

Electrical

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HARNESS REPAIR

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TERMINALS — BUTT CONNECTORS

Best Butts:

- Metal funnel entry
- Extra metal sleeve for crimping insulation
- For use where heavy vibration is anticipated and strong strain relief is needed

Better Butts:

- Metal funnel entry

Good Butts:

- Nylon funnel entry

Better Butts with metal funnel

Color	Gauge	Length	Part No.
Red	18-22	1.26	F22546
Blue	14-16	1.26	F22375
Yellow	10-12	1.62	F21808

Good Butts with Nylon funnel

Color	Gauge	Length	Part No.
Red	18-22	1.035	F23289
Blue	14-16	1.08	F2493
Yellow	10-12	1.3	F22085

Best Butts with metal funnel/insulation grip:

Color	Gauge	Length	Part No.
Red	18-22	1.26	F22865
Blue	14-16	1.26	F23452
Yellow	10-12	1.62	F21387

Best Butts



F21387

Better Butts



F21808



Good Butts



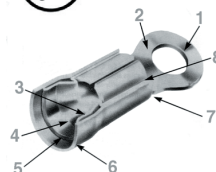
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2

TERMINALS — NYLON INSULATED

1. The terminals are made from electrolytic copper for high conductivity & annealed for free flow under crimping pressure. Electroplated tin coated for corrosion resistance. Meets UL, CSA, and MIL-T-10727 requirements.
2. Wire range is stamped on the metal surfaces.
3. Serrated barrel or dimples for improved gripping power.
4. Funnel Entry-A built-in metal Sleeve-that guides the wire into the crimp area.
5. Strain Relief/Double Crimping Sleeve-The metal sleeve is crimped around the wire's insulation to give strain relief against vibration.
6. Nylon Insulation with Strain Relief Extension-The sturdy nylon insulation extends beyond the metal sleeve to insure complete insulation.
7. Sturdy gussets reinforce the terminal where the flat tongue is formed into the barrel.
8. Open-end design permits quick visual inspections before & after crimping.

Color Code	
Red	18-22
Blue	14-16
Yellow	10-12



RED
18-22
GA.

F22865

F22546

F2899
Moisture
Resistant
Grease

F23289

F23658
1/8"

F21899
3/16"

F22689
1/4" Female
(mate: F21485)

F21990
.110 Female

F2604
3/16" Female
(mate: F22762)

F22762
3/16" Male
(mate: F2604)

F23091
Pin .37(L) x .08(Dia.)

RED
18-22
GA.

F22555
1/4" Female
(mate: F2807)

F21878
1/4" Female
Double Crimp
(mate: F21873)

F21485
1/4" Male
(mate: F22689)

F23047
3/16" Male
(mate: F21899)

F2807
1/4" Male
(mate: F22555)

F21873
1/4" Male
Double Crimp
(mate: F21278)

F23479
90° 3/16" Female

F2377
90° 1/4" Female

F2413
.156 Female

F23500
.180 Female

RED
18-22
GA.

F2590
1/4" x 1/4"
Piggyback

F22050
.156 Male

F2391
.180 Male

F2916
#4

F22466
#6

F21688
#8

F22014
#10

F21839
1/4"

F21374
5/16"

F23078
3/8"

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2-1-1

TERMINALS — NYLON INSULATED (continued)

2

RED

18-22
GA.



F2245
#6



F2218
#6



F22897
#8



F2868
#10



F2764
#5-6



F23429
#8



F21394
#10



F23824
#4



F22150
#6



F22300
#8



F23390
#10



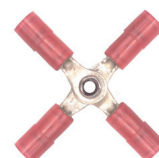
F2629
#8



F22843
#10



F22857



F22351

BLUE

14-16
GA.



F22375



F23452



F22451
Moisture
Resistant
Grease



F2493



F23207
Stepdown Butt
#14-16 ga. to
18-22 ga.
PVC Insul.



F22156
1/8"



F23013
3/16"



F22704
1/4"



F22007
3/16" Female
(mate: F22021)

BLUE

14-16
GA.



F22605
1/4" Female
(mate: F22545)



F21129
1/4" Female
Double Crimp
(mate: F21087)



F2532
3/16"



F23268
1/4"



F22021
3/16" Male
(mate: F22007)



F22545
1/4" Male
(mate: F22605)



F21087
1/4" Male
Double Crimp
(mate: F21129)



F2126
90° 1/4" Female



F25237
90° 3/16" Female

BLUE

14-16
GA.



F21650
1/4" x 1/4"
Piggyback



F23814
.176 Female



F22173
.157 Female



F2811
.157 Male



F2956
.176 Male



F22888
Pin .37(L) x .08(Dia.)



F21570
#6



F21395
#6



F21505
#8

BLUE

14-16
GA.



F23337
#10



F2571
1/4"



F21275
5/16"



F21859
3/8"



F23306
#6-8-10 Multi-stud



F21469
#8



F2611
#10



F2647
#8



F23295
#10

TERMINALS — NYLON INSULATED (continued)

BLUE
14-16
GA.

F23679
#10 Bent

F21121
#5-6

F21125
#6, 14-16

F22041
#8

F2334
#10

F22690
#4

F22966
#6

F22352
#8

F23552
#10

BLUE
14-16
GA.

F21125
#6

F23951
#8

F21283
#10

F22624
#6

F21399
#8

F21406
#10

F23864

F2119

YELLOW
10-12
GA.

F21387

F21808

F21495
Moisture
Resistant Grease

F22085

F21800
Stepdown Butt
10-12 ga. to 14-16
ga. PVC Insul.

F21710
90° 1/4" Female

F21169
1/4" x 1/4"
Piggy back

F22694
1/4"

F21863
1/4" Female
Double Crimp
(mate: F21628)

YELLOW
10-12
GA.

F23249
1/4" Female
(mate: F21113)

F21685
1/4"

F21113
1/4" Male
(mate: F23249)

F21628
1/4" Male
Double Crimp
(mate: F21863)

F2224
Pin .46(L) x
.12(Dia.)

F22512
#6

F21694
#8

F2509
#10

YELLOW
10-12
GA.

F23880
1/4"

F23433
3/8"

F2471
5/16"

F21462
1/2"

F21556
#6-8-10 Multi-stud

F22358
#10

F21982
#5-6

F21165
#8

F21989
#10

F21507
#6

F23057
#8

TERMINALS — NYLON INSULATED (continued)

YELLOW
10-12
GA.



F2558
#10



F22550
#8



F23383
#10



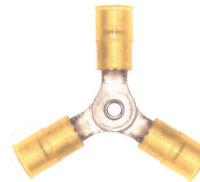
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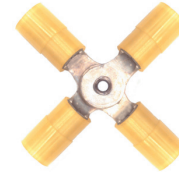
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#8



F2600
#10



F2261



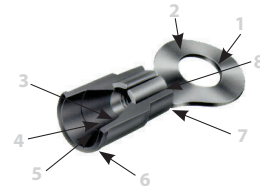
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TERMINALS — LARGE GAUGE - NYLON

1. Nylon & annealed for free flow under crimping pressure. Electroplated tin coated for corrosion resistance. Meets UL, CSA, and MIL-T-10727 requirements.
2. Wire range is stamped on the metal surfaces.
3. Serrated barrel or dimples for improved gripping power.
4. Funnel Entry-Vinyl Insulation is molded to guide wire
5. Flex Protection-The PVC insulation overhang reduces potential damage due to wire flex and vibration

Color Code

Red	#8
Blue	#6
Yellow	#4



RED
#8
GA.



F25604
#10



F25562
1/4"



F25563
3/8"



F25564
1/2"

BLUE
#6
GA.



F25565
1/4"



F25596
5/16"



F25566
3/8"

YELLOW
#4
GA.



F25597
1/4"



F25605
5/16"



F25598
3/8"

TERMINALS — HEAT SEAL CRIMP

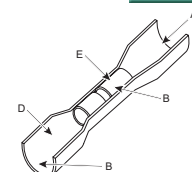
- A. Heat activated, color-coded nylon insulation shrinks around wire to seal out moisture and provide extra pull-out strength to the connection.
- B. Tin plated copper construction provides maximum conductivity and corrosion resistance.
- C. Funnel entry of insulation jacket makes wire insertion fast and easy.
- D. Hot-melt adhesive inner liner seals the connection against moisture, water, salt, and other corrosive compounds.
- E. Seamless inner barrel ensures consistent contact regardless of the location of crimp.

Simple Installation Steps:

1. Select the correct splice size for the wire gauge. Strip the wires 0.3" (7.5mm) from the end and insert into the crimp.
2. Making sure the wire end is properly seated, make the crimp connection using a tool designed for insulation splices.
3. Apply heat directly to the splice, working from the center out to the edges, using a hot air gun or other heat source, until the tubing recovers and the adhesive flows. Allow to cool before inspecting splice and checking integrity.

Color Code

Red	18-22
Blue	14-16
Yellow	10-12



RED
18-22
GA.



F22695
24-22 ga.
Butt Connector
White



F22816
22-18 ga.
Butt Connector



F2101
22-18 ga.
Butt Connector
(Perma-Seal)



F21691
Fully Insulated
1/4" Female
(mate: F23167)



F2109
1/4" Female



F21601
1/4" Male



F23608
#6



F22334
#8



F23250
#10

RED
18-22
GA.



F23167
Fully Insulated
1/4" Male
(mate: F21691)



F2940
1/4"



F23053
3/8"



F22817
#6



F22370
#8



F23606
#10



F2760
.157 Female



F2122
.157 Male



F21734
#6



F23761
#8



F21068
#10

TERMINALS — HEAT SEAL CRIMP (continued)

BLUE
14-16
GA.



F2680
16-14 ga.
Butt Connector (Perma-Seal)



F2577
16-14 ga.
Butt Connector



F22307
16-14 ga. to 22-18 ga.
Stepdown Butt Connector



F23932
Fully Insulated
1/4" Female
(mate: F21663)



F2138
1/4" Female



F23740
1/4" Male



F21663
Fully Insulated
1/4" Male
(mate: F23932)

BLUE
14-16
GA.



F2799
.157 Male



F2559
#6



F22911
#10



F21285
.157 Female



F2182
#8



F2300
#10



F21639
1/4"



F2791
5/16"



F2587
3/8"



F21580
#6



F23066
#8



F23896
#10



F23358
#6



F25113
14-16 AWG
#8 Stud

YELLOW
10-12
GA.



F23056
#8



F24090
#10



F2382
#10



F23662
1/4"



F2834
#6



F22932
#8



F23126
#10



F278
Fully Insulated
1/4" Female
(mate: F22990)



F293
1/4" Female



F23560
1/4" Male

YELLOW
10-12
GA.



F22990
Fully Insulated
1/4" Male
(mate: F278)



F21061
5/16"



F23215
3/8"



F2266
1/2"



F21890
12-10 ga. to 16-14 ga.
Stepdown Butt Connector



F22294
12-10 ga.
Butt Connector
(Perma-Seal)



F2890
12-10 ga.
Butt Connector

PINK
8
GA.



F21176
8 AWG

TERMINALS — LEAD FREE SEALED CRIMP & SOLDER CONNECTORS

Sealed Crimp & Solder Connectors are crimped for mechanical reliability, soldered for superior strength and conductivity, and sealed for maximum durability. When there is no margin for error, choose Sealed Crimp & Solder Connectors...the ultimate connector.

THE CRIMP CONNECTOR

- Crimp indicators show where to crimp and on which side of the barrel the window is located

THE SOLDER

- Flux coating to clean metal surfaces
- Pre-measured solder to provide the right amount of solder to ensure a solid termination
- Low-temp solder alloy for ease of installation

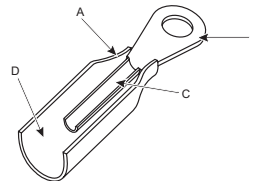
THE HEAT SHRINK TUBING

- Adhesive-lined polyolefin to seal the connection
- Color-coded with wire gauge imprint for easy wire size identification
- Translucent tubing to allow for visual inspection



Color Code

Red	18-22
Blue	14-16
Yellow	10-12



2

RED

18-22 GA.



F24971
22-18 AWG
#6 Stud



F24972
22-18 AWG
#8 Stud



F24973
22-18 AWG #10
Stud



F24974
22-18 AWG 1/4"
Stud



F24975
22-18 AWG 3/8"
Stud



F24976
22-18 AWG 5/16"
Stud

RED

18-22 GA.



F24983
22-18 AWG #6
Stud



F24984
22-18 AWG #8
Stud



F24985
22-18 AWG #10
Stud



F24997
22-18 AWG .250"
Tab



F25000
22-18 AWG .250"
Tab



F25007
22-18 AWG .250"
Tab



F25004
Butt - 500, 22-18 to
26-24 AWG

BLUE

14-16 GA.



F24965
16-14 AWG
#6 Stud



F24966
16-14 AWG
#8 Stud



F24967
16-14 AWG #10
Stud



F24968
16-14 AWG 1/4"
Stud



F24969
16-14 AWG 3/8"
Stud



F24970
16-14 AWG 5/16"
Stud

BLUE

14-16 GA.



F24980
16-14 AWG
#6 Stud



F24981
16-14 AWG
#8 Stud



F24982
16-14 AWG #10
Stud



F24996
16-14 AWG .250"
Tab



F24999
16-14 AWG .250"
Tab



F25006
16-14 AWG .250"
Tab



F25003
16-14 to 22-18
AWG

YELLOW

10-12 GA.



F24958
12-10 AWG
#6 Stud



F24959
12-10 AWG #8
Stud



F24960
12-10 AWG #10
Stud



F24961
12-10 AWG 1/2"
Stud



F24962
12-10 AWG 1/4"
Stud



F24963
12-10 AWG 3/8"
Stud



F24964
12-10 AWG 5/16"
Stud

YELLOW

10-12 GA.



F24977
12-10 AWG
#6 Stud



F24978
12-10 AWG
#8 Stud



F24979
12-10 AWG #10
Stud



F24995
12-10 AWG .250"
Tab



F24998
12-10 AWG .250"
Tab



F25005
12-10 AWG .250"
Tab



F25001
12-10 14-16 AWG



F25002
Butt - 500, 8 to 12-10
AWG

Pink

TERMINALS — SOLDER SHRINK

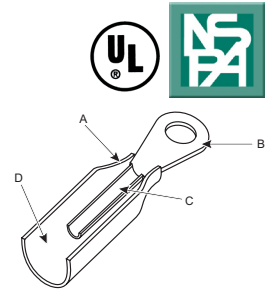
- A. Heat activated, color coded nylon insulation shrinks around wire to seal out moisture and provide extra strength to the connection.
- B. Tubing Military Spec. No. MIL-I-23053/4, Class 1 AMS-3634.
- C. Extra-thick (.040") tin plated copper terminals are corrosion resistant and durable in heavy duty applications.
- D. Fluxed solder core provides the ultimate link between wire and terminal, alleviating voltage drop. Solder Military Spec No. QQ557IE, MIL-S-14256.
- E. Finished repair has a temperature rating of -65° to 275°F.

Solder-shrink terminals make the 'Perfect Connection'. In one step, the user creates a moisture sealed, soldered connection that yields a wire pull-out strength of 150 lbs, as compared to 40 lbs for standard crimp-type terminals.

Simple Installation Steps:

1. Strip the wire jacket approximately 3/8".
2. Spread out individual wires to allow solder to flow between.
3. Insert wire(s) into terminal. With butt splices, ensure both wires "mesh" together at the solder point.
4. Apply heat to terminal, using a heat gun with a deflector shield for best results.
5. Repair is complete when the solder is melted. (Transparent shrink tubing allows for visual inspection.)

Color Code	
Red	18-22
Blue	14-16
Yellow	10-12



RED
18-22 GA.

BLUE
14-16 GA.

YELLOW
10-12 GA.

TERMINALS — CRIMP, SOLDER, SEAL BUTT CONNECTORS

- Crimped for maximum reliability
- Soldered for strength and conductivity
- Sealed for superior durability

Color	Gauge	Part No.
Clear	22-24	F23382
Red	18-20	F23163
Blue	14-16	F22706
Yellow	10-12	F2248



F23382



F23163



F22706



F2248



TERMINALS — COOL SEAL BUTT CONNECTORS

- The patented Cool Seal Butt Connectors are the most innovative and cost effective sealed electrical connector in the market today
- Heat-Less/Solderless Connection-No Heat Guns Required
- Revolutionary anaerobic sealant technology that installs in a fraction of the time of comparable heat seal connectors simply Strip & Crimp
- Nylon Insulation
- 99.9% ETP Copper Terminal

F2549
22-18 Ga.



F22122
16-14 Ga.



F23483
12-10 Ga.



TERMINALS — HYDRALINK SEALED MULTIPLE WIRE CONNECTORS

- Heat activated, color-coded striped polyolefin insulation shrinks around wires to seal out moisture.
- Tin plated copper construction provides maximum conductivity and corrosion resistance.
- Hot-melt adhesive inner liner seals the connection against moisture, water, salt, and other corrosive compounds.
- Seamless inner barrel ensures consistent contact regardless of the environment.



F2645
24-22 Ga.



F2777
20-18 Ga.



F23706
16-14 Ga.



F21172
12-10 Ga.



F22876
22-14 Ga.



F22044
18-10 Ga.

TERMINALS — OPTISEAL CRIMP & HEAT SEAL

- Crystal Clear™ tubing provides optimal clarity for visual inspection
- Adhesive lining assures a waterproof seal
- Wire gauge imprinted on tubing and color coded stripes for wire gauge identification
- Seamless barrel with window in center to ensure proper wire seating



F25031
#6 Ring
22-18 AWG



F25032
#8 Ring
22-18 AWG



F25033
#10 Ring
22-18 AWG



F25026
#6 Ring
16-14 AWG



F25027
#8 Ring
16-14 AWG



F25028
#10 Ring
16-14 AWG



F25029
1/4" Ring
16-14 AWG



F25030
5/16" Ring
16-14 AWG



F25021
#8 Ring
12-10 AWG



F25022
#10 Ring
12-10 AWG



F25023
1/4" Ring
12-10 AWG



F25024
3/8" Ring
12-10 AWG



F25025
5/16" Ring
12-10 AWG



F25037
STPDN BUTT 24-22
TO 22-18



F25036
STPDN BUTT
22-18 TO 16-14



F25035
STPDN BUTT 16-14
TO 12-10



F25034
STPDN BUTT
12-10 TO 8



F23978
BUTT CONN. 18-22
AWG



F23977
BUTT CONN. 16-14
AWG



F23976
BUTT CONN. 10-12
AWG

TERMINALS — OPTISEAL QUICK DISCONNECTS

- Crystal Clear™ tubing provides optimal clarity for visual inspection
- Adhesive lining assures a waterproof seal
- Color coded stripes for wire gauge identification
- Butted barrel with grip
- .250" x .032" tab
- RoHS compliant
- Made in USA
- Rated for 105°C (221°F)



F25662
Optiseal Female
Disconnect Crimp
and Heat Seal Terminal
18-22 Ga



F25665
Optiseal Male
Disconnect Crimp
and Heat Seal Terminal
18-22 Ga



F25661
Optiseal Female
Disconnect Crimp
and Heat Seal Terminal
16-14 Ga



F25664
Optiseal Male
Disconnect Crimp
and Heat Seal Terminal 16-14 Ga



F25660
Optiseal Female
Disconnect Crimp
and Heat Seal Terminal
10-12 Ga



F25663
Optiseal Male
Disconnect Crimp
and Heat Seal Terminal
10-12 Ga

TERMINALS — OPTISEAL BULLET

- RoHS compliant
- Rated for 105°C (221°F)
- Made in USA



F25873
.157 16-14 AWG
Receptacle



F25874
.157 16-14 AWG
Plug



F25875
.180 16-14 AWG
Receptacle



F25876
.180 16-14 AWG
Plug



F25877
.157 22-18 AWG
Receptacle



F25878
.157 22-18 AWG
Plug



F25879
.180 22-18 AWG
Receptacle

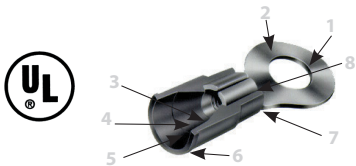


F25880
.180 22-18 AWG
Plug

TERMINALS — PVC INSULATED

1. The terminals are made from electrolytic copper for high conductivity & annealed for free flow under crimping pressure. Electroplated tin coated for corrosion resistance. Meets UL, CSA, and MIL-T-10727 requirements.
2. Wire range is stamped on the metal surfaces.
3. Serrated barrel or dimples for improved gripping power.
4. Funnel Entry-Vinyl Insulation is molded to guide wire
5. Flex Protection-The PVC insulation overhang reduces potential damage due to wire flex and vibration

Color Code	
Red	18-22
Blue	14-16
Yellow	10-12



RED
18-22
GA.

F23415
1/4"
Tab

F2476
1/4"
Piggy Back

F23563
.156
Bullet

F23503
22-18

F21843
1/8"
Female

F23568
3/16"
Female

F21503
1/4"
Female

RED
18-22
GA.

F21699
1/4"
Female

F22688
.370 x .080
Wire Pin

F23703
#4

F21486
#6

F22194
#8

F23734
#10

RED
18-22
GA.

F2621
1/4"

F22747
5/16"

F21266
3/8"

F288
#6

F22242
#10

F22598
#6

F2835
#10

BLUE
14-16
GA.

F22005

F22625
1/8"

F287
3/16"

F23931
1/4"

F23836
1/4" Female

F275
3/16"

F23934
1/4"

F21335
1/4" x 1/4"

BLUE
14-16
GA.

F23848
.157 Male

F21209
.157 Male

F2298
.176 Male

F23267
RN.370 X .080

F22070
#4

F2162
#6

F22532
#8

F23965
#10

BLUE
14-16
GA.

F23664
1/4"

F21428
5/16"

F21185
3/8"

F23512
#10

F21904
#6

F2211
#8

F21286
#10

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2-1-9

TERMINALS — PVC LARGE GAUGE (continued)

2

BLUE
14-16
GA.



YELLOW
10-12
GA.



YELLOW
10-12
GA.



YELLOW
10-12
GA.



YELLOW
10-12
GA.



TERMINALS — HEAVY DUTY RINGS & SPADES

YELLOW
14-16 GA.

A. Tough, polyvinyl chloride (PVC), color-coded insulation protects the contact point within. Never becomes brittle.

B. Tin-plated copper construction provides maximum conductivity and corrosion resistance.

C. Extra-thick material (.050") on rings and spades resists fractures under heavy vibration.

D. Extended funnel-entry sleeve allows for easy wire insertion.

E. Butted inner seam makes crimping easier.

Color Code	
Yellow	14-16 ga

F21521
3/8"

F21158
1/2"

2

TERMINALS — PVC LARGE GAUGE

A. Tough polyvinyl chloride (PVC) color coded insulation protects the contact point within. Never becomes brittle.

B. Tin plated electrolytic copper construction provides maximum conductivity and corrosion resistance.

C. Barrel serrations provide a firm grip on wire strands, protecting against pull-out.

D. Extended funnel-entry sleeve allows for easy wire insertion.

E. Brazed inner seam provides full contact, regardless of the location of the crimp.

F. Extra thick terminal is designed for a wide variety of heavy-duty applications.

Color Code	
Red	8 ga
Blue	6 ga
Yellow	4 ga

RED
8 GA.

F23288
Stepdown Butt
8 ga. to 10-12ga.

F21841
8 ga., Red

F2947
#10 Stud
8 ga., Red

F2920
1/4" Stud
8 ga., Red

F21799
5/16" Stud
8 ga., Red

F23310
3/8" Stud
8 ga., Red

F2370
1/2" Stud
8 ga., Red

BLUE
6 GA.

F22325
Stepdown Butt
6 ga. to 8ga.

F2278
6 ga., Blue

F22664
#10 Stud
6 ga., Blue

F23130
1/4" Stud
6 ga., Blue

F23011
5/16" Stud
6 ga., Blue

F2316
3/8" Stud
6 ga., Blue

F22151
1/2" Stud
6 ga., Blue

YELLOW
4 GA.

F2625
4 ga., Yellow

F2696
1/4" Stud
4 ga., Yellow

F2516
5/16" Stud
4 ga., Yellow

F21518
3/8" Stud
4 ga., Yellow

F22030
1/2" Stud
4 ga., Yellow

F23054
5/8" Stud
4 ga., Yellow

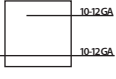
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TERMINALS — 3M™ CONNECTORS

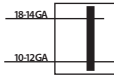
3M™ SCOTCHLOK™ STRIPPING CONNECTORS



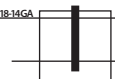
Scotchlok™ brand self-stripping connectors offer the quickest repair. With just ordinary pliers, tap a line or make pigtail connections-reducing wire waste. No stripping or wire twisting required.



F23948
Tap into a through wire splice (903) Yellow
Economy version
F2454



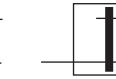
F2753
Tap into a larger through wire splice (902) Brown



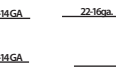
F23574
Connect two through wires (564) White
Economy version
F21111



F23350
Tap into a through wire splice (801) Blue
Economy version
F21965



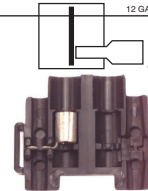
F23072
Sealant filled version (804) Blue



F23245
Tap into a through wire splice (558) Red
Economy version
F21103



F23157
Tap into a through wire splice (905) Red



F2810

- Tap into a through wire and mate with .157 snap plug
- Black

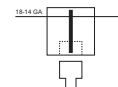
GA	Color	Part No.
22-18	Red	F2502
18-14	Blue	F258
10-12	Yellow	F2383

- Tap into a through wire and mates with male 1/4" tab
- *Dual Contact**



GA	3M #	Color	Part No.
22-18	(951)	Red	F2619
18-14	(952)	Blue	F21819
10-12	(953)	Yellow	F23469

- Tap into a through wire and mates with male 1/4" tab



SELF-STRIPPING WIRE CONNECTORS

Color	Wire Range	Industry #	Part No.
Red	19-26	UR2	F21806
Yellow	22-26	UY	F22713

- Makes a moisture-resistant connection
- Solvent-resistant plastic construction
- Color-Coded



TERMINALS — 3M ELECTRICAL



F22202

- 3 wire tap connector
- (sealant-filled) – 14-22 ga.
- Blue



F23242

- 3 wire tap connector
- (without sealant) – 14-22 ga.
- White

TERMINALS — 3M™ QUICK SLIDES



F23488
1/4" Female (mate: F22313)
Red



F21371
1/4" Female (mate: F21600)
Blue



F23492
1/4" Female (mate: F21600)
Yellow



F22313
1/4" Male (mate: F23488)
Red



F21255
1/4" Male (mate: F21371)
Blue



F21600
1/4" Male (mate: F23492)
Yellow



F2315
Male Bullet .156



F23869
Female Bullet .156



F25117
Male Bullet .180



F23726
Female Bullet .180



F22270
Male Bullet .156



F23522
Female Bullet .156



F294
Male Bullet .180



F22915
Female Bullet .180

RED
22-18 GA.

BLUE
16-14 GA.

TERMINALS — ULTRA-TUFF

- Superior Quality Nylon Insulation
- "Safety Crimp" Support Sleeve provides optimum grip, strain relief & vibration protection.
- Funnel entry construction eliminates bent wire hang up. Wire twisting not necessary.
- "Step" designed insulation helps position crimping tool for nearly mistake proof crimps.

- UL Listed & CSA Certified
- Rated to 600 Volts - 32 Amps
- Made in USA



2

TERMINALS — ULTRA-TUFF (continued)

2

YELLOW
12-10
GA.

YELLOW
12-10
GA.



F23076



F2375
(seamless)



F21626
1/4"



F2715
1/4"



F23901
1/4"



F22948
1/4"



F2368
#4-6



F25239
12-10 ga.
#8



F22891
#8-10



F2872
#12-1/4"



F2434
3/8"



F25240
12-10 ga.
#5/16



F21653
1/2"



F22275
#6-8-10 Multi-Stud



F2773
#6



F21616
#8



F22779
#10



F2337
1/4"



F25585
#10

TERMINALS — CLEAR DOUBLE ENDED SNAP FEMALE RECEPTACLES

F22666
for .157 plugs



TERMINALS — CRIMP STYLE END CAPS

Clear nylon sleeve over a seamless tin-plated copper insert.



F21916
22-14 ga.



F21928
22-12 ga.



F23299
16-10 ga.



F22820
8 ga.

TERMINALS — CLEAR INSULATION BOOTS

Clear insulation boots for bullet terminals/female quick disconnects.



F21337
22-18 ga.
Female Quick Disconnect
1/4"



F23006
16-14 ga.
Female Quick Disconnect
1/4"



F22612
16-14 ga.
Male Bullet



F23248
16-14 ga.
Female Bullet



F23764
22-18 ga.
Male Bullet



F22528
22-18 ga.
Female Bullet

TERMINALS — WIRE CONNECTORS

Color	Wire Range Basic	Wire Range Minimum	Wire Range Maximum	Industry #	Part No.
Gray	22-16	1 #20 w/ 1 #22	2 #16	71B	F22344
Blue	22-16	3 #22	3 #16	72B	F21995
Orange	22-14	3 #18	4 #16 w/ 1 #20	73B	F2734
Yellow	18-10	1 #14 w/ 1 #18	4 #14	74B	F2431
Red	18-10	2 #14	2 #10 w/ 2 #12	76B	F22575

- Color-Coded
- Made with flame retardant thermoplastic & square wire spring to bite into the wires



TERMINALS — WINGED WIRE CONNECTORS

Color	Wire Range Basic	Wire Range Minimum	Wire Range Maximum	Industry #	Part No.
Yellow	22-18	2 #18	3 #12	84	F23044
Red	18-10	3 #16	5 #12	86	F23089
Gray	18-8	1 #12 w/ 2 #14	4 #10 w/ 1 #12	88	F21106
Blue	14-6	1 #10 w/ 1 #12	1 #6 w/ 2 #8	89	F21197
Green		2 #14	3 #12 w/ 1 #14	92	F21033

- Superior flash-over protection with deep skirt design
- Easy-on & off with sure-grip wings
- Color-Coded
- Made with flame retardant thermoplastic & square wire spring to bite into the wires



2

TERMINALS — B-CAP® WIRE CONNECTOR

Color	Wire Range	Part No.
Yellow	22-10 AWG	F25161
Red	22-8 AWG	F25163
Blue-Gray	14-6 AWG	F25169
Green	14-10 AWG	F25162

- Wire Combo range Min. 3 #20 Max. 3 #12
- 600 Volt*
- UL 94V-2 flame-retardant shell rated at 221° F
- UL 486C listed and CSA 22.2 #188 certified: comply with Federal Specification -S-610E
- 1,000V maximum in fixtures and signs



TERMINALS — 3M™ PERFORMANCE + WIRE NUTS

3M

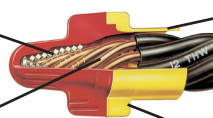
Grips quicker, pulls-on faster

Unique spring design grips quickly, turns on fast and expands to accept a wide range of wire sizes. It bites quicker for solid, secure connections every time.

Covers a wider wire range

The larger throat design and extended skirt allow just three connectors to cover the entire 600 volt wire range.

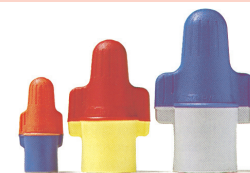
Flexible protection



The long, flexible skirt covers over-strips and protects conductors, but readily bends and conforms to take up less room

Easier to use

Rounded wings make the connector easier to grip; you get maximum torque and a comfortable feel.

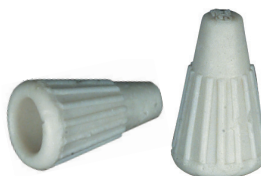


Performance + Wire Connectors	Part No.
Orange/Blue	F2876
Red/Yellow	F2763
Blue/Gray	F21010

TERMINALS — PORCELAIN WIRE CONNECTORS

Wire Range Minimum	Wire Range Maximum	Part No.
2#18	1#18 w/ 2#16	F22785
2#18	2#16 w/ 2#18	F2318
2#18	4#16	F21241

- For high temperature applications over 221°F
- 300 Volt rated
- U.L. Listed
- Stranded only



TERMINALS — ELECTRICAL

F25748

- Moisture-proof electrical connection for type UF-Bunderground feeder
- Designed for use with non-shielded cables
- Heavy-wall tubing for high level of moisture protection



TERMINALS — WIRE FERRULES

- Reliable electrical connections — all wire strands conduct current.
- No spreading of wire strands after a wire is clamped into a terminal block or other component
- No fraying of wire strands, particularly in cases where the wire is very small or is removed often from its housing for testing purposes
- Easy wire insertion in a terminal block clamp, particularly for smaller gauge wires (28 through 18AWG)

Single Insulated

Wire Gauge	Color	Part No.
22 Ga.	White	F21118
20 Ga.	Blue	F23169
18 Ga.	Red	F22103
16 Ga.	Black	F23361
14 Ga.	Gray	F21377
12 Ga.	Orange	F21908
10 Ga.	Green	F23021



Twin Insulated

Wire Gauge	Color	Part No.
22 Ga.	White	F21902
20 Ga.	Gray	F23863
18 Ga.	Red	F2884
16 Ga.	Black	F21370
14 Ga.	Blue	F22493
12 Ga.	Gray	F22324
10 Ga.	Yellow	F22602



TERMINALS — NON-INSULATED BRAZED BARREL

- Brazed Seamed Barrel will not open under conditions of stress or wire pull
- Can be crimped under most adverse conditions by many types of tooling
- Ideal for hard to crimp solid & stranded wires



2

22-18
GA.



16-14
GA.



Butted Seam

12-10
GA.



8
GA.



6
GA.



4
GA.

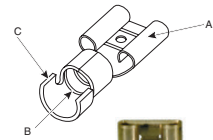


TERMINALS — NON-INSULATED BRAZED BARREL (continued)

2 GA.	 F22934 3/8"	 F21227 3/8"	 F23891 1/2"	 F22595	 F22323 #10	 F23384 1/4"	 F23241 5/16"
1/0 GA.	 F21174	 F23307 1/4"	 F22211 5/16"	 F22283 3/8"	 F2306 1/2"		
2/0 GA.	 F2139	 F22189 1/4"	 F22363 5/16"	 F2353 3/8"	 F21784 1/2"		
3/0 GA.	 F23716	 F22883 5/16"	 F2728 3/8"	 F21196 1/2"			
4/0 GA.	 F23704 3/8"	 F21717	 F21357 1/2"	 F21731 5/8"			

TERMINALS — UNINSULATED BRASS

- A. Solid brass protects against corrosion.
B. Serrations inside barrel for improved wire grip.
C. Vibration support for extra holding power.



F2594
M4.8
14-16 ga.



F22889
1/4" (M6.3)
Butted Seam
14-16 ga.



F22017
1/4"
Locking Tab
14-16 ga.
(mates: F22988)



F22988
1/4"
Male Spade
14-16 ga.
(mates: F22017)



F21120
1/4" (M6.3)
Locking Tab
14-16 ga.
Tin Plate



F22089
5/16" (M8)
90°
14-16 ga.



F25593
1/4" (6.3mm)
1 Female, 2 Male
tab adapter



F23271
M2.8
18-22 ga.



F21958
1/4" (M6.3)
18-22 ga.



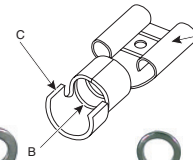
F23331
1/4" (M6.3)
Locking Tab
14-16 ga.



F22074
1/4" (M6.3)
1 Female, 2 Male

TERMINALS — HI-TEMP

- A. Nickel-plated steel alloy designed to perform in temperatures up to 900°F.
B. Quality one piece design.
C. Butted seam for easy crimping.



F23689
18-22 ga.
(Seamless)



F21213
14-16 ga.
(Seamless)



F21246
10-12 ga.
(Seamless)



F21005
Female .250
14-16 ga.



F23736
Female .250
14-16 ga.



F23123
Male .250
14-16 ga.



F23499
#6
18-22 ga.



F23125
#8
18-22 ga.



F22670
#10
18-22 ga.



F25610
#10
22-18 ga.



F21289
#6
14-16 ga.



F22807
#8
14-16 ga.



F22477
#10
14-16 ga.



F25602
#10
16-14 ga.



F21440
1/4"
14-16 ga.



F23758
#6
10-12 ga.



F21402
#8
10-12 ga.



F21927
#10
10-12 ga.



F23189
1/4"
10-12 ga.



F25603
#10
12-10 ga.



F22636
5/16"
10-12 ga.



F23629
3/8"
10-12 ga.



F23926
1/4"
8 ga.



F23475
3/8"
6 ga.



F23351
3/8"
4 ga.



F21364
#4-6
18-22 ga.



F22226
#10
18-22 ga.



F23909
#4-6
14-16 ga.



F22280
#10
14-16 ga.



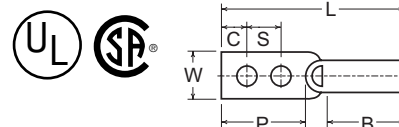
F25485
#10
10-12 ga.

COPPER COMPRESSION LUGS — TWO-HOLE

FOR COPPER CONDUCTORS ONLY

Wire Size	Bolt Size	Die Color	W	L	C	P	B	S	Part No.
2/0	1/2"	Black	.811	4.896	.546	3.00	1.50	1.750	F22594

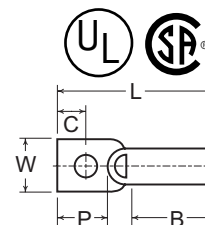
Compression lugs are made from seamless copper tubing for maximum current flow. They are tin-plated and color-coding designates correct cable size and tool setting.



2

COPPER COMPRESSION LUGS — ONE-HOLE

Wire Size	Bolt Size	Die Color	W	L	C	P	B	Part No.
8	#10	Red	.374	1.257	.258	.562	.50	F22025
8	1/4	Red	.486	1.375	.320	.680	.50	F21751
6	#10	Blue	.411	1.257	.258	.562	.50	F23219
6	1/4	Blue	.411	1.375	.320	.680	.50	F21269
6	5/16	Blue	.532	1.570	.352	.875	.50	F2678
6	3/8	Blue	.593	1.570	.414	.875	.50	F2112
4	1/4	Gray	.486	1.414	.320	.680	.50	F22105
4	5/16	Gray	.486	1.609	.352	.875	.50	F22893
4	3/8	Gray	.593	1.609	.414	.875	.50	F23377
2	1/4	Brown	.599	1.591	.320	.680	.625	F2510
2	5/16	Brown	.599	1.786	.352	.875	.625	F2953
2	3/8	Brown	.599	1.786	.414	.875	.625	F2579
1	1/4	Green	.673	1.830	.320	.875	.625	F22167
1	5/16	Green	.673	1.830	.352	.875	.625	F2859
1	3/8	Green	.673	1.830	.414	.875	.625	F21844
1/0	1/4	Pink	.738	1.981	.320	.875	.750	F21331
1/0	5/16	Pink	.738	1.981	.352	.875	.750	F2275
1/0	3/8	Pink	.738	1.981	.414	.875	.750	F21210
1/0	1/2	Pink	.738	2.356	.546	1.250	.750	F22804
2/0	1/4	Black	.811	2.021	.320	.875	.750	F21837
2/0	5/16	Black	.811	2.021	.352	.875	.750	F21658
2/0	3/8	Black	.811	2.021	.414	.875	.750	F2704
2/0	1/2	Black	.811	2.396	.546	1.250	.750	F21833
3/0	1/4	Orange	.885	2.064	.320	.875	.750	F22953
3/0	5/16	Orange	.885	2.064	.352	.875	.750	F22968
3/0	3/8	Orange	.885	2.064	.414	.875	.750	F22020
3/0	1/2	Orange	.885	2.439	.546	1.250	.750	F21668
4/0	1/4	Purple	.999	2.241	.320	.875	.875	F2241
4/0	5/16	Purple	.999	2.241	.352	.875	.875	F21575
4/0	3/8	Purple	.999	2.241	.414	.875	.875	F23224
4/0	1/2	Purple	.999	2.616	.546	1.250	.875	F23763
250MCM	3/8	Yellow	1.088	2.469	.414	.875	1.063	F21013
250MCM	1/2	Yellow	1.088	2.844	.546	1.250	1.063	F23122



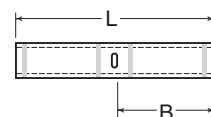
Compression lugs are made from seamless copper tubing for maximum current flow. They are tin-plated, and have a sight hole to assure proper cable insertion. Color-coding designates correct cable size and tool setting.
For Copper Conductors Only

COPPER COMPRESSION SPLICES

Wire Size	Color Code	L (Inches)	B (Inches)	Part No.
8	Red	1.06	.69	F21697
6	Blue	1.81	.81	F22515
4	Grey	1.81	.81	F23531
2	Brown	1.88	.88	F2177
1	Green	1.88	.88	F23060
1/0	Pink	1.88	.88	F2378
2/0	Black	2.00	.94	F23937
3/0	Orange	2.13	1.00	F23252
250MCM	Yellow	2.25	1.06	F23409



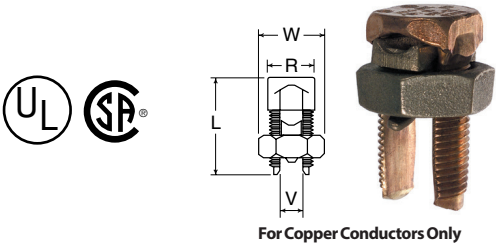
Compression lugs are made from seamless copper tubing for maximum current flow. They are tin-plated, and have a sight hole to assure proper cable insertion. Color-coding designates correct cable size and tool setting.
For Copper Conductors Only



COPPER SPLIT BOLTS

Equal Main & Tap (Min.-Max.)	Min. Tap w/ Max Main	Head Stamping	L	R	V	W	Part No.
12 str - 10 str	16 str	IK-10	.72	.29	.117	.49	F22013
10 str - 8 str	14 str	SBC-8: IK-8	.72	.37	.142	.57	F2494
8 str - 6 sol	14 str	SBC-6: IK-6	.98	.44	.165	.70	F21460
8 str - 4 sol	14 str	SBC-4: IK-4	1.04	.50	.216	.78	F21157
6 str - 2 sol	14 str	IK-3	1.08	.58	.264	.84	F21408
6 str - 2 str	14 str	SBC-2: IK-2	1.51	.62	.323	.92	F22727
4 str - 1/0 str	14 str	SBC-1/0: IK1/0	1.65	.72	.385	1.06	F21385
2 str - 2/0 str	14 str	SBC-2/0: IK2/0	1.79	.81	.436	1.18	F22758
1 str - 2/0 str	8 sol	SBC-3/0: IK3/0	1.80	1.17	.553	1.56	F2526
1 str - 250MCM	8 str	SBC-250: IK250	2.00	1.17	.605	1.56	F23886

Compact, high strength, Copper split bolt which allows maximum pressure to be placed on the conductors. It is also highly resistant to seasonal cracking and corrosion. The precision tooled threads of the Split Bolt allows maximum torque to be applied to assure a cool and safe connection.



TERMINALS — STRIPS

No. of Circuits	Dimensions L x W x H	Part No.
8	6-3/8 x 5/8 x 27/32	F23519
12	8-7/8 x 5/8 x 27/32	F22026

- Stud terminals, #10-32 thread with hex nuts, lockwashers and flat washers
- Moisture repellent, molded plastic insulator body
- Two eyelets for 3/16" (4.76mm) mounting screws (screws not included)
- Made in USA



FUSES — ATO & ATC

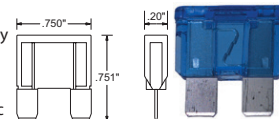
ATO® FUSE

ATO Fuse Color	Amps	Part No.
Black	1	F23171
Grey	2	F23155
Violet	3	F23444
Pink	4	F2596
Tan	5	F22001
Brown	7.5	F22599

ATO Fuse Color	Amps	Part No.
Red	10	F22359
Light Blue	15	F2329
Yellow	20	F21884
Natural	25	F22534
Light Green	30	F23088
Blue-Green	35	F25616
Orange	40	F22765

ATO® fuses were originally developed for the automotive industry, but are now used in a wide variety of electronic applications

- Color coded for easy identification
- All fuses have a 32 voltage rating



FUSES — MINI®

MINI® FUSE

Mini Fuse Color	Amps	Part No.
Grey	2	F2657
Violet	3	F21116
Pink	4	F22088
Tan	5	F22366
Brown	7.5	F22989
Red	10	F2518

Mini Fuse Color	Amps	Part No.
Blue	15	F21291
Yellow	20	F23820
Natural	25	F21191
Light Green	30	F23947

State-of-the-art circuit protection for late model automotive applications

- Color coded for easy identification
- Increased circuitry and on-board electronics in the newer automobiles (1990 & up) require more fuses in the same amount of space
- With the Mini® Fuse housed in an electrical distribution center or fuse block, electrical trouble-shooting is minimized



LOW PROFILE MINI® FUSE

Low Profile Mini Fuse Color	Amps	Part No.
Grey	2	F24764
Violet	3	F24765
Pink	4	F24766
Tan	5	F21056
Brown	7.5	F21998
Red	10	F23209

Low Profile Mini Fuse Color	Amps	Part No.
Blue	15	F23498
Yellow	20	F22243
Natural	25	F21826
Green	30	F23566

- The low profile Mini fuse has similar performance characteristics as the standard Mini fuse.
- The lower overall height allows for more space and weight savings.
- Currently being used on '04+ Lexus and Toyotas.



6 PIECE EMERGENCY "MINI" FUSE KIT WITH FUSE PULLER



F25558

1 EACH 5 AMP, 10 AMP, 15 AMP, 20 AMP, 30 AMP, AND TRI-FUSE PULLER

7 PIECE EMERGENCY "ATO" FUSE KIT WITH FUSE PULLER



F25559

1 EACH 5 AMP, 10 AMP, 15 AMP, 20 AMP, 25 AMP, 30 AMP, AND TRI-FUSE PULLER

FUSES — MAXI®

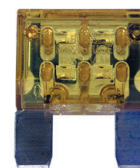
MAXI® FUSE

MAXI Fuse Color	Amps	Part No.
Yellow	20	F2115
Grey	25	F21305
Light Green	30	F21760
Brown	35	F21295
Orange	40	F21146
Red	50	F23009

MAXI Fuse Color	Amps	Part No.
Dark Blue	60	F2922
Tan	70	F23181
Natural	80	F23363

Designed to protect the wiring harness of contemporary automobiles from damage. Will replace the commonly used fusible wire or fusible link

- Color coded for easy identification
- Located under the hood in a fuse block adjacent to the battery or firewall
- Can be easily identified and replaced by the automobile operator or mechanic



FUSES — SMART GLOW

SMART GLOW

Feature an indicator light built into the head of the fuse that glows when the fuse is blown, saving time, effort and eliminating guesswork

- Ideal for troublesome circuits where fuses often blow
- Color coded for easy amperage identification
- Replaces standard ATO & Mini style fuses

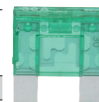
ATO Fuse Color	Amps	Part No.
Violet	3	F21330
Tan	5	F23873
Brown	7.5	F23325
Red	10	F2395
Blue	15	F21530
Yellow	20	F21689
Natural	25	F273
Green	30	F22182



Mini Fuse Color	Amps	Part No.
Violet	3	F23871
Tan	5	F21252
Brown	7.5	F22216
Red	10	F2955
Blue	15	F23315
Yellow	20	F21905
Natural	25	F23601
Green	30	F22797



Maxi Fuse Color	Amps	Part No.
Yellow	20	F2685
Light Green	30	F23208
Orange	40	F22397
Red	50	F22246
Dark Blue	60	F21366
Tan	70	F21619
Natural	80	F22833
Violet	100	F22405



Note: Make certain the key is in the "on" position to verify the fuse is blown

FUSES — MICRO

New Vehicles are incorporating more electronic circuitry, which require more protection. With space at a premium, many new vehicles use micro-fuses

ATR (2-LEG MICRO FUSES)

Fuse Color	Amp Rating	Part No.
Tan	5	F24734
Brown	7.5	F24735
Red	10	F24736
Blue	15	F24737
Yellow	20	F24738
Clear	25	F24739
Green	30	F24740

- Two-leg bladed fuse
- Narrower than ATM with legs closer together The height remains the same

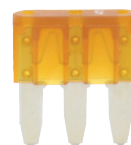


Applications: 2011 Dodge Journey, 2012 Dodge Pickups, 2013 Jeep platform, 2013 Ford Fusion & Lincoln MKZ (Future conversions will include all midsize Ford vehicles) 2014 GM Pickups & SUV's

ATL (3-LEG MICRO FUSES)

Fuse Color	Amp Rating	Part No.
Tan	5	F24741
Brown	7.5	F24742
Red	10	F24743
Blue	15	F24744

- Three-leg bladed fuse
- Single power input, splitting into two separate circuits



Applications: 2013 Ford Fusion & Lincoln MKZ (Future conversions will include all midsize Ford vehicles)

FUSES — MCASE+™ 32 VOLT SLOTTED

MCASE+™ SLOTTED FUSE

Color Code	Amp Rating	Bulk Pack	Part No.
Gray	15		F25626
Blue	20	10	F25628
White	25		F25630
Pink	30		F25632
Green	40	10	F25633
Red	50		F25635
Yellow	60		F25637

- The slotted MCASE+™ fuse can mate with larger male terminals (eg., 6.3mm)
- Can also mount directly onto a busbar
- Miniaturized footprint for optimal usage of space
- Time delayed fuse and can handle inrush currents
- Conforms to SAE 2741 and ISO 8820-4 in reference to electrical, mechanical and environmental performance requirements



MCASE+™ UNSLOTTED FUSE

Color Code	Amp Rating	Part No.
Gray	15	F25755
Blue	20	F25756
White	25	F25757
Pink	30	F25758
Green	40	F25759

- The unslotted MCASE+ Fuse is a cartridge style fuse up to 40A with female terminals for 2.8mm male terminals.
- Miniaturized footprint for optimal usage of space, featuring time delay and the ability to handle inrush currents.



FUSES — PAL™

Replacement for the original equipment fusible link installed in many Domestic and Japanese cars. Capable of withstanding high levels of current and high temperatures for extended periods by matching the fuse's characteristics with the automotive cable's thermal insulation rating. Used in place of the commonly used fusible wire or fusible link—usually a piece of wire two sizes smaller than the wire it was protecting.

PAL™ — 9/16" BENT MALE TERMINAL

Color Code	Amp Rating	Bulk Pack	Part No.
Pink	30		F23762
Green	40		F22345
Red	50	10	F2861
Black	80		F21542
Blue	100	10	F23105



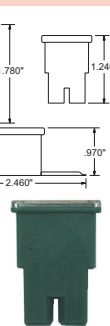
PAL™ - 13/16" BENT MALE TERMINAL

Color Code	Amp Rating	Part No.
Pink	30	F23917
Green	40	F2419
Red	50	F2985
Yellow	60	F2335
Brown	70	F21501
Black	80	F2785



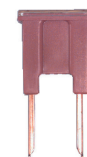
PAL™ - FEMALE TYPE TERMINAL

Color Code	Amp Rating	10 Piece Bulk Pack	Part No.
Light Blue	20	F06117	F23184
Pink	30	F06122	F21797
Green	40	F06123	F2320
Red	50	F06125	F21569
Yellow	60	F06124	F23347



PAL™ — STRAIGHT MALE TERMINAL

Color Code	Amp Rating	10 Piece Bulk Packs	Part No.
Pink	30		F22978
Yellow	60		F21967
Black	80		F2349
Blue	100		F2352
Gray	120	F06132	F21011



FUSES — PAL™ (continued)

FMX™ MAXI — FEMALE TYPE TERMINAL

Color Code	Amp Rating	Part No.
Blue	20	F21162
Pink	30	F23279
Green	40	F21136
Red	50	F23751
Yellow	60	F21618

- 1.06" height



FMX™ — LOW PROFILE FEMALE TYPE TERMINAL

Color Code	Amp Rating	Part No.	10 Piece Bulk Pack
Blue	20	F21933	F06133
White	25	F22215	F24866
Pink	30	F23280	F06134
Green	40	F23949	F06135
Red	50	F2477	F06136
Yellow	60	F2659	F06137

- .625" height



PAL™ — MINI FEMALE TERMINAL

Color Code	Amp Rating	Part No.
Pink	30	F2738
Green	40	F21367



FMM™ - MICRO FEMALE TYPE TERMINAL

Color Code	Amp Rating	Part No.
Grey	15	F24729
Light Blue	20	F24730
White	25	F24731
Pink	30	F24732
Green	40	F24733

- .59" height



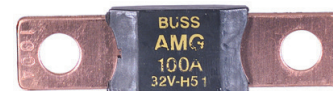
FUSES — AMG

AMG TYPE

Color	Amp Rating	Part No.
Yellow	100	F22389
Green	125	F2501
Orange	150	F23404
White	175	F21893
Blue	200	F23257
Tan	225	F22720
Pink	250	F23023
Gray	300	F23541

AMG Features:

- Provides high current protection up to 300 AMPs
- Color coded
- Commonly used for battery and alternator connections
- OEM on Ford, GM and Chrysler vehicles



FUSES — MIDI

Color	Amp Rating	Part No.
Pink	30	F2481
Green	40	F22983
Red	50	F268
Yellow	60	F2456
Brown	70	F23031
White	80	F21529
Blue	100	F22328
Orange	125	F2415
Grey	150	F22769
Purple	200	F22084

MIDI® Features:

- Offers bolt-on space saving fuse for high current wiring protection
- Color coded
- 32VDC
- OEM on BMW, Chrysler, Hyundai

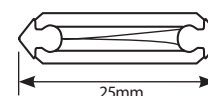


FUSES — THERMOPLASTIC

THERMOPLASTIC

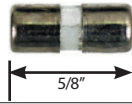
Fuse Color	Amps	Part No.
Yellow M25	5	F23741
White	8	F25546
Red	16	F25547
Blue	25	F25548

- Color coded for easy identification
- OEM replacement fuses for a variety of European applications
- Thermoplastic varieties offer exceptional protection against high temperatures found in engine compartments
- **Filament material:** Copper, Brass, or Zinc



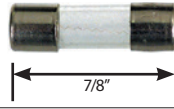
FUSES — GLASS

AGA



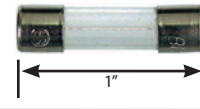
Amp Rating	Part No.
1	F21302
1-1/2	F23160
2	F23781
2-1/2	F22775
3	F22032
5	F21058
6	F23357
10	F21450
15	F21772
20	F23576
30	F21972

AGW



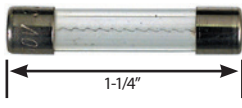
Amp Rating	Part No.
1	F2959
2-1/2	F21224
3	F22710
5	F22219
6	F2795
15	F22926
20	F2599
30	F22474

AGX



Amp Rating	Part No.
2	F22133
3	F22371
6	F23607
20	F21436
30	F2393

AGC



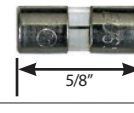
Amp Rating	Part No.
1/10	F24862
2/10	F22781
1/4	F22684
1/2	F22771
3/4	F21897
1	F23641
1-1/2	F22735
2	F22478
3	F23020
4	F23564
5	F22985
6	F22024
7	F2257
7-1/2	F21917
8	F23333
10	F2373
12	F2158
15	F21583
20	F21349
25	F21659
30	F2418
35	F2580
40	F2631

AGY



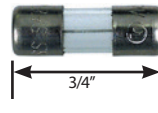
Amp Rating	Part No.
50	F23509

SFE 4



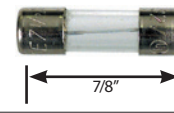
Amp Rating	Part No.
4	F21514

SFE 6



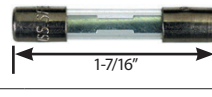
Amp Rating	Part No.
6	F23142

SFE 7-1/2



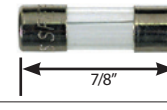
Amp Rating	Part No.
7-1/2	F22233

SFE 30



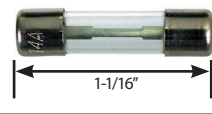
Amp Rating	Part No.
30	F23352

SFE 9



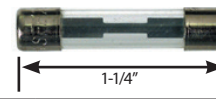
Amp Rating	Part No.
9	F23797

SFE 14



Amp Rating	Part No.
14	F23605

SFE 20



Amp Rating	Part No.
20	F23728

FUSES — INDUSTRIAL

ABC TYPE

- Fast Acting
- 1/4" x 1-1/4"
- 250 VAC



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
ABC-1	314001	GAB1	F21752
ABC-5	314005	GAB5	F23321
ABC-3	314003	GAB3	F2829
ABC-6	314006	GAB6	F21649
ABC-8	314008	GAB8	F22171
ABC-10	314010	GAB10	F21815
ABC-12	314012	GAB12	F22526
ABC-15	314015	GAB15	F22861
ABC-20	314020	GAB20	F21781
ABC-30	314030	GAB30	F2305

FRN-R TYPE

- Time Delay
- 250 VAC



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
FRN-R-3	FLNR003ID	TR 3R	F2118
FRN-R-4	FLNR004ID	TR 4R	F2189
FRN-R-5	FLNR005ID	TR 5R	F2624
FRN-R-10	FLNR010ID	TR 10R	F2232
FRN-R-15	FLNR015ID	TR 15R	F21831
FRN-R-40	FLNR040ID	TR 40R	F23708
FRN-R-45	FLNR045ID	TR 45R	F21260
FRN-R-60	FLNR060ID	TR 60R	F21155

FUSES — INDUSTRIAL (continued)

FNM TYPE

- Time Delay
- 13/32" x 1-1/2"
- 250 VAC



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
FNM-1/2	FLM .5	TRM .5	F2983
FNM-1	FLM 1	TRM 1	F21214
FNM-1-4/10	FLM 1.4	TRM 1.4	F2345
FNM-1-1/2	FLM 1.5	TRM 1.5	F21516
FNM-1-6/10	FLM 1.6	TRM 1.6	F2279
FNM-2	FLM 2	TRM 2	F2576
FNM-4	FLM 4	TRM 4	F22185
FNM-5	FLM 5	TRM 5	F22665
FNM-7	FLM 7	TRM 7	F2340
FNM-8	FLM 8	TRM 8	F23557
FNM-10	FLM 10	TRM 10	F23645
FNM-12	FLM 12	TRM 12	F24863
FNM-15	FLM 15	TRM 15	F21912
FNM-20	FLM 20	TRM 20	F23292
FNM-30	FLM 30	TRM 30	F24786

GDC TYPE

- Time Delay
- 5mm x 20mm
- 250 VAC



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
GDC-630mA	218.630	GDC 630m	F23389
GDC-4A	218004	GDC 4	F22210

GMC TYPE

- Medium Time Delay
- .197" x .788"
- 250 VAC



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
GMC-1A	GMC 1A	GSC 1A	F21511
GMC-2A	GMC 2A	GSC 2A	F21780
GMC-4A	GMC 4A	GSC 4A	F21458
GMC-5A	GMC 5A	GSC 5A	F22078
GMC-8A	GMC 8A	GSC 8A	F23255
GMC-10A	GMC 10A	GSC 10A	F21410

DLNR TYPE

- Dual Element Time Delay
- 250 VAC



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
DLNR-1/2	FLNR .5	TR.5R	F2569
DLNR-6/10	FLNR .6	TR.6R	F23458
DLNR-1	FLNR 1	TR1R	F21492
DLNR-3	FLNR 3	TR3R	F22776
DLNR-3-2/10	FLNR 3.2	TR3.2R	F22191
DLNR-3-1/2	FLNR 3.5	TR3.5R	F21531
DLNR-5	FLNR 5	TR5R	F23735
DLNR-6	FLNR 6	TR6R	F21220
DLNR-6-1/4	FLNR 6.25	TR6.25R	F2327
DLNR-10	FLNR 10	TR10R	F2274
DLNR-15	FLNR 15	TR15R	F2478
DLNR-20	FLNR 20	TR20R	F2702
DLNR-25	FLNR 25	TR25R	F21774
DLNR-30	FLNR 30	TR30R	F23818
DLNR-60	FLNR 60	TR60R	F23396

FNQR TYPE

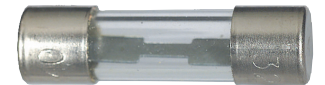
- Time Delay Rejection Type
- 13/32" x 1-1/2"
- 600 VAC (or less)



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
FNQR-1/4	KLDR .25	ATOR .25	F22259
FNQR-1/2	KLDR .5	ATOR .5	F2731
FNQR-6/10	KLDR .6	ATOR .6	F21073
FNQR-1	KLDR 1	ATOR 1	F22696
FNQR-2	KLDR 2	ATOR 2	F22208
FNQR-5	KLDR 5	ATOR 5	F23461
FNQR-8	KLDR 8	ATOR 8	F23759
FNQR-10	KLDR 10	ATOR 10	F21361
FNQR-15	KLDR 15	ATOR 15	F23274
FNQR-20	KLDR 20	ATOR 20	F2725

AGU TYPE

- Fast Acting
- 11/32" x 1-1/2"
- 32 VAC



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
AGU-60	BLN 60	GGU 60	F25517

FNQ TYPE

- Time Delay
- 13/32" x 1-1/2"
- 500 VAC (or less)



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
FNQ-1	FLQ 1	ATQ 1	F2237
FNQ-1-1/2	FLQ 1.5	ATQ 1.5	F21562
FNQ-2	FLQ 2	ATQ 2	F21536
FNQ-3	FLQ 3	ATQ 3	F22430
FNQ-3-2/10	FLQ 3.2	ATQ 3.2	F23779
FNQ-4	FLQ 4	ATQ 4	F2144
FNQ-5	FLQ 5	ATQ 5	F2735
FNQ-6	FLQ 6	ATQ 6	F22045
FNQ-7	FLQ 7	ATQ 7	F21647
FNQ-8	FLQ 8	ATQ 8	F2700
FNQ-10	FLQ 10	ATQ 10	F23656
FNQ-12	FLQ 12	ATQ 12	F21673
FNQ-15	FLQ 15	ATQ 15	F23223
FNQ-20	FLQ 20	ATQ 20	F21333
FNQ-25	FLQ 25	ATQ 25	F23673
FNQ-30	FLQ 30	ATQ 30	F2930

NON TYPE

- General Application
- 250 VAC



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
NON-5	NLN 5	OT 5	F21320
NON-10	NLN 10	OT 10	F22241
NON-15	NLN 15	OT 15	F22632
NON-20	NLN 20	OT 20	F22737
NON-30	NLN 30	OT 30	F22146

FUSES — INDUSTRIAL (continued)

GMA TYPE

- Fast Acting
- .197" x .788"
- 250 VAC



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
GMA-63MA	235.600	GGM 63MA	F23967
GMA-1A	235001	GGM 1	F21473
GMA-1.25A	23501.25	GGM 1.25	F21823
GMA-1.5A	23501.5	GGM 1.5	F2694
GMA-1.6A	23501.6	GGM 1.6	F23753
GMA-2A	235002	GGM 2	F24102
GMA-2.5A	23502.5	GGM 2.5	F24103
GMA-3A	235003	GGM 3	F23262
GMA-3.15A	23503.15	GGM 3.15	F2818
GMA-3.5A	23503.5	GGM 3.5	F22475
GMA-4A	235004	GGM 4	F21303
GMA-5A	235005	GGM 5	F23332
GMA-6A	235006	GGM 6	F2344
GMA-7A	235007	GGM 7	F23459
GMA-8A	235008	GGM 8	F2525
GMA-10A	235010	GGM 10	F22800
GMA-15A	235015	GGM 15	F2851

KTK TYPE

- Fast Acting
- 13/32" x 1-1/2"
- 600 VAC (or less)



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
KTK-1	KLK 1	ATM 1	F22232
KTK-2	KLK 2	ATM 2	F22491
KTK-3	KLK 3	ATM 3	F2157
KTK-4	KLK 4	ATM 4	F23346
KTK-5	KLK 5	ATM 5	F23018
KTK-7	KLK 7	ATM 7	F24768
KTK-8	KLK 8	ATM 8	F24769
KTK-10	KLK 10	ATM 10	F23273
KTK-12	KLK 12	ATM 12	F21382
KTK-15	KLK 15	ATM 15	F2597
KTK-20	KLK 20	ATM 20	F22264
KTK-25	KLK 25	ATM 25	F21896
KTK-30	KLK 30	ATM 30	F21016

LP-CC LOW PEAK TYPE

- Time Delay
- 13/32" x 1-1/2"
- 600 VAC (or less)



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
LP-CC-1	CCMR 1	ATDR 1	F2459
LP-CC-1-8/10	CCMR 1.8	ATDR 1.8	F22429
LP-CC-3	CCMR 3	ATDR 3	F21204
LP-CC-4	CCMR 4	ATDR 4	F21560
LP-CC-5	CCMR 5	ATDR 5	F21935
LP-CC-5-6/10	CCMR 5.6	ATDR 5.6	F21793
LP-CC-6	CCMR 6	ATDR 6	F22282
LP-CC-6-1/4	CCMR 6.25	ATDR 6.25	F25551
LP-CC-7	CCMR 7	ATDR 7	F21175
LP-CC-7-1/2	CCMR 7.5	ATDR 7.5	F22698
LP-CC-10	CCMR 10	ATDR 10	F22447
LP-CC-12	CCMR 12	ATDR 12	F22519
LP-CC-15	CCMR 15	ATDR 15	F23174
LP-CC-20	CCMR 20	ATDR 20	F24864
LP-CC-25	CCMR 25	ATDR 25	F22395
LP-CC-30	CCMR 30	ATDR 30	F2440

KTK-R TYPE

- Fast Acting
- 13/32" x 1-1/2"
- 600 VAC (or less)



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
KTK-R-1/2	KLKR .5	ATMR .5	F23039
KTK-R-1-1/2	KLKR 1.5	ATMR 1.5	F2730
KTK-R-1	KLKR 1	ATMR 1	F22603
KTK-R-2	KLKR 2	ATMR 2	F21248
KTK-R-3	KLKR 3	ATMR 3	F22976
KTK-R-4	KLKR 4	ATMR 4	F2246
KTK-R-5	KLKR 5	ATMR 5	F21296
KTK-R-6	KLKR 6	ATMR 6	F22425
KTK-R-7	KLKR 7	ATMR 7	F22277
KTK-R-8	KLKR 8	ATMR 8	F21962
KTK-R-10	KLKR 10	ATMR 10	F22079
KTK-R-12	KLKR 12	ATMR 12	F23153
KTK-R-15	KLKR 15	ATMR 15	F22711
KTK-R-20	KLKR 20	ATMR 20	F21381
KTK-R-25	KLKR 25	ATMR 25	F22551
KTK-R-30	KLKR 30	ATMR 30	F22749

MDL TYPE

- Time Delay
- 1/4" x 1-1/4"
- 250 VAC



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
MDL-1/10	313.100	GDL .110	F23113
MDL-1/8	313.125	GDL .125	F2598
MDL-1/4	313.250	GDL .25	F23366
MDL-1/2	3130.5	GDL .5	F21317
MDL-3/4	3130.75	GDL .75	F2790
MDL-1	31301	GDL 1	F22443
MDL-1-1/4	31301.25	GDL 1.25	F22247
MDL-1-1/2	31301.5	GDL 1.5	F22700
MDL-2	31302	GDL 2	F21777
MDL-2-1/4	31302.25	GDL 2.25	F23646
MDL-2-1/2	31302.5	GDL 2.5	F22916
MDL-3	31303	GDL 3	F260
MDL-3-2/10	31303.2	GDL 3.2	F22069
MDL-4	31304	GDL 4	F21497
MDL-5	31305	GDL 5	F21510
MDL-6	31306	GDL 6	F22531
MDL-6-1/4	31306.25	GDL 6.25	F2928
MDL-7	31307	GDL 7	F21608
MDL-7-1/2	31307.5	GDL 7.5	F21444
MDL-8	31308	GDL 8	F2667
MDL-10	313010	GDL 10	F2821
MDL-12	313012	GDL 12	F22627
MDL-15	313015	GDL 15	F2878
MDL-20	313020	GDL 20	F21293
MDL-25	313025	GDL 25	F23022
MDL-30	313030	GDL 30	F23850

LPJ-SP TYPE

- Dual Element Time Delay
- 600 VAC (or less)



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
LPJ-2SP	JTD 2	AJT 2	F21280
LPJ-8SP	JTD 8	AJT 8	F2839
LPJ-10SP	JTD 10	AJT 10	F2402
LPJ-15SP	JTD 15	AJT 15	F23543
LPJ-20SP	JTD 20	AJT 20	F22489
LPJ-25SP	JTD 25	AJT 25	F22144
LPJ-30SP	JTD 30	AJT 30	F23175
LPJ-40SP	JTD 40	AJT 40	F2227
LPJ-45SP	JTD 45	AJT 45	F22573
LPJ-50SP	JTD 50	AJT 50	F23431
LPJ-60SP	JTD 60	AJT 60	F2755

FUSES — INDUSTRIAL (continued)

FRSR TYPE

- Dual Element Time Delay
- 600 VAC (or less)



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
FRS-R-5	FLS-5	TRS5	F2626
FRS-R-7	FLS-7	TRS7	F23029
FRS-R-10	FLS-10	TRS10	F21588
FRS-R-15	FLS-15	TRS15	F22834
FRS-R-20	FLS-20	TRS20	F22037
FRS-R-25	FLS-25	TRS25	F24865
FRS-R-30	FLS-30	TRS30	F22659
FRS-R-35	FLS-35	TRS35	F22629
FRS-R-40	FLS-40	TRS40	F21080
FRS-R-50	FLS-50	TRS50	F23165
FRS-R-60	FLS-60	TRS60	F2794
FRS-R-100	FLS-100	TRS100	F2105

MDA TYPE

- Time Delay
- 1/4" x 1-1/4"
- 250 VAC



Bussman Part No.	Littelfuse Part No.	Gould Part No.	Part No.
MDA-1	326-1	GSA-1	F21168
MDA-1-1/2	326-1.5	GSA-1.5	F2998
MDA-2	326-2	GSA-2	F2573
MDA-3	326-3	GSA-3	F25359
MDA-4	326-4	GSA-4	F25360
MDA-5	326-5	GSA-5	F21997
MDA-10	326-10	GSA-10	F22851
MDA-12	326-12	GSA-12	F25355
MDA-15	326-15	GSA-15	F21184
MDA-20	326-20	GSA-20	F25356
MDA-30	326-30	GSA-30	F22995

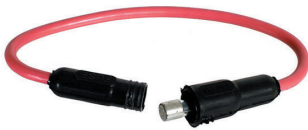
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FUSES — FUSE HOLDERS

WATER TIGHT INLINE FUSE LOOP



F23803
8" 16 ga. wire with 10 amp fuse



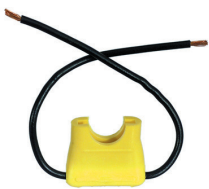
F21524
8" 10 ga. wire with 30 amp fuse



F2871
Universal In-line Bayonet Knob Fuse Holder
15" loop of 14 ga. red wire and 3 springs
Use for all regular glass type fuses.



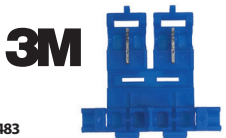
F22435
ATO Heavy Duty In-line Blade Fuse Holder
Two 4" leads of 12 ga. orange wire and fuseholder for 25 or 30 amp ATO blade fuses



F23795
ATO In-line Blade Fuse Holder
Two 4" leads of 16 ga. black wire and fuseholder for all regular ATO blade fuses



F22719
Heavy Duty 30 Amp In-line Glass Fuse Holder
Two 4" leads of 12 ga. orange wire
Twist lock heavy duty



F2483
Scotchlock Blade Type Fuse Holder
Self tapping splice into existing wire
For blade type fuses
Rated to 20 amps



F2744
Environmentally Sealed Autofuse Holder

- Extra long (9") 12-gauge type XL leads
- Rated 3-30 Amps (All ATO Fuses)
- Fuses sold separately



F2358
Heavy-Duty Environmentally Sealed Autofuse Holder

- 10 ga. leads
- Rated 3-30 Amps (ATO Fuses)
- Fuses sold separately



Add a Circuit Fuse Holder

- Eated 10 amps
- Fuses sold separately

Fuse Style	Part No.
ATO/ATC	F2244
Mini	F22239



F21719
Environmentally Sealed Autofuse Holder

- ATM / Mini Fuses
- Rated 20-30 Amps
- 12 ga. Lead Wire



F22046
Environmentally Sealed Autofuse Holder

- ATM / Mini Fuses
- Rated 2-15 Amps
- 16 ga. Lead Wire



F25705
Mega Fuse Holder
Fuse Holder for the Mega series fuses

FUSES — FUSE HOLDERS (continued)

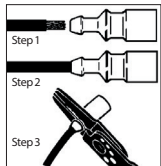
Solderless Fuse Holder

F23667

- 32 Volt, 30 Amp Maximum
- Accepts 18 thru 12 Awg Wire
- Use with 1/4" diameter round fuses — 7/8", 1" or 1-1/4" long

Installation

1. Strip insulation from wire.
2. Insert wire in holder.
3. Crimp terminal through body.
4. Repeat steps 1-3 for other half of holder.
5. Insert fuse.
6. Snap housings together.



Waterproof Solderless Fuse Holder

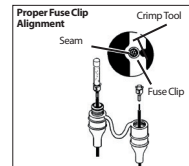
F23098

- For use in dusty or damp locations
- 32 Volt, 30 Amp Maximum
- Accepts 18 thru 12 Awg Wire
- Use with 1/4" diameter by 1-1/4" long round fuses



Installation

1. Thread wire through housing.
2. Strip insulation per strip gauge.
3. Crimp fuse clip to wire.
4. Pull wire and seat fuse clip in housing.
5. Insert fuse.
6. Snap housings together.



Fuse Panel for ATC fuses

Blade-Type Part No.

4 Position	F25853
6 Position	F24834
10 Position	F2560

- A single, common power input makes it simple to wire for multiple circuits
- Rated to 30 amps, up to 32 volts
- Quick-connect terminals for easy installations



F21969
ATO/ATC fuse holder with cover
3-20 amps
#16 ga. lead wire



F22431
ATO/ATC heavy duty
fuse holder with cover
3-30 amps
#12 ga. lead wire



F21437
MINI™ fuse holder with cover
2-20 amps
#16 ga. lead wire



F23517
MINI™ heavy duty fuse
holder with cover
2-30 amps
#12 ga. lead wire



F23301
ATO/ATC fuse holder
with LED indicator
3-20 amps
#16 ga. lead wire



F21173
MINI/ATM fuse holder
with LED indicator
3-20 amps
#16 ga. lead wire



F21163
MAXI™ fuse holder with cover
20-60 amps
#6 ga. lead wire



F25839
Micro fuse holder
with cover
32 volt 15 AMP
with 2 - 4 lead wires, #16



F25299
ATC Fuse Holder
32 Volt 30 Amp with 2 - 4 inch 12
gauge lead wires



F25300
Yellow Fuse Holder
32 Volt 20 Amp 2 - 4 inch 16
Gauge lead wires



F25301
Glass Tube In-line
Fuse Holder 32 Volt 30 Amp
with 12 gauge lead wires

FUSES — TAPS & PULLERS

Minifuse Tap Adapter



- F23116**
- Slips over leg of minifuse
 - Tap size .187

Minitaper



- F21940**
- Plugs into empty fuse cavity
 - Tap size .187

Glass Fuse Tap



- F2423**
1/4" male

ATO Blade Fuse Tap



- F21538**
1/4" male



F21756
Fuse puller for ATO, Mini, Glass
and Ceramic fuses.



F23614
ATO/ATC and mini fuse puller
and tester



F25675
Fuse puller allows for
easy fuse removal and
replacement of the Mcase
series fuses



Non-feed through stud-type junction block 3/8-16 x 7/8" thread/stud size, 250 amps max

Poles	Stud thread	Bussman No.	Type	Part No.
1	3/8-16	BP/JB3816-2	Stud Junction Block	F24944

CIRCUIT BREAKERS

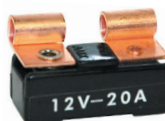
Amp Rating	Part No.
10	F22540
15	F21247
20	F22112
25	F2167
30	F2194
40	F2996
50	F21078

- Stud Type
- Automatic Reset



Amp Rating	Part No.
10	F23962
15	F23635
20	F23561
30	F22789
35	F2903
40	F23228

- Fuse Clip Type
- Replacement for glass fuses
- Fits 1-1/4" fuse clip



Amp Rating	Part No.
5	F23172
10	F23000
15	F22353
20	F2269
25	F23134
30	F22936

ATC Universal Circuit Breaker

- For Ford, Chrysler, Navistar and Kenworth applications
- Features "snap-off" universal blades to fit tight fuse block spacing or recessed fuse terminals



Amp Rating	Part No.
15	F2515
20	F22730
30	F22304
40	F21407
50	F22585

- 12 / 24 volt
- Type III (Resettable)
- Stud type
- Push button reset
- Water resistant plastic case



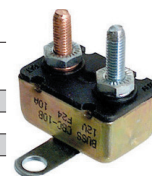
Amp Rating	Part No.
20	F23516
30	F23542
40	F23311

- Type I (Automatic Reset)
- Water resistant plastic case
- Vertical bracket



Amp Rating	Part No.
10	F23929
15	F21130
20	F21683
25	F22558
30	F22824
35	F22597
40	F21638
50	F2140

- Type I (Automatic Reset)
- Stud type
- Vertical bracket
- Metal case



Amp Rating	Part No.
7-1/2	F23893
10	F22438
15	F22902
20	F21875
25	F21832
30	F23651

- Mini Type Plug in Breaker
- Type I (Auto Reset)



Amp Rating	Part No.
10	F23370
15	F21533
20	F21994
25	F23807
30	F21708

- ATO/ATC Type Plug in Breaker
- Type I (Auto Reset)



Amp Rating	Part No.
7-1/2	F21067
10	F2545
15	F23012
20	F21195
25	F2564
30	F23731

- ATO/ATC Type Plug in Breaker
- Type III (Manual Reset)



Amp Rating	Part No.
10	F2981
15	F21396
20	F23681
25	F2971
30	F22592
35	F25554
40	F35555
50	F131301

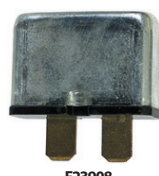
- Maxi Type Plug in Breaker
- Type I (Auto Reset)



DC HI-AMP TYPE III CIRCUIT BREAKERS

Amp Rating	Part No.
80	F25774
100	F25775
120	F25776
150	F25777

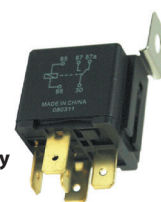
- Type III - manual reset
- UL approved for all AMP ratings at 32V DC
- Interrupting rating 3000A @30V DC
- Ignition protection SAE J1625 and J1171
- RoHS compliant
- Waterproof



F23908
ATC plug in Type II
Replaces GM No. 1252240

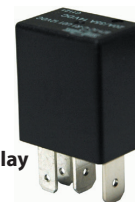
F21840 TYCO Relay

- 40 AMP
- 12 VDC
- SPDT



F21762 Micro Relay

- 20 AMP
- 12 Volt
- SPDT



F2339

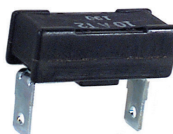
Insulated Circuit Breaker Bracket

- For inline circuit breakers
- Allows stud type breaker to be mounted directly to battery post



Amp Rating	Part No.
10	F21055
30	F22993

- Mack Style Truck Breaker



Amp Rating	Part No.
15	F22416
25	F21351

- Navistar Style Breaker



FLASHERS — ELECTRONIC

SPECIALTY ELECTRONIC SIGNAL FLASHERS

Volts	No. of Pins	Lamps	Max. Watts	Industry No.	Part No.
12	3	2	150	EF35	F21231
12.8	3	2	150	EF36	F23413
12	5	2	150	EF27	F279



EXTENDED LIFE SUPER DUTY ELECTRONIC SIGNAL FLASHERS

Volts	No. of Pins	Lamps	Max. Watts	Industry No.	Part No.
12	2	1-10	250	EF32	F22067
12	3	1-10	250	EF33	F250
24	2	1-6	150	EF22	F21268
24	3	1-6	150	EF23	F2688
12	2	1-10	250	EF32	F23940

- For trucks, buses, RV's, taxi's and passenger cars.
- Exceeds D.O.T. and S.A.E. specifications J590 and J945 by a factor of 2:1.
- Takes only .75 seconds to engage compared to 1.5 seconds for other flashers.
- Temperature compensator ensures a steady flashing rate at all temperature ranges.
- Palladium contacts reduce corrosion, extending the life of the flasher.



SUPER DUTY ALTERNATING ELECTRONIC FLASHERS

Volts	No. of Pins	Lamps	Max. Watts	Industry No.	Part No.
12.8	3			EF30A	F2743
12	3			EF30WW	F22649
12	2	12		B570	F22207
12	2	1-16	35 Amp	EF40	F23317
12	2	1-20	45 Amp	EF42	F2294

- For emergency vehicles, American and older import cars and light trucks.
- Required for towing applications.
- Clear audible click.
- **Alternating Flasher Specifications:**
 - Lampload 6 x 25 Watts/Side
 - Voltage Range 10-16 Volts D.C.
 - Frequency (Avg.) 85 F.P.M.
 - Duty Cycle (Avg.) 50%
 - Time to First Flash 1.5 Sec. Max.
 - Ground wire not required



HEAVY DUTY FLASHERS

Volts	No. of Pins	Lamps	Max. Watts	Industry No.	Part No.
12	2	1-12	25 Amp	EF32RL	F21690
12	3	1-12	25 Amp	EF33RL	F2583

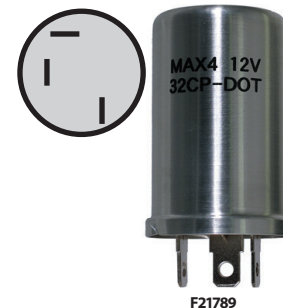
- Heavy Duty 12 Volt
- 25 Amp Max for LED Applications
- External Ground Lead Wire



FLASHERS — ALTERNATING

STANDARD DUTY THERMAL FLASHERS

Volts	No. of Pins	Lamps	Max. Watts	Industry No.	Part No.
12	2	2-6 Lamps	14 Amp	TF552/536	F2746
12	3	2-6 Lamps	14 Amp	TF550	F21789



BULBS — OSRAM SYLVANIA

DIAGRAMS ACTUAL SIZE

Diagram	Description	SAE No.	Color	Volts	Watts	Part No.
A	Stop/Tail	1154		6.3/7	16.5/5	F23453
A	Stop/Tail	1157		12/14	27/8	F23173
A	Signal/Park	1157NA	Amber	12/14	27/8	F23439
A	Stop/Tail	198		12/14	27/8	F2240
A	Stop/Tail/Park	2057		12/14	27/7	F22819
A	Sidemarkers/Stop/Turn	2057NA	Amber	12/14	27/7	F2627
A	Signal/Park	2357		12.8/14	27/7	F21881
A	Signal/Park	2357NA	Amber	12.8/14	27/7	F23845
A	Turn/Cornering/Backup	1034		12.8/14	23/8	F22777
A	Signal/Park	1076		12.8	23	F21346
B	Instrument/Dome/Map	93		12.8	13	F2284
B	Corner/Backup/Stop	1156		12	25	F22238
B	Park	1156NA	Amber	12.5	37.5	F22269
B	Turn Signal	1295NA		12/14	27/8	F2929
B	Turn/Cornering/Signal	1073		12.8	23	F21985
B	Auto	5637		24	10	F21743
C	Under Hood	1004		12	21	F21362
D	Trunk/Hood/Courtesy	1003		12	18	F23353
E	Tail	63		7	5	F21433
E	Auto	631		14	9	F21245
E	Park/License/Tail	67		13.5	8	F22066
E	Instrument/Hood/Tail	89		12	10	F2357
F	Step/Courtesy	90		13	7	F22919
G	Park/Clearance/Dome	97		13.5	9	F23825
H	Instrument	57		12	3	F23888
H	Clock/Glove Box	1895		14	4	F22407

**OSRAM
SYLVANIA**



The Manufacturers' Choice Specified by leading auto makers to deliver top lighting performance in new cars

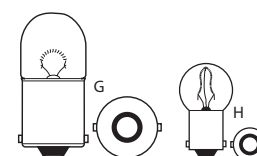
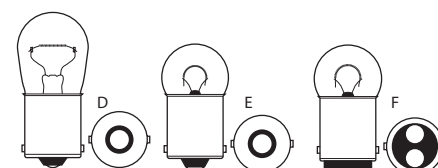
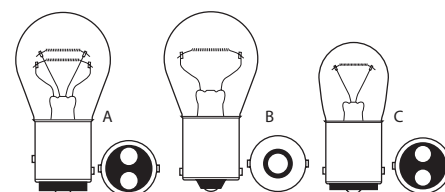
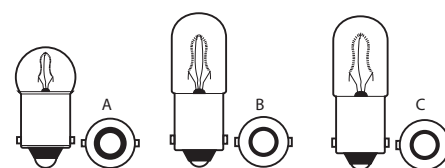


Diagram	Description	SAE No.	Color	Volts	Watts	Part No.
A	Indicator/Step/Courtesy	53		14.4	1.7	F2974
A	Instrument/Ashtray	1445		12	1.5	F22825
B	Glove Box	1893		14	4	F22432
C	Glove Box	1891		14	3.4	F21798
C	Instrument	1816		13	4.3	F2841



BULBS — OSRAM SYLVANIA (continued)

SYLVANIA 194 LED BULB F25658

SYLVANIA LED bulbs deliver a balanced combination of performance and value. Tuners and auto enthusiasts alike can replace their vehicle's incandescent lights with a bright and long-lasting LED bulb for a unique and modern look in a simple and cost effective way.

- Direct 194 replacement bulb for Ashtray, Clock, Courtesy, Dome, Door Mirror, Glove Box, Inst. Panel, Int. Door, License, Map, Parking, Radio, Reading, Seat Belt, Side Marker, Step, Trunk and Cargo applications
- Also fits 168 / 2825
- Able to withstand road shock and vibration for optimal performance



SYLVANIA 2 PACK 1157 LED BULB F25657

SYLVANIA LED bulbs deliver a balanced combination of performance and value. Tuners and auto enthusiasts alike can replace their vehicle's incandescent lights with a bright and long-lasting LED bulb for a unique and modern look in a simple and cost effective way.

- Direct 1157 replacement bulb for Back Up, Cornering, License, Parking, Side Marker, Turn Signal applications
- Also fits 2357 / 2057
- Able to withstand road shock and vibration for optimal performance
- Have thermal management to extend life and increase performance
- Are full power instantly compared to incandescent bulbs' slower light-up -- every foot counts
- LED bulb fits and installs the same as your old bulb
- This is a WHITE LED bulb - ideal for daytime running lights (DRL) and back-up/reverse lights



ZEVO WHITE LED 3157 F25692

The SYLVANIA ZEVO® LED bulbs deliver a brighter, whiter, sharper light. As easy as changing a lightbulb, you can have improved performance and safety for interior and exterior applications. World-class manufacturing and high-quality guarantee an extended lifetime of your ZEVO® bulbs.

- Super bright OSRAM SMD LEDs with high lumen output to fill the reflector with bright, intense light
- This product comes with a limited lifetime warranty
- High reliability with over-engineered thermal management to guarantee exceptional performance through the lifetime of your vehicle
- ZEVO® LED Bulbs are full-power instantly for increased safety, giving drivers around you more time to react compared to incandescent bulbs' slower light-up - every foot counts
- This is a 6000K WHITE LED bulb - Direct 3157 replacement bulb for Backup, Cornering, Daytime Running Light (DRL), Parking, Side Marker, Turn Signal applications



ZEVO AMBER LED 3157 F25693

2 Pack 3157 Amber LED Bulb

The SYLVANIA ZEVO® LED bulbs deliver a brighter, whiter, sharper light. As easy as changing a lightbulb, you can have improved performance and safety for interior and exterior applications. World-class manufacturing and high-quality guarantee an extended lifetime of your ZEVO® bulbs.

- Super bright OSRAM SMD LEDs with high lumen output to fill the reflector with bright, intense light
- This product comes with a limited lifetime warranty
- High reliability with over-engineered thermal management to guarantee exceptional performance through the lifetime of your vehicle
- ZEVO® LED Bulbs are full-power instantly for increased safety, giving drivers around you more time to react compared to incandescent bulbs' slower light-up - every foot counts
- This is an AMBER LED bulb - Direct 3157A replacement bulb for Cornering, Daytime Running Light (DRL), Parking, Side Marker, Turn Signal applications



ZEVO RED LED 3157 F25694

The SYLVANIA ZEVO® LED bulbs deliver a brighter, whiter, sharper light. As easy as changing a lightbulb, you can have improved performance and safety for interior and exterior applications. World-class manufacturing and high-quality guarantee an extended lifetime of your ZEVO® bulbs.

- Super bright OSRAM SMD LEDs with high lumen output to fill the reflector with bright, intense light
- This product comes with a limited lifetime warranty
- High reliability with over-engineered thermal management to guarantee exceptional performance through the lifetime of your vehicle
- ZEVO® LED Bulbs are full-power instantly for increased safety, giving drivers around you more time to react compared to incandescent bulbs' slower light-up - every foot counts
- This is a RED LED bulb - Direct replacement for Brake, Center High Mount Stop Light (CHMSL), Tail applications



ZEVO WHITE LED 3156

F25691

2 Pack 3156 White LED Bulb

The SYLVANIA ZEVO® LED bulbs deliver a brighter, whiter, sharper light. As easy as changing a lightbulb, you can have improved performance and safety for interior and exterior applications. World-class manufacturing and high-quality guarantee an extended lifetime of your ZEVO® bulbs.

- Super bright OSRAM SMD LEDs with high lumen output to fill the reflector with bright, intense light
- This product comes with a limited lifetime warranty
- High reliability with over-engineered thermal management to guarantee exceptional performance through the lifetime of your vehicle
- ZEVO® LED Bulbs are full-power instantly for increased safety, giving drivers around you more time to react compared to incandescent bulbs' slower light-up - every foot counts
- This is a 6000K WHITE LED bulb - Direct 3156 replacement bulb for Backup, Cornering, Daytime Running Light (DRL), Parking, Turn Signal applications



ZEVO WHITE LED 7443 F25695

2 Pack 7443 White LED Bulb

The SYLVANIA ZEVO® LED bulbs deliver a brighter, whiter, sharper light. As easy as changing a lightbulb, you can have improved performance and safety for interior and exterior applications. World-class manufacturing and high-quality guarantee an extended lifetime of your ZEVO® bulbs.

- Super bright OSRAM SMD LEDs with high lumen output to fill the reflector with bright, intense light
- This product comes with a limited lifetime warranty
- High reliability with over-engineered thermal management to guarantee exceptional performance through the lifetime of your vehicle
- ZEVO® LED Bulbs are full-power instantly for increased safety, giving drivers around you more time to react compared to incandescent bulbs' slower light-up - every foot counts
- This is a 6000K WHITE LED bulb - Direct 7443 replacement bulb for Daytime Running Light (DRL), Parking, Side Marker, Turn Signal applications



ZEVO WHITE LED 7444

F25696

The SYLVANIA ZEVO® LED bulbs deliver a brighter, whiter, sharper light. As easy as changing a lightbulb, you can have improved performance and safety for interior and exterior applications. World-class manufacturing and high-quality guarantee an extended lifetime of your ZEVO® bulbs.

- Super bright OSRAM SMD LEDs with high lumen output to fill the reflector with bright, intense light
- This product comes with a limited lifetime warranty
- High reliability with over-engineered thermal management to guarantee exceptional performance through the lifetime of your vehicle
- ZEVO® LED Bulbs are full-power instantly for increased safety, giving drivers around you more time to react compared to incandescent bulbs' slower light-up - every foot counts
- This is a 6000K WHITE LED bulb - Direct 7444 replacement bulb for Side Marker, Turn Signal applications



BULBS — OSRAM SYLVANIA (continued)

ZEVO WHITE LED 921

F25697

The SYLVANIA ZEVO® LED bulbs deliver a brighter, whiter, sharper light. As easy as changing a lightbulb, you can have improved performance and safety for interior and exterior applications. World-class manufacturing and high-quality guarantee an extended lifetime of your ZEVO® bulbs.

- Super bright OSRAM SMD LEDs with high lumen output to fill the reflector with bright, intense light
- This product comes with a limited lifetime warranty
- High reliability with over-engineered thermal management to guarantee exceptional performance through the lifetime of your vehicle
- ZEVO® LED Bulbs are full-power instantly for increased safety, giving drivers around you more time to react compared to incandescent bulbs' slower light-up - every foot counts
- This is a 6000K WHITE LED bulb - Direct replacement for Backup, Brake, Center High Mount Stop Light (CHMSL), Courtesy, Dome, Fog, Tail, Trunk or Cargo, Turn Signal applications



2 PACK LOAD RESISTOR 6 OHM 12 VOLT

F25698

The optional SYLVANIA load equalizer can be used to eliminate the hyper flash (higher frequency turn signal) caused by LED replacement bulbs in some vehicles. Corrects hyper flashing and bulb-out warning caused by LED replacement bulbs. For use with most vehicles. Easy to mount, simply attach the SYLVANIA load equalizer to a flat metal surface for proper heat transfer then, attach wires to those of socket with provided clips. High cooling capacity heat sink to lower surface temperature



2

BULBS — MINIATURE EUROPEAN

Diagram	Description	SAE No.	Color	Volts	Watts	Part No.
A	Park/Brake/Instrument	37		12	2	F22221
B	Indicator/Radio	74		12	2	F21430
C	Instrument	24		12	3	F2406
C	Indicator	24NA	Amber	12	3	F22343
D	Indicator	158		12	4	F2948
E	Signal/Indicator	161		14	3	F23418
E	Instrument/Clock	168		14	5	F21922
E	Sidemarkers/Indicator	193		14	5	F22063
E	Side/Indicator/Warning	194		14	4	F23405
E	Parking/Sidemarkers	194NA	Amber	14	4	F290
F	Sidemarkers	916		13	7	F21079
F	Sidemarkers	916NA	Amber	13	7	F22708
F	Instrument/Courtesy	906		13	9	F23229
F	Dome/Trunk	912		12	13	F21611
F	High Mount Stop	921		12	18	F23455
F	High Mount Stop	922		12	15	F2479
G	Instrument/Dome/Map	211-2		12	3	F253
H	Dome	212-2		13.5	10	F21254
I	Dome/Step/Map	561		12.8	12	F22522
J	Signal/Stop	3057		12.8/14	27/8	F23232
J	Park/Signal	3057NA	Amber	12.8/14	27/8	F23680
J	Park/Signal	3357NA	Amber	12	28	F23919
J	Park/Signal	3357/3457**		12.8/17	28/8	F21279
K	High Mount Stop	3155		12.8	18	F22922
L	Corner/Backup	3156		12.8	27	F22157
L	Corner/Backup	3156NA	Amber	12.8	27	F23179
M	Signal/Stop/Tail	3157NA	Amber	12.8/14	27/8	F22485
M	Park/Signal	3157		12.8/14	27/8	F22579
M	Park/Signal	3757AK	Amber	12.8/14	27/8	F22744
M	Daytime Running	4157LL		12.8/14	28/8	F23015
M	Daytime Running	4157NALL	Amber	12.8/14	28/8	F21309
M	Daytime Running	4114K*		14	31/8	F21512

*High Heat Base

**Lamps are marked 3457, can be used in 3357 applications

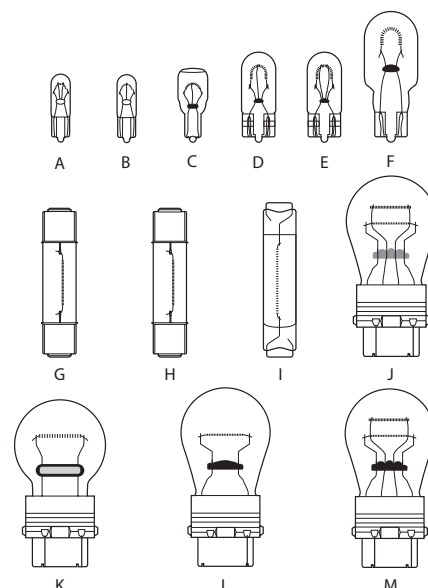
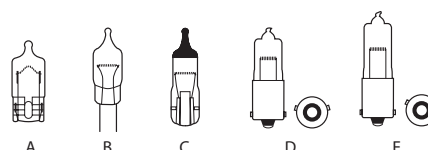


Diagram	Description	Bulb No.	Volts	Watts	Origin	Part No.
A	Various Applications	64150	12	5	Germany	F2643
B	Third Brake Light	64891	12	8	U.S.A.	F23079
C	Mercury/Sable	2040	12.8	8	U.S.A.	F2472
D	Map/Dome	17830	12	5	Germany	F23238
D	Parking Lamp	68161	12	6	Germany	F21652
E	High Mount Stop	68191	12	21	Germany	F2333



BULBS — HALOGEN

Diagram	Description	Bulb No.	Volts	Watts	Part No.
E	H1	64150	12	55	F24948
E	H1	64152	12	100	F24950
F	H3	64151	12	55	F24949
G	H3	64153	12	100	F24951
H	H2	64173	12	55	F24952
H	H2	64174	12	100	F24953

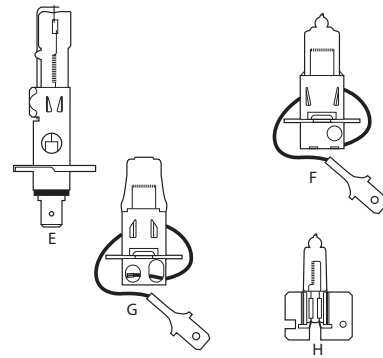


Diagram	Description	Bulb No.	Volts	Watts	Part No.
A	Foglamp/Cornering	889	12	27	F21088
B	Foglamp/Cornering	881	12	27	F22261
B	Foglamp/Cornering	886	12	50	F2924
C	Foglamp/Cornering	880	12	28	F21761
C	Foglamp/Cornering	899	12.8	37.5	F21459
C	Foglamp/Cornering	885	12.8	50	F2679
C	Foglamp/Cornering	893	12	37.5	F23637
D	H13 Headlamp	9008	12.8	55/60	F22019
D	Two Lamp Hi/Low	9004	12.8	45/65	F21682
D	Two Lamp Hi/Low	9004	12.8	45/65	F21612
E	Two Lamp Hi/Low	9007	12	55/65	F2933
E	Two Lamp Hi/Low	9007	12.8	55/65	F23627

Bulk Package

Diagram	Description	Bulb No.	Volts	Watts	Pkg Qty.	Part No.
D	Two Lamp Hi/Low	9004	12.8	45/65	10	F21682B10

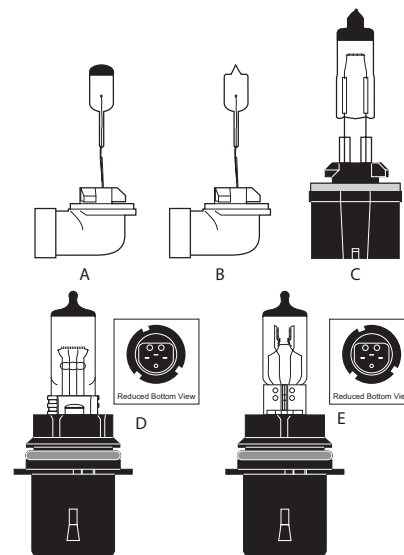
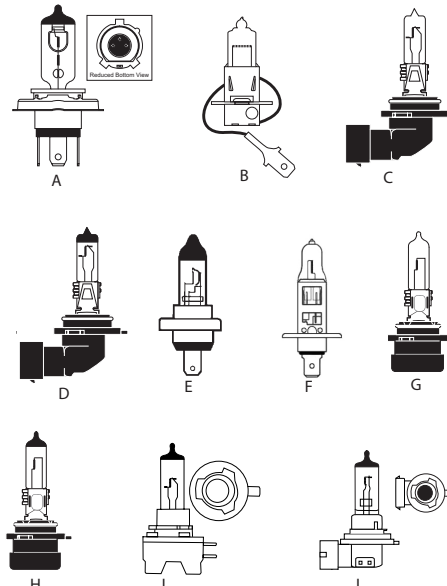


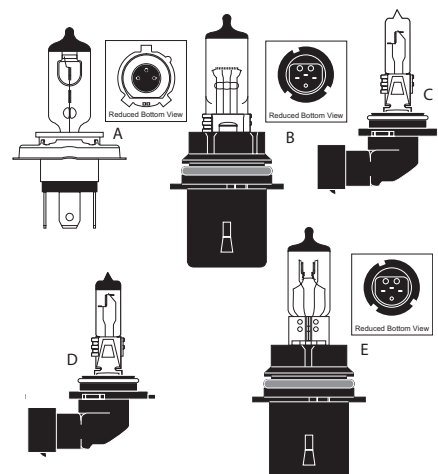
Diagram	Description	Bulb No.	Volts	Watts	Part No.
A	H4 Headlamp	64191	12	100/55	F25676
A	H4 Headlamp	64193	12	60/55	F24955
A	H4 Headlamp	64194	12	100/80	F24956
A	HB2 Headlamp Hi/Lo	9003	12	55/60	F23510
A	HB2 Headlamp Hi/Lo	9003	12	55/60	F21425
B	H3 Halogen	64151	12	55	F25622
C	Four Lamp Hi	9005	12.8	65	F2610
C	Four Lamp Hi	9005	12	65	F23581
C	HIR2 Headlamp	9012LL	12	55	F21425
C	H9 Headlamp	64213	12	65	F23441
C	H9LL Headlamp	64213	12	65	F22615
D	Four Lamp Low	9006	12	55	F2309
D	Fog Lamp	9040	12.8	40	F2143
D	Fog Lamp	9055	12.8	55	F22166
D	H10 Fog Lamp	9145	12.8	45	F21984
D	H8 Headlamp	64212	12	35	F22061
D	H11 LL Head / Fog Lamp	64211	12	55	F21517
E	H7 Headlamp	64210	12	55	F23941
E	H7 Headlamp	H7-55W	12	55	F2530
E	Long Life Halogen	PX26d	12	55	F25607
F	H1 Bulb	1900	24	70	F25556
G	Headlamp (Special Base)	9005XS	12.8	65	F22657
H	Headlamp (Special Base)	9006XS	12.8	60	F2366
I	H11B Headlamp	64241	12	55	F2911
J	H16 Fog Light	64219	12	19	F25552



BULBS — PREMIUM HALOGEN

Narva - Blue Halogen

Diagram	Description	Bulb No.	Volts	Watts	Origin	Part No.
A	Headlamp Hi/Low-Blue	9003 BLB	12	60/55	Germany	F23613
B	Two lamp Hi/Low-Blue	9004 BLB	12	65/45	Germany	F21222



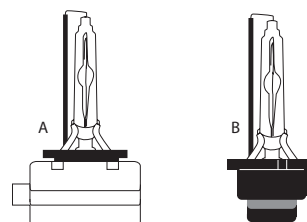
Silverstar™ - High Performance Halogen

Diagram	Description	Bulb No.	Volts	Watts	Origin	Part No.
B	Two lamp Hi/Low-SS	9004 ST	12	70/50	USA	F2651
C	Four lamp Hi-SS	9005 ST	12	70	USA	F22099
D	Four lamp Lo-SS	9006 ST	12	55	USA	F21634
E	Two lamp Hi/Low-SS	9007 ST	12	70/60	USA	F21066

BULBS — HIGH INTENSITY DISCHARGE

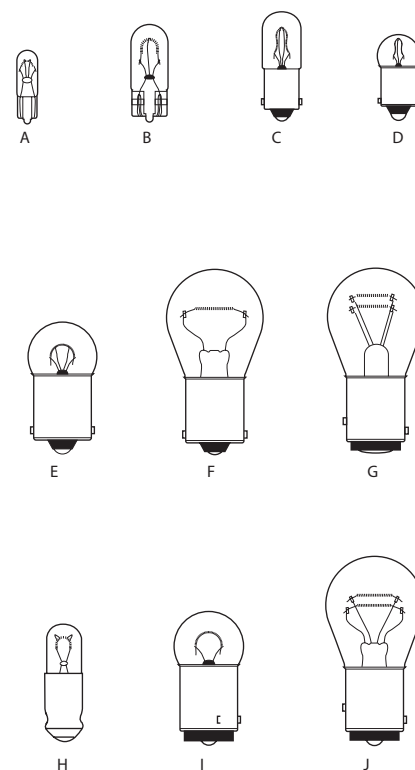
High Intensity Discharge Bulbs

Diagram	Description	Bulb No.	Volts	Watts	Part No.
A	D1r Hid Capsule Halogen	D1R	85	35	F24799
A	D1s Hid Capsule Halogen	D1S	85	35	F24798
B	D2r Hid Capsule Halogen	D2R	85	35	F24801
B	D2s Hid Capsule Halogen	D2S	85	35	F24800
B	D4r Hid Capsule Halogen	D4R	42	35	F24805



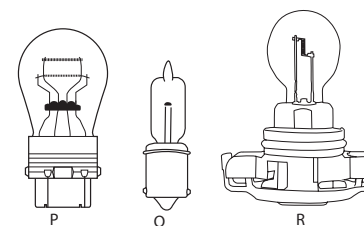
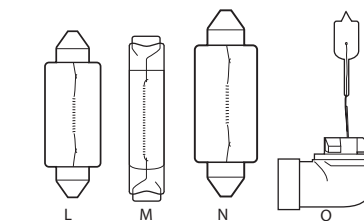
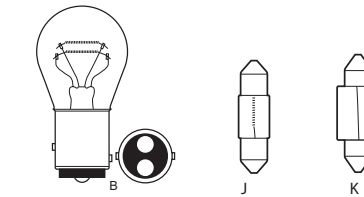
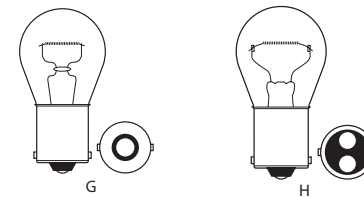
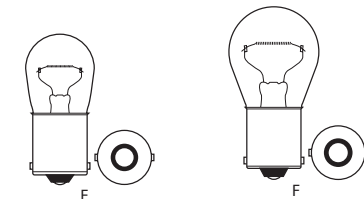
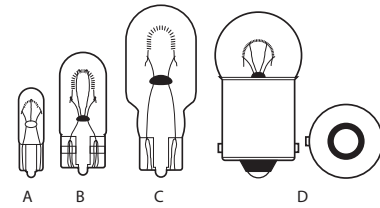
BULBS — 28 VOLT

Diagram	Description	Bulb No.	Volts	Watts	Part No.
A	Indicator	17	28	2	F21256
B	Aircraft	400	28	2.8	F23559
B	Indicator	656	28	1.68	F21706
B	Indicator	657	28	2.2	F2747
B	Indicator	1829	28	1.96	F22943
C	Indicator	757	28	2	F22040
C	Indicator	1820	28	2.8	F23597
C	Instrument	1864	28	4.7	F22110
C	Indicator	1873	28	5.6	F23324
D	Aircraft	356	28	4.7	F23117
E	Aircraft	303	28	8.4	F21809
E	Instrument	623	28	10.3	F22952
E	Instrument	1251	28	6.4	F2708
F	Auto	1203	28	20	F21878
F	Aircraft-Spiral Lead	1683	28	28.5	F21009
G	Marine	1638	28	28.5	F2716
H	Indicator	388	28	1.1	F2399
I	Marine	624	28	10.3	F22297
J	Aircraft	1662	28/28	25/9.5	F2806



BULBS — ECONOMY IMPORTED

Diagram	Description	Bulb No.	Color	Volts	Watts	Part No.
A	T-1 3/4 Wedge Glove Compartment	74	Clear	14	1.4	F25095
A	Indicator	73		14	1	F22230
B	T-2 3/4 wedge rear side marker	24	Clear	14	3.36	F25091
B	T-2 3/4 wedge nat amber front side marker	24NA	Amber	14	3.36	F25092
B	Side/Indicator/Warning	194		14	3	F21883
B	Parking/Sidemarkers	194NA	Amber	14	4	F23782
B	Indicator	194B	Blue	14	3	F23619
B	Indicator	194R	Red	14	3	F22731
B	Indicator	755		6.3	0.95	F23309
B	Radio	1866		6.3	1.58	F2817
C	T-5 wedge map/dome	906	Clear	13.5	9.3	F25097
C	T-5 wedge trunk	912	Clear	12.8	12.8	F25099
C	T-5 wedge read side marker	916	Clear	13.5	7.29	F25100
C	T-5 wedge high mount stop	921	Clear	12.8	17.92	F25102
C	T-5 wedge high mount stop	922	Clear	12.8	12.5	F25103
C	T5 wedge amber map	906NA	Amber	13	9.3	F25098
C	T5 wedge nat amber parking	916NA	Amber	13.5	7.29	F25101
C	Backup	7441		12.8	27	F23398
C	Auto	7443NA	Amber	12	21/5	F2722
C	Long Life	7443	Clear	12	21/5	F25871
C	Long Life	7444	Clear	12.8	12/8	F25872
C	Side,indicator	7444NA	Amber	13.5	25/6	F24775
C	Step/Courtesy	904		13.5	9	F2984
C	Appliance	917		12	14	F2264
C	Trunk	920		12.8	15	F23092
D	Park/License/Tail	67		13.5	8	F22341
D	Instrument/Hood/Tail	89		12	10	F21677
E	bulb ba15d	90	Clear	13	7.54	F25096
E	sc ba15s license plate	97	Clear	13.5	9.3	F25104
E	bayonet ba15s step/courtesy	1003	Clear	12.8	12	F25079
E	bayonet ba15d step courtesy	1004	Clear	12.8	12	F25080
E	T-3 1/4 m bayonet glove compartment	1816	Clear	13	4.2	F25085
E	T-3 1/4 m bayonet parking	1889	Clear	13	3.5	F25086
E	T-3 1/4 m bayonet glove compartment	1891	Clear	14	3.3	F25087
E	T-3 1/4 mini bayonet ba9s glove compartment	1893	Clear	14	4.6	F25088
E	G4 1/2 mini ba9s glove compartment	1895	Clear	14	3.78	F25089
E	Indicator	105		12.8	12.8	F22276
F	mini bayonet ba9s license plate	57	Clear	14	3.36	F25094
F	DC index bayonet 15d	198	Clear	12	14	F25090
F	SC bayonet 15s nat amber front turn signal	1156NA	Amber	12.8	26.88	F25081
F	S8 DC bayonet 15d front turn signal	1157NA	Clear	12.8/14	26.88	F25082
F	S8 SC bayonet nat amber front turn signal	1295NA	Amber	12.5	37.5	F25083
F	Auto	1141		12	18	F22003
F	Corner/Backup/Stop	1156		12	25	F2100
F	Tail/Stop Nickel Plated	1156	Clear	12.8	26	F25842
F	Corner/Backup/Stop	1156DC		12.8	26.88	F24819
G	Auto	1195		12.5	37.5	F23765
H	1176 17/8 Watt Automotive Bulb	1176	Clear	12.8/14	17/8	F22691
H	Backup	6451	Clear	12	15	F25623
I	Tail/Stop	1154		12.8	18.4	F21281
I	Tail/Stop	1157		12/14	27/8	F22709
I	Tail/Stop Nickel Plated	1157	Clear	12.8	26	F25843
I	Signal/Park	1157NA	Amber	12/14	27/8	F21681
I	Stop/Tail/Park	2057		12/14	27/7	F21987
I	Sidemarkers/Stop/Turn	2057NA	Amber	12/14	27/7	F23496
J	Dome	3021		12	3	F21358
J	Dome	3022		12	5	F2363
K	Dome	3175		12	10	F23463
L	High Mount Stop	211		12	3	F22170
M	T-3 loop dome / step courtesy	561	Clear	12.8	12.4	F25093
M	Indicator	562		13	10	F21375
N	Directional	7506	Clear	12	21	F25624
O	Foglamp/Cornering	894		12.8	37.5	F2936
O	Foglamp/Cornering	896		12.8	37.5	F2707
O	Foglamp	898		12.8	37.5	F23259
P	Daytime Running	5702NAK	Amber	12.8/14	29/8	F21274
P	Tail/Stop	3047		12.8/14	20/7	F23436
P	Tail/Stop	3047LL		12.8/14	20/7	F22306
P	Signal	4057LL		12.8/14	28.5/6.72	F22130
Q	Indicator	795		12.8	50	F23983
R	Fog	2504		12	24	F24825
R	Fog/Driving	5202		12	24	F24826

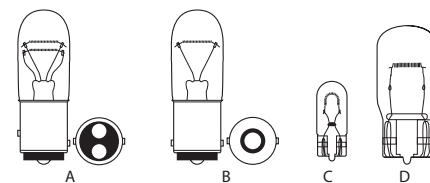


BULBS — JAPANESE STYLE

Diagram	Description	Bulb No.	Volts	Watts	Part No.
A	Krypton Bulb*	3496	12	27/8	F81289
B	Krypton Bulb*	3497	12	27	F84363
C	Krypton Bulb	3652	12	5	F21686
D	Tail Light	P7440	12	21	F22361
D	Tail Light**	P7440A	12	21	F83302
D	Tail/Brake Lights	P7443	12	21/5	F2994

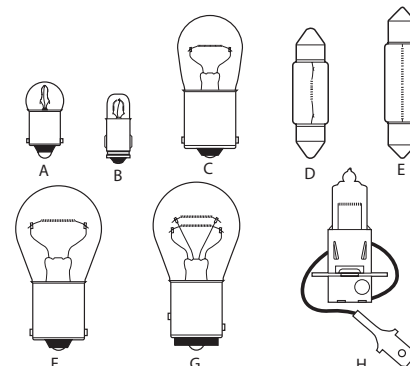
*Made in Taiwan

**Amber



BULBS — 24 VOLT

Diagram	Description	Bulb No.	Volts	Watts	Part No.
A	Indicator	1450	24	1	F2465
B	Auto	3899	24	3	F23360
C	Auto-European	5627	24	4.8	F21117
C	Auto-European	5637	24	10	F22570
D	Auto-European	6423	24	4.8	F2904
E	Auto-European	6429	24	10	F2342
F	Aircraft	7511	24	21	F2808
G	Aircraft	7537	24/24	21/5	F21753
H	Off Road	H3	24	70	F21424



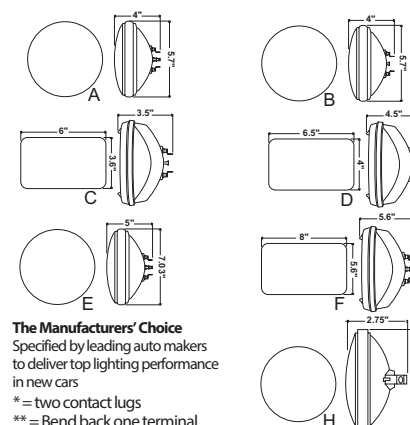
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BULBS — SEALED BEAM

OSRAM SYLVANIA



Diagram	Description	SAE No.	Contact Lugs	Watts	Part No.
A	Four Lamp Round Low	5006	3	36/35	F23640
B	Four Lamp Round High	H5001	2	50	F2945
C	Four Lamp Rec. Low	H4656	3	35/35	F23829
C	Four Lamp Rec. High*	H4651	2	50	F22787
D	Four Lamp Rec. High	H4701	2	65	F22018
E	Two Lamp Round Hi/Low	H6024	3	60/35	F21548
F	Two Lamp Rec. Hi/Low	H6054	3	65/35	F21014
H	Tractor, Round	4411	2	35	F23298



The Manufacturers' Choice
Specified by leading auto makers to deliver top lighting performance in new cars
* = two contact lugs
** = Bend back one terminal

BULBS — SUBSTITUTION GUIDE

SEALED BEAMS		
4000	can use	H5006
4001	use	5001
4002	use	4000
4004	use	5001
4040	can use	H5006
4651	can use	H4651
4652	can use	H5001
5001	can use	H5001
6012	use	6014
6014	can use	H6024
6015	can use	H6024
6016	use	H6024
6017	use	H6024
6052	can use	H6054
6053	can use	H6054
H4001	use	H5001
H4652	use	H4656
H4662	use	H4656
H6014	use	H6024
H6017	use	H6024
H6052	use	H6024

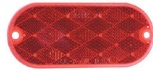
MINIATURE LAMPS		
67	can use	97
99	can use	90
158	can use	194
1034	can use	1157
1034NA	can use	1157NA
1073	can use	1156
1155	can use	97
1156	can use	199
1157	can use	198
1889	can use	1891
1898	can use	1893
2355	use	3155
2356	use	3156
2358	use	3057
2358NA	use	3057NA
2359	use	3157
2359NA	use	3157NA
2455	use	3155
2456	use	3156
2457	use	3057
2457NA	use	3057NA
2458	use	3154
2458NA	use	3157NA
3156NA	use	3157NA

REFLECTORS

OBLONG QUICK MOUNT



Color	PM Part No.	Part No.
Amber	B480A	F22848
Red	B480R	F2873

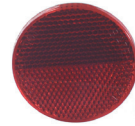


Adhesive backing permanently mounts reflector to any clean, flat surface
Measure 4-3/8" x 1-7/8"

ROUND QUICK MOUNT

Color	PM Part No.	Part No.
Amber	B481A	F21980
Red	B481R	F21298

2-3/8" Acrylic reflector with permanent adhesive backing is ideal where space is minimal



ALUMINUM OVAL

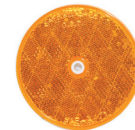
Color	PM Part No.	Part No.
Amber	472A	F22289
Red	472R	F23738



3" Diameter acrylic lens in low profile aluminum housing.
Completely rust proof

ROUND CENTER MOUNT

Color	Diameter	Hole Size	Part No.
Amber	3-3/16"	3/16"	F22827
Red	3-3/16"	3/16"	F21827
Amber	2-3/8"	1/4"	F22679
Red	2-3/8"	1/4"	F2146



SPLITFIRE™ WIDE ANGLE REFLECTORS

Round

Measures 2-7/8" Diameter

Color	PM Part No.	Part No.
Amber	B490A	F23725
Red	B490R	F21842

- Three sizes available in amber and red
- Hermetically sealed and unbreakable
- Mounts on flat or curved surfaces
- Industrial-strength adhesive
- Easy to install and stays in place
- 50% wider angle of reflectivity compared to conventional reflectors

Rectangular

Measures 2-3/4" x 1-3/4"

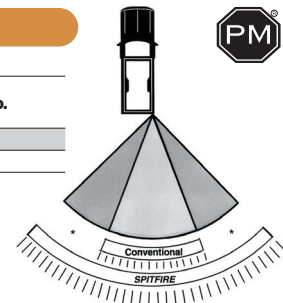
Color	PM Part No.	Part No.
Amber	B489A	F22356
Red	B489R	F22172

- 47,000 microprisms per square inch provides superior candlepower
- Molded reflector-not tape or plastic reflector
- Ultra-thin design, only .012 inches thick
- Exceeds D.O.T. specifications

Rectangular

Measures 4-5/16" x 1-11/16"

Color	PM Part No.	Part No.
Amber	B491A	F23051
Red	B491R	F23210



LIGHTING — TRUCK & TRAILER - LED

LED LIGHTING — FEATURES AND BENEFITS

DURABILITY

Unlike incandescent lights, LED's have no filaments. Light is produced when the gas inside the bulb is energized. With no filament to break due to shock or vibration, LED's life expectancy is greatly enhanced. The manufacturer of our LED's guarantees the units for 100,000 hours.

POWER USAGE

LED's power consumption is 90% less than their incandescent counterparts. This is especially important in tractor trailers rigs, or emergency vehicles that can have as 100 more units on one vehicle. LED's will substantially reduce the amperage draw on the vehicles charging system, thereby increasing its life expectancy

6-1/2" OVAL SIDE MARKER

Description	Color	Part No.
Turn, Marker	Amber 10 LED	F21540
Grommet	N/A	F2801

Hard wired with AMP plug



SAFETY

Visibility is greatly enhanced with the use of LED lighting. LED's project the light in the direction that they are aimed, which makes them much more visible under all driving conditions. They also reach full illumination in significantly less time than incandescent lights, which gives other drivers more reaction time.



4" ROUND

Description	Color	Part No.
Stop, Turn, Tail	Red 44 LED	F23454
Stop, Turn, Tail	Red 9 LED	F22799
S, T, T w/ Flange	Red 44 LED	F2609
Park, Turn	Amber 48 LED	F21712
Park, Turn	Amber 15 LED	F21763
Back-Up	Clear 18 LED	F22568
Flange	Black	F21642
Grommet	N/A	F22913
Plug	N/A	F2225



LIGHTING — TRUCK & TRAILER - LED (continued)

6" OVAL

Description	Color	Part No.
Stop, Turn, Tail	Red 60 LED	F22739
Stop, Turn, Tail	Red 9 LED	F22761
Park, Turn	Amber 15 LED	F22860
Back-Up	Clear 18 LED	F23966
Grommet	N/A	F2801
Plug	N/A	F2225



OVAL LED AUXILIARY/MID-TURN LIGHT

F25068

- Two-function, 10-diode LED light that may be used as auxiliary mid-turn/mid-marker light, while functioning as side marker light and side reflector.
- Integrated industry-standard PL3 socket.
- Sealed lens and housing.
- Operates from 9-16 volts.
- Compatible with connecting plugs.



LED LICENSE LIGHT 1.7" X 1"

F25904

- 12.8VDC Voltage
- 90mA Amp Draw
- Dimensions with Bezel 2.5" W x 1.2" H x 0.9" D
- 2 Mounting Hole Surface, 2" C to C
- 2 Leads Blunt Cut 12"
- 4 LEDs
- **Legal Heading:** DOT SAE L
- DOT / SAE J587



LIGHTING TRUCK & TRAILER LED

F25749

- Compact efficient design
- Single Diode
- Advanced optics for bright, even illumination
- Surface mounts on 2 in. centers



SINGLE DIODE LED UTILITY LIGHT LICENSE PLATE LIGHT

F25763

- Single-diode LED utility Light
- Lens is welded to housing to form single rugged unit
- Hardwired design with two .180 bullet terminals
- 9-16 volt operating range
- 2.50" long x 1.21" wide x .84" height
- Fits into 727.242 License Light Mounting Bracket
- **Made in USA**



LICENSE LIGHT MOUNTING BRACKET

F82506

- High-impact polycarbonate
- 150 series lamp clamps into housing to form a single unit
- Use F296 or F25763 LED light for license light application



3/4" CLEARANCE/MARKER

Color	Part No.
Amber	F25699
Red	F25700

- 3/4" clearance marker led light
- **P2PC DOT/SAE:** J592e, J578c



11 DIODE COMBINATION LED STOP, TURN SIGNAL, AND TAIL LIGHT



F85762

15 DIODE COMBINATION LED STOP, TURN SIGNAL, TAIL LIGHT, AND LICENSE PLATE LIGHT



F85763

MOUNTING BRACKET



F25019

- Solid state construction – no bulbs to break or burn out
- 100,000 hour rated life
- Fully sealed, submersible construction
- Potted circuitry protects against moisture, corrosion, and vibration
- Lower amp draw than incandescent lights.
- Integral, dedicated side marker diode
- Exceeds all DOT rear lighting and reflex requirements for trailers less than 80" wide.

2-1/2" ROUND CLEARANCE/MARKER

Description	Color	Part No.
Marker, Light	Red 13 LED	F22539
Marker, Light	Amber 13 LED	F2242
Grommet	N/A	F22847
Plug	N/A	F22752



2" ROUND CLEARANCE/MARKER

Description	Color	Part No.
Marker, Light	Red 9 LED	F21090
Marker, Light	Amber 9 LED	F2934
Grommet	N/A	F21223
Plug	N/A	F22752



LIGHTING — TRUCK & TRAILER - LED (continued)

6" X 2" CLEARANCE/MARKER

Description	Color	Part No.
Marker, Light	Red 6 LED	F22222
Marker, Light	Amber 6 LED	F2362

Lens acts as reflector. Hard wired - no plug required.
2 screw mount holes.



2-1/2" X 1-1/4" CLEARANCE/MARKER

Description	Color	Part No.
Marker, Light	Red 8 LED	F22229
Marker, Light	Amber 8 LED	F2504
Mounting Bracket	Gray	F21470
Plug	N/A	F22752



4-1/8" X 2" OVAL CLEARANCE/MARKER

Description	Color	Part No.
Marker, Light	Red 2 LED	F22365

Lens acts as reflector. Hard wired - no plug required.
3" center screw mount holes.



4" X 2" "BULLSEYE" CLEARANCE/MARKER

Description	Color	Part No.
Marker, Light	Red 14 LED	F2556
Marker, Light	Amber 14 LED	F21721

Hard wired - w/one bullet & one ring connector 3" center screw mount holes on back



4" X 2" CLEARANCE/MARKER

Description	Color	Part No.
Marker, Light	Red 2 LED	F25850
Marker, Light	Amber 2 LED	F25851

- 4 inch x 2 inch
- Mounts on standard 3" centers
- 12 diodes
- 9-32 volt operating range
- PC-rated light functions as both clearance and side marker when mounted at a 45° angle



4" X 2" "BULLSEYE" CLEARANCE/MARKER

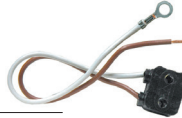
Description	Color	Part No.
Marker, Light	Red 2 LED	F21631
Marker, Light	Amber 2 LED	F23823

Single wire - w/ bullet connector, grounds thru screw mount



4" X 1-1/4" CLEARANCE/MARKER

Description	Color	Part No.
Marker, Light	Red 4 LED	F2931
Marker, Light	Amber 4 LED	F22949
Mounting Bracket	Gray	F2463
Plug	N/A	F2468



2" BEEHIVE CLEARANCE/MARKER

Description	Color	Part No.
Grommet	N/A	F21223
Plug	N/A	F22752



2-1/2" BEEHIVE CLEARANCE/MARKER

Description	Color	Part No.
Marker, Light	Amber 13 LED	F22193
Grommet	N/A	F22847
Plug	N/A	F22752



4-3/4" X 1-1/2" CLEARANCE MARKER

Description	Color	Part No.
Marker, Light	Red 4 LED	F23420

Hard wired - no plug required.
4" center screw mount holes.



6-1/4" X 1-7/8" PETERBUILT STYLE MARKERS

Description	Color	Part No.
Marker, Light	Amber 12 LED	F23218

Hard wired - w/one bullet & one ring connector

LED CAB CLEARANCE MARKER

- F24116
- Use on Mack, Navistar, Ford, Freightliner and Peterbilt truck
 - LED lamp
 - Amber Lens
 - 2-5/8" x 7-9/16" x 2-1/8"
 - Replacement lens F24119



LED ULTRA-BRIGHT

- F25814
- LEDs: 16
 - Lumens: 2,100
 - Dimensions: 5.9" x 3.6" x 1.5"
 - Voltage: 12/24VDC Auto Select Voltage
 - Amp Draw: 2.4A 12V 1.2A 24V
 - Connector: 2 Blunt Cut 11" Jacketed Leads
 - Mounting: 5/16" Stainless Steel Bolt & Bracket



MULTI-VOLTAGE WORK/IMPLEMENT LIGHT

- F2421
- 6 white diodes
 - Flood Beam Pattern.
 - 400 Lumens
 - Aluminum Housing.
 - 4" x 6"
 - Polycarbonate Lens
 - 2 wire 11" leads
 - Stainless Steel mounting bracket & bolt.
 - 12 & 24 volt systems



MULTI-VOLTAGE WORK/IMPLEMENT LIGHT

- F81103
- 10 Super-high output white diodes
 - 450 lumens
 - Custom fresnel lens for a bright, round pattern
 - 4.85" (123mm) diameter
 - High vibration resistance.
 - Hard-wired design for durability
 - 100,000 hour diode life
 - 12 & 24 volt systems



LIGHTING — TRUCK & TRAILER - LED (continued)



RED LIGHT BAR 6 LED

F25625

- Sealed LED Identification bar for over-80" applications
- Stainless steel bar is corrosion-resistant with three sealed LED lights
- Pre-wired with single 60" hardwired lead wire
- Mounts on 8.5" centers

LED AMBER STROBE LIGHT

F25606

- 3 LEDs
- Polycarbonate Lens & Housing
- SAE J845 W3
- Voltage 12-80VDC
- Amp Draw 200ma
- Mounting 2 Hole
- Height 4.80"
- Diameter 2.90"
- Connector 2 leads
- 5 Year Warranty



TRACTOR / IMPLEMENT LIGHT

F81827

- 6 Super Bright 1 Watt LEDs
- 550 lumens
- Poly-Carbonate Lens
- Aluminum Black Powder Coated Housing
- 4.5" diameter x 2.2" deep
- Stainless Steel Mounting Bracket & Bolt
- 12 volt systems



AMBER LED MICRO-STROBE LIGHT

with Lighter Socket Plug

F25844

- Meets SAE J845, Class 2A specifications
- 16 super bright diodes
- 9-36 volt operating range
- Triple flash function
- 65 triple flashes per minute
- Screw-on Fresnel lens design with weather-resistant O-ring seal



2

LIGHTING — TRUCK & TRAILER - INCANDESCENT

RECTANGULAR TWO BULB



Color	PM Part No.	Part No.
Amber	138A	F23135
Red	138R	F21478
Amber Repl. Lens	138-15A	F21727
Red Repl. Lens	138-15R	F22790



Replaces:

PM	Truck-Light	Signal-Stat	Grote
138A/R	26302R/Y	1211	46792/93
138-15A/R	99053R/Y	9007/R	91962/63

Popular style rectangular clearance marker light has a molded plastic base containing two of PM's patented VIBAR® sockets for prolonged bulb life. All metal parts are tin-plated brass and interchangeable with many similar competitive models

2-1/2" SEALED LIGHT WITH REFLECTORIZED LENS

Color	PM Part No.	Part No.
Amber	143A	F21148
Red	143R	F23567



Replaces:

PM	Truck-Light	Signal-Stat	Grote
143A/R	10205R/Y	1011	45832/33

Lexan® lens and housing are sonic-welded into a sealed unit for maximum service and protection

CAST ALUMINUM

Color	PM Part No.	Part No.
Red	123R	F21956

Replaces:

PM	Truck-Light	Signal-Stat	Grote
123A/R		1113/A	46282/83

Extra-strength alloy housing. Flat back design eliminates the need for a socket hole



2-1/2" SEALED LIGHT



Color	PM Part No.	Part No.
Amber	142A	F21423
Red	142R	F22750

Replaces:

PM	Truck-Light	Signal-Stat	Grote
142A/R	10202R/Y	1010	45812/13

Lexan® lens and housing are sonic-welded into a sealed unit for maximum service and protection.



2-1/2" OPEN ROUND GROMMET

Description	PM Part No.	Part No.
2-1/2" Grommet Black Vinyl	M50100-B	F24824

Used to Mount 2-1/2" Marker Lights



2" SEALED LIGHTS

Description	Color	PM Part No.	Truck Light	Signal Stat	Grote	Part No.
Marker	Amber	146A	30200Y	1030Y	45823	F23792
Marker	Red	146R	30200R	1030R	45822	F23521
Grommet	Black	146-18	N/A	N/A	N/A	F21223
Plug	N/A	142-49	N/A	N/A	N/A	F22752

Lexan® lens and housing are sonic-welded into a single unit for maximum service and protection.



LIGHTING — TRUCK & TRAILER - INCANDESCENT (continued)

2-1/2" RECESSED MOUNT GROMMET AND PLUG

Description	PM Part No.	Part No.
Grommet	142-18	F22847
Plug	142-49	F22752



For recessed mounting of 2-1/2" sealed lights. Requires a 3" mounting hole. Use with F21423, F22750, F21148 and F23567.

RECTANGULAR LIGHT PLUG

Description	PM Part No.	Part No.
.156 Tip	160-49	F23847
.180 Tip	160-491	F22991

Required to complete installation of part # F23711, F22647



2-1/2" X 1-1/4" SEALED LIGHTS

Description	Color	PM Part No.	Truck Light	Signal Stat	Grote	Part No.
Marker Light	Amber	150A	15200Y	1500A	46413	F23211
Marker Light	Red	150R	15200R	1500R	46413R	F23964
Utility Light	Clear	150W	15200C3	1500W	60271	F296
Mounting Bracket	Gray	150-09	N/A	N/A	N/A	F21470
Mounting Bracket	Chrome	150-10	N/A	N/A	N/A	F23217
Plug Assy	N/A	142-49	N/A	N/A	N/A	F22752



Maybe used as combination clearance and side marker light features 15,000 long life bulb

SEALED RECTANGULAR LIGHT TWO BULB

Replaces:

PM	Truck-Light	Signal-Stat	Grote
155A/R	21001A/R	1400/A	46872/73

Color	PM Part No.	Part No.
Amber	155A	F23711
Red	155R	F22647

Internal brass contacts for extended services and corrosion resistances. Sealed for maximum weather resistance.



STEEL ARMORED

Color	PM Part No.	Part No.
Amber	119A	F23654
Red	119R	F2414
Amber Repl. Lens	119-15A	F2196
Red Repl. Lens	119-15R	F23530



Replaces:

PM	Truck-Light	Signal-Stat	Grote
119A/R	26315Y/R	N/A	N/A

Acrylic lens is guarded by a 14 gauge, bright plated steel housing. Can be spot-welded to side rails, truck bed rails, etc.

OBLONG TWO BULB

Description	Color	PM Part No.	Part No.
Replacement Lens	Amber	134-15A	F22145
Replacement Lens	Red	134-15R	F21921

Replaces:

PM	Truck-Light	Signal-Stat	Grote
135A/R	26301R/Y	1259	45262/63
134-15A/R	99055R/Y	9093/A	91572/73

Color	PM Part No.	Part No.
Amber	135A	F2976
Red	135R	F21141

Popular style two bulb clearance marker light features two of PM's patented VIBAR® sockets for prolonged bulb life. Acrylic lens snap-seals onto housing.



SEALED LIGHT TWO BULB

Description	Color	PM Part No.	Part No.
Marker Light	Amber	154A	F2935
Marker Light	Red	154R	F2281
License / Utility Light	Clear	154C	F23102
Mounting Bracket		154-09K	F2463
Marker Light Kit	Amber	154KA	F2965
Marker Light Kit	Red	154KR	F23615



*Kit includes lights and mounting brackets

Replaces:

PM	Truck-Light	Signal-Stat	Grote
154A/R	19200R/Y	1900/A	46742/43

Lexan® lens and housing are sonic-welded into a single, two bulb unit for maximum service. Two bulbs provide redundant protection from bulb failure. Mounting screws serve as ground when mounted on a metallic surface. Lead wire is molded into bracket for ease and reliability of installation. Interchangeable with all competitive units.

MINI-LIGHT

Color	PM Part No.	Part No.
Amber	107WA	F21400
Red	107WR	F23943



Replaces:

PM	Truck-Light	Signal-Stat	Grote
107WA/R	26306Y/R	1507A/1507	46883/82
107-15A/R	99052Y/R	9342A/9342	92433/32

Amber and red units function as clearance, side marker, or identification light, and maybe used as combination side marker and clearance light when properly mounted.

LIGHTING — TRUCK & TRAILER - INCANDESCENT (continued)

COMBINATION TURN SIGNAL & SIDE MARKER

Description	Color	PM Part No.	Part No.
Marker	Amber	352A	F2766
Plug	N/A	421-491	F21585
Grommet	N/A	421-18	F2801
Bracket	Black	421-09	F22139

Amber unit meets SAE recommended practice for side turn signal, while providing side marker light and side reflector functions. Red unit functions as rear marker or tracking light, and reflector.

Replaces:

PM	Truck-Light	Signal-Stat	Grote
352A/R	60215Y/R	4073/A	52513/12



SEALED OVAL LIGHTS



Description	Color	PM Part No.	Truck Light	Signal Stat	Grote	Part No.
Turn Signal	Amber	421A	60202Y	4070A	52893	F23305
Stop, Turn, Tail	Red	421R	60202R	4070	52892	F2997
Back Up	Clear	416	60204	4071W	62231	F22423
Grommet	Black	421-18	N/A	N/A	N/A	F2801
Plug Right Angle	N/A	421-491	N/A	N/A	N/A	F21585
Mounting Bracket	Black	421-09	N/A	N/A	N/A	F22139



F22139



F2801

These lights meet DOT requirements in either horizontal or vertical position

COMBINATION LIGHT



Description	PM Part No.	Part No.
w/o license illuminator	442	F2915
with license illuminator	442L	F22463
Replacement Lens	445-25	F2814

Universal, OEM style replacement for Chevrolet/GMC, Ford, and International. Three 1/4" diameter mounting studs on 2" triangular pattern. Junction box has universal terminals. Interchangeable with competitive units.

Replaces:

PM	Truck-Light	Signal-Stat	Grote
442	80331R	4012/4014	50952
442L	80330R	4013/4015	50942
445-25	99164R	9049	91302

442 Replaces
(w/o license illuminator)
Chevrolet/GMC 715104
795059 (right side)
Ford D9HZ-134058
IH 467708 C91,
424539 C91, 590158 C91

442L Replaces
(w/ license illuminator)
Chevrolet/GMC 715103,
795058 (left side)
Ford D8HZ-13404A
IH 467707 C91,
424538 C91, 590157 C91



UNIVERSAL COMBINATION

PM Part No.	Part No.
445	F23866

Universal light features three 1/4" diameter mounting studs on 2" triangular pattern. Durable, molded housing will never corrode. Sealed wire loom harness with three lead wires. Will fit Peterbilt, Mack, White and Jeep.

Replaces:

PM	Truck-Light	Signal-Stat	Grote
445	80333R	4027	50972



4" ROUND SEALED LIGHTS



Description	Color	PM Part No.	Truck Light	Signal Stat	Grote	Part No.
Back Up Light	Clear	415	40204	4041W	6271	F22476
Turn Signal	Amber	426A	40202	4040A	52722-3	F22516
Stop-Turn-Tail	Red	426R	40242	4040R	52722-2	F22127
Grommet	Black	426-18	N/A	N/A	N/A	F22913
Plug	N/A	431-491	N/A	N/A	N/A	F2225
Right Angle Plug	N/A	421-491	N/A	N/A	N/A	F21585
Mounting Bracket	Black	426-09	N/A	N/A	N/A	F21729



F22913



F21729

Lexan® housing and lens are permanently sealed to eliminate corrosion. The bulb is cradled in PM's patented VIBAR® socket which literally floats the bulb filaments soaking up road shock and vibration.

LIGHTING — TRUCK & TRAILER - INCANDESCENT (continued)

SNAP-IN LICENSE/UTILITY LIGHT

F23905

- Chrome plated steel light snaps into 1-1/4" diameter hole, overall diameter 1-1/2"
- Ideal for courtesy, interior instrument and license lights
- Commonly used to illuminate a license plate on step bumpers
- Two units required for legal license illumination.



LICENSE LIGHT

F21610

- Chrome plated steel housing and mounting bracket
- Traditional styling allows for numerous applications
- Mounts on 2" centers



TRACTOR / IMPLEMENT LIGHT

PM Part No.	Part No.
M507	F23365

Replaces:

PM	Truck-Light	Signal-Stat	Grote
M507	80360-3	620W-3	64931

Rubber molded housing cushions light from shock and vibration. Universal 5/16" mounting stud and adjustable zinc-plated bracket allows mounting in any position. 10" lead wire exits through back of housing.



LICENSE LIGHT

F23550

- Features tough polycarbonate lens and ABS hood
- Surface mounts on 3-1/4" centers



TRACTOR & WORK FLOOD LIGHT

PM Part No.	Part No.
504HF	F22977

Replaces:

PM	Truck-Light	Signal-Stat
504HF	80395	629WD

Heavy-Duty lamp with 4" x 6" lens functions as tractor or general work light. Features H3 53-watt halogen replaceable bulb, polycarbonate housing and black-plated mounting bracket for corrosion-free service.

Use Bulb # F21424 For 24 Volt Applications



SCREW MOUNT LICENSE PLATE LIGHT

F83005

- Features our patented VIBAR® socket and single lens screw for easy bulb replacement
- Polycarbonate lens and ABS housing provide protection against damage and all internal parts are corrosion-resistant
- Surface mounts with two screws on 1 3/4 inch centers
- Grounds through the mounting screws



BACK-UP ALARMS

BACK-UP ALARM

F2670 - 97 decibels

F22000 - 102 decibels

Single sound level at 97 decibels. Glass filled nylon housing provides rugged durability. All internal components are covered in epoxy for protection from vibration and moisture. Operates in 12 to 24 volts systems and draws less than .5amp



MINI BACK-UP ALARM

F22231

- Single sound level @ 97db
- Rugged and compact design allows replacement of unnecessarily large and bulky alarms.
- Operates in 12 to 36 volts and draws less than 0.1 amps
- Meets S.A.E. J994, type C
- Size: 4" W x 2" D x 2.5" H



SHOP LIGHTING — LED

2,200 LUMEN LED SINGLE FIXTURE WORK LIGHT WITH MAGNETIC BASE F25011

- Perfect when portability in a small area is important
- Work light cranks out an impressive 2,200 lumens of light from a single long life LED rated at 50,000 of life
- Work light fixture can be tilted and swiveled independently allowing the user to position the fixture exactly where light is needed
- The Heavy-Duty Magnetic Base allows the light to be attached to most metal surfaces for hands-free operation
- Tempered glass lens, and powder coated multi-fin heat sink design for long wear durability
- Comfort-grip handle makes transporting and positioning this work light a snap
- 12 foot cord and a single sealed push button switch
- **Length:** 11.5 in. **Width:** 6.2 in. **Depth:** 3.1 in. **Weight:** 3.2 lbs.
- **Case Material:** Aluminum



4,400 LUMEN LED CONVERTIBLE DUAL FIXTURE WORK LIGHT ON TRIPOD STAND F25013

- Work light has dual light fixtures that can be directed independently of each other
- Two fixtures are attached to a base unit that can be removed from the tripod stand for low angle illumination
- Each fixture is 2,200 lumens of light from a single long life LED rated at 50,000 of life
- Each of the work light fixtures can be tilted and swiveled independently allowing the user to position the fixture exactly where light is needed
- The stand will extend the dual fixtures up to 6 feet off the ground
- Tempered glass lens, and powder coated multi-fin heat sink design for long wear durability
- Comfort-grip handle makes transporting and positioning this work light a snap, and the center-mounted handle aids in removing, mounting and moving the base unit
- 6 foot cord and 2 sealed push button switches
- **Length:** 82.5 in. **Width:** 18.4 in. **Depth:** 7.3 in. **Weight:** 13.1 lbs.
- **Case Material:** Aluminum



2,200 LUMEN LED SINGLE FIXTURE WORK LIGHT F25012

- Perfect when portability in a small area is important
- Work light cranks out an impressive 2,200 lumens of light from a single long life LED rated at 50,000 of life
- Work light fixture can be tilted and swiveled independently allowing the user to position the fixture exactly where light is needed
- Tempered glass lens, and powder coated multi-fin heat sink design for long wear durability
- Comfort-grip handle makes transporting and positioning this work light a snap
- 6 foot cord and a single sealed push button switch
- **Length:** 12.6 in. **Width:** 6.2 in. **Depth:** 6.4 in. **Weight:** 3.4 lbs.
- **Case Material:** Aluminum



RECHARGEABLE WORK LIGHT WITH STAND F25549

- High/Low brightness modes
- Constructed from lightweight 6061-T5 aluminum
- Multi-angle tilt and swivel design with magnetic base
- Rechargeable Li-ion battery
- Includes 6' tripod and carrying case
- Includes AC and DC power supplies



RECHARGEABLE WORK LIGHT MAGNETIC F25545

- High/Low brightness modes
- Constructed from lightweight 6061-T5 aluminum
- Multi-angle tilt and swivel design with magnetic base
- Rechargeable Li-ion battery
- Includes AC and DC power supplies



TIRE SERVICE LED WORK LIGHT F25070

- Designed for hands-free lighting during tire service and other work applications
- 12" adjustable spring-tube for optimum light positioning within tight spaces
- Compact high-power LED light provides up to 300 LUX for intense focus and optimum visibility
- Multiple high-power magnets on the handle and the light head attach easily to most metal surfaces
- Clamp-on handle quickly and easily "grips" over the bead of a tire for complete hands-free light assistance
- Unique design provides unlimited vehicle service and work applications
- Lithium-ion rechargeable battery



SHOP LIGHTING — LED (continued)



MULTI-PURPOSE WORK LIGHT

F25008

- Light has 60 LEDs rated at 230 lumens arranged in a floodlight pattern and 6 LEDs in the base of the handle rated at 32 lumens serving as a spotlight
- Two built-in magnets, one at the tip of the light and the other at the midpoint of the body for hands-free use
- Magnetic hook can be attached to either of the built-in magnets and can be rotated 360 degrees for even more hands-free versatility
- Octagonal body design keeps the light in place when laid on its side
- Flat bottom design allows light to stand up
- **Water rating:** IP-X4 water resistant
- Impact and chemical resistant
- **Drop rating:** 2 meters
- Includes both AC & DC power supply/charger
- Limited 1 Year Warranty
- **Length:** 14.3 in, head diameter: 1.4 in, handle diameter: 1.8 in, weight: 16 oz.
- **Run-time:** floodlight 3 hrs. spotlight 18 hrs.
- **Recharge time:** 8 hrs.



CORDED WORK LIGHT – 50 FOOT RETRACTABLE REEL

F25010

- Tapered work light for easy access into tight places
- Light has 60 LEDs rated at 120 lumens arranged in a floodlight pattern
- Two built-in magnets, one at the tip of the light and the other at the midpoint of the body for hands-free use
- Magnetic hook can be attached to either of the built-in magnets and can be rotated 360 degrees for even more hands-free versatility
- 50 foot cord on retractable metal reel - adjustable hose stop check ball for lead length positioning
- Mounting brackets included for attaching reel to wall or ceiling
- Octagonal body design keeps the light in place when laid on its side
- Chemical, Moisture, Impact Resistant engineered polymer housing
- **Length:** 10.4 in, width: 9.5 in, depth: 3.3 in, weight: 7.7 lbs.
- Limited 1 Year Warranty



RECHARGEABLE 120 LED UNDER-HOOD WORK LIGHT

F25286

- Under-hood illumination
- Interior illumination
- 120 premium LEDs
- 35,000 hour life
- Two light levels (full or half power)
- Use in the shop or roadside
- Use with or without the carrier
- Internal NiMH battery pack
- AC & DC chargers included
- Shop and car chargers included
- Chemical resistant housing
- Moisture and impact resistant
- Magnetic or hanger-hook mounting
- Spring loaded carrier extends 77"

Specifications

- 1 Row (60 LED) Lumens: 150 Run-time: 6.5 hours
- 2 Rows (120 LED) Lumens: 330 Run-time: 3.5 hours
- Charge Time: 6 hours (AC or DC chargers)
- Length: 48"
- Weight: 4.9 lbs.



700 LUMEN LED RECHARGEABLE SPOTLIGHT

F25493

- XM-L2 Cree White LED - Up to 700 Lumens
- Beam Distance: 427 ft. Low, 984 ft. Medium, 1,444 ft. High
- Direct Plug to Recharge by Micro USB
- Car and Wall Charger Included
- New Reflector Produces 440m Beam Throw
- 4 Lighting Modes - High, Medium, Low, and 2Hz Flashing
- **Brightness:** 700 lumens High / 330 Lumens Medium / 64 Lumens Low
- **Run Time:** 15 hrs. Low, 6 hrs. Medium, 2.5 hrs. High
- Safety Lock Prevents Unwanted On/Off Activation
- Built-In Adjustable Stand for Hands-Free Operation
- Floatable and Submersible
- LED Indicator Shows Charging Status
- Top Notch Durability - Shock Absorbing Rubber Head and Tough Polymer Body
- IP67 Waterproof and Dust Proof
- Battery: Rechargeable 3.7V LI-Ion 3000mAh
- L x W x H: 5.6" x 3" x 6.5"
- **Case Material:** High Impact ABS Plastic

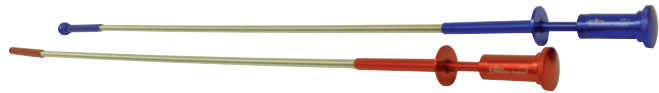


RECHARGEABLE 500 LUMEN LED WORK LIGHT

F25488

- 20 Super Bright SMD LED's
- Anti-Impact High Transparency Polycarbonate Tube for Even Illumination
- Strong Metal Hook Allows for Hands Free Usage
- Two Sets of Magnets on Top and Side Allow for Light to be Used on Any Magnetic Surface
- Comfortable Rubberized Grip
- Rechargeable Battery Included
- 110V AC Wall Charger and 12V DC Car Charger Included
- Heavy-Duty Water Tight Toggle Switch
- IP65 Rated - Waterproof
- Replacement Wall Charger Available
- Replacement DC Car Charger Available

SHOP LIGHTING — LED (continued)



LIGHTED PICK-UP TOOLS

F25280

- A SET OF 2 FLEXIBLE, LIGHTED PICK-UP TOOLS WITH DURABLE STORAGE CASE
- Makes it fast and easy to find and retrieve the small object that always falls through your fingers!
- See and reach into awkward spaces where only the lighted pick-up tool can fit.
- The Blue Lighted Pick-up Tool is magnetic and works well when picking up metal objects.
- The Red Lighted Pick-up Tool is not magnetic and is great when a magnet would be a drawback.

- Both are flexible and made to fit into cramped spaces as well as reach around obstacles.
- Handy LED light with easy On/Off button.
- Approximately 24 inches long.
- Both tools use 3 LR-44 batteries (included).

2

SHOP LIGHTING — INCANDESCENT DROP LIGHTS

INCANDESCENT WORK LIGHT

Length	Part No.
Light with 50' cord	F23853

- 18-3 SJT cord
- Yellow handle with NEMA 5-15R. receptacle
- Rough service bulb (F23819) not included
- UL listed



SHOP LIGHTING — REPAIR PARTS

REPLACEMENT HEAD
FLUORESCENT STYLE

F22340

- Quick start on/off rocker switch
- Ballast built in handle
- 125 volt @12A grounded receptacle
- Adjustable hook/stand
- UL listed
- Long life 13 watt lamp included
- End light for "flashlight" effect
- Includes 3 crimp-on terminals for DIY applications
- Used on F2550



FLUORESCENT ANGLE LIGHT
REPLACEMENT HEAD

F23876

- Yellow Polypropylene handle
- UL/CUL listed

INCANDESCENT WORK LIGHT
GUARD

F2721

- Replacement guard for F22010 and F23755 droplights
- Steel construction



REPLACEMENT LENS FOR STANDARD
SERIES AND PRO SERIES WORK LIGHTS

F2969



INCANDESCENT LIGHT REPLACEMENT
HEAD

F2780

- Yellow polypropylene handle



REPLACEMENT LENS FOR OSHA
COMPLIANT WORKLIGHTS

F23338

SHOP LIGHTING — INCANDESCENT ROUGH SERVICE WORKLIGHT BULBS

TUFFSKIN BULBS

Watts	Part No.
75	F21133
100	F2247

- Rated 5000 hrs.
- Special rubber-like coating
- Coating resistant to moisture and machine spatter
- Constructed of the same quality materials as Rough Service Bulbs



ROUGH SERVICE BULBS

Part No.	Watts	24 pack
F21986	50	

- Superior Quality Bulb
- Ideal for drop cord trouble lights
- Special shock-resistant filament
- Aluminum corrosion resistance



SHOP LIGHTING — FLUORESCENT & HALOGEN WORKLIGHT BULBS

13W - TWIN TUBE COMPACT FLUORESCENT LAMP

F22961

- Single-ended twin-tube features a small tube diameter of only 1/2" (12mm)
- Ideal lamp for fluorescent drop lights
- Up to 75% less **heat** and **energy cost** compared to incandescent lamps
- High luminous efficiency of up to 69 lumens per watt
- Long life of 10,000 hrs. - lasts up to 13 times longer than incandescents
- Single-ended plug-in base with integrated starter and interference suppressor
- 13 watt usage with 60 watt output
- 7" x 1-3/8" x 3/4"
- Made in USA



500 WATT HALOGEN LAMP

F23097

- Replacement bulb for worklights F23649, F22387



EXTENSION CORDS — POWER STRIPS AND PLUGS

EXTENSION CORD ON RETRACTABLE REEL

F21558

- Retractable cord reel with 30' of integrated extension cord
- 3 separate grounded outlets
- LED status light on outlet bar
- 10amp rating
- Includes mounting brackets to attach the reel to the wall or ceiling



QUALITY EXTENSION CORDS — SINGLE TAP

Length	Part No.
25'	F23578
50'	F2547

- OSHA NRTL Compliant
- Cold weather-rated to remain flexible
- Single male plug and single female outlet
- Rated at 13amps



COLEMAN CABLE POLAR/SOLAR EXTENSION CORDS

Length	Wire	AMP Rating	Part No.
25'	16-3	13A	F2480
25'	14-3	15A	F22593
50'	14-3	15A	F282
25'	12-3	15A	F23490
50'	12-3	15A	F21404
100'	12-3	15A	F22160

- OSHA Approved for Outdoor Use, UL Listed
- Power Indicator Light
- Always stays light & flexible even in the most extreme conditions
- SJEOW Cord
- Made in the U.S.A.



QUALITY EXTENSION CORDS — TRIPLE TAP

Length	Wire	AMP Rating	Part No.
50'	14-3	15A	F2348

- OSHA NRTL Compliant
- Cold weather-rated to remain flexible
- Single male plug and 3 outlet female
- Lighted plug and outlet so you know you have power
- Rated at 15amps



EXTENSION CORDS — POWER STRIPS AND PLUGS (continued)

ALL SEASON CONTRACTOR GRADE EXTENSION CORDS

Length	Wire	AMP Rating	Part No.
50'	14-3	15A	F2902
50'	12-3	15A	F23921

- OSHA NRTL Compliant
- Cold weather-rated to remain flexible
- Cord jacket provides an increased level of oil and water resistance
- Lighted plug and outlet so you know you have power
- Single male plug and a single female outlet
- Rated at 15amps



6 PLUG POWER STRIP

- F22147
- with Surge protection
 - 4.5 foot cord
 - 14-3 SJT cord
 - 15 amp rating



2

CORD "S" LOCK

F25292

- The Cord Lock is a simple solution for keeping your cords from coming unplugged from one another
- Plug any two cords together and wrap the Cord Lock around the connection, and they won't come apart
- Made from shatter and temperature resistant thermoplastic, the Cord Lock will hold up to the elements year after year



CORD CARRYING STRAP

F25293

- Holds Up To 150 ft. 14/3 Cord
- Easy To Store
- Easy Grip
- Adjustable
- Flexible



Heavy Duty "W" Adapter

F23710



Heavy Duty "Y" Adapter

F23810



REPLACEMENT PLUGS

Male 3-wire

F22784



Female 3-wire

F21206



Male 3-Wire

F22614



Female 3-Wire

F23889



WE KNOW
MRO

FLASHLIGHTS

3-C CELL XENON FLASHLIGHT

F2229

- Up to 12,000 candlepower
- Battery life up to 5.5 hours
- Spring loaded pocket clip
- Yellow body

PREMIUM XENON FLASHLIGHT

- Extremely bright XENON gas filled bulbs for superior lighting power
- Computer designed reflectors for unmatched direction and brightness
- Class 1, division 1 approved for hazardous locations
- Push button switching allows one handed operation



4-AA CELL LED FLASHLIGHT

Color	Lumens	Part No.
Bright Yellow Case	67	F22255

- 7 leds
- Battery life of up to 155 hours
- Integral pocket clip
- Bright yellow case



INDUSTRIAL FLASHLIGHT

F22722

- **Color:** Yellow
- **Power Source:** Two "D"
- **ANSI/NEDA:** 13 Series
- **Lamp Rating:** 2.4V, 0.5A
- **Lamp Life:** 15 hours

- **Weight:** 113 grams (4.0 oz.) without batteries
- Ideal for wet areas
- Shock proof & floats
- Impact, chemical, corrosion resistant



MINE SAFETY LIGHT

Color	Lumens	Part No.
Safety Orange	8	F2273

- **Power Source:** Two "D"
- **ANSI/NEDA:** 15 Series
- **Lamp Rating:** 2.4V, 0.5A
- **Lamp Life:** 15 hours
- **Weight:** 113 grams (4.0 oz.) without batteries

- MSHA approved for use in methane-air mixture
- UL listed for Division I & II, Class I, Group C & D environments
- Approved also for use in dust-air mixtures of Class II, Group G
- Made in the U.S.A.



Z-BUG™ LANTERN + FLASH LIGHT

F25618

- **1 SPOT LIGHT MODE:** 120 lumens - 18 hours, 120 meters
- **3 LANTERN MODES:** White - 250 lumens, 6 hours, 10 meters
- White & NUV LEDs - 24 hours
- NUV LEDs - 40 hours
- **DESIGN:** Fully dimmable
- 360° insect zapping rails (1,000 - 1,200 V)
- 360° protective cover for electric rails
- Adjustable handle
- **OPERATION:** Slide Positioned, ON/OFF button

- **ACCESSORIES:** Z-Bug Bulb™ Sweeper for easy cleaning
- **BATTERIES:** Powered by 3 AA batteries (included)
- **SPECS:** 0.3 lbs.
- **Height:** Closes - 5.46" / Open - 7.79"
- **Diameter:** 3.58"



FLASHLIGHTS (continued)

DUAL LIGHT WITH DUAL MAGNETS

F25265 - Black

- Flashlight – Floodlight – Dual-light
- CREE® LED technology
- Flashlight beam distance, 181 meters
- 50,000+ hours LED life
- Momentary or constant-on flashlight
- Sharp focused beam for distance illumination
- Unfocused wide-beam floodlight for close-up illumination
- Dual-light (flashlight & floodlight at same time) for maximum versatility
- Powerful integrated magnets built into the base and clip for multiple hands-free options
- Engineered polymer housing, red or black
- Non-slip grip
- Dual body switches
- Impact and chemical resistant
- Built-in pocket/belt clip
- Includes removable lanyard
- 3 AA premium batteries included

Specifications:

- Lumens:
 - Flashlight: 130 lumens
 - Floodlight: 110 lumens
 - Dual-light: 235 lumens
- Run-time:
 - Flashlight: 9.5 hrs.
 - Floodlight: 10.5 hrs.
 - Dual-light: 5 hrs.
- Beam distance: 181 meters (594 ft.)
- Water rating: IP-X7 waterproof
- Drop rating: 2 meters
- Length: 7"
- Head diameter: 1.8"
- Handle diameter: 1" x 1.3"
- Weight: 6.4 oz.



RECHARGEABLE LED PEN LIGHT

F25486

Powerful, lightweight, and convenient. This design replaces larger, bulkier, and heavier lights while eliminating disposable battery use.

- Light output: 160 Lumens
- Running time 1.5-10 hours

- Charge time 2 hours
- Weather resistant IPX4 rated
- Charging indicator light
- Battery rechargeable 3.7V Li-ion battery (10440) 700MAH 2.59 w/h
- Supplied with flashlight, micro usb lead, pocket clip



INSPECTOR PEN LIGHT RECHARGEABLE

F25881

- 0.1375 lbs.
- 6.5 inch long
- 0.7 inch diameter
- 4x adjustable zoom

- Micro USB to USB charging cable included
- Powered by a 10850 rechargeable battery (included) or by 2 AAA batteries (NOT included)



WATERPROOF LED FLASHLIGHT

Description	Part No.
Waterproof LED Flashlight – Black	F25269
Waterproof LED Flashlight – Yellow	F25271
Waterproof LED Flashlight – Tan	F25270

- CREE® LED technology
- 50,000+ hours LED life
- Waterproof: IP-X7 Rating
- 180 Lumens
- Momentary or constant-on flashlight
- Sharp focused beam
- Aircraft-grade 6061-T6 aluminum tail-cap with type 3 hard anodized finish
- Non-slip grip
- Large textured tail-switch
- 1" Handle diameter fits most scope / flashlight mounts
- 1.25" Head diameter accepts 3rd party filters
- Impact & chemical resistant
- Removable pocket clip

- Available in Black, Yellow & Tan
- Two CR-123 lithium batteries included

Specifications:

- Lumens: 180
- Run-time: 3 hours
- Beam distance: 190 meters
- Water rating: IP-X7 waterproof
- Drop rating: 2 meters
- Length: 5.5"
- Head diameter: 1.25"
- Handle diameter: 1.035"
- Weight: 4.4 oz.



85 LUMEN HANDS FREE LED ANGLE LIGHT

F25487

- High Output Cree LED - up to 85 Lumens
- Special "Right Angle" Design Allows Hands-Free Light Protection
- Multi-Function - Flashlight, Work Light, Headlight
- Includes Magnetic Base for Added Versatility
- Detachable Rubber Head Plate and Head Strap Included
- 2 Lighting Modes High/Low
- Multi-Facet Reflector Provides a Smooth Beam
- Clip Included for Easy Attachment
- Compact and Lightweight

- Slip Resistant Knurled Grip
- Water Resistant
- Comes with
- 1 AA Battery
- Headstrap
- Rubber Head Plate



FLASHLIGHTS (continued)

BIG LARRY™ WORK LIGHT F25515

LIGHT

- High-power 400 lumen C-O-B LED work light
- High-power C-O-B LED emergency red flasher

DESIGN

- Anodized aircraft-grade aluminum; water and impact-resistant
- Powerful magnetic base

OPERATION

- Top-positioned, ON/OFF button

BATTERIES

- Powered by 3 AA batteries (included)

SPECS

- Length: 7.4375"
- Diameter: Barrel – 0.875" / Head – 1.125"
- 0.45 lbs.

U.S. PATENT

- 8,628,210



THE BIG LARRY™ WORK LIGHT HOLSTER F25514

- The BIG Larry™ Work Light Holster is specifically designed to fit the BIG Larry™ C-O-B LED Work Light. This holster is designed for protection, durability and structural strength. The holster has a metal base insert allowing the BIG Larry™ to attach magnetically. The holster also features a front clip to ensure your work light isn't going anywhere. The BIG Larry™ Work Light Holster also features a clip on the back to keep your work light safely by your side...where you need it most.

DESIGN

- Metal base allows BIG Larry™ to attach magnetically
- Front clips keep your work light in place
- Belt/pocket clip

SPECS

- Size: (H) 6" x (W) 1.1875" x (D) 1.375"
- 0.05 lbs.



NEBO® SLYDE™ KING RECHARGEABLE FLASHLIGHT F25762

- 500 lumens flashlight
- Fully Rechargeable
- Tactical edge
- Convex lens
- 4x adjustable zoom
- Fully dimmable
- Memory power setting
- Lock-out made to prevent accidental operation
- Anodized aircraft-grade aluminum
- Water and impact resistant
- Powerful magnetic base

- Battery charging indicator
- Side-positioned ON/OFF button
- Work light automatically turns on when opened
- Powered by 1 Li-ion rechargeable battery (3-4 hour recharge time)
- Micro USB to USB cable included
- 0.8 lbs.
- Length: compacted 6.875" / Extended: 9"
- Diameter: (head) 1.75" / Barrel 1.25"
- US Patent D 786,466 S



REDLINE® BIG DADDY 2000 LUMEN FLASHLIGHT F25655

- 2000 lumen flashlight
- Waterproof (IPX7)
- Convex Lens
- Tactical edge
- 4x adjustable zoom
- Signature Red Ring™
- Anodized aircraft-grade aluminum
- Impact-resistant
- Lanyard included
- Powered by 9AA batteries (included)

- 1.325 lbs.
- Length: (compacted) - 9" / (extended) - 9.75"
- Diameter: (head) 2.25" / (barrel) 1.5"
- US Patent 659,869 S



LIL LARRY - THE POWER POCKET LIGHT F25529

LIGHT

- High-power 250 Lumen C-O-B LED Work Light
- High-power C-O-B LED emergency red flasher

DESIGN

- Water and impact-resistant
- Ergonomic non-slip grip
- Protective LED housing
- Steel belt/pocket clip
- Powerful magnetic base

BATTERIES

- Powered by 3 AA batteries (included)

SPECS

- (H) 6.0625" x (W) 0.625" x (D) 1"
- 0.2 lbs.

U.S. PATENT

- 8,628,210



ARMOR 3 LED FLASHLIGHT F25690

- Toughest Light Period!
- Indestructible 66 foot drop tested
- Waterproof & Floats
- 360 lumen work light and 160 lumen spot light

- Magnetic tilting base
- Steel pocket clip
- Powered by 3 AAA batteries (included)
- 5.75" height x 2.45" wide x 1.25" deep .43 lbs.



FLASHLIGHTS (continued)

CLIPSTRIP™ SUPER BRIGHT LED POCKET LIGHT

Color	Part No.
Yellow	F24843
Camouflage	F24844

- 140 Lumens
- Strip Array Technology
- 180° Swivel Magnetic Clip
- Uses 3AAA Batteries (included)



UV LED POCKET INSPECTION LIGHT

F24845

- 7 High Intensity UV LEDs
- 180° Swivel Magnetic Clip
- Magnetic Base
- No UV Enhancing Glasses Needed
- Uses 3AAA Batteries (included)



SEPTOR™ LED HEADLIGHT

F23933

- Elastic Strap
- 7 Ultra Bright LED's Within Reflector
- Light Weight, Thermoplastic, Construction
- Uses (3) AAA Batteries

- Flood 120 Lumens
- Spot 45 Lumens
- Beam 13 Lumens



SAFETY LED LIGHTS — MULTI-FUNCTION HEADLAMP

F25257

- Dual Brightness Spotlight/Floodlight & Dual-light
- CREE® LED technology – 50,000+ hours LED life
- Top mounted dual switches provide: High/low-brightness spotlight & High/low-brightness floodlight
- Dual-light (spotlight & white floodlight mode at same time) for maximum versatility
- **Spotlight:** 100/60 Lumens / Floodlight: 90/50 Lumens / Dual-light: 115 Lumens
- Multi-position adjustable ratchet tilt head design with non-slip elastic head strap
- Focused spotlight beam for distance illumination
- Unfocused wide-beam floodlight for close-up illumination
- Engineered polymer housing
- Waterproof: XP-X7 Rating
- Impact and chemical resistant
- Powered by 3 AAA batteries, included

Features/Specifications

Lumens:

- High spotlight-100 / Low spotlight-60
- High floodlight-90 / Low floodlight-50
- Dual-light-115

Run-time:

- High spotlight-5 hrs. / Low spotlight-13.5 hrs.
- High floodlight-4.25 hrs. / Low floodlight-13.75 hrs.
- Dual-light-3.5 hrs.
- Beam distance: 77 meters
- Water rating: IP-X7
- Drop rating: 2 meters
- Width: 2.6in
- Height: 2.1in
- Depth: 1.8in
- Weight: 3.3oz



DUAL BRIGHTNESS SPOTLIGHT, WHITE/RED/GREEN FLOODLIGHT & DUAL-LIGHT

F25258

- CREE® LED technology – 50,000+ hours LED life
- Top mounted dual switches provide: High/low-brightness spotlight and White/red/green floodlight
- Dual-light (spotlight & white floodlight mode at same time) for maximum versatility
- Colored floodlight for night-vision preservation
- Spotlight – 150/80 Lumens / White Floodlight – 100 Lumens / Red Floodlight – 9 Lumens
- Green Floodlight – 18 Lumens / Dual-light – 180 Lumens
- Multi-position adjustable ratchet tilt head design with non-slip elastic head strap
- Focused spotlight beam for distance illumination
- Unfocused wide-beam floodlight for close-up illumination
- Engineered polymer housing
- **Waterproof:** XP-X7 Rating
- Impact and chemical resistant
- Powered by 3 AAA batteries, included
- Features/Specifications

Lumens:

- High spotlight-150 / Low spotlight-80
- White floodlight-100
- Red floodlight-9
- Green floodlight-18
- Dual-light-180

Run-time:

- High spotlight-4 hrs. / Low spotlight-8 hrs.
- White floodlight-4 hrs. / Red floodlight-25 hrs.
- Green floodlight-22.5 hrs. / Dual-light-3 hrs.
- Beam distance: 60 meters
- Water rating: IP-X7
- Drop rating: 2 meters
- Width: 2.6in
- Height: 2.1in
- Depth: 1.8in
- Weight: 3.3oz



MOTION ACTIVATED FOCUS CONTROL LED HEADLAMP

F25491

- Motion Activated Focus Control LED Headlamp
- Low Profile and High Quality
- Motion Sensor Button Allows Light to be Turned On/Off with the Wave of Your Hand
- Separate Button for Manual On/Off
- Extremely Lightweight
- Fits on Hard Hats
- Stays In Place with Velcro or Adjustable Strap
- Bright White Adjustable Beam
- Large Push Switch Easy to Use with Gloves
- Water Resistant IPX4 Rated

Included in Kit:

- Elastic Adjustable Head-strap with Integrated Rubber Thread and High-Vis Material
- Industrial Grade Velcro
- Batteries
- Hard Hat Clips



FLASHLIGHTS (continued)

950 LUMEN LED RECHARGEABLE HEADLAMP

F25492

- High, Medium, and Low Settings
- Beam Distance: 131 ft on Low, 558 ft on Medium, 787 ft on High
- Battery Pack Worn on the Back of the Head has a Red Light for Safety Which Can be Adjusted to Flashing, Steady On, or Turned Off
- LED Battery Indicator with Regulated Circuitry to Protect From Over Charging
- High Quality Li-Ion Battery Included
- Micro USB Adapter, USB Car Charger Adapter, and Wall Charger Adapter Included

- Item #HL-STRAP (Adjustable Reflective Strap for Hard Hat) Included
- High, Medium, and Low Settings



2

LED LIGHT (SAFETY ORANGE)

F25267

- Flashlight – Floodlight
- Bright white LEDs
- 35,000 hour life
- Small size – Light weight
- Safety orange housing
- Impact and chemical resistant
- Removable hanger-hook and magnet
- Rechargeable high quality NiMH battery
- Long run-time per charge
- Home and car chargers included

Features/Specifications

- Flashlight: 1 LED = 65 lumens
- Floodlight: 60 LEDs = 120 lumens
- Run-time: 4 hrs. flashlight, 4 hrs. floodlight
- Charge time: 4 hours
- Length: 11.5"
- Weight: 12.0 oz.



RECHARGEABLE 800 LUMEN TACTICAL LED FLASHLIGHT

F25272

- ANSI rating of 800 lumens and producing 10,765 candelas
- Choice of momentary or constant-on functionality
- User selectable high, medium, or low-brightness settings, in addition to a disorienting strobe
- CREE® LED emitter paired with a high-efficiency deep parabolic reflector, this high-powered tactical flashlight produces a sharp-focus beam of 205 meters (more than 670 feet)
- Powered by an industry leading lithium-ion rechargeable battery (included)
- Comes equipped with a wall mountable/vehicle charger, and both AC and DC power supplies

- Also included standard is a CR-123 battery carrier that holds a pair of CR-123 batteries (not included) as a convenient secondary power option.
- Housing, bezel and tail-cap are all constructed from aircraft-grade 6061-T6 aluminum with Type III hard anodized finish and is rated IP-X7 waterproof.
- Each housing is individually serialized for personal identification
- Impact and chemical resistant and features a non-slip grip with large textured tail-switch for ease of use.



WORKSTAR® 224 UV POCKET FLOODLIGHT™

F43698

- LED Brightness 350 mW
- UltraViolet (UVA) 400nm, 1 W
- 3 AAAA alkaline batteries - included
- 2 hours to half brightness & 4 hours useable light with typical intermittent use.
- Custom reflector design with a bright center spot and an orange peel (OP) surface for an even spill beam

- Glass lens, T6 aluminum body with violet type II anodized finish
- 6" long, 9/16" head diameter, 7/16" body diameter
- Weight 1 oz.
- Threaded joints have O-ring seals, sealed tail cap.



MINI-TAC PRO

F25278

CREE® LED technology – 50,000+ hours LED
Momentary or constant-on, plus 3 user-selectable brightness settings plus strobe
Sharp focused flashlight beam.

- Aircraft-grade 6061-T6 aluminum housing
- Type 3 hard anodized finish
- Non-slip grip
- Drop Rating: 2 m
- Water Rating: IP-X7
- Impact & chemical resistant
- Flashlight Lumens: 200 / 90 / 45
- Candela: 2,486 / 1,335 / 797

- Beam Distance: 100 / 73 / 56 m
- Flashlight Runtime: 1.5 / 4 / 6 hours
- Strobe Runtime: 2 hours
- Length: 6 in (152 mm)
- Handle Diameter: 0.6 in (15 mm)
- Head Diameter: 0.9 in (23 mm)
- Weight: 3.2 oz. (91 g)
- Powered by two AA batteries (included)



FLASHLIGHTS (continued)

MINI-TAC FLASHLIGHTS - HANDHELD - 3 COLORS

These non-rechargeable Mini-TAC lights each use a CREE® LED and have a deep parabolic reflector creating a tight, long throw beam for distance illumination.

The tail switch on each light provides momentary or constant on functionality.

- Momentary or constant-on flashlight
- Sharp focused flashlight beam
- Aircraft-grade 6061-T6 aluminum
- Type II hard anodized finish
- Non-slip grip
- Water resistant
- Impact and chemical resistant
- 2 AAA Premium batteries included
- 100 Lumens
- Beam distance: 44 meters
- Run-time: 1.5 hours
- Water rating: IP-X4 water resistant
- Drop rating: 2 meters
- Length: 5.4"
- Diameter: 0.6"
- Weight: 0.8 oz.



F25273



F25274



F25275

FLASHLIGHT HOLSTER

F25279

- Hand-crafted black Cordura fabric
- Wide Belt Loop with Velcro adjustability
- Fits virtually every width belt
- Fits the F25273, F25274, F25275



FLASHLIGHT, HANDHELD - BLACK

F25276

- 140 Lumens
- Run-time: 1.5 hours
- Beam distance: 68 meters
- Water rating: IP-X4 water resistant
- Drop rating: 2 meters
- Length: 5.6"
- Diameter: 0.9"
- Weight: 2.3 oz.
- Includes removable wrist lanyard
- 2 AA premium batteries included



FLASHLIGHT, GOOSENECK WITH MAGNETIC BASE

F25277

- 140 Lumens
- Run-time: 1.5 hours
- Beam distance: 68 meters
- Water rating: IP-X4 water resistant
- Drop rating: 2 meters
- Removable clip-on magnet for hands-free use
- Handle Length: 5.6"
- Handle Length: 15.6"
- Diameter: 0.9"
- Weight: 5.2 oz. (without magnetic base)
- 2 AA premium batteries included

HAND-CRAFTED BLACK CORDURA FABRIC HOLSTER

F25279

- Wide belt loop with Velcro® adjustability, fits virtually every belt width
- Body Color: Black



EXTENDABLE MAGNETIC FLASHLIGHT 3

F25703

- Ultra-efficient CREE LED
- Uses 1 double A battery
- Free mode light function
- 35 Lumen low beam
- 105 Lumen high beam
- Strobe function
- Extra heavy-duty telescope



FLASHLIGHTS — INTRINSICALLY SAFE

INTRINSICALLY SAFE LED HEADLAMPS

F25259

- Dual-Function/Class I, II, III, Division I, Groups A-G
- Multi-position tilt head design with elastic head strap (with non-slip lining) and a heavy-duty rubber head strap for use on a hard hat
- Selectable high or low brightness spotlight operation
- CREE® LED technology – 50,000+ hours LED life
- High-brightness spotlight – 115/60 Lumens Low-brightness spotlight – 65/40 Lumens
- Focused spotlight beam for distance illumination (92/80 meters)
- Waterproof: IP-X7 Rating
- Engineered polymer housing (impact & chemical resistant)
- Single switch located on top of light
- 3 AAA premium batteries (included), reorder using P/N 29204
- Safety Rating**
cETLus Listed Intrinsically Safe for use in Class I III Div 1 SECURITE
INTRINSEQUE Groups A,B,C,D,E,F & G Hazardous Locations

- Ex ia IIC T3 Ga Class 1 Zone 0
- AEx ia IIC T3 Ga, Zone 20
- AEx ia IIC T 165C Da
- Specifications:**
- Spotlight Lumens: High - 115 / Low - 65
- Run-time: High - 4.5 hrs. / Low - 13 hrs.
- Beam distance: 92 meters
- Water rating: IP-X7 waterproof
- Drop rating: 2 meters
- Dim: 2.4" width x 1.9" height x 1.8" depth
- Weight: 3.5 oz.



2

INTRINSICALLY SAFE LED HEADLAMPS

- Designed for hazardous workplace environments
- Safe to use in potentially explosive atmospheres
- Night vision red floodlight or high contrast green floodlight
- Spotlight • Two level white floodlight • Colored floodlight
- Spotlight CREE® LED technology - 50,000 hour life
- White / red / green floodlight LEDs - 35,000 hour life
- Full or half power white floodlight for extended run-time
- Waterproof IP-X7
- Impact and chemical resistant
- Two switch light control
- Behind the head battery pack for comfort and balance
- Adjustable ratchet tilt headlamp
- Width: 3.3" • Height: 3.3" • Depth: 3.5" • Weight: 9.5 oz.
- Rubber hardhat strap included
- 3 premium alkaline AA batteries

- Safety Rating**
cETLus Listed Intrinsically Safe for use in Class I III Div 1 SECURITE
INTRINSEQUE Groups A,B,C,D,E,F & G
Hazardous Locations -20C < Tamb <+40C
- Ex ia IIC T3 Ga Class 1 Zone 0
- AEx ia IIC T3 Ga, Zone 20
- AEx ia IIC T 165C Da

- Specifications:**
- Spotlight: 130 lumens
- Floodlight: 100 lumens - full power, 25 half-power
- Dual-Light: 190 lumens
- Green floodlight: 21 lumens
- Run-time hours:
- Spotlight: 14
- Floodlight at full power: 12.5
- Floodlight at half-power: 70
- Dual-light: 6
- Green floodlight: 37



F25260 - White / Red / Night Vision



F25261 - White / Green / Flood Light

INTRINSICALLY SAFE LED PENLIGHT

F25262

- 30 or 50 Lumens/Class I, II, III, Division I, Groups A-G
- CREE® LED technology – 50,000+ hours LED life
- 30 or 50 Lumens
- 13.75/18 hours run-time
- Ultra-compact and super slim
- Powerful light output designed to illuminate very tight spaces
- Single tail-cap switch provides momentary or constant-on functionality
- Sharp focused beam for distance illumination (50/40 meters)
- Waterproof: IP-X7 Rating
- Engineered polymer housing
- Impact & chemical resistant
- Built-in pocket/belt clip

- Specifications:**
- Lumens: 50
- Run-time: 13.75 hrs.
- Beam distance: 50 meters
- Water rating: IP-X7 waterproof
- Drop rating: 2 meters
- Length: 6.8"
- Diameters: 0.6" head / 0.5" handle
- Weight: 1.5 oz
- Power: 3 AAAA batteries (P/N 29207) included

- Safety Rating:**
cETLus Listed Intrinsically Safe for use in Class I III Div 1
SECURITE INTRINSEQUE Groups A,B,C,D,E,F & G Hazardous Locations



INTRINSICALLY SAFE PERMISSIBLE DUAL-LIGHT

F25268

- Specifications**
- Dual-Light: Yes
- Flashlight Lumens: 120, Floodlight Lumens: 120, Dual-Light Lumens: 240
- Beam Distance: 170 m
- Candela: 7,250
- Drop Rating: 2 m
- Water Rating: IP-X7
- Flashlight Runtime: 17.5, Floodlight Runtime: 17.5, Dual-Light Runtime: 4.5
- Floodlight Color: White
- Type of Floodlight: Solid
- Switch Function: Dual Body Switch - Momentary or Constant-on Flashlight, Constant-on Floodlight
- Length: 7.0 in (178 mm)
- Weight: 6.9 oz (3.1 Kg)
- Handle Diameter: 1.1 x 1.5 in (28 x 38 mm), Head Diameter: 1.8 in (46 mm)
- Light Source: LED
- Case Material: Engineered Polymer
- Body Color: Green
- Power Source: 3 AA Primary Batteries (not included)
- Package Contents: Light and Removable Lanyard

- Warranty: Limited Lifetime
- Features:
- cETLus, ATEX, IECEx, INMETRO and MSHA listed Intrinsically Safe Permissible
- Flashlight – Floodlight – Dual-Light™
- CREE® LED technology – 50,000+ hours LED life
- Momentary or constant-on flashlight
- Sharp focused flashlight beam for distance illumination
- Unfocused wide-beam floodlight for close-up illumination
- Dual-light (flashlight & floodlight at same time) for maximum versatility
- Engineered polymer housing
- Non-slip grip
- Dual body switches
- Waterproof
- Impact & chemical resistant
- Built-in pocket/belt clip
- Includes removable lanyard



FLASHLIGHTS — INTRINSICALLY SAFE (continued)

INTRINSICALLY SAFE DUAL-LIGHT™ FLASHLIGHT
F25702

- Glass filled nylon polymer case
- Dustproof and Waterproof
- CE, cETLus, ATEX, IECEx, and NFPA 1971-8.6 certified
- Uses 2 AA batteries (not included)
- Includes a removable/reversible pocket clip, and an instruction manual

- **Applications:** Hazardous work environments, fire, rescue, industrial and automotive
- Length: 6-1/4 Inch (159 mm)
- Barrel Diameter: 0.86 Inch (22 mm)
- Bezel Diameter: 2.1 Inch (53mm)
- Weight: 4.1 oz (116 g)
- Beam Distance: 111 m
- Lumens: 120 Lumens
- Run-Time: 24 hrs.



COAST™ HIGH PERFORMANCE AND GENERAL USE FLASHLIGHTS

- Innovative
- Superior Quality

- Technologically Advanced
- Lifetime Guarantee

HP7 LED 4-AAA FLASHLIGHT
F24126

- Fingertip Speed Focus Control
- 251 Lumens
- 5.58" long
- uses 4 AAA batteries (included)



HP14 LED 4-AA FLASHLIGHT
F24127

- Fingertip Speed Focus Control
- 339 Lumens
- 8.38" long
- uses 4 AA batteries (included)



G19 LED 1-AAAA FLASHLIGHT
F24132

- 54 Lumens
- Pocket clip
- 4.02" long
- uses 1 AAA battery (included)



FLASHLIGHTS — BULBS

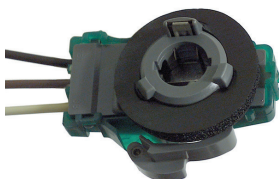
FLASHLIGHT BULBS

Description	Part No.
(PR-2) flanged base for 2 "D" regular batteries	F2741
(PR-3) flanged base for 3 "D" regular batteries	F22480
(PR-4) flanged base for 2 "C" regular batteries	F2111



F2741

PIGTAILS — CHRYSLER LIGHTING



F21144
Stop, Park and Turn Pigtail
Replaces OEM No. 12003759
(3) 17" leads black, brown
and black/yellow
GM '77+, Chrysler '88+, AMC '79+
for use w/ 1157 bulb



F21264
Tail Lamp Socket
(# 3157 Bulb)
OEM No. 4676589
Chrysler Mini Vans,
Dodge Trucks
& Jeep Grand
Cherokee '96+



F21030
Instrument Panel Cluster
Replaces OEM No. 2496279, 5655006
Replacement for socket only
General purpose
for 5/8" opening
Black Housing

2

PIGTAILS — CHRYSLER

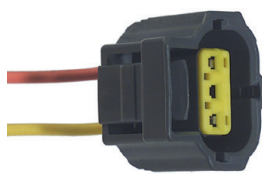
F22121
Blower Resistor Repair Harness Kit
OEM No.: 5017124AB
Fits Resistor #'s: 5061575AA, 5061094AB,
5166541AB, 5174618AA, 5183153AA
Chrysler, Dodge & Jeep '01+
Contains: 1-Connector,
5-16ga & 5-12ga 8" Leads



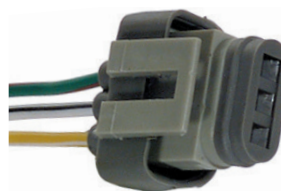
PIGTAILS — FORD CHARGING & STARTING



F2467
Alternator Pigtail
OEM No. 1U2Z-145411-TA, WPT118
Ford '96 +
3-14 Ga. 8" Leads



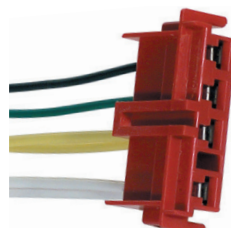
F23920
Alternator Pigtail
Not Supplied by O.E.
Alternator No.: F81Z-10346-Earn
Ford F250/350 7.3 Diesel Engines
Crown Victoria, Gran Marquis,
Contour, Mystique &
Lincoln Town Car '96+
2-16 Ga. 8" Leads



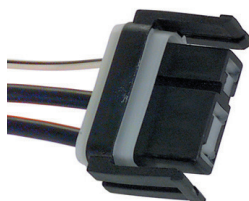
F2403
Voltage Regulator Pigtail (3) 10" Leads (1)
14 Ga., (2) 20 Ga. Green, White and Blue
Ford Topaz, Tempo,
Sable, Taurus,
Escort '86+
Gray Housing



F86233
Blower Motor Resistor Pigtail
OEM No. 3U2Z-145411-ZDA,
WPT-726
Fits Resistor No. 4L2Z-19A706-AA
Ford Expedition, Explorer, Aviator,
Mountaineer '02-'10
4 - 10 GA. 8" Leads



F23118
Voltage Regulator Pigtail
(6) 7" Leads (2)
White, (2) Yellow,
(1) Green, (1) Black
Ford '75+
Red Housing



F23197
Alternator Socket Assembly
(3) 10" Leads (2) 10 Ga.
Black/Orange,
(1) 20 Ga. White Ford Taurus,
Sable, Tempo, Topaz, Aerostar
w/ 4 Cylinder Engine '85+
Black Housing

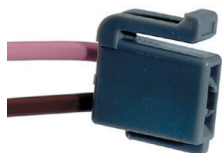


F21145
Alternator Regulator,
A/C Clutch
Field Pigtail (1) White 16GA, GPT
8" Lead
Ford, Various Models '94+
Gray Housing

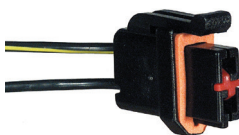


F21794
Starter Solenoid Inline
Repair Harness
OEM No. F4VY-14A411-S
Ford & Lincoln T.C. '91-'97
(1) 12 Ga. 8" Leads

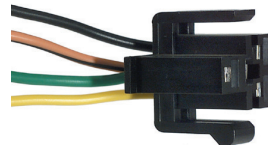
PIGTAILS — FORD COOLING & HEATING



F2709
A/C Clutch Coil Connector Pigtail
(2) 12" Leads Pink and Tan
Ford '80+
Gray Housing



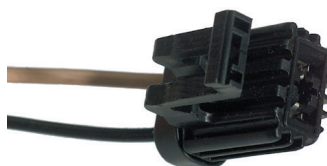
F23410
A/C Compressor Clutch & Radio
Antenna
Oem No.'s 1U2Z-14S411-AJA, WPT-173
2-14 Ga 8" Leads
Ford Cars & Trucks '95+



F21910
A/C Blower Motor Resistor
Connector Pigtail
Fits OEM No. E7TZ-19A706-A
(4) 8" Leads 14 Ga. Black,
Orange, Yellow and Green
Ford "E" and "F"
Series Trucks '86+
Black Housing



F23170
Heater Blower Motor Pigtail
OEM No.'s 4W7Z-14A411-B, 3U2Z-14S411-YBA,
WT-56853, WPT-605 Fits Motor# 4W7Z-
19805-AA, MM929 (Must be used when
replacing original motor with above motor#
for vehicles prior to 4/19/04) Ford Cars &
Trucks '79+ 2-12 Ga. 8" Leads



F21568
Cooling Fan/Heating
Motor Pigtail
(2) 7" Leads Tan and Black
Ford 4 Cyl. Radiator Cooling Fan Motor '79+
Heater Blower Motors
in Trucks and Vans '82-'86
Black Housing

PIGTAILS — FORD FUEL

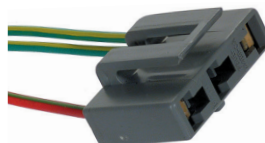


F23231
Fuel Injector Pigtail
For Oval Injector Connectors
Not Supplied by O.E.
Ford Cars & Trucks 4, 6, 8
& 10 CYL. '99+
1-18 GA. & 1-16 GA. 8" Leads

PIGTAILS — FORD IGNITION



F23033
Ignition Coil Pigtail
Not Supplied by O.E.
Coil No.'s: F7TZ-12029-CC,
1L2Z-12029-AA
Ford Cars & Light Duty Trucks '99+
2-16 GA. 8" Leads



F22566
Ignition Coil Pigtail
Fits OEM Coil E73Z-12029A
(3) 10" Leads (2) 18 Ga. Green/
Yellow, (1) 16 Ga. Red/Green
Ford '86+
Gray Housing

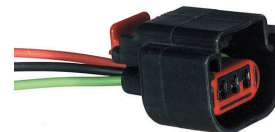
PIGTAILS — FORD LIGHTING



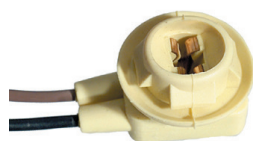
F2102
License Plate &
Side Marker Light
Not Supplied by O.E.
194 Bulb
Ford Cars & Trucks '98+
2-18 GA. 8" Leads



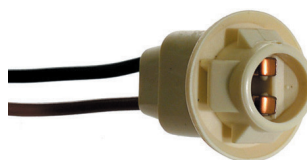
F22521
Running Board Lights Evaporator Solenoids Pigtail
Not Supplied by O.E.
Light Socket No. F8SZ-13411-AA
Solenoids No.'s F752-9F945-BA,
F752-9F945-CA, F7DZ-9F945-AA
Ford Light Duty Trucks '97+
2-20 GA. 8" Leads



F23438
Headlamp Bulb
for "NEW" H13 (9008) Halogen Bulb
Ford Bulb No. 3F2Z-13N021-AA
3-16 Ga 8" Leads
Ford F150, Freestar &
Mercury Monterey '04+



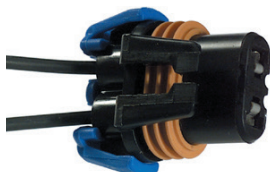
F2374
Right Angle Sidemarker Pigtail
Various Ford Applications '80+
Various GM Applications '71+
OEM No. 12001470
For use with 194A & 194 Bulbs
2 Wire - Yellow Housing



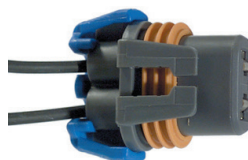
F21420
Marker and License Pigtail
Replaces OEM No. 6298896
and 8918527
(2) 9" Leads Brown and Black
GM and Ford Cars '68+
for use w/ Bulbs 194, 166 and 168
Beige Housing



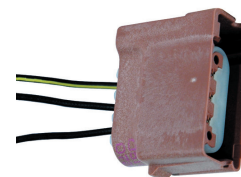
F21077
Rear Lamp Assembly Pigtail
Not Supplied by O.E.
Lamp Assembly # F81Z-13404-AA,
F81Z-13405-AA
Ford Trucks F650-F750 '00+
4-18 GA. 8" Leads



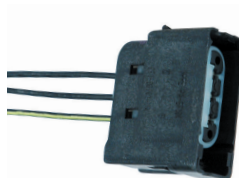
F2786
Headlamp Pigtail
(2) all black 10" leads 18 ga.
Intermediate and large domestic and
import cars '86+ for use w/ 9005
halogen low beam dual guide groove
Black Housing



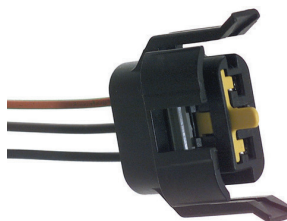
F23501
Headlamp Pigtail
Replaces OEM No. 12101897
(2) all black 10" leads 18 ga.
Intermediate, large domestic
& import cars '86+
for use w/ 9006 halogen high beam
single guide groove
Gray Housing



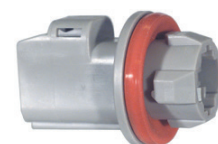
F2198
Straight Lamp Socket Bases
Repair Harness - Wedge Bulb
Not Supplied by O.E.
Ford Focus, Escape,
Ranger, Explorer,
Mountaineer, F150
& F-Super Duty '98+
3-18 Ga. 8" Leads
Brown Housing



F21742
90 Degree Lamp Socket Bases
Repair Harness - Wedge Bulb
OEM No. 3U2Z-14S411-CKAA, WPT-671
Ford Focus, Escape,
Expedition, Navigator,
Explorer, Mountaineer,
Ranger, Freestar,
Monterey, F150, F-Super Duty & Excursion '95+
3-18 Ga. 8" Leads
Black Housing

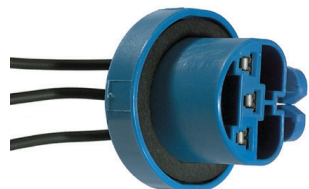


F22187
Ford Lamp Socket Base Pigtail
(3) 18 Ga, (TXL) 8" Leads Black, Brown, Green/Gold
Ford Ranger, Explorer,
Econoline, '91+
Black Housing



F21581
License, Side Marker
& Back Up Light Socket
OEM No. F81Z-13411-AA
Bulb No. 194
Ford Explorer Sport Trac,
Focus, Lincoln Navigator,
LS, Blackwood &
Mercury Villager '99+
Ford Fiesta '11+

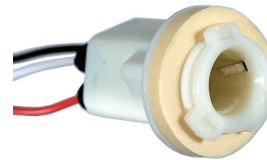
PIGTAILS — FORD LIGHTING (continued)



F23194
Headlamp Pigtail
(3) all black 10" leads 18 ga.
Compact import and
domestic cars '88+
for use w/ 9004 and 9007 bulbs
Blue Housing



F2202
Socket Pigtail
(3) 10" leads 20 ga. black,
brown, Purple
Ford products '87+
for use w/ 3157, 3057 and
2458 Wedge type bulbs
White Housing



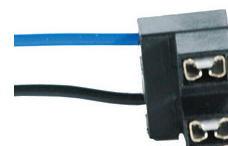
F22479
Parking and
Turning Lamp Pigtail
Replaces OEM No. D1FZ-13234A
(3) 10" Leads Red,
Black and White
Ford '71+ for use w/
1157 Bulbs
Natural Plastic Housing



F22321
Socket Pigtail
(2) 7" leads 18 ga.
black and purple
Ford trucks and Bronco '80-'90
for use w/ 1156 bulbs
White Housing



F21553
Three Prong Sealed Beam
& Flasher (2 & 3 Blade) Pigtail
(3) 18 Ga. Black 8" Leads
Early Ford and GM Models
Universal Black Housing



F21300
Headlamp Bulb Pigtail
For H7 Bulb
Not Supplied by O.E.
2 - 18 Ga. 6" Leads
For Use on Various Domestic &
Import Vehicles



F83145
H1 & H3 Halogen Bulbs Pigtail
Right Angle for 1/4" Male Spade Terminals
Not Supplied by O.E.
1 - 12 Ga. 12" Lead

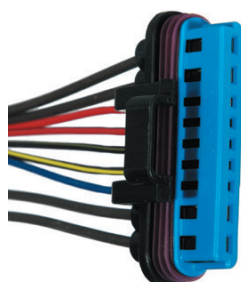


F21386
Single-Contact
(1) Black 12" Lead
Double Base Phenolic Disc
for use w/ 1156 Bulb

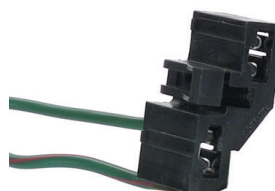


F295
Double Contact
(2) 12" Black Leads
Double Base Phenolic Disc

PIGTAILS — FORD MISC.

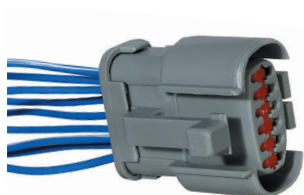


F22134
Injector / Glow Plug Pass through
at Valve Cover Gasket (1/Head)
Valve Cover Gasket
No. F81Z-6584-AA
5 - 18 Ga. & 4 - 14 Ga. 8" Leads
Ford E & F Series
Trucks 7.3 Diesel '98+
& Excursion '00+



F2925
Ford Power Brake Pigtail '83+
(2) 12" Leads Green, Green/Red
Ford '65+
Black Housing

PIGTAILS — FORD SENSOR



F23225
Transmission Solenoid Assembly Pigtail
(Shift & Throttle Pressure Control)
OEM No. F2PZ-14A464-A,
Fits Solenoid No's F5TZ-7G391-A,
F8TZ-7G391-BA, F7TZ-7G391-AA,
Ford 'E', 'F', 'U150', Expedition &
Navigator w/E4OD Trans. '90-'98
3-16 Ga. 7-18 Ga. 8" Leads



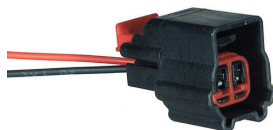
F21828
Coolant Temperature Sensor
Fits OEM No. E1AZ-12A648-A
(2) 7" Leads 18 Ga. Green and Black
Ford '81+
Black Housing



F2733
Cam & Crank Shaft Sensors Pigtail
Not Supplied by O.E.
Fits Sensor No.'s: FOCZ-6B288-A,
F1ZAZ-6C315-A, F1AZ-6B288-A,
XC3Z-6B288-AA
Ford Cars &
Light Duty Trucks '91 +
2-18 GA. 8" Leads



F21464
Vehicle Speed Sensor Pigtail
(2) White GXL 8" Leads
Ford, Various Models '93+
Black Housing



F23915
Rear Axle Speed Sensor
Oem No.'s 3U2Z-14S411-EKA, WPT-254
Sensor No.'s 1L2Z-9E731-AA,
1L2Z-9E311-AA,
DY887, DY1000
2-20 Ga 8" Leads
Ford Explorer/Mountaineer
& Aviator '02+



F23258
MAF Sensor Pigtail
OEM No. 1U2Z-14S411-AA, WPT-102
Sensor Base No's 12B579:
F6UZ-AA F6ZZ-AA,
XF2Z-AA, XF2Z-BA,
YS4Z-FA, 1L2Z-AA
Ford Cars & Lt. Duty Trucks '92+
6-14 Ga. 8" Leads



F267
Vehicle Speed Sensor Pigtail
OEM No. 3U2Z-14S411-JLA, WPT292
5C3Z-14S411-AA, WPT830
Fits Sensor# 6L3Z-9E731-A, DY-1073
Ford F-Series Pick-Up Trucks '04+
2-16 Ga. 8" Leads
(Also fits various relays, switches, lamps & motors
Ford Cars & Trucks '00+



F86236
Fuel Injector, Knock, Cam, Crank &
Coolant Temp Sensors Pigtail
OEM No. CU2Z-14S411-ARA,
WPT-1302 (Ford);
88988963, PT2183 (GM)
Ford '10-'16, GM '04-'14
2-14 GA 8" Leads



F06100
Coolant Temperature
Sensor Pigtail
Replaces OEM No. 3U2Z-
14S411-MDB, WPT-985
Fits Sensor no. 854Z-6G004-A
Ford Escape, Focus, Fusion, Ranger, Transit
Connect/
MKZ, Mariner & Milan '01+
2-14 Ga. 8" Leads



F06101
Coolant Temperature
Sensor Pigtail
Replaces OEM No. 3U2Z-14S411-VA,
WPT-206, 3U2Z-14S411-HYA,
WPT-284, 3U2Z-14S411-
HYB, WPT-989
Fits Sensors No. F5AZ-
12A648-A & AB, DY719,
3F1Z-12A648-A, DY1144
Ford Cars & Trucks '95+
2-14 Ga. 8" Leads

2

PIGTAILS — FORD SWITCH

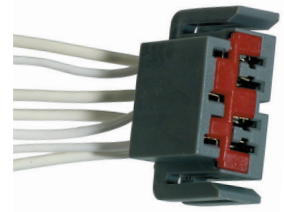
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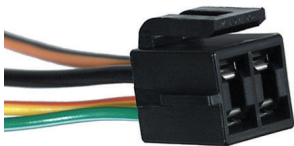
F2895
Ignition Switch Repair Pigtail
Fits Switch # DOTZ-11572-A & SW944
(6) 8" Leads, (2) 12 Ga. & (4) 14 Ga.
Ford Lt., Med & HD Trucks '70+



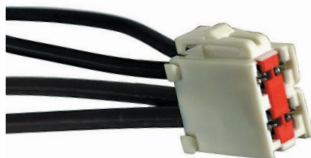
F2655
Oil Pressure Switch Pigtail
OEM No. 3U2Z-14S411-MHA, WPT-439
Fits Switches F75Z-9278-CB, F8AZ-9278-DA
1U5Z-9278-DA, SW-5192, SW-5696
Ford Cars & Light/Medium Trucks '97+
(1) 14 Ga. 8" Lead



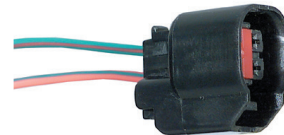
F23699
Repair Pigtail Turn Signal
Multi Function Switch
Fits Switch No. F1DZ-13K359-B
Ford Taurus/Sable '90+
(4) 16 Ga. &
(3) 20 Ga. 8" Leads (TXL)
Gray Housing



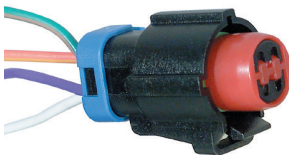
F21561
Ford Fan Speed Switch Pigtail
Fits Switch No's. E6DZ-19986-A,
E9Sz-A, F2DZ-A, F2U2-A&B
(4) 8" Leads (1) 16 Ga.
(1) 14 Ga. (2) 12 Ga.
Yellow, Green, Orange and Black
Ford Taurus/Sable '86-'93,
T-Bird/Cougar '89-'93, E-Series '92+
Black Housing



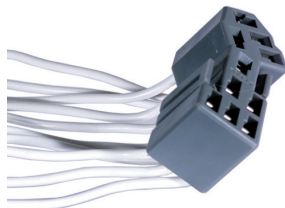
F2963
Blower Motor Switch Repair Harness
Switch #F5RZ-18578-A
2-10GA GXL 8" Lead
2-12GA GXL 8" Lead
Ford Contour, Mystique '95+



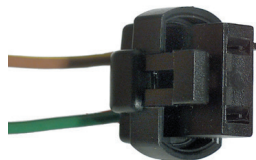
F22578
Brake Lamp Switch Pigtail
Not Supplied by O.E.
Fits Switch No's
YF1Z-13480-AA, YF1Z-13480-BA
Ford, Lincoln & Mercury '00+
Explorer/Mountaineer '98-3/1/99
2-18 Ga. 8" Leads



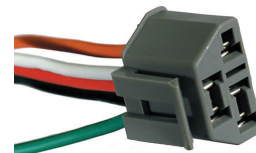
F2398
A/C Clutch Cycling Pressure
Switch Pigtail
OEM No. F81Z-19D887-AA
Fits Switch No's F5VY-19E561-A
F3AZ-19D594-C,
F5TZ-19D594-AA, YH592
Ford Cars, Light &
Medium Duty Trucks '94+
4-16 Ga. 8" Leads



F22497
Repair Pigtail
Multi Function Switch
Fits Switch No's. E9DZ-13K359-A,B,C
E8ZZ-B, FOZZ-A
Taurus/Sable '86 -
'89, Mustang '87 - '93
(10) 16 Ga. (GPT) 8" Leads
Gray Housing



F22076
A/C Cycling Switch Connector Pigtail
Fits OEM No. E35Y-19E561-A
(2) 8" Leads 16 Ga. Green and Brown
All Ford '83+
Black Housing



F21527
A/C Blower Switch Socket Pigtail
Fits OEM Switch No. 19986
(5) 5" 12 Ga. Leads
Red, Orange, White,
Green and Black
Ford '73+
Gray Housing

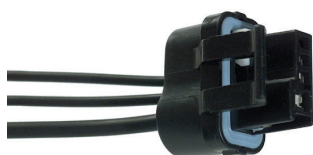
PIGTAILS — FORD



F2614
OEM No.
D1AB-14461-AA

2

PIGTAILS — GM CHARGING & STARTING



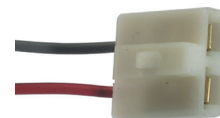
F21336
Internal Voltage Regulator Module Pigtail
Replaces OEM No. 1116411 and 1116408
Three 7" Leads Brown, Black and Red
GM '86+ Black Housing



F24136
Alternator Pigtail
Replaces OEM No. 89046837,
PT2057
GM Vehicles '04+
2 - 14 Ga. 8" Leads

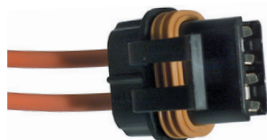


F22053
Alternator Pigtail
Two 5" Leads (1) 12 Ga., (1) 16 Ga.
Red and Brown GM '71+
Natural Plastic Housing



F23005
Alternator Pigtail
Two 8" Leads 18 Ga.
Red and Gray
GM '71+ Alternators
w/built in voltage regulators

PIGTAILS — GM COOLING & HEATING



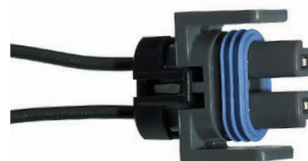
F22686
Cooling Fan Motor,
Heater Blower Motor and
ATO/ATC Fuse Holder Pigtail
Replaces OEM No. 22074968,
22074969 and
22048271 (2) 12 Ga. 9" Leads
Black Housing GM '82+



F23537
Blower Motor Resistor & Various Relays,
Switches & Actuators Pigtail
OEM No.'s 15862656, 88953358
PT1650, PT2195
Fits Resistor No.'s 89019088,
89019089, 89019100
GM Light & Medium Duty Trucks & Cars '90+
7-12 Ga. 8" Leads

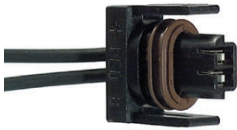


F86234
Blower Resistor, Window,
Door Lock Pigtail
OEM No. 12167129, PT795
Fits Resistor No. 22752970, 23454134
GM Cars & Light Duty Trucks '93-'12
5 - 14 GA 8" Leads



F21782
A/C Compressor Clutch (No Diode) Pigtail
Replaces OEM No. 120101937
Two 8" Leads 18 Ga. Black and Green
GM '89+
Black/Gray Housing

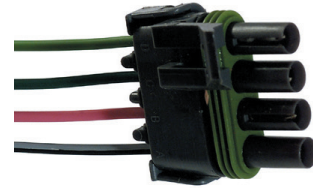
PIGTAILS — GM FUEL



F2438
Direct Ignition Throttle
Body Injection Pigtail
Replaces OEM No. 12085496
Two 8" Leads Blue and Red
GM '87+
Black Housing



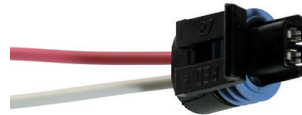
F22567
Solenoid Mixture Control Pigtail
Fits OEM Solenoid No's. 17067343,
17067344 and 17111102
Two 9" Leads All Black
GM 2 and 4 Barrel
Rochester Carburetors
Black Housing



F2142
Idle Speed Control Connector Pigtail
Fits OEM No. 17079129
and 17079121
Four 8" Leads 18 Ga. (2) Green,
Pink and Black
GM V6 and V8 engines
w/ Carburetors '81-'87+



F24806
Vapor Canister Purge Solenoid
Repair Harness
GM Cars & Light Trucks '90+
OEM No. 12101858, 13585860,
PT250, PT2784
Solenoid No's 1997252, 1997279,
1997262, 1997289
2-16 Ga. 8" Leads

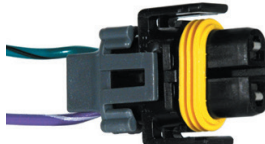


F22654
Distributor Module Connector Pigtail
Fits OEM Module No. 1987466
Two 8" Leads 18 Ga. Pink and White
GM 2.8 V6 '85+
Black Housing

PIGTAILS — GM LIGHTING



F84709
Halogen Bulb Pigtail
Various Ford & GM Applications '88+
OEM No. 12102664, PT331 (GM),
1U2Z-145411-YA, 3U2Z-145411-ECAA, WPT-122,
WPT-775 (Ford)
(2) 20GA. GXL 8" Leads
For use with Halogen Bulb No's.:
880, 884, 885, 890, 892, 893 & 899



F21471
Halogen Bulb Socket
Assembly Pigtail
GM Fog '83+, Cornering '87+
OEM No. 12043215
(2) 7" Leads 18 Ga.
Fits Bulb #'s 886, 881, 889, 896, 894 & 898



F21300
Headlamp Bulb Pigtail
For H7 Bulb
Not Supplied by O.E.
2 - 18 Ga. 6" Leads
For Use on Various Domestic & Import
Vehicles



F21386
Single-Contact
(1) Black 12" Lead
Double Base Phenolic Disc
for use w/ 1156 Bulb



F295
Double Contact
(2) 12" Black Leads
Double Base Phenolic Disc



F25020
Park, Turn Signal, Tail Lamps
Repair Harness
OEM No. 88861049, LS198
Regular Base for: 198, 1016, 1034,
1154, 1157 Bulbs
2-18 Ga. 8" Leads

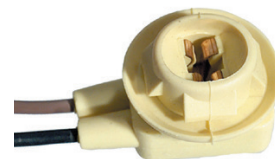
PIGTAILS — GM LIGHTING (continued)



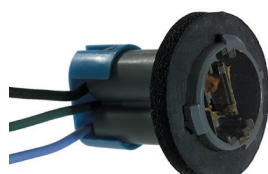
F83145
H1 & H3 Halogen Bulbs Pigtail
Right Angle for 1/4" Male Spade Terminals
Not Supplied by O.E.
1 - 12 Ga. 12" Lead



F23222
Side Marker Lamp
Repair Harness
(1) Black, (1) Brown
18 Ga, 10-1/2" Leads For No. 194 Bulb
GM '82+ Yellow Housing



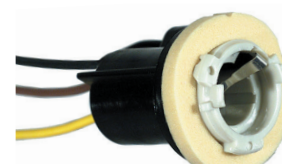
F2374
Right Angle Sidemarkers Pigtail
Various GM Applications '71+
Various Ford Applications '80+
OEM No. 12001470
For use with 194A &
194 Bulbs 2 Wire
Yellow Housing



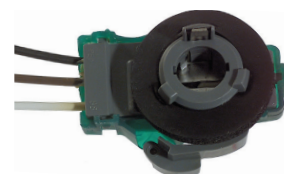
F23473
Backup and Marker Pigtail
Replaces OEM No. 12083005
(3) 8" Leads (2) 18 Ga.
and (1) 16 Ga.
Green, Black and Blue
GM '90+
for use w/ 3057 bulb
Gray Housing



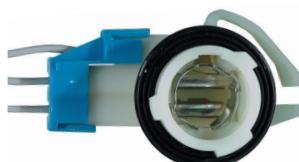
F23644
Stop, Turn and Tail Pigtail
Replaces OEM No. 12083006
(3) 8" Leads (2) 18 Ga. (1) 16 Ga.
Brown, Yellow and Black
GM '90+
for use w/ 3057 bulb
Black Housing



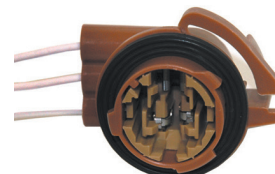
F22855
Park, Stop and Tail Lights
Replaces OEM No. 8919916, 12013813
(3) 12" Leads: Black, Brown and Blue
GM Applications
for use w/ 1157 bulb
Black Housing



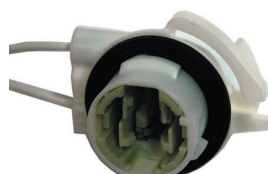
F21144
Stop, Park and Turn Pigtail
Replaces OEM No. 12003759
(3) 17" Leads: Black,
Brown and Black/Yellow
GM '77+, Chrysler '88+
and AMC '79+
for use w/ 1157 bulb
Black Housing



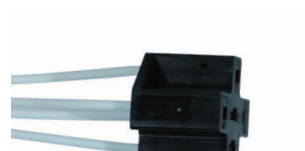
F2917
Parking, Turn Signal, Tail
& Cornering Lamp Pigtail
Oem No.'s 15306194, 12141302, LS96, LS40
Bulb No.'s 1157 & 2057
3 - 18 Ga. 8" Leads
GM '92-'04



F2326
Park/Turn, Stop/Tail
& Turn Signal Lamps
OEM No. 15306147, LS92
Bulb #'s 3057, 3157,
3357, 4157, 4114K
GM Light-Duty Trucks '99+
3 - 18 Ga. 8" Leads
Brown Body / Tan Insert



F22552
Daytime Running & Turn Signal Lamps
OEM No. 15306157, LS94
Bulb #'s 3156, 4156
GM Cars & Light-Duty Trucks '99+
2 - 18 Ga. 8" Leads
White Body / Natural Insert



F21054
Various Accessory Relays
Repair Harness
GM '80+ & General Purposes
OEM No. 12102696, PT363
5-16 Ga. 8" Leads



F21030
Instrument Panel Cluster Socket
Replaces OEM No. 2496279,
5655006 Socket Replacement Ford,
GM, Chrysler
General Purpose for 5/8" Opening
for use w/ wedge type bulbs
Black Housing

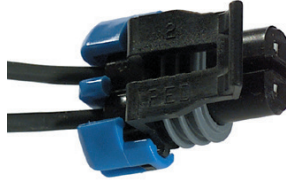
PIGTAILS — GM



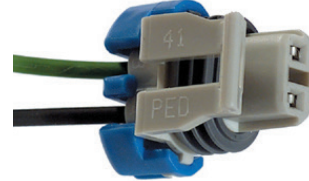
F23132
Repair Harness Various Relays
Fuel Pump, Headlamp,
Blower, ABS, Horn, Etc.
Gm Vehicles '93+ OEM No. 15306045, PT1205
Relay No's 12077864, 12077867, 12088577,
12135113, 12193601
3-14 Ga. & 2-12 Ga. 8" Leads



F21592
Repair Pigtail
Transmission Converter/Clutch
GM '84 - '90
Replaces OEM No. 12085533
(3) 9" Leads



F22376
Windshield Washer Pump
Repair Harness
Replaces 12102747
(2) 16 Ga., (GXL) Black,
9" Leads
GM Cars and Trucks '87+
Blue and Black Housing



F22492
Horn Pigtail (1) Green 18GA GXL
(1) Black 18GA GXL
8" Leads GM Various Models '88+
White, Gray and Blue Housing

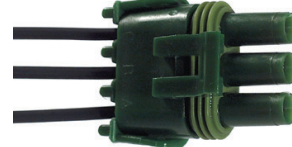
PIGTAILS — GM SENSOR



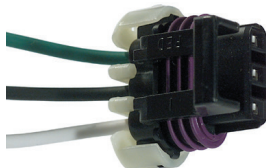
F23457
Throttle Position Sensor Pigtail
Three 10" Leads 18. Ga. Red and Gray
GM w/ Fuel Injection '83+
Natural Plastic Housing



F22482
Throttle Position Sensor Pigtail
Fits OEM Sensor No. 17112679
Three 8" Leads 20 Ga. Black,
Blue and Gray
GM '90+ Black Housing



F21047
M.A.P. (Manifold Absolute Pressure)
Sensor Pigtail
Replaces OEM No. 12085502
Three 8" Leads 18 Ga. All White
GM '82+ Green Housing



F21308
Repair Harness Crank Position Sensor
Elect. Brake Module ENG.
Coolant Level,
Various Other Sensors GM Car +
Truck, '90+
OEM No. 12117025 3-16 GA,
GXL 8" Leads



F22418
Repair Harness
In Line with Brakes, Engine, Lamps,
Wheel Speed Sensor # 15997070
4 Wheel Drive, & Power Steering
GM Cars & Trucks '92+
OEM No. 12167120, PT786
2-18 Ga. 8" Leads

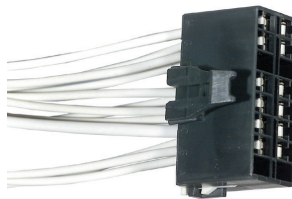
PIGTAILS — GM SWITCH



F21749
Coolant Temperature Sensor Pigtail
Replaces OEM No. 12046623
Fits Harness No. 25036708
& 25036979
Two 12" Leads 18 Ga.
Black and Yellow
GM '85+
Black Housing



F23730
Neutral + Park Switch Harness Switch
#s 1994363,
1994335 Also Fits Alternators,
Wheel/Vehicle
Speed Sensor,
Rear Wiper Switches
4-18GA, GXL 8" Leads GM '86+



F23481
Headlamp Switch Pigtail
OEM No. 12167155, PT819
Fits Switch No.s: 15013005,
15741153 GM Light Duty Trucks '95+
1-12 Ga, 11-18 Ga, 8" Leads



F21576
Compressor Low Pressure Switch Pigtail
Two 7" Leads 18 Ga.
All GM w/ V5 Compressor (3 O' Clock)
Black Housing

HARNESS REPAIR — GM TERMINALS METRI-PACK SERIES

Metri-pack features:

- Small overall dimensions, Low voltage, low energy capability, -40°C to 125°C temperature range
- 150 series - 14 Amp continuous max current rating
- 280 series - 30 Amp continuous max current rating
- 480 series - 42 Amp continuous max current rating
- 630 series - 46 Amp continuous max current rating



F23187
OEM No. 12045773



F22714
150 series
1.0-.080 wire size
OEM No. 12047581
Mates w/F22023



F22639
150 series
1.0-.080 wire size
OEM No. 12047581



F23834
16-14 Ga.
280 series
OEM No. 12020116
Mates w/F22253



F21748
20-18 Ga.
OEM No. 12034047
Mates w/F23050



F2175
280 series
1.0-.080 wire size
OEM No. 12048159



F21520
480 series
5.0 wire size
OEM No. 12033820
Mates w/F22225



F22350
OEM No. 12089340



F22023
18-16 Ga.
150 series
OEM No. 12103881



F21334
20-18 Ga.
150 series
OEM No. 12047767



F21426
OEM No. 12052466



F21714
16-14 Ga.
480 series
2.0-1.0 wire size
OEM No. 12020120



F2239
16-14 Ga.
630 series
OEM No. 12020126
Mates w/F21698



F23709
20-18 Ga.
150 series
OEM No. 12047767



F23050
20-18 Ga.
series 280
1.0-.080 wire size
OEM No. 12034046
Mates w/F21748



F21698
16-14 Ga.
630 series
OEM No. 12015870
Mates w/F2239



F21999
16-14 Ga.
480 series
OEM No. 12124304



F22225
480 series
5.0 wire size
OEM No. 12084595



F23030
OEM No. 12077412



F22253
16-14 Ga.
OEM No. 12015857
Mates w/F23834



F22832
20-18 Ga.
series 280
1.0-.080 wire size OEM
No. 12077411



F23266
16-14 Ga.
280 series
2.0-1.0 wire size
OEM No. 12066214



F2792
480 series
2.0-1.0 wire size
OEM No. 12048451



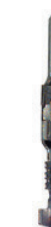
F21848
16-14 Ga.
OEM No. 02973216



F2256
150 series
0.5-0.35 wire size
OEM No. 12059894



F2181
OEM No. 12092344



F21097
OEM No. 12092345



F21095
16-14 Ga.
280 series
OEM No. 12129493
Mates w/F23016



F2992
150 series
0.5-0.35 wire size
OEM No. 12129373



F22080
18-16 Ga.
150 series
1.0-.080 wire size
OEM No. 12124075



F23724
150 series, 0.5-.035
wire size
OEM No. 12124076



F21314
280 series
1.0-.080 wire size
OEM No. 12110844



F21880
280 series
3.0-2.0 wire size
OEM No. 12110845



F23841
280 series
0.50-0.35 wire size
OEM No. 12110846



F23769
630 series
1.0-.080 wire size
OEM No. 12015869

HARNESS REPAIR — GM TERMINALS METRI-PACK SERIES (continued)

2



F23787
150 series
1.0-0.80 wire size
OEM No. 12110847



F22650
150 series
5.0-3.0 wire size
OEM No. 12110853



F23016
16-14 Ga.
280 series
5.0-3.0 wire size
OEM No. 12129497
Mates w/F21095



F2230
630 series
5.0 wire size
OEM No. 12066493



F22967
630 series
5.0 wire size
OEM No. 12064736



F21728
280 series
5.0 wire size
OEM No. 12084586



F23924
22-20 Ga.
150 series
0.50-0.35 wire size
OEM No. 12064971



F22183
280 series
2.0-1.0 wire size
OEM No. 12129424



F21050
480 series
0.80 wire size
OEM No. 12015860



F21239
280 series
5.0 wire size
OEM No. 12077413



F21901
150 series
0.50-0.35 wire size
OEM No. 12089290



F23419
280 series
2.0-1.0 wire size
OEM No. 12129409



F2885
OEM No. 12103325



F23553
150 series
1.0 - .050 wire size
OEM No. 12048074



F21858
OEM No. 12033821



F22622
12-10 Ga.
280 series
OEM No. 12015858



F23216
OEM No. 12110842



F23647
OEM No. 12186458



F21021
OEM No. 12186457



F21957
OEM No. 12186456



F23014
12-10 Ga.
630 series
5.0 wire size
OEM No. 12084590



F23591
12-10 Ga.
630 series
5.0-3.0 wire size
OEM No. 12052456



F21310
OEM No. 12160635



F23556
Cable Seal
16-14 Ga.
OEM No. 12010293
Gray



F2710
Cable Seal
18 Ga.
OEM No. 12048086
Red



F22565
Cable Seal
16 Ga.
OEM No. 12059678
White



F21660
Cavity Seal
OEM No. 12059168
Red

METRI-PACK SERIES



F22661
280 series
Male 1 position
OEM No. 12065171



F2453
280 series
Male 2 position
OEM No. 15300002



F21238
280 series
Male 3 position
OEM No. 15300003



F2652
280 series
Female 1 position
OEM No. 12065172



F21615
280 series
Female 2 position
OEM No. 15300027



F22120
280 series
Female 3 position
OEM No. 12040977

HARNESS REPAIR — GM TERMINALS METRIC-PACK SERIES (continued)



F22653
OEM No. 12052634



F21703
OEM No. 12052845



F2831
OEM No. 12047948



F2632
150 series
2 position female OEM
No. 12052641



F21644
150 series
3 position female OEM
No. 12110293



F23545
150 series
4 position female OEM No.
12162144



F21304
150 series
2 position male OEM No.
12162000



F22362
150 series
3 position male
OEM No. 12129615



F2503
150 series
4 position male
OEM No. 12162102

HARNESS REPAIR — GM TERMINALS WEATHER-PACK SERIES



F21968
OEM No. 12066638



F23001
OEM No.
12040511



F23345
OEM No.
2984375



F22175
OEM No. 2984172



F22384
18-20 Ga.
OEM No's. 12033674,
12089040
Mates w/F22129



F2446
OEM No.
14-16 Ga.12124580
Mates w/F23957



F23957
14-16 Ga.
OEM No. 12124582
Mates w/F2446



F22129
18-20 Ga.
OEM No's. 12034051,
12089188
Mates w/F22109



F22610
12 Ga.
OEM No. 12124581
Mates w/F21954



F21954
12 Ga.
OEM No. 12124587
Mates w/F22610



F22368
OEM No. 1839906



F21112
OEM No. 5297428



F22590
22 Gauge Wire
OEM No. 12048087
Blue



F2451
10-12 Gauge Wire
OEM No. 15324981
Blue



F23852
18-22 Gauge Wire OEM
No. 12041351
Tan



F21665
18-20 Gauge Wire OEM
No. 12015323
Green



F21326
16-20 Gauge Wire OEM
No. 12048441
White



F266
14-16 Ga.
OEM No. 12010300
Green



F2207
OEM No. 12089190



F2659
OEM No.
12089191



F2654
Weather-Pack
Terminal Extractor



F2302
GM Narrow
Terminal pick
OEM No. 12094430



F21590
GM Wide
Terminal pick
OEM No. 8913369



F2360
GM Micro
Terminal pick
OEM No.
12094429

HARNESS REPAIR — GM TERMINALS WEATHER-PACK SERIES



F21635
OEM No. 12010996



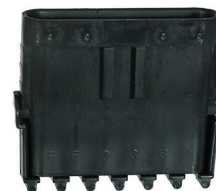
F31791
OEM No. 12010973



F2768
OEM No. 12010717



F2130
OEM No. 12010974



F289
OEM No. 12010975



F21422
OEM No. 12015791



F2411
OEM No. 12015792



F23010
OEM No. 12015793



F2898
OEM No. 12015797



F21140
OEM No. 12015799



F23553
OEM No. 12048074



F2962
OEM No. 2965142
Mates w/ F2254



F2254
OEM No. 2971962
Mates w/ F2962



F21023
OEM No. 12020757



F23075
OEM No. 8900524
or 12020320



F22404
OEM No. 120203320



F2732
OEM No. 12033816



F2145
OEM No. 8911640



F2586
OEM No. 12020321



F22756
OEM No. 12020346

HARNESS REPAIR — GM TERMINALS MICRO-PACK



F21104
OEM No. 12040500



F22252
OEM No. 12084913



F23696
OEM No. 12089649

MICRO-PACK SERIES 100



F22645
Micro-Pack 100
OEM No. 12160551



F23284
Micro-Pack 100
OEM No. 12084912



F23264
Micro-Pack 100
OEM No. 12191811



F22842
Micro-Pack 100
OEM No. 12103114



F23411
E.C.C Micro-Pack
OEM No. 12089660



F23817
E.C.C Micro-Pack
OEM No. 12146447



F23970
14-16 Ga.
OEM No. 12020758

TERMINALS — UNINSULATED CRIMP-TYPE



F23857
M4 (#7)
14-16 ga.



F21353
M4 (#7)
14-16 ga.



F23270
Hole M8 (5/16")
14-16 ga.

2

TERMINALS — EUROPEAN AUTOMOTIVE



F22354
1.0 - 2.5mm²
18-22 ga.



F2761
2.0mm
1.0 - 2.5mm²
18-22 ga.



F2803
3.5mm
.5 - 2.5mm²
(BMW)
14-22 ga.



F2408
1.5mm
1.0 - 2.5mm²



F22866
1.5mm
1.0 - 2.5mm²



F22588
Pin Extractor Tool For
F2408

TERMINALS — FUEL INJECTION



F2263
Pigtail w/ Two 5" White Leads 18 Ga.
Fits Many Japanese Fuel Injectors,
Fuel Injection Components
and Coolant Sensors
Offset Keyed - Gray Housing
Clip Included



F23032
Pigtail w/ Two 5" Leads
Same Applications as F23032
Center Keyed - Black Housing
Clip Included



F23748
Pigtail w/ Two 3" White Leads
Fits AMC, Chrysler,
Ford, General Motors,
Alfa-Romeo, BMW, Datsun,
Fiat, Jaguar, Porsche,
Renault, Toyota, Triumph,
Volkswagen, and Volvo
Clip Included
Center Keyed - Black Housing



F2464
Pigtail w/ Three 5" White Leads
"L" Jetronic Injector,
Idle Speed Control Motors,
Throttle Switches, Hydraulic Actuators,
Knock Sensors and Speed Sensors
Center Keyed - Black Housing
Clip Included



F21701
"Old Style" Wire Connector
w/ Four 3" White Leads
(Wired F2739 Housing)
Fits: Cadillac, Jaguar, Mercedes-Benz,
Porsche, Renault, Saab,
Volkswagen and Volvo
White Housing



F21454
91H2A-LJET
Injector Pigtail



F22656
FI Harness Boot 2 Wire
Works w/ 2 Wire Housings
Black Plastic

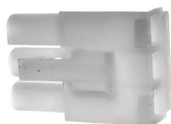


F23610
Pincer Type Terminal
"L" Jetronic Injector Contact Only
"K" Jetronic Warm-up Regulator
Auxiliary Air Valve Contact
AFC Contact

HARNESS REPAIR — MOLEX .093" PIN & SOCKET CONNECTORS



F24776
2 Cavity
Receptacle



F24777
3 Cavity
Receptacle



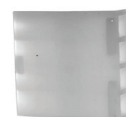
F24778
4 Cavity
Receptacle



F24781
2 Cavity
Plug



F24782
3 Cavity
Plug



F24783
4 Cavity
Plug



F24780
Socket Terminal
22 - 18 ga.



F24779
Socket Terminal
20 - 14 ga.



F24785
Pin Terminal
22 - 18 ga.



F24784
Pin Terminal
20 - 14 ga.

HARNESS REPAIR — DEUTSCH DTM SERIES CONNECTORS



F25039
2 Cavity
Plug



F25040
2 Cavity
Receptacle



F25041
3 Cavity
Receptacle



F25042
3 Cavity
Receptacle



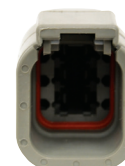
F25043
4 Cavity
Plug



F25044
4 Cavity
Receptacle



F25045
6 Cavity
Plug



F25046
6 Cavity
Receptacle



F25047
8 Cavity
Plug



F25048
8 Cavity
Receptacle



F25049
12 Cavity
Plug



F25050
12 Cavity
Receptacle

HARNESS REPAIR — DEUTSCH DTM SERIES CONNECTORS (continued)



F25052
2 Wedgelock
Plug



F25053
2 Wedgelock
Receptacle



F25055
3 Wedgelock
Plug



F25055
3 Wedgelock
Receptacle



F25056
4 Wedgelock
Plug



F25057
4 Wedgelock
Receptacle



F25058
6 Wedgelock
Plug



F25059
6 Wedgelock Receptacle



F25060
8 Wedgelock
Plug



F25061
8 Wedgelock Receptacle



F25062
12 Wedgelock
Plug



F25063
12 Wedgelock Receptacle



F25051
Size 20 socket
20 AWG
7.5 Amp



F25065
Size 20 pin
20 AWG
7.5 Amp



F25066
Size 20 pin
16-18 AWG
7.5 Amp



F25064
size 20 socket
18 AWG
7.5 Amp

HARNESS REPAIR — DEUTSCH DT SERIES CONNECTORS



F22054
2 Cavity
Receptacle



F21732
3 Cavity
Receptacle



F21655
4 Cavity
Receptacle



F23851
6 Cavity
Receptacle



F23380
8 Cavity
Receptacle



F23489
12 Cavity
Receptacle



F23811
2 Cavity
Plug



F22840
3 Cavity
Plug



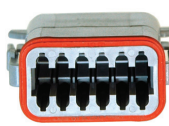
F21867
4 Cavity
Plug



F21060
6 Cavity
Plug



F22733
8 Cavity
Plug



F21323
12 Cavity
Plug



F23958
2 Cavity Receptacle
Wedgelock



F21355
3 Cavity Receptacle
Wedgelock



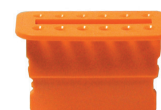
F2361
4 Cavity Receptacle
Wedgelock



F22446
6 Cavity Receptacle
Wedgelock



F21633
8 Cavity Receptacle
Wedgelock



F23638
12 Cavity Receptacle
Wedgelock

HARNESS REPAIR — DEUTSCH DT SERIES CONNECTORS (continued)



HARNESS REPAIR — DTP SERIES CONNECTORS



WIRE — REFERENCE INFORMATION

AWG Wire Size	Maximum Current Load in Amperes	Maximum Cord Lgth. W/5% Voltage Drop
18	7	65 FT.
16	10	71 FT.
14	15	75 FT.
12	20	90 FT.
10	25	115 FT.
8	35	130 FT.

CROSS REFERENCE AWG TO MM²

AWG	mm ²	AWG	mm ²	AWG	mm ²	AWG	mm ²	AWG	mm ²
30	0.05	21	0.38	16	1.5	6	16	2/0	70
28	0.8	20	0.5	14	2.5	4	25	3/0	95
26	0.14	18	0.75	12	4	2	35	4/0	120
24	0.25	17	1.0	10	6	1	50	300 MCM	150
22	0.34			8	10			350 MCM	185

2

WIRE — PRIMARY

GENERAL PURPOSE PRIMARY WIRE

- General-purpose thermoplastic PVC insulated wire
- Ideal for automotive, truck, trailers, boats, and other point to point low voltage applications
- Resists grease, oil, and acid

- **Voltage:** Rated at 60V or less
- **Temperature:** Rated at 80°C (176°F)
- **Specifications:** SAE J1128, SAE J378



Gauge	No. of Strands	Color	100' Roll Part No.	250' Roll Part No.	500' Roll Part No.	1000' Roll Part No.
22 Ga.	7	Black		F25648		
22 Ga.	7	White	F2533	F25651		
22 Ga.	7	Red		F25647		
22 Ga.	7	Yellow	F22770	F25646		
22 Ga.	7	Green	F2116	F25649		
20 Ga.	7	Black	F23692	F2978		
20 Ga.	7	White	F23008	F22513		
20 Ga.	7	Red	F22846	F2608		
20 Ga.	7	Blue	F21082	F21591		
20 Ga.	7	Yellow	F2828	F21052		
20 Ga.	7	Green	F23936	F22114		
20 Ga.	7	Brown	F21127			
18 Ga.	16	Black	F21974			F22408
18 Ga.	16	White	F22403			F22536
18 Ga.	16	Red	F23314			F21930
18 Ga.	16	Blue	F2952			F23467
18 Ga.	16	Orange	F2665			
18 Ga.	16	Yellow	F22950			
18 Ga.	16	Green	F21834			
18 Ga.	16	Brown	F22449			
18 Ga.	16	Pink	F23630			
18 Ga.	16	Purple	F21586			
18 Ga.	16	Grey	F21693			
18 Ga.	16	Dark Blue	F2170			
18 Ga.	16	Dark Green	F23653			F2203
16 Ga.	19	Black	F23804	F25855	F21723	
16 Ga.	19	White	F21475	F25856	F2618	
16 Ga.	19	Red	F21898	F25857	F2642	
16 Ga.	19	Blue	F2865	F25858	F21906	
16 Ga.	19	Orange	F23737	F25859	F2469	
16 Ga.	19	Yellow	F23446	F25860	F21747	
16 Ga.	19	Green	F22367	F25861	F21115	
16 Ga.	19	Brown	F21938	F25862	F21178	
16 Ga.	19	Pink	F21961			
16 Ga.	19	Purple	F22564	F25902	F21301	
16 Ga.	19	Grey	F2455	F25903	F2193	
16 Ga.	19	Dark Blue	F23414		F21860	
16 Ga.	19	Dark Green	F2484		F22544	

Gauge	No. of Strands	Color	100' Roll Part No.	250' Roll Part No.	500' Roll Part No.	1000' Roll Part No.
14 Ga.	19	Black	F21822		F25863	F21039
14 Ga.	19	White	F22924		F25864	F2668
14 Ga.	19	Red	F23048		F25865	F2497
14 Ga.	19	Blue	F22763		F25866	F23378
14 Ga.	19	Orange	F2152		F25867	
14 Ga.	19	Yellow	F21526		F25868	F21479
14 Ga.	19	Green	F22266		F25869	
14 Ga.	19	Brown	F22470		F25870	F23253
14 Ga.	19	Pink	F2328			
14 Ga.	19	Purple	F21200		F25901	F21472
14 Ga.	19	Grey	F22755		F25900	
14 Ga.	19	Dark Blue	F21895			
14 Ga.	19	Dark Green	F23671			
12 Ga.	19	Black	F21022			F23406
12 Ga.	19	White	F2433			
12 Ga.	19	Red	F23450			F23669
12 Ga.	19	Blue	F21636			
12 Ga.	19	Orange	F22514			
12 Ga.	19	Yellow	F23083			
12 Ga.	19	Green	F2578			
12 Ga.	19	Brown	F22118			
12 Ga.	19	Pink	F23128			
12 Ga.	19	Purple	F21852			
12 Ga.	19	Grey	F23938			
12 Ga.	19	Dark Blue	F22905			
12 Ga.	19	Dark Green	F21555			
10 Ga.	19	Black	F2852			
10 Ga.	19	White	F21086			
10 Ga.	19	Red	F2570			F2840
10 Ga.	19	Blue	F23843			
10 Ga.	19	Orange	F22506			
10 Ga.	19	Yellow	F21484			F21835
10 Ga.	19	Green	F21981			
10 Ga.	19	Brown	F2589			
10 Ga.	19	Dark Blue	F277			
8 Ga.	19	Black	F22214			
8 Ga.	19	White	F2228			
8 Ga.	19	Red	F21816			

WIRE — PRIMARY (continued)

SXL CROSS-LINKED POLYETHYLENE WIRE

Gauge	No. of Strands	Color	100' Roll Part No.	Gauge	No. of Strands	Color	100' Roll Part No.
18 Ga.	18	Red	F24832	14 Ga.	19	Blue	F22119
18 Ga.	18	Black	F24831	14 Ga.	19	White	F23260
18 Ga.	18	Yellow	F25016	14 Ga.	19	Brown	F22471
18 Ga.	18	Green	F25015	12 Ga.	19	Yellow	F22796
18 Ga.	18	Blue	F25018	12 Ga.	19	Red	F23956
18 Ga.	18	White	F25014	12 Ga.	19	Black	F21641
18 Ga.	18	Brown	F25017	12 Ga.	19	Green	F23449
16 Ga.	19	Yellow	F2622	12 Ga.	19	Blue	F2498
16 Ga.	19	Red	F22994	12 Ga.	19	White	F21894
16 Ga.	19	Black	F2853	12 Ga.	19	Brown	F22685
16 Ga.	19	Green	F22742	10 Ga.	19	Yellow	F23973
16 Ga.	19	Blue	F23883	10 Ga.	19	Red	F22090
16 Ga.	19	White	F22442	10 Ga.	19	Black	F21152
16 Ga.	19	Brown	F23616	10 Ga.	19	Green	F23634
14 Ga.	19	Yellow	F2155	10 Ga.	19	Blue	F21623
14 Ga.	19	Red	F2178	10 Ga.	19	White	F22060
14 Ga.	19	Black	F23589	10 Ga.	19	Brown	F2758
14 Ga.	19	Green	F22631				

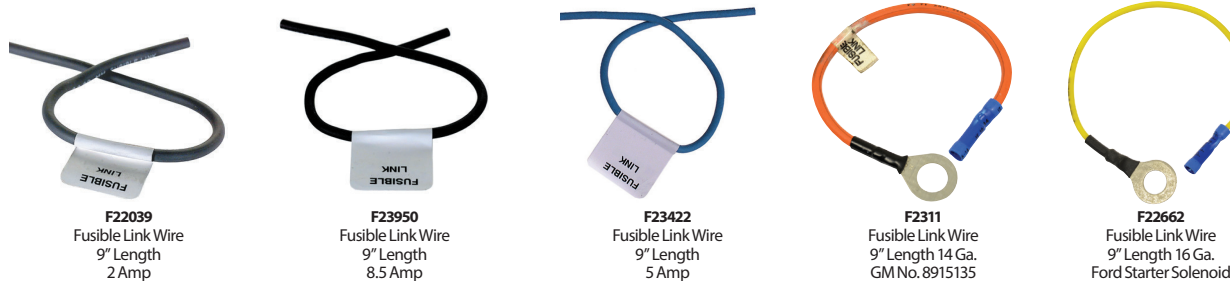
- Special purpose high temperature (up to 125°C or 257°F) automotive wire with a standard wall thickness for standard connection purposes
- Color-coded Cross Linked Polyethylene (XLPE) Insulation
- Abrasion resistant design is highly resistant to moisture, oil, grease, gasoline, and other damaging solvents
- Works well in engine compartments where strict temperature ranges are required according to SAE J1128 specifications
- Voltage rated at 60VDC/25VAC or less
- **Specifications:** SAE J1128, Ford ESB-M11 123A, and Chrysler MS-5919
- RoHS compliant non-lead construction



WIRE — FUSIBLE LINK

AWG	Length	Part No.	AWG	Length	Part No.
18 Ga.	50 ft.	F21207	14 Ga.	25 ft.	F2867
16 Ga.	50 ft.	F23968			

- Designed to be the weak link in a circuit and "open" when subjected to an extreme current overload, minimizing wiring systems damage.



WIRE — MULTI CONDUCTOR

TRAILER CABLE

Gauge	No. of Conductors	No. of Strands/ Conductors	Color	100' Roll Part No.
16 Ga.	4	19	Red/White/Black/Brown	F23402
16 Ga.	6	19	Red/White/Black/Brown/ Green/Yellow	F21504
14 Ga.	4	19	Red/White/Black/Brown	F21368
14 Ga.	6	19	Red/White/Black/Brown/ Green/Yellow	F2527
14 Ga.	7	19	Red/White/Black/Brown/ Green/Yellow/Blue	F21767
(6) 12 & (1) 10 Ga.	7	19	Red/White/Black/Brown/ Green/Yellow/Blue	F23144
(4)14,(2)10&(1)12G.	7	19	Red/White/Black/Brown/ Green/Yellow/Blue	F22051



- Thermoplastic rubber outer shell
- Copper conductors
- Color coded PVC jackets on inner wires
- Round profile
- 100' Roll
- **Voltage:** Rated at 60 volts or less
- **Temperature:** Rated -40F to 176F
- **Specifications:** SAE J1128, SAE J378

PARALLEL AND BONDED WIRE

Gauge	No. of Conductors	No. of Strands/ Conductors	Color	100' Roll Part No.
18 Ga.	2	16	Red/Black	F22004
18 Ga.	3	16	Brown/Yellow/Green	F23478
16 Ga.	2	19	Red/Black	F22501
16 Ga.	3	19	Brown/Yellow/Green	F23437
16 Ga.	4	19	White/Brown/Yellow/Green	F23074
14 Ga.	2	19	Red/Black	F2653
14 Ga.	3	19	Brown/Yellow/Green	F23111
14 Ga.	4	19	White/Brown/Yellow/Green	F23198



- Meets SAE Specifications
- Flat profile
- 100' Roll
- **Voltage:** Rated at 60 volts or less
- **Temperature:** Rated -40F to 176F
- **Specifications:** SAE J1128, SAE J378

JACKETED MULTI CONDUCTOR WIRE

Gauge	No. of Conductors	No. of Strands/ Conductors	Color	100' Roll Part No.
18 Ga.	2	16	White/Black	F21567
16 Ga.	2	19	White/Black	F2450
16 Ga.	3	19	White/Black/Green	F23687
14 Ga.	2	19	White/Black	F22667
14 Ga.	3	19	White/Black/Green	F2104
14 Ga.	4	19	White/Black/Green/Red	F22794
12 Ga.	2	19	White/Black	F2908
12 Ga.	4	19	White/Black/Green/Red	F21975
10 Ga.	2	19	White/Black	F23391



- PVC Gray jacket over insulated wire
- Color coded conductor
- Flat profile
- 100' Roll

SERVICE CORD — 300 VOLT

Gauge	No. of Conductors	Conductor Colors	500' Roll Part No.
14ga.	2	Black,White	F2687

- Black, oil-resistant outer jacket
- Color coded conductors
- Round profile
- SJOOW-300 volt rated
- 500ft Roll



WIRE — BOAT

2

BOAT WIRE

Gauge	No. of Strands	Color	100' Roll Part No.
16 Ga.	26	Red	F299
16 Ga.	26	Black	F21378
14 Ga.	41	Red	F21513
14 Ga.	41	White	F2926
14 Ga.	41	Black	F21292

Gauge	No. of Strands	Color	100' Roll Part No.
14 Ga.	41	Green	F22890
12 Ga.	65	Red	F259
12 Ga.	65	White	F2699
12 Ga.	65	Black	F23571
12 Ga.	65	Green	F21522

- Strands - electro - tinned plated copper
- PVC insulated
- Meets marine wire SAE J-1128 and SAE J-378 specifications
- 600 volt rating



WIRE — SPEAKER

SPEAKER WIRE

F2133

- 18 gauge
- High quality insulated copper wire

- Insulation striped for easy polarization of stereo speakers
- 100' rolls



HEAT SHRINK TUBING

DISPENSER PACKS OF HEAT SHRINK TUBING

Pre Shrink I.D.	Max Recovered I.D.	Color	Part No.
3/32"	3/64"	Black	F298
1/8"	1/16"	Black	F23432
3/16"	3/32"	Black	F21563
1/4"	1/8"	Black	F21801
3/8"	3/16"	Black	F23508
1/2"	1/4"	Black	F2809
3/4"	3/8"	Black	F22298
1/8"	1/16"	Red	F21390
1/4"	1/8"	Blue	F23815
5/16"	5/32"	Yellow	F21783

- Polyolefin tubing
- Convenient storage case
- Punched center for rack storage and dispensing
- 8 ft. lengths
- UL Recognized



POLYOLEFIN THIN WALL HEAT SHRINK TUBING

Pre Shrink I.D.	Max Recovered I.D.	6" Length Red	6" Length Black	1' Length Black	1' Length Clear	25' Length Black	25' Length Red	25' Length Clear
3/32"	3/64"	F23784	F21735	F21468	F21288	F2386		F23694
1/8"	1/16"	F22778	F22874	F21036	F2567	F22468		F22677
3/16"	3/32"	F2255	F21027	F22322	F22655	F23356		F21340
1/4"	1/8"	F23019	F22814	F22409	F2153	F2127		F21003
5/16"	5/32"			F25410				
3/8"	3/16"	F21438	F23104	F22401	F22920	F2416		F2897
1/2"	1/4"	F21359	F23158	F22174	F22284	F23727	F24941	F23180
3/4"	3/8"	F254	F22094			F2426		
1"	1/2"			F25412		F23855		



- 2 to 1 shrink ratio
- Temp range -67° to 300°F
- Meets MIL 1-23053/5
- Available in red, black & clear
- 6" lengths, 1' lengths or 25' lengths

HEAT SHRINK TUBING (continued)

POLYOLEFIN DUAL WALL HEAT SHRINK TUBING

Pre Shrink I.D.	Max Recovered I.D.	6" Length Black	12" Length Black	6" Length Red	12" Length Red
1/8"	3/64"	F25716	F21944	F25717	F24852
3/16"	1/16"	F25718	F21607	F25719	F24853
1/4"	5/64"	F25714	F21624	F25715	F24851
3/8"	1/8"	F25711	F2199	F25723	F24854
1/2"	5/32"	F25712	F21182	F25713	F21598
3/4"	15/64"	F25720	F2737	F25721	F23290
1"	21/64"	F25710	F21603	F25711	F2832



- Melttable adhesive liner
- 3 to 1 shrink ratio
- Temp range up to 250°F
- Meets MIL 1-23053/4 CL3

POLYOLEFIN DUAL WALL CLEAR HEAT SHRINK TUBING

Pre Shrink I.D.	Max Recovered I.D.	Length	Part No.
1/8"	3/64"	6"	F2537
1/4"	5/64"	6"	F2546
3/8"	1/8"	6"	F22754
1/2"	5/32"	6"	F21418
3/4"	15/64"	6"	F22115
1"	21/64"	6"	F23148



- 3 to 1 shrink ratio
- A tubing with an internal layer of thermo-plastic adhesive which provides a barrier against contaminants.
- Still highly flexible for conforming to irregular shapes
- Environmental protection for electronic components
- Protection of automobile, marine and truck wire splices and harness breakouts
- Adhesive-lining provides a seal against corrosion
- Clear polyolefin tubing allows for visual inspection of underlying material

COLOR-CODED HEAT SHRINK TUBING

Pre Shrink I.D.	Color	Length	Translucent	Opaque
3/16"	Red	6"		F2772
1/4"	Blue	6"	F23320	F2775
5/16"	Yellow	6"	F21776	F21534

Opaque color tubing is flame retardant & has a 2 to 1 shrink ratio.
Translucent color tubing has a 3 to 1 shrink ratio and is not flame retardant.



- Color Coded to denote wire gauge
Red 22-18 Ga.
Blue 16-14 Ga.
Yellow 12-10 Ga.
- Melttable adhesive inner liner creates a moisture-proof barrier

CRYSTAL CLEAR™ ADHESIVED LINED HEAT SHRINK TUBING

Wire Gauge	Minimum Expanded ID	Maximum Recovered ID	Length	Part No.
22-18	.176"	.045"	6"	F23981
16-14	.250"	.080"	6"	F23980
12-10	.365"	.100"	6"	F23979



- 2.5 to 1 shrink ratio
- **Temp range:** -67° to 257°F
- Shrink/Recovery temp: 194°F
- **Material:** Cross-linked ionic polymer
- RoHS Compliant

POLYOLEFIN COLOR-CODED HEAT SHRINK TUBING

Pre Shrink I.D.	Max Recovered I.D.	Color	Part No.
0.245"	0.045"	Red	F21049
0.245"	0.080"	Blue	F23474
0.360"	0.100"	Yellow	F23045



- Translucent Colors
- Melttable Adhesive Liner
- 3:1 Shrink Ratio
- Meets MIL 23053/4 Class 1
- 6" lengths

POLYOLEFIN STANDARD HEAT SHRINK TUBING

Pre Shrink I.D.	Max Recovered I.D.	Color	Part No.	Pre Shrink I.D.	Max Recovered I.D.	Color	Part No.
3/64"	3/128"	Black	F23691	1/4"	1/8"	Green	F23788
3/64"	3/128"	White	F25894	1/4"	1/8"	Blue	F22838
1/16"	1/32"	Clear	F2291	1/4"	1/8"	Black	F23805
1/16"	1/32"	Black	F23754	1/4"	1/8"	White	F23816
1/16"	1/32"	Green	F21205	3/8"	3/16"	Clear	F2277
1/16"	1/32"	White	F25895	3/8"	3/16"	Black	F21864
3/32"	3/64"	Black	F23838	3/8"	3/16"	Green	F2675
3/32"	3/64"	White	F25896	3/8"	3/16"	Black	F22062
3/16"	3/32"	Red	F21818	3/8"	3/16"	White	F25898
3/16"	3/32"	Black	F23913	1/2"	1/4"	Black	F21244
3/16"	3/32"	Black	F2135	1/2"	1/4"	Green	F23594
1/8"	1/16"	Black	F22869	1/2"	1/4"	White	F284
1/8"	1/16"	Black	F21830	3/4"	3/8"	Red	F2490
1/8"	1/16"	White	F25897	3/4"	3/8"	Black	F2308
1/4"	1/8"	Clear	F23861	3/4"	3/8"	White	F25899
1/4"	1/8"	Yellow	F2161	1"	1/2"	Black	F22383
1/4"	1/8"	Red	F23055	1"	1/2"	White	F2864
1/4"	1/8"	Black	F2695	1-1/2"	3/4"	Black	F2234

*=100' Rolls



- 2 to 1 shrink ratio
- Temperature range -67° F to +275°F
- Meets MIL-DTL-23053/5 Class 1, 2
- Available in clear, yellow, red, black, Green, Blue & White
- 4 Foot Lengths

HEAT SHRINK TUBING (continued)

MULTIPLE WALL POLYOLEFIN HEAT SHRINK TUBING

Size	Color	Part No.
1/8"	Brown	F2485
3/16"	Gray	F21126
1/4"	White	F2893
3/8"	Red	F21053
1/2"	Blue	F23513
3/4"	Yellow	F2313
1"	Black	F21812

- Semi-rigid with meltable adhesive liner
- 2.5 to 1 shrink ratio
- Easy removability for installations that may require rework, retrofit or repair in the field
- Meets MIL-DTL-23053/4, Class 1
- **Temperature Range:** -67°F to 230°F
- Color Coded
- 4 Foot Lengths



POLYOLEFIN HEAVY DUTY HEAT SHRINK TUBING

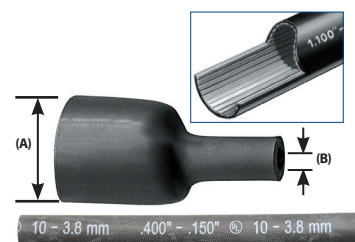
Pre Shrink I.D. (A)	Max Recovered I.D. (B)	Color	Part No.	Pre Shrink I.D. (A)	Max Recovered I.D. (B)	Color	Part No.
0.125"	0.040"	Black	F21934	0.500"	0.160"	Black	F22369
0.187"	0.063"	Black	F22529	0.750"	0.250"	Black	F23412
0.250"	0.080"	Black	F21044	1.000"	0.320"	Clear	F22849
0.375"	0.120"	Black	F23663	1.000"	0.320"	Black	F21015
0.500"	0.160"	Clear	F22780				



- 3 to 1 shrink ratio
- Temperature range -67°F to +230°F
- Meets MIL-DTL-23053/4, Class 3
- Available in black & clear
- 4 Foot Lengths

HEAVY WALL MELTABLE ADHESIVE HEAT SHRINK TUBING

Wire Range	Pre Shrink I.D. (A)	Max Recovered I.D. (B)	Max. Wall Thickness	Color	Length Inches	Part No.
18-14	.300	.100	.060	Black	6	F24821
14-6	.400	.150	.06	Black	6	F24725
14-6	.400	.150	.06	Red	6	F24726
8-1	.750	.220	.105	Black	6	F24721
8-1	.750	.220	.105	Red	6	F24723
2-4/0	1.100	.375	.120	Black	6	F24720
2-4/0	1.100	.375	.120	Red	6	F24722



- Thick / Heavy wall for harsh maintenance applications
- Flame Retardant
- 3 to 1 Shrink Ratio
- Meets MIL Spec. 1-23053/15, UL and CSA listed
- Meltable adhesive liner seals water tight
- **Temp. range:** -55° to 250° F continuous

HIGH ADHESIVE FLOW HEAT SHRINK TUBING

Wire Range	Pre Shrink I.D.	Max Recovered ID	Color	Length	Part No.
24-12 AWG	.220"	.045"	Clear with White Dash	6"	F25403
22-10 AWG	.300"	.060"	Clear with Red Dash	6"	F25404
16-8 AWG	.350"	.080"	Clear with Blue Dash	6"	F25405
14-4 AWG	.450"	.105"	Clear with Yellow Dash	6"	F25406



- 4 to 1 shrink ratio polyolefin
- Excellent for sealing multiple wires
- Puncture resistant
- Provides superior stain relief
- Chrysler MS-DB56 CAN 3686
- Ford ESB-M97D56A1

6 TO 1 BLACK - ADHESIVE LINED SHRINK TUBING

Wire Range	Pre Shrink I.D.	Max Recovered I.D.	Max. Wall Thickness	Color	Length	Part No.
14-1 GA.	.750"	.125"	.123"	Black	12"	F25137
8-4/0 GA.	1.30"	.220"	.135"	Black	12"	F25394
2-750 MCM	1.75"	.290"	.140"	Black	12"	F25395
3/0-1200 MCM	2.75"	.460"	.190"	Black	12"	F25396

- Black with a thermoplastic adhesive lining providing a tight gas, water and environmental seal
- Shrinks to fit expansion ratios of 6 to 1
- Dielectric strength of 500 volts/mil
- Covers wire from #14 AWG thru 1000 mcm cable
- Tough and durable, providing excellent insulating and abrasion protection
- Durable semi-rigid black material easily conforms to irregular surface configurations when shrunk
- Ideal for replacing torn cable jackets and insulating connectors
- Easily fits over and seals large connections already made without complete disassembly
- Flame retardant material meets mil-i-23053/15a specs



SPIRAL WRAP / SPLIT LOOM

SPLIT WRAP BRAIDED SLEEVING

Nominal Size		Wall Thickness		Color	Reel Length		Part No.
In.	mm.	In.	mm.		Ft.	M	
1/4	6.4	.025	.64	Black	100	30.5	F25531
1/2	12.7	.025	.64	Black	75	22.9	F25532
3/4	19.1	.025	.64	Black	50	15.2	F25533
1	25.4	.038	.97	Black	50	15.2	F25534

A bundling and protection option with a lateral split and a semi-rigid braid configuration that is the ideal solution for circumstances where ease of installation is the primary concern. The lateral split allows the sleeving to open up to adjust to the bundling requirement while the 25% edge overlap folds back over the connector or splices.

- **Material:** PET (Polyester)
- **Flammability:** UL 94-V0
- **Operating Temperature:** -94°F to 257°F (-70°C to 125°C)
- **Melt Point:** 482°F / 250°
- **Abrasion Protection:** Medium
- **Recommended Cutting:** Hot Knife
- Halogen free
- RoHS compliant



SPLIT WRAP INSTALLATION TOOL

Description	Part No.
use with nominal size .25" (8mm)	F25540
use with nominal size .50" (16mm)	F25539
use with nominal size .75" (20mm)	F25541
use with nominal size 1.0" (25mm)	F25542

- Designed for post installation or retrofit applications
- Twist barrel design allows tool to be inserted over a wire bundle currently in place
- No need to disassemble harness to add sleeving
- Simply twist white barrel to its open position
- Insert the bundle
- Twist barrel to its closed position
- Pull tool through sleeving



EXPANDABLE SLEEVING

Scissor Cut for Easy, Fray Resistant Installation

Nominal Size	Expansion Range		Color	Part No.
	Min.	Max.		
1/8"	1/8"	1/4"	Black	F25106
1/4"	5/32"	7/16"	Black	F25107
3/8"	3/16"	5/8"	Black	F25108
1/2"	1/4"	3/4"	Black	F25109
3/4"	5/8"	1"	Black	F25110
1"	3/4"	1 3/16"	Black	F25111

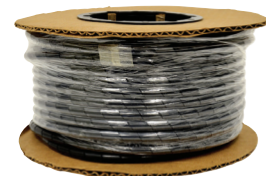
- Sleeving with the unique advantage of being able to cut the material with ordinary scissors and still maintain an extraordinarily fray-resistant end without the addition of chemical binders or adhesives.
- Ideal for field installers and other situations where access to a hot knife is impossible. Fray resistant properties allows frequent expansion of the cut end without unraveling. When cut with a hot knife, produces a clean, smooth and virtually frayless end.
- Braided for maximum coverage while still allowing enough expansion for easy installation over plugs and connectors.
- Supplied in 100 foot rolls.



SPIRAL WRAP

I.D.	Feet per Roll	Part No.
1/4"	100'	F23302
3/8"	100'	F22929
1/2"	100'	F25481
5/8"	100'	F21602
3/4"	100'	F23650
1"	75'	F2557

- Spiral cut polyethylene tubing used to hold bundles of wire together
- Elastic memory retains original shape
- **Colors:** Black and Natural
- Roll comes packaged in a bag



SPLIT LOOM

I.D.	Polyethylene 50ft Rolls	Polyethylene 100ft Rolls	Nylon 100ft Rolls
1/8"	F21778	F22683	
1/4"	F21327	F22912	F25536
3/8"	F2430	F21879	
1/2"	F21964	F23115	
5/8"	F21031	F2957	
3/4"	F22168	F23808	F25537
1"	F23573	F22320	

BULK BOXES

I.D.	Feet per box	Polyethylene Part No.
1/4"	3200	F23425
3/8"	1900	F23214
1/2"	1100	F21960
5/8"	800	F2979
3/4"	600	F2156
1"	300	F21792
1-1/2"	150	F2706

- Split-type convoluted loom allows for easier insertion of wires
- Polyethylene withstands temperatures up to 195°F
- Polyethylene loom is black
- Nylon withstands temperatures up to 275°F
- Nylon is black with a gray stripe for easy identification



HI-TEMP FIBERGLASS SLEEVING

HIGH-TEMP FIBERGLASS SLEEVING

Fractional Sizes	Expansion Range	Length	Part No.
3/8"	.387 - .399	50'	F24796
1/2"	.512 - .524	50'	F24793
5/8"	.640 - .655	50'	F24797
3/4"	.768 - .786	50'	F24795
1"	1.018 - 1.036	50'	F24794

- **Temperature Range:** up to 1200° F / 842° F Continuous Use
- High tensile strength, non-flammable, heat & fungus resistant and non-corrosive to metals
- Perfect for High Heat applications such as Spark Plug Wires, Battery Cables, Motor Wires, Sending Units and much more
- UL Recognized
- Packaged on a Spool
- **Color:** Black



WIRE TIES

SELF LOCKING

Material: 6/6 Nylon — Weather resistant, non-flammable and fungus inert.**Specs:** UL listed: File No. 64139 Rung Type: UL File No. E57800**Features:** Serrations over entire length allow "pull through" down to wire bundle.
Tapered tips allow for easy insertion into self-locking head.

* MTS = Maximum Tensile Strength

* MBD = Maximum Bundle Diameter

.08"
Width**.10"**
Width**.14"**
Width

Color	MTS*	MBD*	L	W	MIL - SPEC No.	100 pc. Bulk Pack	500 pc. Bulk Pack	1000 pc. Bulk Pack
White	18 lbs.	5/8"	4"	.08" (3/32")	MS3367-4-9	F24029		F24030
Black	18 lbs.	5/8"	4"	.08" (3/32")	MS3367-4-0	F24031		F24032
White	40 lbs.	2.375"	8.875"	.14" (9/64")	MS3367-5-9	F22378		
Black	40 lbs.	2.375"	8.875"	.14" (9/64")	MS3367-5-0	F22494		
White	18 lbs.	1-1/4"	6"	.10" (1/8")	MS3367-4-9	F24033		F24034
Black	18 lbs.	1-1/4"	6"	.10" (1/8")	MS3367-4-0	F24035		F24036
White	18 lbs.	1-3/4"	8"	.10" (1/8")	MS3367-4-9	F24037		F24038
Black	18 lbs.	1-3/4"	8"	.10" (1/8")	MS3367-4-0	F24039		F24040
White	30 lbs.	1-1/4"	5-3/4"	.14" (9/64")	MS3367-5-9	F24041		F24042
Black	30 lbs.	1-1/4"	5-3/4"	.14" (9/64")	MS3367-5-0	F24043		F24044
White	50 lbs.	1-3/4"	7-1/2"	.18" (3/16")	MS3367-1-9	F24045		F24046
Black	50 lbs.	1-3/4"	7-1/2"	.18" (3/16")	MS3367-1-0	F24047		F24048
White	50 lbs.	3"	11-1/4"	.18" (3/16")	MS3367-7-9	F24049	F25050	
Black	50 lbs.	3"	11-1/4"	.18" (3/16")	MS3367-7-0	F24051	F25052	
White	40 lbs.	4"	14-1/2"	.14" (9/64")		F24053		
White	50 lbs.	4"	14-1/2"	.18" (3/16")	MS3367-2-9	F24054	F25055	
Black	50 lbs.	4"	14-1/2"	.18" (3/16")	MS3367-2-0	F24056	F25057	

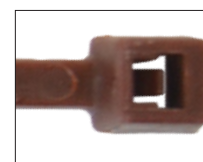
PREMIUM SELF LOCKING

Color	MTS*	MBD*	L	W	MIL - SPEC No.	Part No.	Bulk Pack Part No.
White	18 lbs.	3/4"	4"	.10" (1/8")	MS3367-4-9	F21062	F21062B1000
Black	18 lbs.	3/4"	4"	.10" (1/8")	MS3367-4-0	F23945	F23945B1000
White	18 lbs.	1-1/4"	5-3/4"	.10" (1/8")	MS3367-4-9	F21093	F21093B1000
Black	18 lbs.	1-1/4"	5-3/4"	.10" (1/8")	MS3367-4-0	F23547	F23547B1000
White	18 lbs.	2"	8"	.10" (1/8")	MS3367-4-9	F21328	
Black	18 lbs.	2"	8"	.10" (1/8")	MS3367-4-0	F23348	F23348B1000
Black	30 lbs.	1-1/4"	6"	.15" (9/64")	MS3367-5-0	F21764	F21764B1000
White	40 lbs.	2"	8-1/2"	.15" (9/64")	MS3367-1-9	F22559	
Black	40 lbs.	2"	8-1/2"	.15" (9/64")	MS3367-1-0	F21666	F21666B1000
White	50 lbs.	1-3/4"	8"	.18" (3/16")	MS3367-1-9	F21181	F21181B1000
Black	50 lbs.	1-3/4"	8"	.18" (3/16")	MS3367-1-0	F22346	F22346B1000
White	50 lbs.	3"	11-3/4"	.18" (3/16")	MS3367-7-9	F22329	F22329B1000
Black	50 lbs.	3"	11-3/4"	.18" (3/16")	MS3367-7-0	F23025	F23025B1000
White	50 lbs.	4"	15-1/2"	.18" (3/16")	MS3367-2-9	F21913	
Black	50 lbs.	4"	15-1/2"	.18" (3/16")	MS3367-2-0	F2824	F2824B1000



PREMIUM WIRE TIES IN COLORS

Length	Width	Maximum Tensile Strength	Maximum Wire Bundle Diameter	Color	Part No.
4"	.10"	18 lbs.	.87"	Brown	F25500
4"	.10"	18 lbs.	.87"	Red	F25501
4"	.10"	18 lbs.	.87"	Orange	F25502
4"	.10"	18 lbs.	.87"	Yellow	F25503
4"	.10"	18 lbs.	.87"	Green	F25504
4"	.10"	18 lbs.	.87"	Blue	F25505
4"	.10"	18 lbs.	.87"	Purple	F25506
4"	.10"	18 lbs.	.87"	Gray	F25507
4"	.10"	18 lbs.	.87"	Neon Pink	F25508
4"	.10"	18 lbs.	.87"	Neon Orange	F25509
4"	.10"	18 lbs.	.87"	Neon Yellow	F25510
4"	.10"	18 lbs.	.87"	Neon Green	F25511



FLUORESCENT WIRE TIES IN COLORS

Length	Width	Cable tie	Maximum Wire Bundle Diameter	Color	Part No.
7"	1/8"	50 #	1-3/4"	Pink	F25448
7"	1/8"	50 #	1-3/4"	Green	F25449
7"	1/8"	50 #	1-3/4"	Orange	F25450
7"	1/8"	50 #	1-3/4"	Yellow	F25451



COLOR WIRE TIES

Length	Width	Maximum Tensile Strength	Maximum Wire Bundle Diameter	Color	Bulk Pack	Part No.
7-1/2"	.18 (3/16)	50 lbs.	1-7/8"	Brown	100	F24082
7-1/2"	.18 (3/16)	50 lbs.	1-7/8"	Red	100	F24083
7-1/2"	.18 (3/16)	50 lbs.	1-7/8"	Orange	100	F24084
7-1/2"	.18 (3/16)	50 lbs.	1-7/8"	Yellow	100	F24085
7-1/2"	.18 (3/16)	50 lbs.	1-7/8"	Green	100	F24086
7-1/2"	.18 (3/16)	50 lbs.	1-7/8"	Blue	100	F24087
7-1/2"	.18 (3/16)	50 lbs.	1-7/8"	Purple	100	F24088
7-1/2"	.18 (3/16)	50 lbs.	1-7/8"	Gray	100	F24089



WIRE TIES (continued)

SCREW MOUNT



Description	MTS*	MBD*	Mounting Hole Dia.	L	W	Package Qty.	Part No.
White Screw Mount	30 lb.	1-1/4"	#8	6"	.10" (1/8")	100	F24059
Black Screw Mount	30 lb.	1-1/4"	#8	6"	.10" (1/8")	100	F24060
White Screw Mount	50 lb.	1-3/4"	#10	8"	.18" (3/16")	100	F24061
Black Screw Mount	50 lb.	1-3/4"	#10	8"	.18" (3/16")	100	F24062
White Screw Mount	120 lb.	4"	1/4"	15.7"	.30" (5/16")	50	F24063



PREMIUM SCREW MOUNT

Description	MTS*	MBD*	Mounting Hole Dia.	L	W	Part No.
Black Screw Mount	50 lb.	1-3/4"	#10	8-1/2"	.10" (1/8")	F22829
Black Screw Mount	50 lb.	4"	#10	16-3/4"	.10" (1/8")	F21889
Black Screw Mount	120 lb.	4"	#14	16-1/4"	.18" (3/16")	F23860

PUSH MOUNT



Description	MTS*	MBD*	Mounting Hole Dia.	L	W	Part No.
White Push Mount	50 lb.	1-3/4"	1/4"	8-1/2"	.18" (3/16")	F22162
Black Push Mount	50 lb.	1-3/4"	1/4"	8-1/2"	.18" (3/16")	F21338



RIVET MOUNT



Description	MTS*	MBD*	Mounting Hole Dia.	L	W	Part No.
Black Rivet Mount	50 lb.	1-3/4"	5/16"	8-1/2"	.18" (3/16")	F21041



IDENTIFICATION WIRE TIE



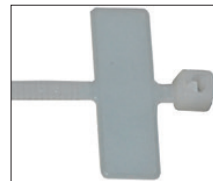
Description	MTS*	MBD*	L	W	Part No.
White Identification Wire Tie	50 lb.	1-3/4"	7"	.18" (3/16")	F25457



PREMIUM ID WIRE TIE



Description	MTS*	MBD*	Label Type	L	W	Part No.
White ID Type	18 lb.	3/4"	Perpendicular	4"	.10" (1/8")	F23902



FUR TREE PUSH MOUNT CABLE TIE



Description	MTS*	MBD*	Label Type	L	W	Part No.
UV Black	50 lb.	2.0	Perpendicular	8.6"	.18"	F25120



FIR TREE CABLE TIE IMPACT RESISTANT UV BLACK



Max bundle	Hole diameter	Tree length	Panel Thickness	L	W	Part No.
1.62"	.23 - .27"	.79"	.031 - .55"	7.59"	.17"	F25787



WIRE TIES (continued)



LASHING TIE

Description	MTS*	MBD*	L	W	Part No.
Black Lash Type	120 lbs.	2"	8.7"	.30" (5/16")	F24064
White Lash Type	120 lbs.	4"	15-1/4"	.30" (5/16")	F24065
Black Lash Type	120 lbs.	4"	15-1/4"	.30" (5/16")	F24066
Black Lash Type	120 lbs.	5"	18.4"	.30" (5/16")	F24067
White Lash Type	175 lbs.	7"	24"	.34" (11/32")	F24068
Black Lash Type	175 lbs.	7"	24"	.34" (11/32")	F24069
White Lash Type	175 lbs.	11"	36"	.34" (11/32")	F24070
Black Lash Type	175 lbs.	11"	36"	.34" (11/32")	F24071
White Lash Type	175 lbs.	14.5"	48"	.34" (11/32")	F24072
Black Lash Type	175 lbs.	14.5"	48"	.34" (11/32")	F24073

PREMIUM LASHING TIE

Description	MTS*	MBD*	L	W	Part No.
White Lash Type	120 lbs.	4"	15-1/4"	.30" (5/16")	F2511
Black Lash Type	120 lbs.	4"	15-1/4"	.30" (5/16")	F291
White Lash Type	150 lbs.	9"	32"	.35" (11/32")	F21824
Black Lash Type	150 lbs.	9"	32"	.35" (11/32")	F21243
White Lash Type	150 lbs.	11"	36"	.35" (11/32")	F23096
Black Lash Type	150 lbs.	11"	36"	.35" (11/32")	F22500
Black Lash Type	150 lbs.	14"	52"	.35" (11/32")	F21945
Black Lash Type	250 lbs.	8"	29"	.50" (1/2")	F2513
Black Lash Type	300 lbs.	6"	21"	.50" (1/2")	F22082



MOUNTABLE CABLE TIE

Size	Part No.
8"	F25139
11"	F25478
14"	F25140

- Easily mount to any standard surface with a screw or nail without splitting the tie itself, using the evenly spaced pre-molded holes
- Offered in 8", 11", 14" and lengths
- Dual track locking feature
- 90 pound tensile strength
- UV Resistant; Plenum Rated
- 2-4" Max Bundle
- Molded from 6/6 Nylon
- Operating temperature ranging from -40° F (-40° C) to 185° F (85° C)



Description	MTS	MTB	Length	Width	Part No.
Dual Clamp Tie UV Black	150 lb. (670N)	1.3" (33mm)	13" (331mm)	.50" (12.7mm)	F25530
Dual Clamp Tie UV Black	150 lb. (670N)	2.3" (58mm)	19.2" (489mm)	.50" (12.7mm)	F25513

Dual clamp ties are designed to provide parallel separation between hoses, wires, cables and tubing, protecting them from abrasion.

These ties have a .25" mounting hole for securing bundles along the chassis of trucks, trailers, and heavy duty equipment.

The unique one-piece design features the dual head centered on the strap. Straps are releasable for increased serviceability.



METAL DETECTABLE WIRE TIES

Description	MTS*	MBD*	L	W	Part No.
Dark Blue Polypropylene**	24 lbs.	2"	8"	.135"	F2862
Dark Blue Polypropylene**	30 lbs.	1-7/8"	7.3"	.19"	F21218
Dark Blue Polypropylene**	30 lbs.	4"	14.4"	.19"	F2460

- Designed for the food & beverage processing industries to meet the safety standards set by HACCP (Hazard Analysis and Critical Control Points) to minimize the risk of contamination
- Metal impregnated material is detectable by metal detectors & x-ray inspection equipment
- Industry standard colors assist with visual detection and greatly reduces the risk of contamination
- Can also be used in any industry where there is a risk of contamination

*Nylon - For general purpose maintenance and repair applications

**Polypropylene - For use where aggressive acid and alkaline chemicals are used to clean equipment



WIRE TIES (continued)

CLAMP TYPE

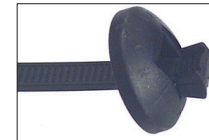
Description	MTS*	MBD*	L	W	Part No.
Black Clamp Type	20 lbs.	7/8"	4"	.09" (3/32")	F2213
Black Clamp Type	60 lbs.	1-3/4"	8"	.18" (3/16")	F22548

- Radius head provides tighter fit on curved surfaces



BUTTON TYPE

Description	MTS*	MBD*	L	W	Part No.
Black Button Hd. Type	100 lbs.	2-5/8"	9-5/8"	.22" (7/32")	F23894
Black Button Hd. Type	100 lbs.	4-5/16"	15"	.22" (7/32")	F22065



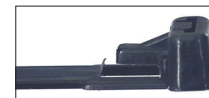
RUNG TYPE

Description	MTS*	MBD*	L	W	Part No.
Black Rung Type	40 lbs.	1-3/4"	7"	.10" (1/8")	F23705
Black Rung Type	40 lbs.	3"	11"	.10" (1/8")	F2371



RELEASE TYPE

Description	MTS*	MBD*	L	W	Package Qty.	Part No.
Black Releasable Type	50 lbs.	1-3/8"	6"	.299"	100	F24074
Black Releasable Type	50 lbs.	2"	8"	.299"	100	F24075
Black Releasable Type	50 lbs.	3"	12"	.30"	50	F24076
Black Releasable Type	50 lbs.	4"	14-1/2"	.189"	50	F24077



LOW PROFILE

Description	MTS*	MBD*	L	W	Part No.
White Low Profile	50 lbs.	1-3/4"	7-1/2"	.177"	F2310
Black Low Profile	120 lbs.	4"	16"	.300"	F21911



GRIP TIE – POLYAMIDE / POLYETHYLENE

Size	Color	Part No.
6.0" x .5"	Black	F25421
8.0" x .5"	Black	F25422
11.0" x .5"	Black	F25423
15.0" x .75"	Black	F25424
6.0" x .5"	Red	F25425
8.0" x .5"	Red	F25426
11.0" x .5"	Red	F25427
15.0" x .75"	Red	F25428
6.0" x .5"	Orange	F25429
8.0" x .5"	Orange	F25430
11.0" x .5"	Orange	F25431
15.0" x .75"	Orange	F25432

Size	Color	Part No.
6.0" x .5"	Yellow	F25433
8.0" x .5"	Yellow	F25434
11.0" x .5"	Yellow	F25435
15.0" x .75"	Yellow	F25436
15.0" x .75"	Green	F25439
6.0" x .5"	Blue	F25440
8.0" x .5"	Blue	F25441
11.0" x .5"	Blue	F25442
15.0" x .75"	Blue	F25443



- Features quick release for repetitive access to cable and wire
- Can be opened and closes numerous times without failure
- Adjustable so one size can accommodate multiple bundle sizes

WIRE TIES — TY-RAP®

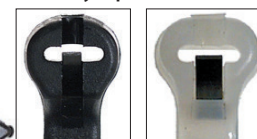
Thomas & Betts**TY-RAP® CABLE TIE FEATURES:**

- Low-profile head, good looks — won't snag
- Easy to install, won't slip, mechanic's grip
- Infinitely adjustable design, always the "right" size

**BLACK NYLON 6/6 WEATHER RESISTANT**

Length (Inches)	Width (Inches)	Maximum Tensile Strength	Maximum Wire Bundle Diameter (Inches)	T&B Part No.	Part No.
3.62 (3-5/8)	.091 (3/32)	18 lbs.	.625 (5/8)	TY23MX	F23953
5.50 (5-1/2)	.140 (9/64)	40 lbs.	1.125 (1-1/8)	TY24MX	F22048
7.31 (7-5/16)	.184 (3/16)	50 lbs.	1.75 (1-3/4)	TY25MX	F22987
7	.091 (3/32)	18 lbs.	1.5 (1-1/2)	TY52315MX	F21253
8	.270 (9/32)	120 lbs.	2	TY272MX	F22434
11.40 (11-13/32)	.184 (3/16)	50 lbs.	3	TY253MX	F23625
11.1	.140	30 lbs.	3	TY26MX	F21661
14.20 (14-3/16)	.184 (3/16)	50 lbs.	4	TY28MX	F2365
14	.086	18 lbs.	4	TY234MX	F2286
13.4 (13-13/32)	.270 (9/32)	120 lbs.	3.5 (3-1/2)	TY27MX	F23946
18	.270 (9/32)	120 lbs.	5	TY275MX	F2303
24.30 (24-5/16)	.270 (9/32)	120 lbs.	7	TY277MX	F21713
30	.301 (19/64)	120 lbs.	9	TY29MX	F22097
35	.320 (21/64)	175 lbs.	10	TY53510MX	F23485
45	.320 (21/64)	175 lbs.	13	TY54513MX	F22456

Ty-Rap® Cable Ties

Stainless steel lock,
maintains right tension

2

**NATURAL NYLON 6/6**

Length (Inches)	Width (Inches)	Maximum Tensile Strength	Maximum Wire Bundle Diameter (Inches)	T&B Part No.	Part No.
3.62 (3-5/8)	.091 (3/32)	18 lbs.	.625 (5/8)	TY23M	F22248
5.50 (5-1/2)	.140 (9/64)	40 lbs.	1.125 (1-1/8)	TY24M	F23744
7.31 (7-5/16)	.184 (3/16)	50 lbs.	1.75 (1-3/4)	TY25M	F22596
11.40 (11-13/32)	.184 (3/16)	50 lbs.	3	TY253M	F23226
14.20 (14-3/16)	.184 (3/16)	50 lbs.	4	TY28M	F21451
13.4 (11-13/32)	.270 (9/32)	120 lbs.	3.5 (3-1/2)	TY27M	F2855

**COLORED NYLON 6/6**

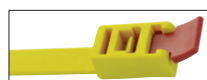
Length (Inches)	Width (Inches)	Maximum Tensile Strength	Maximum Wire Bundle Diameter (Inches)	T&B Part No.	Color	Part No.
3.62 (3-5/8)	.091 (3/32)	18 lbs.	.625 (5/8)	TY23M-2	Red	F21988
3.62 (3-5/8)	.091 (3/32)	18 lbs.	.625 (5/8)	TY23M-3	Orange	F23882
3.62 (3-5/8)	.091 (3/32)	18 lbs.	.625 (5/8)	TY23M-6	Blue	F21557
3.62 (3-5/8)	.091 (3/32)	18 lbs.	.625 (5/8)	TY23M-8	Gray	F22724

**RELEASEABLE CABLE TIE**
F25444

- The heavy duty Speedy tie features a specially designed head and patented trigger to allow for repeated use in temporary bundling applications.
- Additional design feature on the head allows excess strap to be tucked away after installation.

Specifications

- 29.6" Long
- 200 lb Tensile Strength
- PA66, Yellow

**WIRE TIE INSTALLATION TOOL**
F265

- Quickly tightens wire ties of all sizes
- Ergonomic PVC construction

**CABLE TIE REMOVAL TOOL AND WIRE STRIPPER**
F25490

- Remove cable ties and lacing without harming bundled items
- Precisely strip 10 to 22 gauge wires
- Comfortable and easy to use
- Versatile for all cable tie widths
- Made in the USA
- Patented (# 8,365,418)

CABLE TIES — STAINLESS STEEL

Length (Inches)	Width (Inches)	Max. Bundle Diameter (Inches)	Part No.
7.9	.180 (3/16)	2	F23588
14.3	.180 (3/16)	4	F21342
20.5	.180 (3/16)	6	F22561
26.8	.180 (3/16)	8	F22258
7.9	.310 (5/16)	2	F22894
14.2	.310 (5/16)	4	F22198
20.5	.310 (5/16)	6	F2751
33.0	.310 (5/16)	10	F2698

- Self-Locking
- Non-magnetic 302/304 Stainless Steel
- Excellent for outdoor and indoor uses
- Install by hand
- Fire proof
- **Minimum loop tensile strength:** .180 width/100 lbs., .310/250 lbs.



CLIPS — WIRE LOOM

- Black finished steel



F22206
3/16"



F22798
1/4"



F2424
3/8"

CLAMPS — NYLON CABLE ELECTRICAL-WIRE & WIRE MANAGEMENT

- One-piece ratchet closure allows for easy installation, one touch close
- Screwdriver release enables easy adjustments and maintenance
- Interior rib design minimizes movement due to vibration
- Impact modified, heat and UV stabilized PA66 plastic ensures long term durability
- High grade steel mounting plate tolerates high torque mounting
- Treated to resist chemicals and salt spray
- RoHS



F25726
Ratchet P-Clamp,
.24"–.54" Bundle Dia,
.41" Hole Dia, PA66,
Black, Size A



F25725
Ratchet P-Clamp,
.52"–.77" Bundle Dia,
.41" Hole Dia, PA66,
Black, Size B



F25727
Ratchet P-Clamp,
.76"–1.42" Bundle Dia,
.41" Hole Dia, PA66,
Black, Size C



F25728
Ratchet P-Clamp,
1.38"–2.01" Bundle
Dia, .41" Hole Dia,
PA66, Black, Size D

- Soft material inserts snap precisely into body of the clamp
- Provides an enhanced level of protection for applications with movement, high vibration or soft cable bundles
- Use two per clamp



F25730
Ratchet P-Clamp
Size B Soft Insert,
Thermoplastic
Elastomer



F25731
Ratchet P-Clamp
Size C Soft Insert,
Thermoplastic
Elastomer

CLAMPS — NYLON CABLE

Material: 6/6 Nylon
Color: Black or White
*MBD = Max. Bundle Diameter



MBD* (D)	(H)	Hole Size (T)	Black P/N	White P/N
1/8"	3/8"	#10	F22392	F22116
3/16"	3/8"	#10	F23832	F23879
1/4"	3/8"	#10	F23712	F2860
5/16"	3/8"	#10	F21188	F21654

MBD* (D)	(H)	Hole Size (T)	Black P/N	White P/N
3/8"	3/8"	#10	F21290	
7/16"	3/8"	#10	F21401	F21733
1/2"	3/8"	#10	F23660	F23631

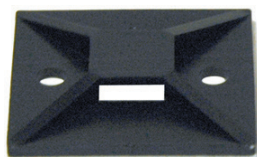


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HEAVY-DUTY

MBD* (D)	(H)	Hole Size (T)	Black P/N	White P/N
1/8"	1/2"	#10		F2877
3/16"	1/2"	#10	F21006	F23822
1/4"	1/2"	#10	F23643	F2174
5/16"	1/2"	#10		F22741
3/8"	1/2"	#10	F23562	F22288
7/16"	1/2"	#10	F23456	F21903

MBD* (D)	(H)	Hole Size (T)	Black P/N	White P/N
1/2"	1/2"	#10	F22335	F21029
5/8"	1/2"	#10	F23796	F22931
3/4"	1/2"	#10	F23587	F21391
1"	1/2"	#10	F22939	F23203
1-1/2"	1/2"	#10	F22027	F23261



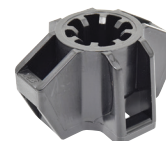
F2896 - Black
F2387 - White
4-Way Adhesive
Backed Mounting Base
1-1/2" x 1-1/2"
for wire ties up to 11/32" wide



F22107 - Black
F22058 - White
4-Way Adhesive
Backed Mounting Base
1-1/8" x 1-1/8"
for wire ties up to 3/16" wide



F21552 - Black
F2172 - White
4-Way Adhesive
Backed Mounting Base
3/4" x 3/4"
for wire ties up to 1/8" wide



F25847 - 1/2" stud
F25846 - 5/8" stud
F25845 - 3/4" stud
• Heavy-duty stud mount system
• Mounts easily to existing studs
• 4-way mounting system
• Black UV nylon 66



F21028 - 5/32" x 1/4"
F21012 - 5/16" x 1/2"
F22049 - 9/16" x 3/4"



F23767
Cable Clip
1/8" x 1/4"



F21918
Cable Clip
1/4" x 3/8"



F21892
Screw Mount
Cable Clip
5/8" x 7/8"
#10 mounting hole



F25130
Large UV Black
UV black nylon
.59 long x .37 wide x .27 height
.06 slot height
.19 slot width



F25131
Small UV Black
UV black nylon
.87 long x .64 wide x .38 height
.12 slot height
.30 slot width



F25553
Screw Mount
Cable Clip
5/8" x 7/8"
#10 mounting hole

GROMMETS — RUBBER

Material: Rubber and PVC

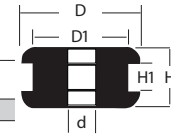
Color: Black

Applications: All motor vehicle, agriculture machinery repair and electrical industry.

Specs: Highly resistant to corrosion, weather, heat, aging, ozone and oil.

d	D1	D	H	H1	Part No.
6M	9M	11M	6M	1M	F21154
4M	6M	9M	6M	1M	F23068
6M	10M	14M	12M	8M	F21871
8M	11.5M	16M	13M	9M	F2689
10M	14M	18M	15M	10M	F22637
12M	17M	20M	17M	11M	F23251
6M	10M	13M	8M	2M	F23043

d	D1	D	H	H1	Part No.
9M	11M	16M	6M	1M	F23698
10	12M	18M	11M	1M	F23590
12	20M	24M	10M	4M	F2800
13	21M	26M	9M	2M	F21186
16	24M	30M	11M	3M	F22880
21	31M	38M	11M	1.5M	F21177
25	30M	36M	11M	3.5M	F23183
21	30M	40M	10M	2M	F22290



Material: Rubber and PVC

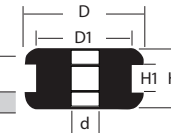
Color: Black

Applications: All motor vehicle, agriculture machinery repair and electrical industry.

Specs: Highly resistant to corrosion, weather, heat, aging, ozone and oil.

d	D1	D	H	H1	Part No.
1/8	1/4	11/32	3/16	1/16	F21453
1/8	3/8	1/2	5/16	3/32	F2204
5/32	1/4	3/8	3/16	1/16	F23776
5/32	1/4	7/16	3/8	3/32	F22091
3/16	5/16	7/16	7/32	1/16	F2588
3/16	5/16	7/16	1/4	1/8	F21707
3/16	5/16	7/16	3/8	1/4	F21344
1/4	3/8	1/2	7/32	1/16	F21421
1/4	3/8	9/16	1/4	1/16	F21625
1/4	7/16	5/8	3/16	1/16	F22179
1/4	1	1-1/4	1-1/4	1/16	F22433
1/4	7/16	5/8	5/16	3/16	F23984
5/16	7/16	5/8	1/4	1/16	F2160
5/16	7/16	5/8	5/16	3/32	F2671
5/16	9/16	13/16	5/16	1/16	F21271
5/16	9/16	13/16	3/8	1/8	F23766
5/16	9/16	13/16	1/2	1/4	F23777
5/16	3/4	1	5/16	1/16	F21795
3/8	1/2	5/8	1/4	1/16	F23665

d	D1	D	H	H1	Part No.
3/8	5/8	7/8	5/16	1/16	F21354
3/8	5/8	7/8	1/2	1/4	F22509
3/8	1	1-1/4	1/4	1/16	F22209
3/8	5/8	7/8	7/16	3/16	F23985
7/16	9/16	3/4	1/4	1/16	F272
1/2	5/8	13/16	9/32	1/16	F22390
1/2	3/4	7/8	11/32	3/32	F23786
1/2	3/4	1	1/2	1/8	F2541
1/2	13/16	1-1/16	1/2	1/4	F23263
1/2	13/16	1-1/16	7/16	3/16	F23986
5/8	7/8	1-1/8	9/32	1/16	F23813
5/8	7/8	1-1/8	3/8	1/8	F22663
5/8	7/8	1-1/8	7/16	3/16	F23987
3/4	15/16	1-1/8	1/4	1/16	F2711
3/4	1-1/16	1-3/8	3/8	1/16	F22941
3/4	1-1/4	1-5/8	1/4	1/16	F21384
3/4	1-1/4	1-5/8	7/16	1/4	F22318
3/4	1-1/16	1-3/8	1/2	3/16	F23988
1"	1-3/8	1-3/4	1/2	1/8	F21730



RUBBER BUMPERS



F86013
Cylindrical Flat Top Self-Adhesive Protective Non-Skid Rubber Feet
Clear Polyurethane



F86015
Cylindrical Flat Top Self-Adhesive Protective Non-Skid Rubber Feet
Clear Polyurethane



F86016
Hemispherical Round Self-Adhesive Bumper Stop
Clear Polyurethane



F86017
Recessed Self-Adhesive Bumper Stop
Black Polyurethane



F86019
Square Flat Topped Bumper Pad
Black Polyurethane



F86020
Recessed Self-Adhesive Bumper Stop
Clear Polyurethane



F86021
Cylindrical Flat Top Self-Adhesive Protective Non-Skid Rubber Feet
Black Polyurethane

Diameter	Height	Part No.
.500" (12.7mm)	.140" (3.5mm)	F86013
.500" (12.7mm)	.250" (6.4 mm)	F86015
.375" (9.5 mm)	.150" (3.8 mm)	F86016
.880" (22.3 mm)	.400" (10.2 mm)	F86017

Diameter	Height	Part No.
.810" (20.6 mm)	.300" (7.6 mm)	F86019
1.810 (46.00 mm)	.600" (15.2 mm)	F86020
.375" (9.5 mm)	.125" (3.2 mm)	F86021

- Easy peel off application
- Non-staining, non-skidding, and non-marring
- Superior abrasion resistance, vibration and shock dampening
- Superb coefficient of friction and resistance to skidding, crack resistant and resilient
- **Made in the USA**

BUSHINGS — NYLON INSULATING

Material: UL94V2 Heat Stabilized Nylon

Color: Black

Applications: Motor vehicles, machinery repair, electrical appliance repairs To protect electrical wiring when routed through panel walls.

I.D.	O.D.	Hole Dia.	Panel Thickness	Part No.
.250	.468	.375	.125	F2123
.312	.578	.50	.125	F21273
.50	.718	.625	.125	F21640
.687	.953	.875	.125	F23272



F2123



F21273



F21640



F23272

STRAIN RELIEF CABLE GLANDS

Description	Part No.
Pg 21 std liquid-tight strain relief .512-.709	F25201
NPT 1" std blk liquid-tight strain relief .551-.827	F25205

- Durable, liquid-tight, easy to assemble strain relief cable gland universally suited for all types of machinery & equipment
- Black (RAL 9005) UV resistant
- Polyamide body, CR bushing 70 PSI, IP68, 5 bar
- Exceeds NEMA 6/6P pressure rating
- **Dynamic:** -20 deg C to +80 deg C



SPIRAL STRAIN RELIEF

Description	Part No.
Pg 7 std blk .098-.256 clamp range	F25204
Pg 11 std blk .157-.394 clamp range	F25202
Pg 13 std blk .236-.472 clamp range	F25199
Pg 16 std blk .354-.551 clamp range	F25200

- Liquid-tight spiral strain relief that offers additional safety against overstress and conductor breakage. Ideally suited for hand held equipment, moving machinery, and robotics
- Black (RAL 9005) UV resistant
- Polyamide body, CR bushing 70 PSI, IP68, 5 bar
- Exceeds NEMA 6/6P pressure rating
- **Temperature Range:** -20 deg C to +80 deg C



WIRE — MARKERS

WIRE MARKER TAPE

SPECIFICATIONS

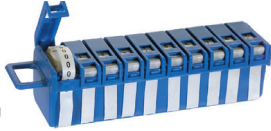
Dimensions: 1/4" wide x 1-1/4" long
Markers Per Roll: 76 each legend
Adhesive: Aggressive acrylic base



Description	Part No.
Wire Marker Tape Dispenser w/ 0-9 labels	F2574
Wire Marker Booklets A-Z/0-15, +, -, /	F23484
Wire Marker Booklets 1-45	F21192

WIRE MARKER TAPE DISPENSER
F2574

The Wire Marker Tape Dispenser provides a convenient, economical system for wire marking. The Wire Marker Tape features sharp, crisp legends which are coated to resist smearing and abrasion. It is provided on a carrier strip to prevent contamination of the adhesive prior to installation, assuring permanent non-flagging marker ends.



WIRE MARKER BOOKLETS



F23484



F21192

- Convenient pocket size booklets
- Black non-smear legends on a white background
- Plastic coated cloth material remains flexible
- Strong adhesive assures firm bond on wire
- Each booklet holds 10 pages with 7 of each legend per page

3M™ & SCOTCH CODE™ WIRE MARKER TAPE DISPENSERS

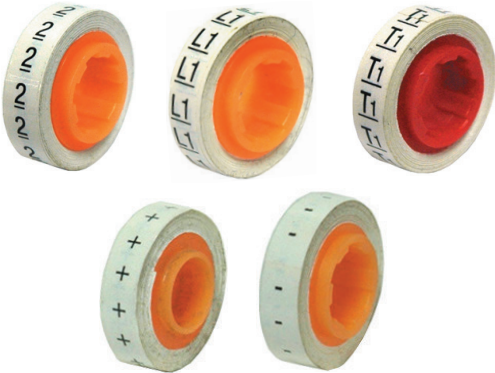
- Compact, easy to use carry-along dispenser
- Holds 10 eight-foot rolls of non-smear polyester marker tape
- Prevents waste - Dispenses only the desired length
- Can be custom filled to meet a particular customer's need



Description	Part No.
Wire Marker Tape Dispenser - Only	F21128
Wire Marker Tape Dispenser w/ 0-9 labels	F22382

3M™ & SCOTCH CODE™ WIRE MARKER TAPE REFILL ROLLS

Description	Part No.
Wire Marker Tape Refill Roll "1"	F21416
Wire Marker Tape Refill Roll "2"	F22971
Wire Marker Tape Refill Roll "3"	F2748
Wire Marker Tape Refill Roll "4"	F23593
Wire Marker Tape Refill Roll "5"	F21240
Wire Marker Tape Refill Roll "6"	F22623
Wire Marker Tape Refill Roll "9"	F21605
Wire Marker Tape Refill Roll "L1"	F21907
Wire Marker Tape Refill Roll "L2"	F22240
Wire Marker Tape Refill Roll "L3"	F2444
Wire Marker Tape Refill Roll "T1"	F23240
Wire Marker Tape Refill Roll "T2"	F23269
Wire Marker Tape Refill Roll "T3"	F23495
Wire Marker Tape Refill Roll "+"	F21038
Wire Marker Tape Refill Roll "-"	F23434



- High-tack acrylic adhesive resists solvents, oil and water
- Durable - will hold up in most industrial electrical applications
- Specifically designed for use with 3M™ Wire Marker Dispensers only

BATTERY — CRIMPING TOOLS

LONG HANDLE CRIMPER F2713

Professional heavy duty crimp tool is engineered to provide the most complete crimp on all major brands of connectors. The diamond shaped rotating dies produce a solid mass of copper with every crimp leaving a secure low resistance connection.

Features Include:

- **6 GA. – 250 MCM Range** one tool conveniently accommodates popular sizes
- **Tool Die Letter Codes stamped on the dies**
- **Diamond-Shaped Crimp** completely compresses cable to form solid mass assuring low resistance connection
- **Compound Action** exerts five tons of force for complete crimps
- **Built-in Dies** no detached dies to purchase or lose
- **Rotating Dies** quickly adjust setting to accommodate various terminals and lugs
- **Comfortable Grip** improves your grip and eases hand fatigue
- **Specifications:** Length 25" Weight 5.9 Lbs. Color – Red & Black



COMPACT CRIMPER F22310

- Designed for light and medium duty applications
- Crimps terminals 8 Ga. - 1/0 Ga.
- Crimps all major brands of battery terminals, copper lugs, and splices
- Insulated grips for comfort and safety



2

QUICKCUTTER™ 1 F22607

- Cuts cable up to 2/0
- Only 9" long, fits any tool box
- Insulated grips



QUICKCUTTER™ 2 F22092

- Cuts cable up to 250MCM (6/0 Ga.)
- Blades made of 1075 carbon steel, hardened for long life
- 22" long handles for easy cutting
- Insulated grips for comfort and safety



QUICKSTRIP F23202

- Strips up to 4/0 Ga. cable
- Only 5-1/2" long



INDUSTRIAL SCISSORS WITH HOLSTER F25891

- Cuts up to #2 AWG and up to 1/0 flex conductors
- Stainless steel blades hardened to 55 HRC min
- **Length:** 5.875"
- **Weight:** .12 lbs.
- Portable convenient storage holster



BRUTE™ TERMINAL CRIMPER F22033

- Inexpensive, simple, crimping tool
- Use with hammer, or vise
- Crimps 8 Ga. - 4/0 Ga. terminals
- Spring loaded pin locks in 'up' position for loading terminal and cable. Pin is then released to hold terminal securely during crimping



BATTERY — SOLDER SLUGS

SOLDER SLUGS

- Pre-measured piece of solder that has been sized to provide the correct amount of solder for each size of cable connector.
- Available in seven sizes, 4 gauge to 4/0 gauge
- Color coded to coincide with industry coding
- A simple and cost efficient way to achieve a perfect termination with no crimper to buy.



F22381

F21584
Flux for
Solder Slugs

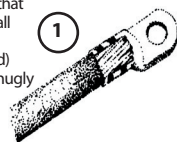


Size	Color	Part No.
6 Gauge	Gray	F24846
4 Gauge	Gray	F23101
2 Gauge	Green	F2538
1 Gauge	Pink	F22184
1/0 Gauge	Black	F21849
2/0 Gauge	Orange	F23110
3/0 Gauge	Purple	F22524
4/0 Gauge	Yellow	F22381

EASY TO USE:

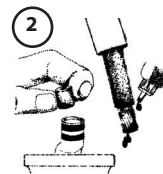
Strip the Proper size cable so that the exposed cable will reach all the way to the bottom of the battery terminal (not included) and the cable insulation fits snugly against the top.

Place the proper size solder slug into the terminal. Secure the



battery terminal in vise. Slide the proper size heat shrinkable tubing over the cable. Apply several drops of FLUX to the exposed cable. Insert the exposed cable into the terminal.

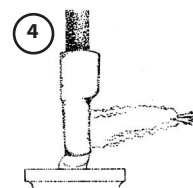
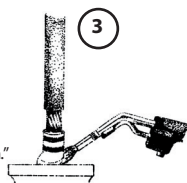
Heat the base of the battery terminal while applying gentle downward pressure on the cable. Allow the cable to slide into the terminal until the insulation is snug against the top of the terminal.



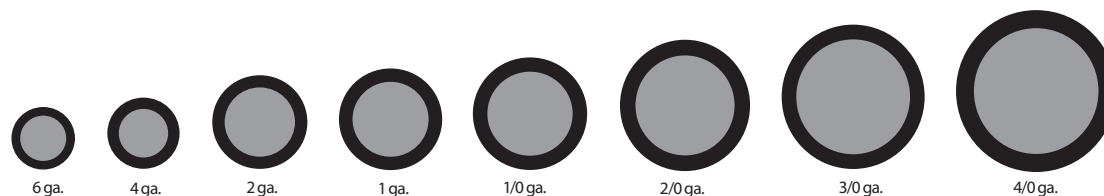
Remove the heat. **Caution: Do not apply heat near the car battery. Use only in a well ventilated area.**

Slide the heat shrinkable tubing over the connection. Apply indirect heat to the tubing.

Allow the connection to cool. You now have "The Perfect Connection."



BATTERY — CABLE



Size	6 ga.	4 ga.	2 ga.	1 ga.	1/0 ga.	2/0 ga.	3/0 ga.	4/0 ga.
Nominal O.D.	0.300	0.360	0.410	0.460	0.550	0.605	0.695	0.706

Gauge	Color	Roll Length	Part No.
6 Ga.	Black	25'	F21609
6 Ga.	Red	25'	F22472
6 Ga.	Black	100'	F22380
6 Ga.	Red	100'	F2379
4 Ga.	Black	25'	F23534
4 Ga.	Red	25'	F22339
4 Ga.	Black	100'	F23401
4 Ga.	Red	100'	F21966
2 Ga.	Black	25'	F23674
2 Ga.	Red	25'	F22244
2 Ga.	Black	100'	F21817
2 Ga.	Red	100'	F2636
1 Ga.	Black	25'	F23369

Gauge	Color	Roll Length	Part No.
1 Ga.	Red	25'	F23297
1 Ga.	Black	100'	F22618
1 Ga.	Red	100'	F2759
1/0 Ga.	Black	25'	F2404
1/0 Ga.	Red	25'	F23265
1/0 Ga.	Black	100'	F22705
1/0 Ga.	Red	100'	F21434
2/0 Ga.	Black	25'	F23093
2/0 Ga.	Red	25'	F2781
2/0 Ga.	Black	100'	F22867
2/0 Ga.	Red	100'	F23285
3/0 Ga.	Black	25'	F2869
4/0 Ga.	Black	25'	F22464



Battery and Starter Cable

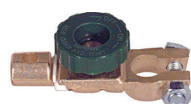
- Bare stranded solid copper conductors
- Flexible PVC insulation resists fuel, oil, acid, and salt
- Flame-retardant

Note: When not using exactly the same gauge as the original, always use a heavier cable, never lighter.

*Welding Cable also available, listed in the Shop Supplies - Welding section

*Welding cable also available, listed in the Shop Supplies - Welding section.

BATTERY TERMINALS — ASIAN STYLE



F23733
Quick Dis-connect
Battery Terminal
Top Neg.



F22102
Asian Style Lead Free
Battery Terminal
6-4 Ga. Neg.



F22002
Asian Style Lead Free
Battery Terminal
6-4 Ga. Pos.



F23623
Asian Style Lead Free
Battery Terminal
1-2 Ga. Neg.



F23695
Asian Style Lead Free
Battery Terminal
1-2 Ga. Pos.



F21813
Universal Asian Style
Battery Terminal
5/16" stud size
(Comes with 2 5/16" Lugs)

BATTERY TERMINALS — UNIVERSAL

Deka
EAST PENN manufacturing co., inc.



F23372
3-Way
Fleet Terminal
Negative



F21929
3-Way
Fleet Terminal
Positive



F21131
Heavy Duty
Fleet Terminal
Universal



F21678
Top Post-to-Side
Adapter Terminals
One Pair (bagged)
3/8" Positive
3/8" Negative



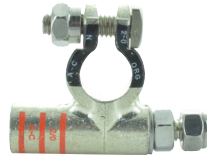
F23476
Military Style
Positive Lead



F2543
Military Style
Negative Lead



F25765
Pure Copper Add-on
Battery Terminal
2/0 Positive



F25766
Pure Copper Add-on
Battery Terminal
2/0 Negative



F23190
Top-Mount
Lead



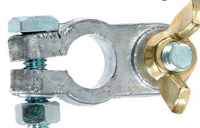
F22925
Top-Mount
Brass



F2299
Side-Mount
Lead



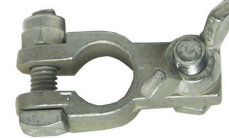
F22621
Marine Style
Universal
Lead
5/16" stud size



F23407
Marine Style
3/8" Positive



F2690
Marine Style
5/16" Negative



F23137
Marine Style
Battery Terminal
Brass Positive
3/8" Positive



F21412
Marine Style
Battery Terminal
Brass Negative
5/16" Negative

BATTERY — BOLTS & NUTS



F86290
5/16-18 x 1-1/4" bolt x 5/16-18
x 1/2" Brass Hardware sold
separately



F86147
5/16-18 x 1-1/2" with
nut, steel, zinc plated



F2837
1/4-20 x 1-5/8"
Black Oil Treated



F2324
5/16-18 x 1-1/4"
zinc plated



F2754
5/16-18 shoulder nut
zinc plated



F2789
5/16-18 x 1-1/4"
Tin Plated Steel



F86071
5/16-18 x 1-3/8"
battery bolt with nut
square head
shoulder nut
steel with zinc finish



- Adapter bolt, side terminal accessory post for double power lead. Connects power accessories directly to battery
- 3/8-16 x 1", Accessory stud 5/16-18 x 1/2"
- Brass Includes steel, zinc plated nut & washer



F21738
Side Mount Adapter Bolt
Side Terminal Post:
3/8-16 x 13/32"
Accessory Stud: 5/16-18 x 1/2"
Brass



F22701
3/8-16 x 13/32"
Zinc Plated Steel



F2432
3/8-16 x 1"
Zinc Plated Steel



F21604
3/8-16
Closed Capnut
Stainless Steel



F23119
Lead Spacer
for use with 510.3816



F21914
Stud to Post Battery
Adapter Set



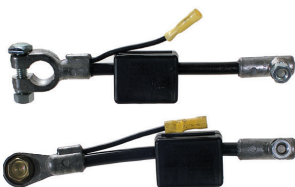
F23685
Side Post-to-Top Post
Adapter Set
1each (positive & negative)
3/8-16

BATTERY — CABLES READY MADE

BATTERY CABLES UNIVERSAL QUICK-FIX

Gauge	Color	Style	Part No.
4 Ga.	Black	Top Mount	F22721
4 Ga.	Black	Side Mount	F22245

- Save time and money by replacing only the last 6-1/2 inches of a cable that come in contact with battery acid
- For use with all 8 Ga., 6 Ga., or 4 Ga., cables



TOP STUD STACKABLE BATTERY CABLE F23058

- 2/0 Ga. cable
- 7" Long
- 3/8" hole
- Black



BATTERY TERMINALS — HEAVY DUTY TOP POST

Materials: Solid Cast Copper

Plating: Electro-Tin Plating is twice as thick as industry standard

Note: 5/16" battery bolt and nut is included with all open ended terminals

Gauge	+/-	Part No.
6 Ga.	Universal	F22213
4 Ga.	Universal	F21229
1+2 Ga.	+	F23151
1+2 Ga.	-	F21282
1/0 Ga.	+	F2452
1/0 Ga.	-	F2405

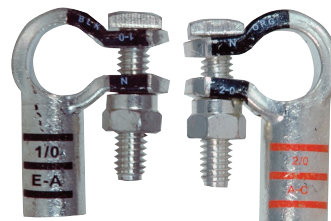
Gauge	+/-	Part No.
2/0 Ga.	+	F22360
2/0 Ga.	-	F22877
3/0 Ga.	+	F21810
3/0 Ga.	-	F2568
4/0 Ga.	+	F22473
4/0 Ga.	-	F23206



BATTERY TERMINALS — ECO MAX HEAVY DUTY

HEAVY DUTY ELBOW BATTERY TERMINALS

Gauge	Pos / Neg	Right Elbow Part No.	Left Elbow Part No.	Gauge	Pos / Neg	Right Elbow Part No.	Left Elbow Part No.
1/0 Ga.	Pos	F22538	F2292	2/0 Ga.	Neg	F24095	F23757
1/0 Ga.	Neg	F22271	F22822	3/0 Ga.	Pos	F2435	F21915
2/0 Ga.	Pos	F21446	F2551	3/0 Ga.	Neg	F22488	F2856
4/0 Ga.	Pos	F2943	F2422	4/0 Ga.	Neg	F22681	F23628

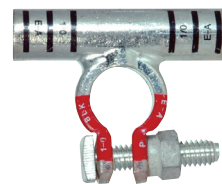


HEAVY DUTY FLAG BATTERY TERMINALS

Gauge	Pos / Neg	Part No.	Gauge	Pos / Neg	Part No.
1/0 Ga.	Pos	F2991	3/0 Ga.	Pos	F2287
1/0 Ga.	Neg	F2966	3/0 Ga.	Neg	F22287
2/0 Ga.	Pos	F23277	4/0 Ga.	Pos	F23393
2/0 Ga.	Neg	F23912	4/0 Ga.	Neg	F23343

- Environmentally Friendly – RoHS Compliant
- Lead Free-Exempt from CA Proposition 65
- 100% Copper Construction – C11000 ETP
- Maximum Conductivity 101% IACS at 68 F
- Tin Plated for Corrosion Resistance ECO-MAX C11000 (ETP) Common Battery Terminal Alloys

- Provided with Nut and Bolt Installed C85400 (Yel low Brass)
- Exceeds SAE C83300 (131 Contact Cu)
- Electrical Conductivity Standard J-1811 101% IACS at 68 F
- Color Coded, Die Coded 32% IACS at 68 F 20% IACS at 68 F



BATTERY TERMINALS — EUROPEAN CLAMP-TYPE

Materials: Solid Brass

Plating: Electro-Tin Plated

Note: Nuts and bolts included

Gauge	+/-	Left/Right	Part No.
Universal	-	R - 90°	F23760
Universal	+	R - 90°	F23612



Right



Left

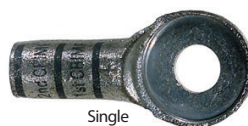
BATTERY TERMINALS — RETRO-FIT™

RETRO-FIT™ TERMINALS

- For replacement of threaded stud or side terminal batteries
- Not Stackable
- For use with capnuts Part No. (F21604) for 3/8-16 studs

Material: Solid cast copper**Plating:** Tin plated

Gauge	Single/Double	Stud Size	Part No.
4 Ga.	Single	3/8"	F22417
1 Ga.	Single	3/8"	F23702
1/0 Ga.	Single	3/8"	F22186



Single



Double

Gauge	Single/Double	Stud Size	Part No.
2/0 Ga.	Single	3/8"	F2823
2/0 Ga.	Double	3/8"	F21594
3/0 Ga.	Single	3/8"	F23095
3/0 Ga.	Double	3/8"	F21199

BATTERY TERMINALS — STACKABLE

STACKABLE™ TERMINALS

- For use with threaded stud or side terminal batteries
- 3/8" stud hole
- Stackable for multiple battery hookups
- Locking 'teeth' fit together for a non-rotating connection

Gauge	Single/Double	Part No.
4 Ga.	Single	F21506
1 Ga.	Single	F2441
1/0 Ga.	Single	F21528

Material: Solid cast copper**Plating:** Tin plated

Single

Gauge	Single/Double	Part No.
2/0 Ga.	Single	F2562
3/0 Ga.	Single	F21718

BATTERY — CABLE LUGS

- Exceed S.A.E. standards
- Tin plated cast copper construction

HEAVY DUTY LUGS

Cable Size	Stud Size	Tool Die Codes	Part No.
6 Ga.	1/4	Blue K-K	F86072
6 Ga.	5/16	Blue K-K	F86074
6 Ga.	3/8	Blue K-K	F86073
4 Ga.	1/4	Gray J-H	F22960
4 Ga.	5/16	Gray J-H	F21919
4 Ga.	3/8	Gray J-H	F21853
1-2 Ga.	5/16	Pink H-H	F23959
1-2 Ga.	3/8	Pink H-H	F2322
1-2 Ga.	1/2	Pink H-H	F21746
1/0	5/16	Black E-A	F86075
1/0	3/8	Black E-A	F22782
1/0	1/2	Black E-A	F22658
2/0	5/16	Orange A-C	F86076
2/0	3/8	Orange A-C	F23771
2/0	1/2	Orange A-C	F22319
3/0	3/8	Purple A-B	F23186
3/0	1/2	Purple A-B	F23583
4/0	3/8	Yellow A-A	F2521
4/0	1/2	Yellow A-A	F23527



Lug



Splice

HEAVY DUTY SPLICES

Cable Size	Tool Die Codes	Part No.
Codes	Gray J-H	F2282
1-2 Ga.	Pink H-H	F21474
1/0 Ga.	Black E-A	F2987
2/0 Ga.	Orange A-C	F2183
3/0 Ga.	Purple A-B	F23191
4/0 Ga.	Yellow A-A	F23632

Material: Solid Copper

* = Welding Lugs



Gauge	Stud Size	Plain Part No.	Tin Plated Part No.
8 Ga.	#10		F23960
8 Ga.	1/4		F23532
8 Ga.	5/16		F2776
8 Ga.	3/8		F2584
6 Ga.	#10		F23502
6 Ga.	1/4	F2907	F22831
6 Ga.	5/16	F2805	F2866
6 Ga.	3/8	F23386	F22291
6 Ga.	1/2	F23975	F21343
4 Ga.	#10		F23154
4 Ga.	1/4	F22309	F23565
4 Ga.	5/16	F22159	F21978
4 Ga.	3/8	F22461	F2782
4 Ga.	1/2	F23065	F23220
2 Ga.	1/4	F22630	F23221
2 Ga.	5/16	F22357	F22332
2 Ga.	3/8	F22415	F22217
2 Ga.	1/2	F2913	F23480
1 Ga.	1/4	F22928	F21201
1 Ga.	5/16	F22411	F22333
1 Ga.	3/8	F22640	F2369
1 Ga.	1/2	F23867	F22410

Gauge	Stud Size	Plain Part No.	Tin Plated Part No.
1/0 Ga.	1/4	F2954	F2888
1/0 Ga.	5/16	F22086	F22972
1/0 Ga.	3/8	F23319	F23294
1/0 Ga.	1/2	F21711	F22753
2/0 Ga.	1/4	F21442	F21341
2/0 Ga.	5/16	F22237	F24099
2/0 Ga.	3/8	F21850	F22496
2/0 Ga.	1/2	F2886	F23205
2/0 Ga.	1/2-90°		F2975
3/0 Ga.	5/16	F21091	F22125
3/0 Ga.	3/8	F23087	F21315
3/0 Ga.	1/2	F22901	F2200
3/0 Ga.	1/2-90°		F22858
4/0 Ga.	5/16	F23897	F23062
4/0 Ga.	3/8	F2449	F21715
4/0 Ga.	1/2	F21523	F22542

WIRE END LUGS — METRIC



Material: Solid Copper
Plating: None

Stud Size A	Wire End I.D. B (mm)	Wire Size Range (mm2)	Approx. AWG range	Part No.
M6	4.3	6-16	22-6	F2129
M8	4.3	6-16	22-6	F23639
M10	4.3	6-16	22-6	F22440
M8	5.4	10-25	8-4	F23700

Stud Size A	Wire End I.D. B (mm)	Wire Size Range (mm2)	Approx. AWG range	Part No.
M10	5.4	10-25	8-4	F22424
M8	6.8	16-35	6-2	F23428
M10	6.8	16-35	6-2	F21075

BATTERY TERMINALS — BOOTS



F21098
Straight Boot
4-6 Ga. Black



F22802
Straight Boot
4-6 Ga. Red



F23609
Straight Boot
1-2 Ga. Black



F2804
Straight Boot
1-2 Ga. Red



F21319
90° Left Boot
2 Ga. Black



F23677
90° Left Boot
2 Ga. Red



F2858
90° Right Boot
2 Ga. Black



F23376
90° Right Boot
2 Ga. Red



F24807
1/0&2/0 Ga. Black



F24808
1/0&2/0 Ga. Red



F24809
1 & 2 Ga. Black



F24810
1 & 2 Ga. Red



F24811
2 - 2/0 Ga. Black



F24812
2 - 2/0 Ga. Red



F24813
4 Ga. Black H.D. Starter



F24814
4 Ga. Red H.D. Starter



F24815
4 & 6 Ga. Black
Med.Duty Starter



F24816
4 & 6 Ga. Red
Med.Duty Starter



F24817
8 - 2 Ga. Black



F24818
8 - 2 Ga. Red

BATTERY — SY CONNECTORS

SY CONNECTOR HOUSINGS

Amp Rating	Color	Part No.
120	Red	F86139
175	gray	F21237
175	blue	F23670
175	red	F23002
175	yellow	F22265
350	gray	F21159
350	blue	F23600
350	red	F22483
350	yellow	F2927
350	green	F2783



- Single piece housing for high strength
- Integral stainless steel springs for constant pressure on contact
- Impact resistant polycarbonate

SY CONNECTORS

Amp Rating	Wire GA.	Part No.
120	4 awg	F25464
175	6 awg	F22697
175	4 awg	F2620
175	2 awg	F22959
175	1/0 awg	F23745
350	1/0 awg	F22682
350	2/0 awg	F2672



- Silver plated contacts for low resistance
- Self cleaning design
- Flared barrels for easy wire insertion

SY CONNECTOR PULL HANDLE

F21587



- Used for both 175 and 350 connectors
- Steel construction

2

BATTERY — BOOSTER CABLES

3' GROUND CABLE W/2 50AMP CLAMPS



F22164

- Helps with the prevention of sparks from static electricity generated by movement and flow of flammable liquids.



F23408

- 20' Booster Cables
- 2 Gauge Copper Wire
- 500 AMP "Parrot" Type Clamps
- Leads Are Not Bonded



F22093

- 16' Booster Cables
- 4 Gauge Copper Wire
- 400 AMP "Long Reach" Type Clamps
- Leads Are Bonded Together



F25073 - Medium Service - 8 Gauge, 12 foot long
F25074 - Heavy Service - 6 Gauge, 16 foot long

- Copper Plated Steel Jaw
- Color Coded Clamps & Cable for Polarity Identification
- Thick Vinyl Coating on Heavy Duty Steel Clamps for Rust and Corrosion Protection
- High Tension Spring for Secure Connection to Top Post & Side Terminal Batteries
- Flexible to -40 degrees



F21002

- "Parrot" Type Clamp
- Red Insulation
- Accommodates Up to 2 Ga. Cable



F2107

- "Parrot" Type Clamp
- Black Insulation
- Accommodates Up to 2 Ga. Cable



F2990

- Long Reach Type Clamp
- Red Insulation
- Ideal for use with Side Terminals
- Accommodates Up to 4 Ga. Cable



F2429

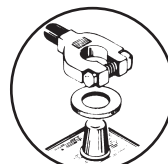
- Long Reach Type Clamp
- Black Insulation
- Ideal for use with Side Terminals
- Accommodates Up to 4 Ga. Cable

BATTERY TERMINALS — PROTECTORS



DEKA BATTERY TERMINAL PROTECTORS

- Felt washers impregnated with strong anti-corrosion inhibitors
- Prevents corrosion for the life of the battery
- Side and top post washers available



F21307
Top Post



NOCO BATTERY TERMINAL PROTECTORS

Type	Package Size	NOCO Part No.	Part No.
Top Post	Blister Pack 2	D-101	F25076
Top Post	Can of 50	B-603	F21202
Side Post	Can of 50	ST-13	F25077

- Felt washers impregnated with NCP-2 anti-corrosion compound
- "The original terminal protector" - keeps connections corrosion-free
- Stops corrosion caused by battery acid fumes
- NCP-2 compound lasts indefinitely without drying or evaporating
- Extends life of batteries and cables - top & side post
- Available in cans of 50 or single use pouches of 2



F25076
(Top Post)



F21202 (Top Post)
F25077 (Side Post)

SPARK PLUG — WIRE



- F23293**
- 7mm resistor spark plug wire
 - Hypalon black jacket resists temperature extremes, oil and gas
 - Resistor cables suppresses electrical interference
 - Graphite compound core
 - 100' rolls



- F2280**
- 7mm copper spark plug wire
 - Hypalon jacket resists temperature extremes, oil and gas
 - Copper strands are tin plated
 - 100' rolls



- F21352**
- 8mm resistor spark plug wire
 - Gray silicone jacket resists temperature extremes, oil and gas
 - Resistor cable is designed for high voltage output on High Energy Systems (HEI)
 - Handles up to 35,000 volts
 - 100' rolls

SPARK PLUG — WIRE TERMINALS



F22992
7mm
Straight
Spark Plug Terminal



F23520
7mm
Straight
Distributor Terminal



F21232
8mm
Straight Spark Plug Terminal
Snap Ring



F21043
8mm
90° Angle Spark Plug Terminal
Snap Ring

SPARK PLUG — BOOTS & NIPPLES



F2260
7mm
90° Angle
Spark Plug Boot



F21651
7mm
Straight
Distributor Nipple



F2612
7mm
Straight
Coil Nipple



F22791
8mm
90° Angle Neoprene
Coil Nipple (Ford)



F22900
8mm
90° Angle Silicone
Spark Plug Boot



F23108
8mm
90° Angle Neoprene
Distributor Boot



F21272
7mm
Spark Plug boot
Hypalon



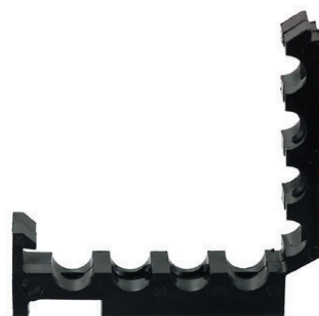
F22177
7mm
Black Silicone
Heavy Duty
Spark Plug Boot
for Hi-Temp
Applications



F22591
8mm - Black
Silicone Straight
Spark Plug Boot



F23161
Spark Plug
Wire Route
for 3 wires



F22331
Spark Plug
Wire Route
for 4 wires

SWITCHES — TOGGLE

DEFINITIONS

Lamp Load -- The amount of current (amperes) demanded or required by one or more lamp filaments for illumination.

Inductive Load -- The amount of current (amperes) demanded or required by any device having an integral wire wound coil with a steel core that produces a magnetic force, e.g., operation of motors and solenoids.

Poles and Throws

The letters **SPST**, **SPDT**, **DPST**, or **DPDT** describe what the switch is capable of doing.

SP Single Pole -- A switch device that opens, closes or changes connection in a single conductor of an electrical circuit.

DP Double Pole -- A switch device that opens, closes or changes connection in two conductors of an electrical circuit.

ST Single Throw -- A switch that opens, closes or completes a circuit at only one of the extreme positions of its actuator.

DT Double Throw -- A switch that opens, closes or completes a circuit at both extreme positions of its actuator.

An **SPST** (single pole, single throw) switch has one closed contact position (ON) and turns on one circuit -- the basic OFF-ON switch.

A **DPST** (double pole, single throw) switch has two closed contact positions energizing two circuits at the same time.

The circuits must be from separate sources. Because it is single throw, it has one ON position, an OFF-ON switch.

An **SPDT** (single pole, double throw) switch has one closed contact position at one time. Because it is double throw, it can turn on two different circuits from one source, but not at the same time. It could be an ON-OFF-ON switch or an ON-ON switch.

A **DPDT** (double pole, double throw) switch has two closed contact positions energizing two separate circuits at the same time. Because it is double throw it has two ON positions, an ON-OFF-ON or ON-ON switch.



2

TOGGLE SWITCHES — HEAVY DUTY

Type	Up Position Function	Center Position Function	Down Position Function	Number of Terminals	Pollak Part No.	Cole Hersee Part No.	Part No.
SPST	ON		OFF	2 Screw***	34-500		F22554
SPST	ON		OFF	2 Screw	33-300		F21380
SPST	ON		OFF	2 Screw**		551800	F23775
SPDT	MOM. ON	OFF	MOM. ON	3 Screw**		551844	F23697
SPST	ON		OFF	2 Screw	34-571	5582	F23602
SPST	ON	MOM. OFF		2 Blade	34-579	55052-01	F2209
SPST	ON		OFF	2 Blade	34-571Q	55014	F2719
SPST	MOM. ON		OFF	2 Blade	34-570Q	55037	F2843
SPDT	ON		ON	3 Screw	34-572	5584	F21463
SPDT	ON		MOM. ON	3 Screw	34-596	55088	F2523
SPDT	MOM. ON	OFF	MOM. ON	3 Screw	34-575	55021	F21979
SPDT	ON	OFF	ON	3 Blade	34-572Q	55015	F21674
SPDT	ON		ON	3 Screw	34-573	5586	F22852
SPDT	ON	OFF	ON	3 Blade	34-573Q	55016	F23166
SPDT	MOM. ON	OFF	MOM. ON	3 Blade	34-575Q	55033-01	F22155
SPST	MOM. ON		OFF	2 Screw	34-570	55020	F22427
DPST	ON		OFF	4 Screw	34-574	5588	F2901
DPST	ON		OFF	4 Blade	34-574Q	55017	F2149
DPDT	ON		ON	6 Screw	34-576	5590	F23743
DPDT	ON	OFF	ON	6 Screw	34-577	5592	F23833
DPDT	ON	OFF	ON	6 Blade	34-577Q	55019	F2410
DPDT	MOM. ON	OFF	ON	6 Blade	34-578Q	55018	F2617
DPDT	MOM. ON	OFF	MOM. ON	6 Screw	34-580	55054	F21675
DPDT	MOM. ON	OFF	ON	6 Screw	34-578	55054-04	F22337
DPDT	MOM. ON	OFF	MOM. ON	6 Blade	34-580Q	55065-03	F2448

** Comes with mounting bracket

*** Light-Duty (10 AMPS @ 12 Volts)

Conservative Electrical Ratings

12V (DC) - 25 amps, lamp load
12V (dc) - 35 amps, inductive load
125V (AC) - 15 amps
250V (AC) - 10 amps

mom. = momentary

- Plastic housing with plated steel cap.
- Nickel plated brass stem and mounting hardware.
- Mounting stem 15/32"-32 thd. 15/32" (11.90mm) long with keyway.
- Nickel plated brass handles, 11/16" (17.46mm) long, except for 777.1.2 which has a 1 - 1/2" handle
- Fits panels up to 1/4" (6.35mm) thick.
- Silver contacts for dependable electrical operations.

TOGGLE SWITCHES — NYLON HANDLE

Type	Up Position Function	Center Position Function	Down Position Function	Number of Terminals	Pollak Part No.	Cole Hersee Part No.	Part No.
SPST	ON			2 Blade	34-581Q	54100-01	F21318
SPST	MOM. ON		OFF	2 Blade		54101-01	F21114
SPDT	ON	OFF	ON	3 Blade		54103-01	F23881
SPDT	MOM. ON	OFF	MOM. ON	3 Blade	34-582Q	54101-01	F2592

Conservative Electrical Ratings

12V (DC) - 25 amps, lamp load
12V (dc) - 35 amps, inductive load
125V (AC) - 20 amps
250V (AC) - 10 amps

mom. = momentary

- O-Ring seal between toggle a bushing
- Durable nylon housing
- Brass contacts



TOGGLE SWITCH — X-TRA HEAVY DUTY

Type	Up Position Function	Center Position Function	Down Position Function	Number of Terminals	Part No.
SPST	ON	OFF		2 screw	F22601
SPST	ON	OFF		2 blade	F23417
SPST	ON	OFF	ON	3 screw*	F2168
SPST	ON		OFF	2 Screw*	F22467
SPDT	MOM. ON	OFF	MOM. ON	3 Screw*	F23715

* 1.5" Long Handle



- Chrome plated handle
- 15/32" Dia. x 7/16" long mounting stem
- 50 Amp rated, 6-24 Volt

WEATHER RESISTANT TOGGLE SWITCH
F2131

- Weather resistant plastic coating with O-Ring in stem.
- On-Off, S.P.S.T., Rated 20 amps, 12 VDC
- Knurled face nut, hex back nut & 2 - 8" leads
- Chrome plated bat handle, mounting stem 15/32" Dia., 3/8" long.



Pollak

SWITCHES — TOGGLE (continued)

TOGGLE HANDLE EXTENSIONS

Standard Extensions		Fluorescent Extensions	
Color	Part No.		
Red	F21046		
Black	F23558		
• Fit standard bat or ball handles. • Extend toggle handles to 1 7/8" (47.62 mm) long • Molded plastic, permanent colors for color coding			



TOGGLE SWITCH CAP
F21949

- Rubber boot with 15/32-32 thread
- Protection against moisture and dust
- Resistant to weather and ozone



TOGGLE SWITCH FACE PLATE

- F21855
- Nickel plated steel 1" (25.40mm) high, 5/8" (15.87mm) wide
 - Stamped On-Off, keyed for alignment.
 - Fits all toggle switches with 1/32" (11.90mm) diameter mounting stem and keyway



SWITCHES — ROCKER

ROCKER SWITCH

Type	Up Position Function	Center Position Function	Down Position Function	Red Pilot Light	Number of Terminals	Pollak Part No.	Cole Hersee Part No.	Part No.
SPST	OFF		ON		2	34-308	58027-01	F21836
SPST	OFF		MOM. ON		2	34-352	58027-02	F21065
SPST	OFF		ON	Single	3	34-360	58327-01	F2705
DPST	OFF		ON		4		58027-06	F21415
SPDT	ON	OFF	ON		3	34-354	58027-03	F2582
SPDT	MOM. ON	OFF	MOM. ON		3	34-355	58027-04	F23424
SPDT	ON	OFF	ON	Dual	4	34-356	58327-06	F23188
DPDT	ON	OFF	ON		6	34-357	58027-07	F23327

Pollak



CH

Cole Hersee



- Conservative Electrical Ratings**
- 12 volts (DC)
 - 25 amps lamp load
 - 35 amps inductive load

- Non-glare matte black finish
- Gasket sealed housing
- Snap-in mounting
- Blade terminals
- Fits our modular rocker switch brackets
- Fit panels .093" (2.36mm) to .187" (4.75mm) thick

MODULAR ROCKER SWITCH BRACKETS
F21716

- For installing two or more snap-in mounting rocker switches in panels
- Durable, molded plastic construction
- Three channels and three runners on each side provide secure interlock
- Non-glare matte black textured finish
- For use with Rocker Switch (F21836, etc.)



Install two switches using two end sections



Add center sections for three or more switches



Rocker Switch Bracket Mounting Kit

- Install switches when panel mounting isn't possible
- Snap together assembly no special tools required
- For top of panel or under panel mounting
- Holds three to five rocker switch brackets
- Brackets not included

Outer Dimensions

Two Sections: 2.37" (60.20mm) wide, 2.30" (58.42mm) high

Bracket Hole Plug: .96" wide, 1.91" high

Mounting Hole for 2 Units: 2.02" (51.31mm) wide, 1.90" (48.26mm) high

Add 1.03" (26.16mm) for each additional unit



F21348
End Section



F22260
Center Section



F2641
Bracket Hole Plug

SWITCHES — ON-OFF

NORMALLY OFF

F21411

- Push to ON, Spring Return to OFF
- **Mounting stem:** 5/8"-32 x 21/32"
- Two screw terminals
- Black rubber cap and mounting nut protects operating shaft against moisture and dirt
- Up to 36 volts



NORMALLY ON

F21211

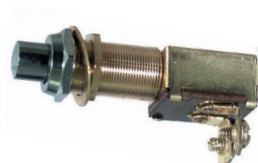
- Push to OFF, Spring Return to ON
- **Mounting stem:** 5/8"-32 x 1/2"
- Two blade terminals
- Black rubber cap protects operating shaft against moisture and dirt
- 10 amps / 12 volts



NORMALLY OFF

F24093

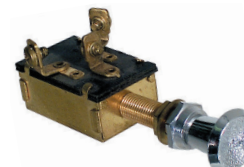
- Push ON, Spring Return to OFF
- **Mounting stem:** 5/8"-32 x 1-1/4"
- Two screw terminals
- All Brass, Chrome Plated
- 15 amps / 12volts, 25 amps / 6 volts



3 POSITIONS: OFF-ON-BOTH

F22188

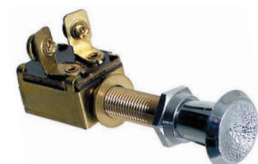
- Headlamp switch
- Polished chrome face nut
- Chrome plated plastic Knob
- Mounting stem 7/16" diameter, 1-1/4" long



2 POSITIONS: OFF-ON

F2136

- Polished chrome face nut
- Chrome plated plastic Knob
- Mounting stem 3/8" diameter, 1-1/4" long
- 15 amps / 12volts, 25 amps / 6 volts



TWO POSITION ON / OFF SWITCH GREEN LED LIGHTED

F25709

- Push-Pull On-Off Switch
- Green LED Lighted
- 12 volt
- 50 amp
- Plastic body
- 3 male tab connection

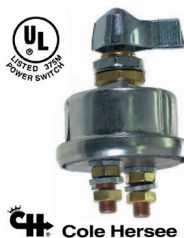


SINGLE POLE MASTER DISCONNECT SWITCHES, TWO POSITIONS: OFF-ON

(Disconnects battery circuit only)

F2593

- For 6-24 volt, D.C. electrical systems
- Heavy gauge plated steel case, die cast lever
- Brass mounting stem 3/4" (19.05mm) diameter, 23/32" (18.25mm) long
- Two 3/8" (9.52mm) diameter stud terminals
- Fits panels up through 3/16" (4.76mm) thick

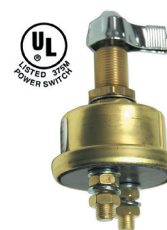


SINGLE POLE MASTER DISCONNECT SWITCH, TWO POSITIONS: OFF-ON, MARINE

(Disconnects battery circuit only)

F21704

- For 6-36 Volt DC electrical systems
- Brass Case, chrome plated die cast lever
- Brass Mounting Stem 3/4"-24 diameter, 1-13/32" long
- Fits panels up to 15/16"
- Silver plated contacts
- UL 707B Listed



DOUBLE POLE MASTER DISCONNECT SWITCHES, TWO POSITIONS: OFF-ON

(Disconnects battery circuit and field circuit)

F21347

- For 6-36 volt, D.C. electrical systems
- Brass case, chrome plated die cast lever
- Brass mounting stem 3/4" (19.05mm) diameter, 1-13/32" (46.05mm) long
- Fits panels up through 15/16" (23.81mm) thick
- Silver laminated contacts
- Interrupts field circuit (alternator/regulator) before battery circuit is broken.
- Recommended for gasoline and oil tank trucks, Excellent for marine use



LOCKABLE BATTERY DISCONNECT SWITCH

F21838

- 250 Amps / 24 Volt
- Weather Proof
- When used with a padlock, the switch meets OSHA 29 CRF 1910.147 for positive "lock-out/tag-out" of power for commercial vehicles
- Body made of High-Impact composite plastic



(Master disconnect switches are ideally suited for use with alternator or generator systems to prevent electrical fires, tampering, theft and battery drain when equipment is unattended.)

TRAILER CONNECTORS

7 POLE SOCKETS & PLUGS

Description	Part No.
Solid Pin, 2 hole mount. Zinc Die-cast	F23106
Split Pin, 2 hole mount. Zinc Die-cast	F21862
Solid Pin, 3 hole mount. Zinc Die-cast	F23903
Split Pin, 3 hole mount. Zinc Die-cast	F2191

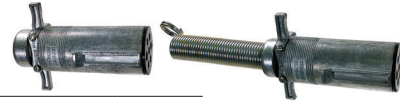
- Meets and exceeds all standards of SAE J560
- Floating pins for ease of alignment and maximum contact
- Optimum slant mount & drain slot rid housing interior of accumulated moisture.
- Will accept the widest range of wire gauges from 16ga to 18ga ground wire.
- 40 Amps continuous duty @ 6-28 VDC
- Self grounded to #1 ground terminal
- Interchangeable with competitive makes



PLUGS

Description	Part No.
With Cable Guard. Zinc Die-cast	F2151
Without Cable Guard. Zinc Die-cast	F22197
Replacement interior for F2151 & F22197	F22029

- Heavy duty, corrosion resistant die cast construction
- Integral cable clamp, Replaceable interior
- Available with plated steel spring cable protector that eliminates destructive sharp bends
- Contacts "float" for proper engagement with all mating sockets
- Ground terminal accepts up to #8 gauge wire, other terminals up to #10 gauge wire
- Screw terminals with optimum thread design for secure wire connections
- Cable clamp holds all size cables firmly in place
- Circuit wire color codes identified on insulator



7-POLE TRAILER PLUG CLEANER

F22036



PROTECTIVE BOOT FOR 7 POLE SOCKETS

F2875

- Protects against road splash, weather and other harmful elements
- Inner ridge locks over head of terminal screws and edge of casting for secure holding power
- For Cole Hersee socket Numbers 12063, 12063-01, 12080, 12080-01 and other comparable 7 pole sockets



6 POLE & 4 POLE SOCKETS AND PLUGS

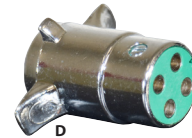
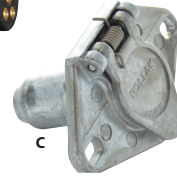
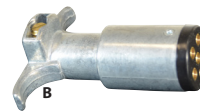
	Description	Part No.
A	6 Pole Plug with Spring	F21790
A	4 Pole Plug with Spring	F23799
B	6 Pole Plug wo/ Spring	F21007
B	4 Pole Plug with wo/ Spring	F21134
C	6 Pole Socket	F23952
C	4 Pole Socket	F21537
D	4 Pole Plug - Chrome	F23442

SOCKETS

- Accepts up to #12 wire, wiring codes embossed on insulator
- Brass contacts aligned for proper contact and minimum voltage drop
- Designed to fit narrow wall trailers
- Spring loaded cover for weather and dirt protection
- Screw terminals designed to secure wire connections
- Housing design protects connections from road splash, dirt, etc.
- Replaceable interior
- Flange holes 17/64" (6.74mm) diameter, 2-15/16" (74.60mm) on centers
- Mounts through 1-3/8" (34.90mm) diameter hole

PLUGS

- Contacts "float" for proper connection with mating sockets
- Terminals accept up to #12 wire
- Screw terminals with optimum thread design for secure wire connections
- Cable clamp holds all size cables firmly in place
- Spring cable protector eliminates destructive sharp bends
- Replaceable interiors



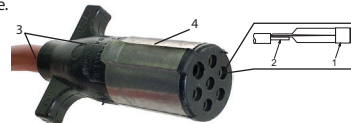
DUAL POLE RV CONNECTORS

Description	Part No.
Dual Pole Plug	F25608
Dual Pole Socket	F25609

- US made plug and receptacle for battery charging or lift gate applications
- Internally grounded
- Maximum current carrying capacity 100 Amps for 12 volt intermittent lift gate use

SONOGRIP® 7-WAY PLUGS TRAMEC'S PATENTED 7-WAY CABLE PLUGS

1. Stainless steel radial springs and split terminals provide the best long-term connection to receptacle pins.
 2. UltraSONIC welding of the terminals eliminates corrosion and loosening at the terminal to wire connection.
 3. Solid molded elastomeric body and sealants exclude moisture.
 4. Die cast sleeve provides durability.
- Coils remain flexible in sub-zero weather
 - Excellent coil memory even in very hot weather
 - Comes with one Angle and one Straight plug



HEAVY DUTY

F2231

- Cut, Tear & Abrasion resistant green urethane jacket
- **Work length:** 15', Leads are 12"
- **Conductors:** (1) 8 ga., (1) 10 ga., and (5) 12 ga.



STANDARD

F2243

- Black Urethane Jacket
- **Work length:** 15', Leads are 12"
- **Conductors:** (1) 12 ga. and (6) 14 ga.



TRAILER CONNECTORS — RV

EZ PULL 4 FLAT

F25639

- Endurance™ easy-pull™ 4 flat vehicle side connector
- Easy-pull grips ease in connecting/disconnecting
- 40 inch length wire
- Most commonly used trailer connector
- Printed trilingual wire functions for easy wire reference



EASY-PULL TEST LEAD 4 FLAT

F25641

- Endurance™ easy-pull™ harness
- 4 pole flat connector / led tester
- Trailer end
- Most commonly used on small boat / utility
- 12 inch harness



E-Z PULL 4 FLAT 12" ADAPTER

F25641

- Endurance™ Easy-Pull™ 4-Flat Extension w/ Grip Ring
- Vehicle and Trailer Ends Adapter - 12 inch
- Dust Cap
- Easy to grip
- Easy to pull



E-Z PULL 4 FLAT 12"

F25642

- Endurance™ Easy-Pull Harness™ Adapter
- 4-Pole Flat Trailer Connector - Trailer End
- 12 Inch Long Harness
- Printed trilingual wire functions for easy wire reference
- Dust Cap



ADAPTER 7 BLADE TO 6 ROUND & 4 FLAT

F25644

- Provides multiple towing options from one connector
- Includes dust covers
- Switchable center pin accommodates both 6 round wiring codes
- Center pin is set up as the brake but can easily be changed to work with trailers that have the center pin wired as the hot lead



7 BLADE TO 4 FLAT OE REPLACEMENT

F25645

- Multi-Tow® provides multiple towing options from one connector
- Plug-In Simple® Wiring Kit
- Utilizes OEM connectors create an exact fit and maximum weatherproofing
- Impact and corrosion resistant
- Pre-greased terminals for added protection
- Includes Step-By-Step Instructions



7-WAY TO 4-WAY CONNECTOR ADAPTER

F22138

- Converts 7-way blade connector socket to a 4-way molded connector.
- Allows one vehicle to tow campers or boat trailers without electric brakes.
- Tethered cap for protection from sand, dirt or moisture.



TRAILER-END ONLY 7-WAY PLUG

F21151

- Design offers dual grips for easy plug removal.
- Interior design prevents internal short-circuiting.
- Color coded to RV1 standards.



6-WAY TO 4-WAY CONNECTOR ADAPTER

F2986

- Converts 6-way round (Pin Style) connector socket to a 4-way round (Pin Style) connector plug.
- Allows one vehicle to tow campers or boat trailers.
- Adapter has non-corrosive glass-filled nylon shell and fits all 6-way sockets.



RV OEM REPLACEMENT SOCKET

F2827

- Designed to be dependable in the harshest environments.
- Manufactured from high-impact nylon.
- Terminal pins are tin plated copper alloy for higher conductivity.
- Requires OE harness, special order only



7-WAY TO 6-WAY CONNECTOR ADAPTERS

Description	Part No.
Adapter has Brake Pin in center of 6-pole	F21089
Adapter has Auxiliary Pin in center of 6-pole	F2749

- Converts 7-Pole blade connector to a 6-pole round connector plug
- Allows one vehicle to tow either campers or utility trailers.
- Non-corrosive nylon shell and insert.



CAR-END ONLY 7-WAY SOCKET

F23447

- Nylon construction solves corrosion problems & eliminates rusting.
- Interior design prevents internal short circuiting.
- Safety latch prevents damage from accidental pull-away.
- Color coded to RV1 standards
- Standard wire connections



TRAILER CONNECTORS



F21595
Trailer Connector
(4) 12" Leads
3 Male & 1 Female
Water-Resistant
Can be mated with
F2190



F274
Trailer Connector
(4) Wire 12" Loop
Connectors on Both Ends



F2190
Trailer Connector
(4) 12" Leads
1 Male & 3 Female
Water-Resistant
Can be mated with
F21595



F21805
Trailer Connector
(2) Wire 12" Loop
Connectors on Both Ends



F22962
Trailer Connector
(3) Wire 12" Loop
Connectors on Both Ends

WE KNOW
MRO

TESTING TOOLS — ELECTRICAL

12 VOLT CIRCUIT TESTER F21467

- 60" flexible lead
- spring strain relief



ANALOG MULTIMETER F2701

- Five function
- AC/DC voltage
- DC current
- Resistance
- Decibels
- Leads and battery included
- Pocket Sized



NON-CONTACT VOLTAGE DETECTOR F21951

- Indicates the presence of AC Voltage from 50 – 600 Volts
- Visual (flashing) and audible (beeping) indicators.
- Built-in "safe test" feature assures batteries are operating properly.
- Compact design fits in shirt pocket.
- 2 – LR44 / A76 (Part No. 715.76) batteries included



MILWAUKEE® VOLTAGE DETECTOR WITH LED F42515

- Voltage Range: 50 to 1,000V AC
- Safety Category Rating: CAT IV 1000V
- Extra bright LED indicator
- 2 AAA batteries included
- Pocket clip allows for easy storage and retrieval from pocket



2

ELECTRICAL GAUGE F25704

Electrical gauge to measure battery terminals, heat shrink tubing, wire size, terminal studs, tool die codes



TEST CLIPS

F22398

Mini Test Clip
Overall length: 1-17/32"
Jaw opening: 5/16"
Crimp or Screw Connection
5 AMP - Steel



F22956

General Purpose Test Clip
Overall length: 2-7/16"
Jaw opening: 5/8"
Crimp or Screw Connection
20 AMP - Steel



F2845 - (Black)
F23178 - (Red)

Insulators for F22398



F22736 - (Black)
F2197 - (Red)

Insulators for F22956



F2356

Automotive Test Clip
Overall length: 3"
Jaw opening: 3/4"
Crimp or Screw Connection
40 AMP - Steel



F21888 - (Steel)
F23392 - (Copper)

Heavy Duty Clip for battery and test work
Overall length: 4-7/64"
Jaw opening: 1-1/16"
Crimp, Screw or lug Connection
50 AMP - Steel, 100 AMP - Copper



F21589 - (Black)
F2660 - (Red)

Insulators for F2356



F2290 - (Black)
F21621 - (Red)

Insulators for F21888 and F23392



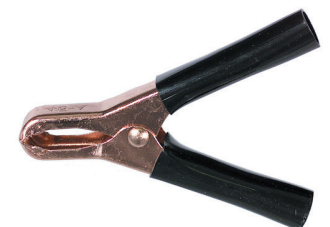
F21695 - (Steel)
F23598 - (Copper)

Heavy Duty Clip
for fast chargers, battery discharge tests and heavy grounding applications.
Overall length: 6"
Jaw opening: 1-5/8"
lug Connection
100 AMP - Steel, 200 AMP - Copper



F2784 - (Black)
F2271 - (Red)

Miniature Plier - Type Clip
Overall length: 2-7/8"
Jaw opening: 1-1/8"
Crimp or Solder Connection
50 AMP - Steel



F21215 - (Black)
F23683 - (Red)

Insulators for F21695 and F23598



ALLIGATOR CLIPS

2

F24091
Micro Tip Alligator Clip
Overall length: 1-3/32"
Jaw opening: 3/16"
Cinch ear barrel 5 AMP - Copper



F21646
Insulator for F24091



F21008
Mini Alligator Clip
Overall length: 1-1/32"
Jaw opening: 3/16"
Cinch ear barrel 5 AMP - Copper



F2272 - (Black)
F2108 - (Red)
Insulators for F21008



F23844
Mini Alligator Clip
Overall length: 1-1/2" Jaw opening: 3/16"
Threaded barrel connects to any #6-32
threaded male test prod. 5 AMP - Steel



F2723 - (Copper)
F22400 - (Steel)
Standard Alligator Clip
Overall length: 2" Jaw opening: 5/16"
Comes with #6-40 screw which
eliminates crimping or soldering 10 AMP



F2164 - (Black)
F22251 - (Red)
Insulators for 511.6902



F2712 - (Black)
F2714 - (Red)
Insulators for F2723
and F22400



F21461
Magnetic Soldering Clamp
Alligator clamps firmly hold wire and
small parts when soldering.



F22158
Standard Alligator Clip
with barrel for a banana plug
Overall length: 1-31/32"
Jaw opening: 5/16"
10 AMP - Steel



F2276 - (Red Barrel)
F21035 - (Black Barrel)
Alligator Clip
Overall length: 2-1/4"
Jaw opening: 5/16"
Accepts a .075 (1.9mm) test probe
Insulated barrel 10 AMP Steel



TOOLS — CRIMPING

DELUXE

F23604

- Crimps insulated and uninsulated terminals 10-22 AWG.
- Precision ground wire stripper produces nick free strips on 8-22 stranded AWG wire.
- Crimps ignition terminals 7-8mm.
- Bolt cutter for 4-40, 6-32, 8-32, 10-24, and 10-32.
- Cushion grips.
- 8-1/2" O.A.L.
- Made in U.S.A.



STANDARD

F23846

- Crimps and strips 22-10 AWG
- Cushion grips
- Bolt Cutter
- 8" O.A.L.



WIRE FERRULE CRIMPING TOOLS

- Designed for crimping wire ferrules
- Ratchet crimping mechanism
- Crimping Profile: Trapezoidal
- ROHS Compliant

F2401

Crimps 22-10 AWG Single Ferrules and 22-14 AWG Twin Ferrules



F23121

Crimps 10-6 AWG Single Ferrules and 12-8 AWG Twin Ferrules



ULTRA-TUFF TERMINAL CRIMPER

F2561

- Recommended for use with Ultra-Tuff Terminals
- Crimps 10-22 Ga. insulated & non-insulated terminals
- Also crimps M7 & M8 ignition parts
- Anvil-type wire cutter for clean cuts
- Bolt cutter for mild steel & non-ferrous screws
- Made in USA



WIRE CUT / CRIMP TOOL

F23722

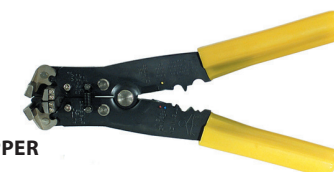
- Designed for crimping both insulated and non-insulated solderless connections & terminals.
- Slim nose for tight places
- Perfectly mated cutters, scientifically heat treated to hold their edge
- **Cable/Wire Range:** 22 Ga. Min – 10 Ga. Max



AUTOMATIC WIRE STRIPPER

F22128

- Strips 8-26 AWG
- Makes wire stripping much easier
- Built-in wire cutter
- Crimps 22-10 AWG terminals and auto ignition 7-8 terminals
- Adjustment knob for different insulations
- 8-1/4" O.A.L.



OPEN BARREL TERMINALS CRIMPER

F23244

- Crimps a wide variety of open barrel contacts in medium size wire ranges, including WeatherPak Terminals.
- Crimps conductor and insulation portion of contacts in separate cavities. Tool must be closed twice to complete termination.
- **Insulation crimps are "B" type and are produced in two cavities:** A 14-18 AWG and B 20-24 AWG.
- **Conductor crimps are "B" type and are produced in three cavities:** C 14-16 AWG, D 18-20 AWG, and E 22-24 AWG.
- Cushion grips.
- 8-1/4" O.A.L.
- Made in U.S.A.



PACKARD TERMINAL CRIMPER

F21614

- Crimps Metri-Pack 150 & 280 Series Terminals
- For 20-14 Ga. Terminals
- Core and seal crimped in 2 separate motions
- Replaces GM #12155975



TOOLS — CRIMPING (continued)

WEATHER-PACK TERMINAL CRIMPER F77050

- For 20-18 Ga & 16-14 Ga Terminals, replaces GM# 12015254
- Two crimper jaws
- Two anvil jaws
- Three crimp sections (with applicable wire size markings)
- Spring-actuated contact wire stop



METRI-PACK CRIMPER F22957

- Crimps metri-pack 280, 480, and 630 unsealed terminals



RATCHET CRIMP TOOL F25688

- Designed to crimp heat shrink terminals
- Won't damage or cut heat shrink tubing
- 3 crimp nests - 22-18 AWG, 16-14 AWG, 12-10 AWG
- Narrow crimp profile makes it easy to align on crimp barrel
- Ratcheting design provides the proper amount of force to each size connector
- A trouble-free full-cycle mechanism that assures consistent terminations



RATCHET CRIMPING TOOL FOR HEAT SHRINK TERMINALS F21322

- Specifically designed to crimp heat shrink terminals
- High Quality, economical tool
- 4 Crimp nests - 8Ga, 12-10Ga, 16-14Ga, 22-18Ga,
- Ensures uniform crimp termination regardless of user
- Release switch if terminal or wire is inserted improperly



UPFRONT WIRE STRIP CUT CRIMP TOOL F2372

- Curved cutter required less force when cutting wire
- Ergonomic design
- Pliers nose is excellent for wire pulling
- **Striper Size:** 10-22
- **Crimps Insulated:** 10-22
- **Crimps Non-Insulated:** 10-22/7-8mm auto
- **Screw Cutter:** 4-40/5-40/6-32/8-32/10-32/10-24
- **Nom. Length:** 8-1/4"



3 PIECE WIRE CUT STRIP AND CRIMP TOOL SET F21546

- Excellent for use in confined spaces
- Cushioned handles for comfort
- Comes in reusable vinyl pouch
- **Striper Size:** 8-18 solid/10-22 stranded
- 0.34/6.0mm
- **Crimper:** 10-22
- **Cutter Type:** Scissors



MILWAUKEE® 6 IN 1 LONG NOSE PLIERS F42379

- Reaming Head Design - Smooth edges of metal pipe from 1/2" to 1"
- Loop Maker - Built in loop maker for up to 10 ga. wire
- Wire Stripper - Strip 10-14 AWG (Solid Wire); 12-16 AWG (Stranded)
- Laser Hardened Cutting Edges - Cuts wires, bolts, screws and nails
- Forged Alloy Steel - For maximum tool strength
- Length: 8"



MILWAUKEE® 6 IN 1 COMBINATION PLIERS F42518

- Reaming Head Design - Smooth edges of metal pipe from 1/2" to 1"
- Bolt Cutter - Thread and cut #6 and #8 bolts to preferred length
- Wire Stripper - Strip 10-18 AWG (Solid Wire); 12-20 AWG (Stranded)
- Locking Mechanism - One handed locking and remains locked while in pouch, spring loaded for easy opening
- Forged Alloy Steel - For maximum tool strength
- Length: 7-1/2"



TOOLS — HEAT GUNS & TORCHES

SHRINK JET BUTANE HEAT GUN F21101

- Excellent for heat shrink tubing
- Not recommended for solder applications
- Flameless heat up to 1250°F
- Refillable fuel cell (694.661)
- Replacement fuel cell



MICRO JET BUTANE POWERED TORCH F23177

- Compact, Palm Size
- Adjustable Flame for temperatures up to 2500°F, 1300°C
- Includes refillable fuel cell
- Extra refillable fuel cell (694.661)



POCKET SIZE MINI TORCH F2880

- Electronic Ignition
- Windproof flame
- Up to 2500°F flame temp.
- Refillable



TOOLS — HEAT GUNS & TORCHES (continued)

ELECTRIC HEAT GUN F2726

- Variable temperature control dial
- Temperature from 250°F/ 1100°F
- Built in safety stand
- 1200 Watts/ 120 Volts, UL/CSA



ELECTRIC HEAT GUN F22165

- **High Temp/Power Ratings:** 1000°F / 540°C at 1740 watts
- **High Air Flow Rating:** 23CFM at 3,000°FPM
- Powerful High Speed Universal Motor
- Die Cast Housing
- Adjustable Non-Slip Stand
- Made in the U.S.A.



PREMIUM SOLDER KIT F23676

- Butane powered
- Up to 2500°F heat output
- 4 hour burn time before filling
- Includes soldering, hot knife, blow torch and heat tips
- Electronic ignition



QUALITY SOLDER KIT F23150

- Butane powered
- Up to 2500°F heat output
- 45 minute burn time before filling
- Spark Type Ignition
- Includes solder, knife, and torch tips



3-IN-1 SELF IGNITING TORCH F23752

- **Soldering:** up to 752°F/400°C
- **Heating:** up to 932°F/500°C
- **Dimensions:** 6.5"Hx3.8"Wx1.3"D
- **Approx. Run Time:** Two Hours
- **Fuel Tank:** Plastic, Built-in, Refillable
- **Net Weight:** 8.1oz



PREMIUM QUALITY BUTANE TORCH F22921

- 60 minute burn time between refills
- Up to 2500° F flame temp.
- High tech polymer body
- Child resistant ignition



ULTRATANE BUTANE 2 oz. Refill for Butane Torches

Package Type	Net Weight	Part No.
Canister	2 oz. (56.5 g)	F21959

*Not For Sale or Use in Hawaii or Puerto Rico, air shipments prohibited

- Triple-refined formula reduces clogging
- Special vapor pressure promotes consistent ignition
- Contains no CFC's



SELF-IGNITING BUTANE TORCH F25835

- Piezo ignition/Self-igniting torch
- Refillable with butane
- Safety lock
- Continuous burning flame lock
- Can adjust flame intensity Produces temperature up to 2370°
- Pinpoint flame is perfect for soldering, desoldering, heat shrinking & terminating, heating, lighting and many other applications.



TOOLS — ELECTRICAL SAFETY

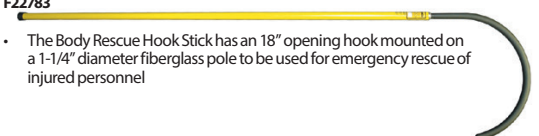
CAPACITOR DISCHARGE TOOL F23322

- The Capacitor Discharge Tool is designed to safely drain the capacitive charge after the circuit is de-energized



RESCUE STICK W/6' POLE F22783

- The Body Rescue Hook Stick has an 18" opening hook mounted on a 1-1/4" diameter fiberglass pole to be used for emergency rescue of injured personnel



BATTERIES

WATCH, CALCULATOR & REMOTE KEYLESS ENTRY STYLE BATTERIES

Energizer Stock No.	Description	Interchangeable Numbers	Carded Part No.	Uncarded Part No.
A23	12-volt Alkaline	A23, 23A, MN12, R23A-1W	F2793	
A76	1.5V Manganese Dioxide	DR44, LR44	F22095	
EL123A	3.0-volt Lithium	CR123A, DL123A, RL123A	F22373	
393	1.55V Silver Oxide	309/393-1W, D309/393, SP393		F22862
ECR1220	3.0-volt Lithium	CR1220, DL1220	F22674	
ECR1616	3.0-volt Lithium	CR1616, CR1616-1W, DL1616	F292	
ECR1620	3.0-volt Lithium	CR1620, CR1620-1W, DL1620	F21393	
ECR1632	3.0-volt Lithium	BL1632, DL1632		F21187
ECR2016	3.0-volt Lithium	CR2016, CR2016-1W, DL2016	F23063	F22964
ECR2024	3.0-volt Lithium	CR2450, DL2450	F25750	
ECR2025	3.0-volt Lithium	CR2025, CR2025-1W, DL2025	F2517	
ECR2032	3.0-volt Lithium	CR2032, CR2032-1W, DL2032	F2640	F23460
357BP	1.55V Silver Oxide	SR44W, D357, V357, 303	F21221	

The popular CR123A 3 volt lithium battery is now available in 6 packs. #

F25105



F22373

PANASONIC BATTERIES

Panasonic Stock No.	Description	Bulk Package Qty. Only	Part No.
CR1220	2mm x 12.5mm coin	40 per tray	F24855
CR1616	1.6mm x 16mm	20 per tray	F24857
CR1620	2mm x 26mm	20 per tray	F24858
CR1632	16MM x 3.2MM	20 per tray	F25071
CR2016	1.6mm x 20mm	20 per tray	F24859
CR2025	2.6mm x 20mm	20 per tray	F24860
CR2032	3.2mm x 20mm	20 per tray	F24861
CR2412	24.5MM x 1.2MM	20 per tray	F25072
CR2450	24.5MM x 5MM	20 per tray	F25069



Panasonic goes beyond the basic battery sizes to bring you the ones you need. For electronics around the house, like keyless entry, electronic books and glucose monitors, heart rate monitors, toys & games. Reliable, dependable power.

6 VOLT LANTERN BATTERIES



F21251

6 VOLT LANTERN BATTERY ENERGIZER



F25614

- Battery Chemistry Alkaline
- Voltage 6.0
- Spring Type Terminal
- Standards ANSI

ENERGIZER® INDUSTRIAL BATTERIES

Size	Part No.
AA	F2669
AAA	F2332
AAAA	F2634
C	F23362
D	F21952
9V	F2217
N	F21645



High Performance Alkaline Batteries

- High performance Alkaline Batteries
- Shelf life: up to 5 years on Industrial Alkaline batteries
- Ultra low Mercury content
- Sold by the battery

ENERGIZER® MAX® BATTERIES Blister Packs

Size	Description	Part No.
AA	2 pack - Carded	F21156
AA	4 pack - Carded	F21596
AAA	2 pack - Carded	F2113
AAA	4 pack - Carded	F23858
C	2 pack - Carded	F2575
D	2 pack - Carded	F23100
9V	1 battery - Carded	F21483

- Shelf life: up to 7 years on Energizer Max batteries
- No added mercury
- Long-lasting, high performance alkalines
- Sold by carded package



RECHARGEABLE BATTERIES

Size	Description	Part No.
AA	PowerPlus Pre-charged AA-4 (2300 mAh)	F25522
AA	PowerPlus Pre-charged AA-8 (2300 mAh)	F25523
AAA	PowerPlus Pre-charged AAA-2 (700 mAh)	F25524
AAA	PowerPlus Pre-charged AAA-4 (700 mAh)	F25525



- Recycled battery innovation comes to Energizer Recharge®
- AAA can be charged up to 700 times, AA can be charged up to 1500 times
- Last up to 4x longer in digital cameras (versus Energizer MAX®, results vary by camera)
- Up to 5-year battery life of total usable life under typical usage patterns
- World's #1 recharge brand, according to market survey data
- Batteries come pre-charged

BATTERIES CHARGERS

Description	Part No.
Procharger Battery Charger	F25526
Universal Charger	F25527

- With a name like Pro Charger, you know you can expect high-performance charging – and great savings over disposable batteries. Paired with long-lasting Energizer Recharge® batteries, you can charge 2 or 4 AA or AAA batteries in just 3 hours.
- You'll love the way the Energizer Recharge® Universal Charger can charge several battery sizes – AA, AAA, C, D or 9V. It's the perfect charger for the family who uses all sorts of devices...and likes to save money.

