire, connections etc. can be compromised when water leaks in and corrosion is allowed to build up. There are ways you can mitigate the problem, reduce costs and unplanned equipment downtime. Some are simple changes in routine maintenance practices that should be easy to implement while others might require you to purchase and use some products that will help:

First, the simple changes in maintenance practices:

Protect battery posts and terminals with anti-corrosive spray: This actively seals the metal's surface; preventing condensation, chemicals, and battery acid from corroding the battery.

Check ground power source: Always make sure ground leads directly to the negative battery post. Grounding to chassis or engine will lead to corrosion, poor contacts and faulty electrical systems

Never puncture a hole in the wiring, jacketing: Holes create leak paths for contaminants to "wick" into the wiring system, ultimately rotting wires from the inside out.

Keep equipment and connectors clean: Washing equipment frequently will reduce chemical build up; however power washing is not a good idea as water can be forced into areas and cannot

escape – leading to corrosion. Every six months you should use a plug and socket brush to clean connectors with water (NO SOAP). After every cleaning, re-apply dielectric grease on plug and socket pins. This prevents the moisture deposited during the cleaning process from collection and eventually corroding.

A few product changes that will help as well:

Use heavy duty, adhesive-lined heat shrink tubing or heat shrink terminals on all electrical connections. This ensures a water-tight seal, additional tensile strength, and sealed connectors to prevent contaminants from corroding the wire while maintaining the integrity of the electrical system. Keep a terminal repair kit in the tractor for on go maintenance

Use cables with clear jacketing for fast and easy visual inspection. This offers a head start at recognizing the combating possible corrosive damage.

Keep an anti-corrosion repair kit in your trailers to help drivers stop wire corrosion and make repairs on the road, minimizing downtime.

Use stowage devices when electrical and air coils are not in use for extended periods of time. This ensures that they stay a safe distance from destructive chemicals and water on the road.



- Keep electrical system components clean but do not use power washers or soap.
- Use anti-corrosive sprays and dielectric grease to ward off corrosion.
- Holes in wiring jackets and non-sealed connectors create environment for corrosion to build up. Use products that eliminate moisture build up in all areas of the electrical system.
- Outfit tractors and trailers with repair kits so drivers can take care of corrosion inducing problems before they cause real harm.
- Make sure ground power source leads directly to negative battery post, not to the chassis or engine.

HOW TO MEASURE COILED ELECTRICAL CABLE PROPERLY

Basic steps on how to measure coiled cables correctly.

Length is one of the most important issues in a coiled electrical cable. Too short and it could pull out on an average turn, too long and it will drag on the deck plate. Coiled electrical cables are typically offered in 12 foot (using on average nearly 14 feet of cable) and 15 foot (using over 17 feet of cable) lengths. Which length is right for your trucks and how is the best way to measure?

SAE defines a cable's "Working Length" or "Elastic Limit" as the extended length of the coiled portion plus the lead lengths at both ends (minus plugs). It's important to look to SAE J2222 to determine the true "Elastic Limit" because that measure is critical to getting the best length cable (which actually might be shorter than you think – saving you money). SAE J2222 requires that a cable pull free from the receptacle at a force greater than 25 lbs to determine the "Elastic Limit" of that cable. In other words, a 15 foot coiled electrical cable should measure 15 feet when pulled at a force of 25 lbs.

To properly measure for your trucks, follow these easy instructions:

STEP 1: Measure straight line distance from back of cab to front of trailer with cab in normal driving position

STEP 2: Turn cab to maximum right hand turning distance (used in backing) then measure the distance from tractor socket to trailer socket position

STEP 3: (See image 1) Simulate the use of pogo stick and re-measure (STEP 1 & 2). Note: when simulating use of pogo stick, determine the best length of the straight lead and coil length

Step 4: (See image 1) Simulate the use of a tractor bar and re-measure (STEP 1 & 2). Note: when simulating use of tracker bar, determine the best length of the straight lead and coil lengths.

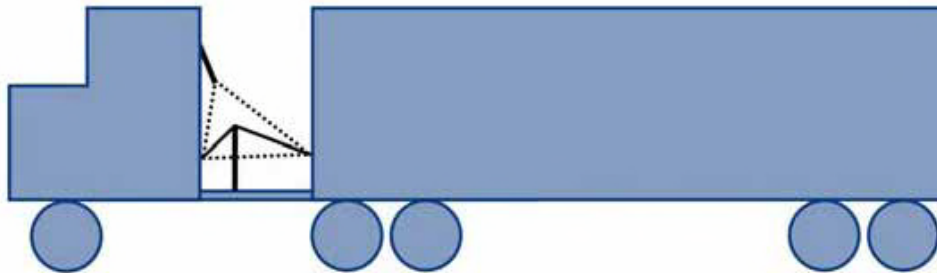


Image 1

QWIK TIPS

- Coiled electrical cables typically come in two lengths – 12' and 15'.
- Using the right length is important – from both a cost and operational standpoint.
- Reference SAE J2222 for best definition of "Elastic Limit".
- A cable that is too short could pull out on average turn; if it's too long it could drag on deckplate (and could be a waste of money).
- Use simple measuring technique (Step 1-4) above to determine proper length for your tractor/trailer combinations.

A PROPERLY SEALED AIR LINE IS EXTREMELY IMPORTANT!

Discusses the importance of the rubber seal as well as offering other suggested tips for your gladhands in regards to maintaining your airlines.

Inspecting gladhands regularly is one easy way to protect your airlines. They are a critical piece of the air system and if maintained properly, they will keep you on the road longer with no problems. Gladhands allow the air brake system of a tractor to be connected and unconnected to a trailer at anytime. The gladhands connect downstream of the air system dryer, and failing to care for them will allow moisture to penetrate the system and cause trouble.



Broken edges and cracks indicate it's time to replace the gladhand seal.

Gladhands have rubber seals that enable them to seal tightly to each other. It's important to check gladhands for leaks regularly. The seals eventually wear out overtime because of the turning action of coupling and uncoupling. Your drivers will usually hear leaks when they disengage the parking brake or apply pressure to the service brakes. If the leak is generated at the gladhand seal and the driver has a supply of gladhand seals on board, the leak can be fixed immediately before air consumption is increased. Increased air consumption weakens the desiccant in the dryer, ultimately resulting in a need for service. Leaks also cause more wear on the air compressor. When leaking seals are replaced immediately, it ensures

that the air compressors and air dryer desiccants will last longer, and you'll get better braking. Another simple preventive maintenance tip is to always store the gladhands to their stowaways when dropping a trailer. If they're not kept sealed, damage to the brake system components could ensue by either allowing debris to enter or, in extreme cold temperature, allowing moisture to cause a freeze-up of the service or parking brakes.



NOTE: Seals with flaps, like shown here, will help seal the gladhand shut when it is disconnected, keeping moisture and dirt out of the air line system.

Other protective options to consider,

- Anodized gladhands for added protection against corrosive elements
- Filter screens to keep debris out of the air lines
- Polyurethane seals last longer than standard materials because they hold up better against the elements
- Stainless steel detent plates for added strength
- Powder-coated and zinc-coated detent plates for added corrosion protection
- Replacing gladhands every time you replace your air coils
- Carry extra gladhand seals at all times.

The April Qwik Tech Tips will illustrate how to easily replace worn out gladhand seals.

**QWIK
TIPS**

- Inspect gladhands regularly – failure to care for them properly allows moisture to penetrate air system.
- Gladhands have rubber seals that enable them to seal tightly to each other. The seals eventually wear out.
- Leaks at the gladhand should be fixed immediately by replacing rubber seals.
- Always carry extra seals on board.
- With good gladhand seals in place air compressors and air dryer desiccants will last longer, and you'll get better braking.
- Always store the gladhands to their stowaways when dropping a trailer .

TROUBLESHOOTING TRAILER LIGHTS

Step by step instructions on how to test your 7-way socket for wiring problems.

Have a light out! Let's see why...

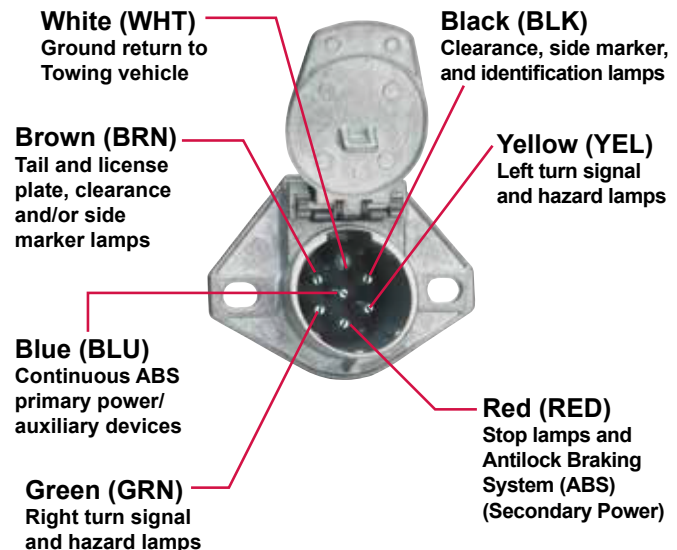
A simple 7-way socket circuit checker and plug circuit checker are great tools to keep onboard. If you've noticed you have flickering lights or a group of lights out, there could be several reasons for the malfunction. Let's troubleshoot the problem by following the simple steps below.

1. Clean both 7-way sockets on the tractor and trailer, then also clean both plugs on your electrical cable with a 7-way plug and socket brush. This may remedy your problem.
2. On the tractor, insert a socket circuit checker, into your 7-way socket.
3. Go inside the cab, and turn on each of the circuits individually, i.e. Marker Lights, Tail Lights, etc
4. Check the tester to see that only 1 LED is lit. If the proper LED's light up, connect your 7-way electrical cable to the tractor and use the 7-way plug tester at the other end of the cable.
 - a. If the LED's light up correctly, we have determined the problem is somewhere on the trailer.
 - b. Check the circuit breakers on the trailers 7- way nosebox. They may be bad or simply need to be tightened.
 - c. If the circuit breakers are working properly and you still have a problem. We can assume the problem is with the trailer wiring.
5. If (2) or more lights on the tester are turned on, then there is a problem with the tractor wiring.

6. If no LED's are lit, check fuses and relays inside the tractor.
 - a. If the tractors fuses and relays are working properly, then measure the voltage of the correlating circuit breakers on the tractors 7-way socket.
 - b. If there is no voltage, then there is a cut or loose wire from the fuse box to the back of the tractor.

Note: You cannot diagnose a wiring problem directly at the front of the trailer with a tester, only at the back of the trailer if it is set-up as a "pup" trailer (a tractor pulling two or three trailers at a time). In which case, plug the light/circuit tester at the rear of the trailer. Then simply turn on the flashers, marker lights, and engage the brakes to determine if all the circuits are working properly.

The same process can be used by using a 7-way plug circuit checker on a 7-way cable when plugged into the back of the tractor.



QWIK TIPS

- Keep a 7-way socket circuit checker on board for easy check on why light may be out.
- Plug tester into socket and start checking each circuit individually by turning them on inside the cab.
- If multiple LED lights on the tester come on, there is a problem with the tractor wiring.
- If tester does not indicate trouble with wiring, follow up checks should be made for fuses and relays inside the tractor.
- Finally, measure the voltage of the correlating circuit breakers on the tractors 7-way socket.

ELECTRICAL TERMINOLOGY EXPLANATION

This is an informative article about electricity. It offers comparative visual examples to give the reader enough knowledge to perceive why lights may not be working or how corrosion can cause a voltage drop in the electrical system.

Electrical Terminology Explanation

This tech tip is created to inform the reader about the basics of electricity. The demonstrations can be used to visually/theoretically understand what goes on inside the truck/trailer which will give you enough knowledge to perceive why the interior/exterior lights aren't working or how corrosion causes voltage drop and eventually to a failed system. To start this knowledge foundation, we are using an analogy, one that we can all relate to. For an example, we will use a trough (like the ones horses drink out of) and what can be done to the trough in ways that are similar to the electrical effects on truck and trailer wiring.

Voltage

Imagine a trough filled with water. Now imagine that there is a hole at the top of the trough and water has begun to pour out of the hole and onto the ground (similarly the electrons wanting to return to ground). Let's say the hole is 5" from the top of the trough, so the potential energy for the water to get to the ground is 5V.



Now imagine the hole is 12" from the top of the trough with a potential energy of 12V. The deeper the hole, the more pressure is exerted from the great amount of water.



The difference in height, causes a difference in the amount of water pressure escaping the hole, this pressure represents VOLTAGE. So, the higher the potential water pressure, the more force the water is able to exert and the more likely it is to flow through the hole to the ground.

What does this mean? The greater the voltage, the greater the possibility of electrons returning to ground.

Current

When considering the trough water analogy, focus on the area of the hole. If the hole is 1-inch in diameter and we measure the amount of water that is pouring for a given amount of time, we can calculate the amount of water leaving the trough in a given amount of time, known as CURRENT. The larger the hole, the greater the current being used, because more water is able to leave the trough faster with a bigger hole. Similarly the smaller the hole, the less current being used, because it would take a longer time for the water to leave the trough.

Resistance

Resistance in terms of electricity is anything that limits the flow of current. An analogy to this would be placing a faucet where the hole is located. Imagine the faucet is opened completely and not restricting the flow of water, this has ZERO resistance. As soon as you start to close the faucet, you are limiting

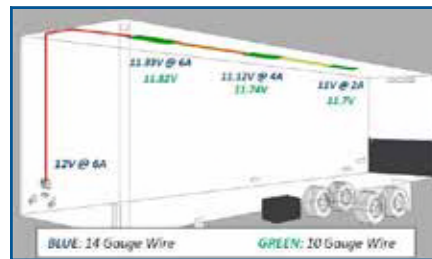


the flow of water, adding resistance. Similar to the flow of electricity in the trailer harness; with every plug/socket union or if corrosion is built up on the wire, it causes resistance.

For every plug and socket connection a small voltage drop will occur. This is due to the contacts not mating 100%, thus causing some resistance. The construction of pins and receptacles don't always make full contact; even the most efficient design will have some voltage drop. Corrosion has a similar more devastating effect, where the copper surface of pins and wire are being diminished, such that fewer electrons can flow on the surface causing the voltage to drop.

Most people don't realize that copper wire has its own resistance. It is proportional to the length of the wire and its cross-section/thickness (gauge). In other words, if you have a very thin gauge of wire i.e. 14Ga in your cable, the current will experience more resistance when trying to reach its destination. There will be more resistance using a smaller gauge, as opposed to using a bigger gauge wire, i.e. 10Ga. Also causing resistance are the amount of interior dome lights and their distance to/from each other.

Let's put some math behind this concept and see how this affects a trailer lighting system. A typical trailer setup will have a minimum of 3 LED dome lights and most will draw about 2 Amps each (please refer to your lighting supplier for more detailed information). For the purpose of this Tech Tip we will use 3 lights that draw 2 Amps each, which totals a whopping 6 Amps of current. Using a 14Ga wire, 6 Amps of current from a 12V truck battery system will yield a .47V drop. This means that the first light on the trailer located roughly 15' from the socket will only see 11.33V of the possible 12V! The second light located 10' from the first will draw 4 Amps of current from the first light, creating a .21V drop giving it only 11.12V. Last we have the third light which has 2 Amps of current on the wire; it will have a .1 drop. The third light will only be provided 11V when it is ON. That's 1V of current lost through the wire from resistance. In the illustration, you can see that the power/current drains as it gets to the third light. Values in GREEN are indicative of using a 10Ga. wire in the cable. Notice there is less voltage drop when using a bigger gauge wire.



The above example is as close to perfect as you get, with only the copper of the wire and distance doing the voltage drop. But consider the other factors that add resistance to the trailer wiring. Again, most people don't realize that resistance exists at the plug and socket connection. Even worse, the main and most aggressive resistance causer... corrosion!!

QWIK TIPS

- Voltage is the unit of measure for electrical pressure (V).
- The higher the voltage, the more force/pressure the electricity has to flow.
- Current is the rate of flow of electricity (A).
- Most people don't know that electricity flows on the surface of the wire, NOT on the inside!
- Most people don't realize that resistance exists at the plug and socket connection.
- The smaller the gauge the more resistance there is.
- Corrosion is the main and most aggressive resistance causer, so keep your lines corrosion free.

BATTERY MAINTENANCE

Instructs the reader on how to properly clean a battery.

Proper battery maintenance is very important. A corroded terminal can cause many problems. The worst being, the engine won't turn over. Service calls and downtime can be very costly. Just a few minutes of preventative maintenance can save all the headaches. Below is a quick refresher on maintaining a vehicle's battery.

Instructions

Items needed

Battery Cleaner Spray
 Battery Protective Spray
 Battery Post and Terminal Cleaning Brush
 Adjustable wrench OR socket wrench
 Gloves
 Glasses
 Shop Rags

How To:

1. Following the directions on the can, use battery cleaner spray to neutralize any acid.
2. Rinse with clear water.
3. Use a wrench to loosen the nuts holding the terminals to the posts. Always disconnect the negative post first, and the positive post second.
4. Use a battery post and terminal brush to clean off any remaining residue/corrosion.
5. Re-attach the terminals to the posts connecting the positive post first, and the negative post second.
6. Spray the battery terminals with battery protective spray according to the directions on the can.
7. Wipe down any tools used with a rag. Sulfuric acid can eat away at them.



Cleaning Spray



Removal of Terminal



Cleaning Post



Cleaning Terminal



Preventative Spray



Battery with Protective Spray

*If the battery appears to need cleaning more often than usual, inspect the battery for any possible damages such as cracks. If a battery is cracked this can cause corrosion, and the battery will have to be replaced.

Performing routine maintenance on a vehicle's battery will ensure that it starts up just about every time. It also ensures that the electrical components on the vehicle will be provided with the energy needed to run efficiently.



- Remove all metal jewelry – Accidentally touching metal tools to the negative and positive terminals of the battery before disconnection may create sparks. This can cause metal jewelry to heat up quickly burning the skin.
- Gloves – Wearing gloves will protect hands from any acid from the battery.
- Safety Glasses – If a spark or too much heat is created, hydrogen and oxygen gasses from the battery can create an explosion. Acid from the battery can cause eye damage and even blindness.
- Clothing – Wear clothing that can get ruined – If acid from the battery gets on clothing it will eat through the fabric. If clothing does become soiled with battery acid rinse with baking soda and water to neutralize the chemical.

IS YOUR BATTERY TRYING TO TELL YOU SOMETHING?

Discusses how to determine if a battery really has gone bad or if there is possibly another reason for power failure under the hood.

Is your battery really going bad or is it a sign that something else is going on?

Batteries are vulnerable to vibration, chemicals, extreme temperatures and even acid vapors. While batteries do go bad, and corrosion does make its presence known, what appears to be a battery failure may not always be the case. It is estimated that half of the batteries that have been discarded still have life in them, which means the problem is not always necessarily the battery.

So how do you determine if the battery is really the source of power failure?

First, inspect the battery, its' terminals and cables.

Vibration is the biggest cause of battery and cable failure. Connections often become loose over time. Tightening these connections during a routine inspection can help prevent loss of power from the battery to the vehicle.

Battery Corrosion – When performing routine maintenance, or inspecting the battery during power failure, look for a white powdery residue. If a battery appears to need cleaning more often than usual or has obvious damage or cracks, it may be time to replace the battery.

Battery corrosion also leads to poor terminal connection required. Be sure to use heavy duty clamps, cables and lugs. Automotive grade parts cannot handle the load of a commercial vehicle.



Battery Corrosion

Visually inspect all cables and connections to the alternator and starter. Since cables have the tendency to corrode from the inside out, it may be difficult to see how much corrosion is present. A clear view or see through battery cable is a great idea.

Overcharging and undercharging are both extremely bad for the electrical system and can lead to premature battery failure. Major battery manufacturers recommend an alternator output of 14.30 – 14.60v @70° to achieve maximum battery life.

Power failure can come from more than one source under the hood. Exhausting all sources before automatically assuming it is the battery and diagnosing the real problem will not only save you time and money, it will save you the headache that will come with continued power failure issues that will return even with a new battery.

**QWIK
TIPS**

- It is estimated that up to half of all the batteries that have been discarded still have life in them, which means power failure problems are not always necessarily due to a bad battery.
- Inspect batteries for corrosion, damage and cracks. Look for loose cables or cables with corrosion.
- Inspect all cables and connections to the alternator or starter.
- Do not over or under charge the battery.

COPPER AND WATER - A BAD COMBINATION FOR YOUR ELECTRICAL SYSTEM

Shows, through experimentation, how quickly moisture can penetrate the electrical system, and discusses what precautionary measures can be taken to combat the corrosion.

How fast do you think water and contaminants can travel through your electrical wiring system? When is too late, really too late?

The truth is, once moisture penetrates to the copper wiring, you're pretty much done. When given a gateway into your electrical system the copper wiring soaks up moisture and contaminants like a dry sponge. On a truck, wiring heats up and cools down on a constant basis. When the wiring heats up, it expands, and when it cools down, it shrinks, sucking the moisture in.

Below are photos of an experiment we conducted called "wire wicking". This experiment shows you just how quickly moisture and contaminants can creep into you electrical system. We took a 7 inch piece of 12 gage copper wire and stripped about a half inch on either end. We stuck one end in approximately half a cup of regular tap water mixed with a generous teaspoon of salt and left it to sit overnight...the results were very surprising.

While in some cases, this may be an exaggerated

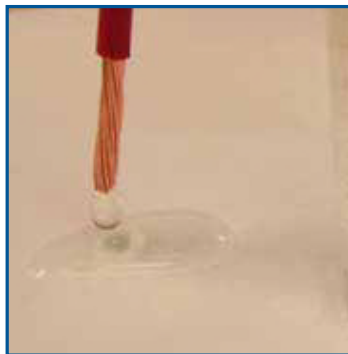
example, you can see how quickly the copper soaked up the salt water.

After sitting for approximately twenty-four hours, the salt water had already made its way through the wire, and approximately 40 hours later, corrosion was visible in the pool formed below the wire outside the cup. When you take into consideration that there was no drastic fluctuation in temperature within the wire, as there is on a truck, more water could have possibly been cycled through faster.

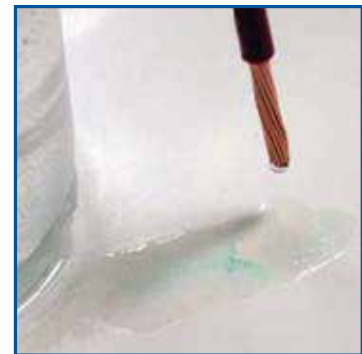
In less than 24 hours the damaging process of corrosion on the electrical system has already begun. This is why it is so important to maintain your vehicle and take any and all preventative measures you can to keep corrosion out, ensuring that your electrical system lasts longer.



Start of Experiment



Approx. 24 hours later



Approx. 40 hours later

How to combat moisture in regards to your electrical system

Keeping your truck on the road as long as possible is the goal in this industry. Downtime equals money lost. And corrosion can be one of the main contributing factors to a down truck needing service. There are thousands of electrical connections on a truck, and running a diagnostic to find a broken connection can be extremely time consuming and costly. While a lot of fleets will spec parts such as brakes, axles and landing gear, they don't always spend enough time spec-ing the electrical system. You should always specify premium wiring systems and sealed wiring connectors. Once you have the best possible wirings system in place on your vehicle, you will need to take the necessary precautions to keep corrosion out.

Any open connection on a tractor-trailer is susceptible to moisture and contaminants. One of the weakest points of the tractor-trailer is the seven way connector. SAE designed the seven-way electrical connection to be open and compatible. Unfortunately this design also allows for moisture and contaminants to enter rather easily. However, this is not the only point of entry for moisture and contaminants to enter. Junction boxes, battery terminals, anywhere there are wire splices – these are all gateways for moisture and contaminants to get in. So, as a reminder, taking the following preventative measures can help keep your truck on the road longer.

- Protect battery posts and terminals with anti-corrosive spray.
- Check ground power source: Always make sure ground leads directly to the negative battery post. Grounding to the chassis or engine will lead to corrosion, poor contacts and faulty electrical operations.
- Rotate electrical assembly plugs: Swap plug ends from tractor to trailer side every six months to safeguard against uneven wear.
- Wash away build-up: Significantly reduce magnesium and calcium chloride build-up during cold weather by frequently washing equipment. Do not power wash as water can be forced into areas and cannot escape, leading to corrosion.
- Clean connectors: Every 6 months use a plug and socket brush with water, (NOT SOAP), to clean connectors.
- Grease plugs and sockets: After every cleaning, reapply dielectric grease on plug and socket pins to keep the connection properly sealed.
- Inspect cables and wires for road hazard damage: Replace or repair any damaged items.
- Be cautious of soaps containing degreasers: When degreasers come in contact with electrical connections, it increases the corrosion reaction. Do not leave soap residue on electrical connections.
- If you must repair wiring harnesses, or any kind of wiring, use shrink terminals.
- Avoid probing through insulation to test wiring: This opens up an avenue for damaging chemicals to start corrosion.



- Water and contaminants can travel through your electrical system faster than you think.
- Wire Wicking shows that it can take less than 24 hours for a considerable amount of salt water to pass through a 7 inch piece of 12 gage copper wiring.
- Copper wiring acts as a sponge for water and contaminants. As the wiring heats up and cools down it sucks the moisture in.
- Any open connections on a tractor-trailer need to be properly sealed at all times to avoid corrosion.
- Always specify premium wiring systems and sealed wiring connectors.
- Follow the preventative measures above to help combat corrosion in your electrical system.

PROPER INSTALLATION OF SEALED CRIMP CONNECTORS

Reviews the proper way to install a sealed crimp butt connector.

When wiring repairs need to be performed, sealed crimp connectors are the most popular repair method. We will review the proper way to install this type of termination.

How to Determine the Wire Gauge by Stripping the Wire:

First, the wire gauge size will need to be determined to ensure that the correct connector is used with the appropriate wire size. If the wire gauge is not printed on the wire insulation, it can be determined by stripping the wire. To determine wire gauge size, open the crimp/ wire stripping tool and insert the wire into the slot that best fits the wire. Close the tool. This should cut the wire insulation without cutting the copper wire strands. If the slot you chose did not cut the wire insulation, repeat this step moving the wire up or down the slots until you are able to cut through the wire insulation only.



How to Install a Sealed Crimp Butt Connector:

1. If you are replacing an existing butt connector, remove the old connector by cutting the wire 1/4" from each end of the connector.
2. Strip 5/16" of the insulation on each of the wire ends. (The proper strip length for most crimp style connectors that are assembled in the USA is 5/16"). Examine the wire carefully. If there is any sign of corrosion present, green wire strands, chalky white powder, etc., cut off an additional 1" of wire. Again, strip 5/16" of the insulation from the wire end. If there is still corrosion present, continue to cut back the wires until clean copper wires are present. If you are unable

to find clean wire, the wire will need to be replaced completely. Otherwise, proceed to step three.

3. Choose the proper size butt connector based on the gauge of your wire – Red 22-18 AWG; Blue 16-14 AWG or Yellow 12-10 AWG.
4. Insert one of the wires into the barrel on one side of the connector. Make sure it is pushed all the way into the connector.
5. Locate the proper crimp nest on your crimp tool for the size wire and connector that you are installing. Most crimp tools have the wire gauge and industry color coding on the crimp nest to ensure that the installer uses the proper crimp nest. **CAREFUL**, some crimp tools have crimp nests that are designed for insulated and noninsulated terminals. If the installer uses the noninsulated crimp nest on an insulated terminal, it will pierce the insulation ... destroying its insulation properties.
6. Open the jaws of the tool. Place the side of the connector into which you inserted the wire into the proper nest of the tool. While making sure that the wire is still pushed all the way in, crimp the connector by closing the jaws of the tool. Crimp firmly. Once finished, you should be able to tug on the wire without pulling it out of the connector.
7. Repeat steps four, five, and six for the other side of the connector.
8. Finally, use a heat tool to apply heat evenly around all sides of the connector and tubing. Start from the center of the connector and move out toward the ends of the tubing until the heat shrink tubing is fully recovered and the adhesive flows out of the ends of the tubing.
9. Let the connector cool. You have now made a sealed crimp termination.

**QWIK
TIPS**

- It is important to determine the wire gauge before beginning to ensure that the correct connector is used.
- Be sure there are no signs of corrosion in the copper wiring before proceeding.

WINTERIZING YOUR ELECTRICAL HARNESS

Discusses the importance of a sealed front end in your electrical harness and practices to utilize during the winter months when a sealed front end is not an option.

Wire harnesses today far surpass those of the past in quality. However, even if you have a first class harness system in place, it's practically useless unless it's protected at the front end. Without a sealed front end, corrosion and contamination will wick their way through the front of the harness, "clogging the arteries", rendering the sealed harness virtually useless.

Sealed Front Ends

It is essential to use a socket that is made to withstand the effects of moisture and corrosion. Today, fleets have more than one option available to them. Metal sockets are one option. They are cost effective and get the job done. However, the anti-corrosive property zinc will only succeed at helping to maintain the integrity of the actual socket housing itself, rather than the electricals within. This is because all metal sockets leak. Due to their construction, they are not a completely sealed component. So what does a fleet need to do? Start by converting metal sockets to glass filled nylon and make sure they are insert molded. Insert molding seals the pins to the housing which will prevent contamination from entering the harness system. This is your best bet at sealing out corrosion where it is most likely to begin.



When Sealed Front Ends are Not an Option

So what is a fleet to do when a sealed front end is not an available option, and maintenance on the electrical system is due before winter hits it's hardest? Here are some tips to follow:

- Start by disconnecting all pigtails and inserting new corrosion protective dielectric grease.
- Cable tie or secure all loose pigtails as close to the lamp as possible. You don't want to give road ice a place to buildup, which can inadvertently disconnect pigtails from the lamps.
- To protect wires from sharp edges, small grommets can be used where wire entry holes are utilized in the trailers frame. Make one cut from the outer edge to the center. Insert the wire so that it runs through the center, and attach the grommet to the frame. Another "trick of the trade" is to use a gladhand seal with a dust flap on all entry holes going to the stop tail directional lamps.
- Check for any damage to the electrical harness insulation and repair using solder and seal or heat shrink terminals to make a new connection. Consider using clear heat shrink terminals to visibly ensure a perfect connection. Where heat shrink terminals are not available, heat shrink tape is another option. Simply cut a short strip and wrap it around the defective wire. This tape cures in the air after a short time and will give a great seal.
- Properly clean all 7 way sockets and plugs using a plug and socket brush. Then apply a healthy amount of dielectric grease on all contacts. These tips will help fight corrosion during the winter season, and when combined with a sealed front end, you are almost guaranteed a weather-proof harness system.

**QWIK
TIPS**

- Convert all metal sockets to glass filled nylon sealed sockets.
- Secure all pigtails as close to the lamps as possible to avoid road ice buildup.
- Apply dielectric grease to pigtails and clean 7 way socket and plug connections.
- Look for and repair any damage to the harness insulation using solder and seal or heat shrink terminals.

TRAILER LIGHTING FAILURE

Discusses different situations in which you may experience lighting failure, and how to troubleshoot for a solution.

DOT regulations state that any and all lights on a vehicle must be in working order. One of the most common reasons for an officer to pull a driver over is for a faulty light. Don't let this happen to you! Below are some basic guidelines on how to troubleshoot some of the problems that may arise with a trailer lighting system.

Total Lighting Failure: No part of the system appears to be powered.

Possible Causes: *Burnt out light bulb causing a break in the system; corrosion in harness, light plug or pigtail; ground problem; hydraulic lock from too much dielectric grease; bad spot in wiring harness; issues in the 7-way plug; issues from the tractor.*

1. Check to see if you have power at the 7-way of the trailer.

- If there is no power there, check the back of the 7-way cable from the tractor.
- If there is no power there, check the 7-way socket on the tractor.

2. Check for a good ground.

3. Check the condition of the 7-way connector.

- Check for a secure connection.
- Check to see if corrosion is present.

Single Lamp Failure: Problem appears to be isolated to one lamp.

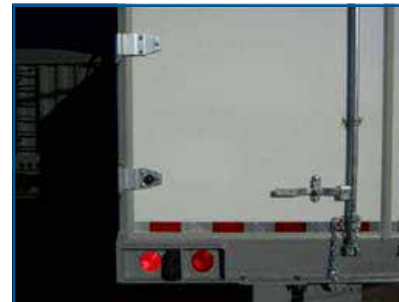
Possible Causes: *Burnt out light bulb; corrosion in harness, light plug or pigtail; ground problem; hydraulic lock from too much dielectric grease; bad spot in wiring harness; issues in the 7-way plug; issues from the tractor.*

1. Check the lamp with a lamp tester.

- If the lamp functions, try re-installing it.
- If the lamp is not functional, move on to step two.

2. With the power on, check the pigtail for continuity.

- If the pigtail does not function, check the jumper that connects the pigtail to the harness.
- If the jumper does not function, check the main harness.
- Keep working upstream in the system until you get a connection that functions. From there you know the problem is downstream in the system.



Lamps Working Intermittently and/or Flickering: A Single Lamp or Entire Circuit

Possible Causes: *Small amount of corrosion build up; ground problem; short in wiring harness; loose pins in 7-way; loose wire in 7-way; problem in the tractor.*

1. Visually check connections and wire jacketing.

2. Start testing from the front of the trailer beginning with the 7-way socket. Disconnect one piece of the harness at a time and check the circuit.

Lit Lamps That Should Be Off: This is the most difficult failure to find.

Possible Causes: *Electrical short, crossed wires, bad switch.*

1. Visually inspect all connections and wire jacketing.

2. Check the harness one piece at a time starting from the rear and working your way back up to the 7-way socket.

**QWIK
TIPS**

- Always use the proper sized wire when replacing damaged or worn wire. Lighter gauge wire can heat to the point of fire and can also diminish the current by "choking" the voltage capacity.
- Operating an incandescent lamp on an overvoltage can significantly reduce the life of the light. Operating at 5% over its designed voltage, the life is decreased by 44%, and 10% over reduces the life by 68%.
- Turn lights OFF when parked in a dock with padded frames. Heat is created from the light, reflected off the padding and back onto the light, which can cause lenses to melt and even shorten the life of the light bulb or LED.
- Avoid washing the trailer with harsh chemicals. This can cause the plastic lenses to weaken.

CORROSION & THE 7-WAY CONNECTION

Discusses several reasons for corrosion build up in the 7-way.

Corrosion has been one of the industry's top concerns for many years now. Electrical connection resistance to corrosion has been cited as a major headache at the fleet maintenance level. And not surprisingly the recurring theme seems to be deicing chemicals.



The most common warranty claim for a 7-way connector is because of loss of power to the blue circuit.

Why? Corrosion buildup caused by several things...

1. Chemical deicers, the most talked about problem.
2. Constant current running through the blue pin at all times when the tractor is on. Constant power on the blue pin and the ground cause these terminals to be affected at a faster rate than the other terminals. Electricity creates an electrical current that magnifies the reaction known as corrosion.
3. Lack of maintenance on the tractor side.

What's rather interesting is the power loss more commonly located at the tractor union versus the trailer. According to top fleets, the 7-way is disconnected 99% less on the tractor side than on the trailer side. This means the connection is cleaned only 1% of its life on the tractor, causing it to corrode faster due to lack of proper maintenance.

The typical 7-way connection starts with the socket which provides a connection from the tractor to the plug and assembly and then on to the trailer. Because all regular plug and sockets are interchangeable by competitors, it makes the union more prone to size differences. Meaning in a best case scenario you have .3mm of extra diameter space between the unions, leaving it vulnerable to contaminants. Over 90% of water intrusion occurs around the front of the plug, between the connection.

In a test study conducted by Phillips on corrosion at the 7-way connection, samples were placed in a controlled environment and constantly sprayed with a brine solution through an irrigation system. At the same time, an electric current was passed through the product. This test reproduced field results at 120 hours of a traditional 7-way connection. The results were shocking, as corrosion had already begun to completely overwhelm the connection.

At this point it's obvious that interchangeable plugs and sockets will always experience a certain amount of contamination leaking into the connection. So how do we stop this intrusion of water and contaminants? With traditional plugs and sockets it's impossible to stop it all together, but with proper maintenance the life of the 7-way can be prolonged.

It is recommended that the 7-way plug and socket be cleaned and greased at every preventive maintenance interval, on both the tractor and the trailer sides. Use a 7-way plug and socket brush with water only. Do not use soap. Phillips recommends 3- 6 month intervals, or more often if the vehicle is excessively exposed to winter like conditions where deicers are commonly used on the road. After every cleaning, re-apply dielectric grease. This prevents the moisture deposited during the cleaning process from collecting and eventually causing corrosion.



- Corrosion occurs most often at the 7-way union on the tractor side due to lack of routine maintenance.
- Because there is constant power on the blue pin and the ground, corrosion is attracted to those areas.
- It is recommended that the 7-way plug and socket be cleaned and greased at every preventive maintenance interval, on both the tractor and the trailer sides.

ABS CABLING VS. NON-ABS CABLING

Discusses the difference between ABS and Non-ABS cabling to determine which cable is best for a vehicle.

An antilock brake system (ABS) provides a significant reduction in stopping distances during panic situations. Particularly on wet and slippery roads, it prevents wheel lockup and skidding, which helps drivers maintain control and avoid crashes. For an ABS system to work at its full potential, use of ABS cabling is mandatory.

So what is the difference between ABS cabling and non-ABS cabling? Both cables are electrical assemblies that provide a similar function, however there are some significant differences.

ABS Cabling

The wiring in an ABS cable is thicker (1/8, 2/10 & 4/12 gauge wires.) An ABS cable was designed to carry a higher current with less voltage drop, maximizing connectivity while reducing heat & increasing safety. Generally, ABS cables carry the heaviest electrical load for aftermarket parts. They are designed to handle the high-demand 4S2M (4 solenoid, 2 module) ABS systems. Conversely, an ABS cable can also be used on a non-ABS equipped vehicle. ABS cabling is the best type of 7-way connection cabling that can be used for any application.

All ABS cables are distinguishable by a green colored jacketing.



Non ABS Cabling

The wiring in non-ABS cables is smaller. (1/10 & 6/12 ga., 1/12 & 6/14 ga., 7/14 ga., etc.) They are a cheaper and lighter alternative to an ABS cable, but should only be used on non-ABS equipped vehicles. If a non-ABS cable is installed on a vehicle that is equipped with an ABS system, the ABS performance will be reduced and compromised. If the voltage drop is too great, the ABS system will not work. A truck with ABS cables will meet the DOT standard for stopping distance [ref. FMVSS121 Sec. 5.3.1]. Non-ABS cable designs may not.

All non-ABS cables are distinguishable by a black or blue colored jacketing.



You can tell that a truck has an ABS system installed from one or more of the following:

- Tractors manufactured on or after March 1, 1997 FMVSS 121 Sections 5.1.6 & 5.2.3].
- Trailers manufactured on or after March 1, 1998 are required to have an ABS system [ref. FMVSS 121 Sections 5.1.6 & 5.2.3].
- An ABS equipped tractor will come standard with ABS cables from the manufacturer.
- An amber ABS light on the roadside at the rear of the trailer. The light will have an ABS sticker on or next to the light.
- A sticker on the trailer front wall indicating if ABS equipped.

**QWIK
TIPS**

- ALWAYS use an ABS Cable on a vehicle equipped with an ABS system. Never use a non-ABS cable which will reduce performance and possibly compromise the ABS system on a vehicle.
- When a trailer is ABS equipped and the tractor is not, always use an ABS cable.
- When a tractor is ABS equipped and a trailer is not, either an ABS, or a non-ABS cable is acceptable.

WHAT EXACTLY IS SAE J560?

Talks about what SAE J560 really means and how to determine if a part meets SAE specifications.

We hear it all the time, "...meets SAE J560 standard", but do you really know what that means?

SAE J560 is the Society Of Automotive Engineers for standard J560. The standard J560 covers the dimensional and functionality requirements for 7 way couplers, also known as primary plugs & sockets, for the electrical cable that transfers signals from the tractor to the trailer. These signals include the clearance markers/ license plate light, tail lights, left and right turn lights, stop lights, auxiliary/ ABS lights as well as the ground return.

The SAE J560 also covers secondary auxiliary cable dimensional and functionality requirements for added signal and power capability.

So how do you know if a product meets the requirements of SAE J560?

SAE J560 appears on the lid of the socket and the body of the plug.



Plug



Socket

So why would you want to choose a product that meets SAE J560 over a product that doesn't?

Products with SAE J560 must meet rigorous validation test requirements. All sockets and plugs that meet SAE J560 standards are interchangeable with one another. In addition to measuring plug and socket dimensional criteria that is already set in place for fit, form, and function, confirmation for dimensional tolerances with all other J560 couplers is tested as well. Wire gage capabilities for ABS & Non-ABS applications are also tested for their ability to transmit the required current for each signal from tractor to trailer. Environmental testing is also done to confirm that a product will perform as expected when exposed to the elements of the weather as well as road conditions.

Choosing a product that meets SAE J560 standard will ensure that you will be able to use any primary socket or plug universally, and that the proper and required current for each wire gage is transmitted respectively to the correct signal from tractor to trailer. This ensures that the trailer's lights and safety features associated with any SAE J560 primary or auxiliary couplers will function properly.

Have technical questions?
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- SAE J560 is the Society Of Automotive Engineers for standard J560. The standard J560 covers the dimensional and functionality requirements for 7 way couplers.
- SAE J560 products must meet rigorous validation testing requirements which include: environmental tests, dimensional test for interchangeability and wire gage capabilities for ABS and Non-ABS applications.
- "SAE J560" is required to appear on the lid of the socket and body of the plug.

STAYING GROUNDED

Relays how the ground wiring functions on a vehicle and discusses how to maintain a solid ground.

All heavy duty trucks run a 12 or 24 volt DC electrical system. Direct current or DC electricity is the continuous movement of electrons from an area of negative (-) charges to an area of positive (+) charges through a conductive material. A DC current requires a source of energy, which in this case is the battery, or batteries, and wiring running from the positive source of the energy to the negative terminal on the power source. On a truck, electrical devices, such as safety lights or add-ons, are included somewhere between the beginning and the end of the circuit. The neutral, or ground wire, is the return for the completion of the circuit. If there is no ground, there is no electrical current. When the circuit is interrupted, or broken, power is no longer provided to these devices, or is only provided intermittently. Flickering tail lights are one example of this. There is more than one reason why interruptions in the circuit may occur, but one cause that is often times found to be the culprit is the ground.

So what causes the ground to fail? There are many reasons as to why the ground in the electrical system might fail, such as improper wire gauge size, corrosion build up, and improper grounding. To maintain a good ground we recommend taking the following steps:

Proper Wire Gauge Size – The ground wire needs to be able to handle the total maximum amps drawn on all circuits simultaneously. If additional trailer add-ons are included on the truck (post OE), then the wire gauge needs to be taken into consideration and either increased accordingly, or additional ground wiring needs to be added.

Keep Corrosion Out – The ground wiring should be treated with the same care as any other wiring on the vehicle.

- Use heavy duty heat shrink tubing or heat shrink connectors when making repairs or including new trailer add-ons.

- Never pierce or puncture a hole in the wire jacketing which will allow contaminants to enter the wiring system.
- The ground is part of the electrical assembly between the tractor and trailer. Be sure to keep your connectors clean by using a plug and socket brush every 6 months with water (NOT SOAP). After cleaning, re-apply dielectric grease to the plug and socket pins.
- Because the ground is linked to the negative post(s) on the battery (batteries), always protect battery posts and terminals with anti-corrosive spray and clean them regularly. This will keep corrosion from building up on the posts which creates poor contact as well as keeps corrosion out of the battery cable(s) which are necessary to maintain a good electrical current.

Properly Mounting the Ground

- Always make sure the ground leads directly to the negative battery post. The negative battery post on a battery should always be grounded to a ground stud, which is typically located nearby.
- Grounding to the chassis or engine is not recommended as it will lead to corrosion, which leads to poor contacts, which leads to faulty electrical operations.
- When grounding to the fifth wheel, a fifth wheel ground strap may be used for added protection. Rather than relying on metal to metal contact across the fifth wheel, consider converting your single pole socket set up to a dual pole socket for an improved ground.

By following these suggested recommendations, you can maintain a good solid ground.

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- Be sure the ground/neutral wiring is large enough to handle the total maximum amps drawn on all circuits simultaneously.
- Corrosion acts as a road block for electricity on any current. Be sure to make proper repairs and clean/maintain the plugs, sockets and battery on a regular basis.
- Always make sure the ground leads to the negative battery post and not the positive.
- When grounding the fifth wheel, use a fifth wheel ground strap or consider converting the single pole socket set up to a dual pole for improved ground.

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