

## CONNECTORS

### Function/Location

Refer to [Table B-1](#). On the motorcycle, a connector can be identified by its function and location.

### Place and Color

The place (number of wire cavities of a connector housing) and color of the connector can also aid identification.

### Connector Number

On wiring diagrams and in service/repair instructions, connectors are identified by a number in brackets.

### Repair Instructions

Refer to [Table B-1](#). The repair instructions in this Service Manual are by connector type.

**Table B-1. Electrical Connectors: 2007 Blast P3 Model**

COMPONENT(S)	LOCATION	PLACE	NO.	REPAIR INSTRUCTIONS
Bank angle sensor	Under Seat to right of battery	3	[134]	Packard
Clutch switch	At left handlebar	2	[95]	<a href="#">B.2 AMP MULTILOCK</a>
Front brake switch	At right handlebar switch	2	[170]	blade-type
Flasher relay	Under seat, to right of battery	3-blade	[30]	relay
Fuse block	Under seat on right side	9-slot	[61]	fuse block
Headlamp	Behind windscreen/headlamp	4	[38]	<a href="#">B.2 AMP MULTILOCK</a>
Horn	At horn, behind front fork	2	[122]	blade-type
Ignition coil	Under frame backbone at coil	3	[83]	<a href="#">B.2 AMP MULTILOCK</a>
Ignition/headlamp key switch	Behind windscreen	4	[33]	<a href="#">B.9 DEUTSCH</a> and <a href="#">B.4 DEUTSCH STANDARD TERMINAL</a>
Indicators/speedometer	Behind windscreen	12	[20]	<a href="#">B.9 DEUTSCH</a> and <a href="#">B.4 DEUTSCH STANDARD TERMINAL</a>
Integrated ignition module sensor	Left side of frame backbone on T-stud	6	[10]	<a href="#">B.9 DEUTSCH</a> and <a href="#">B.4 DEUTSCH STANDARD TERMINAL</a>
Left handlebar switch housing-turn signals, lights	Behind windscreen	10	[24]	<a href="#">B.2 AMP MULTILOCK</a>
Neutral switch	Behind sprocket cover, right side	Post	[131]	post
Neutral switch to main harness	Above sprocket cover, right side	1	[172]	bullet
Oil pressure switch	Above oil filter, right lower side of crankcase	Post	[120]	post
Rear stoplight switch	At switch, under frame by shock absorber	2	[121]	blade-type
Right handlebar switch housing-ignition power, module and starter	Behind windscreen	4	[22]	<a href="#">B.2 AMP MULTILOCK</a>
Side stand switch	On top of swingarm, cable tied to rear brake line	2	[60]	<a href="#">B.2 AMP MULTILOCK</a>

**Table B-1. Electrical Connectors: 2007 Blast P3 Model**

COMPONENT(S)	LOCATION	PLACE	NO.	REPAIR INSTRUCTIONS
Speed sensor	Under seat, to right of shock	3	[65]	<a href="#">B.9 DEUTSCH</a> and <a href="#">B.4 DEUTSCH STANDARD TERMINAL</a>
Speedometer/indicators	On back of speedometer	12	[39]	Packard
Starter	Under starter solenoid	1	[128]	blade-type
System relay	Under seat, to left of battery	4-blade	[171]	relay
Tail lamp/rear directionals	Under Seat	6	[7]	<a href="#">B.2 AMP MULTILOCK</a>
Throttle position sensor and auto-enrichener	Under frame backbone, right side	6	[88]	<a href="#">B.9 DEUTSCH</a> and <a href="#">B.4 DEUTSCH STANDARD TERMINAL</a>
Voltage regulator	Above swingarm, left side	2	[46]	barrel

## GENERAL

PART NO.	SPECIALTY TOOL
HD-39621-A	Terminal repair kits
HD-41609	Amp Multi-lock crimper
HD-39621-28	Pin terminal tool
HD-39621-27	Socket terminal tool

Amp Multilock connectors are found in 3-place, 6-place and 10-place versions though not all terminal cavities may be used. Amp Multilock connectors are found between wire harnesses and component wiring and may be either floating or anchored to the frame with attachment clips.

See [Figure B-1](#). Attachment clips (1) on the pin housings are fitted to T-studs on the motorcycle frame. The T-studs identify OE connector locations. To maintain serviceability, always return connectors to OE locations after service.

### NOTE

A *TERMINAL REPAIR KIT (HD-39621-A)* contains a variety of replacement Amp terminals and the pin and socket tools. For terminal crimping use the *PACKARD TERMINAL CRIMPER (HD-38125-7)*.

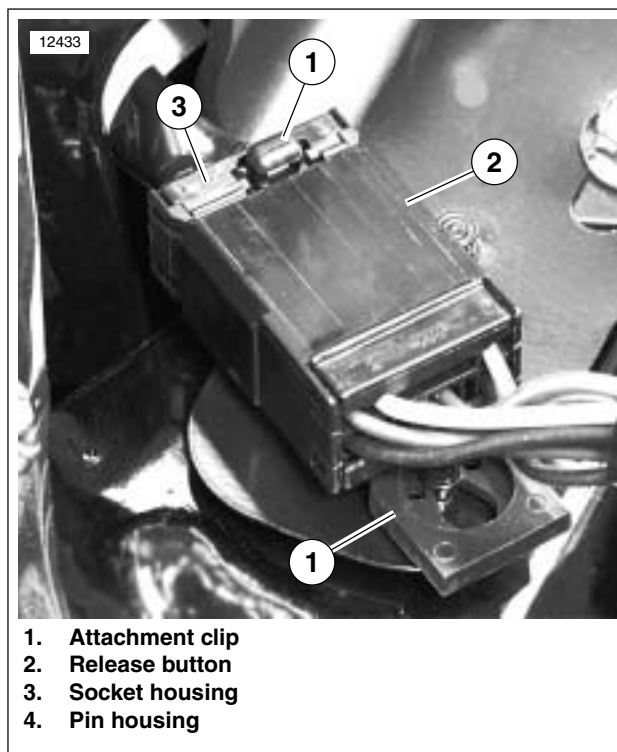


Figure B-1. Amp Multilock Connector]

## PIN AND SOCKET HOUSINGS

### Separate Housings

1. If necessary, slide connector with attachment clip rearward to release it from the T-stud.
2. See [Figure B-1](#). Depress the release button (2) on the socket terminal side of the connector and pull the socket housing (plug) (3) out of the pin housing (receptacle) (4).

### Mate Housings

1. Hold the housings to match wire color to wire color.
2. Insert the socket housing into the pin housing until it snaps in place.
3. If OE location is a T-stud, fit large opening end of attachment clip over T-stud and slide connector forward to engage T-stud to small end of opening.

## WIRE TERMINALS

### Remove Terminals from Housing

1. See Figure B-2. Bend back the latch (1) to free one end of secondary lock (2) then repeat on the opposite end. Hinge the secondary lock outward.
2. Look in the terminal side of the connector (opposite the secondary lock) and note the cavity next to each terminal.
3. Insert the terminal tool into the cavity until it stops.

**Socket:** SOCKET TERMINAL TOOL (HD-39621-27)

**Pin:** PIN TERMINAL TOOL (HD-39621-28)

#### NOTE

If socket/pin terminal tool is not available, a push pin/safety pin or a Snap-On (Part No. TT600-3) pick may be used.

4. Press the tang in the housing to release the terminal.

**Socket:** Lift the socket tang (8) up.

**Pin:** Press the pin tang (7) down.

#### NOTE

A "click" is heard if the tang is released.

5. Gently tug on wire to pull wire and terminal from cavity.

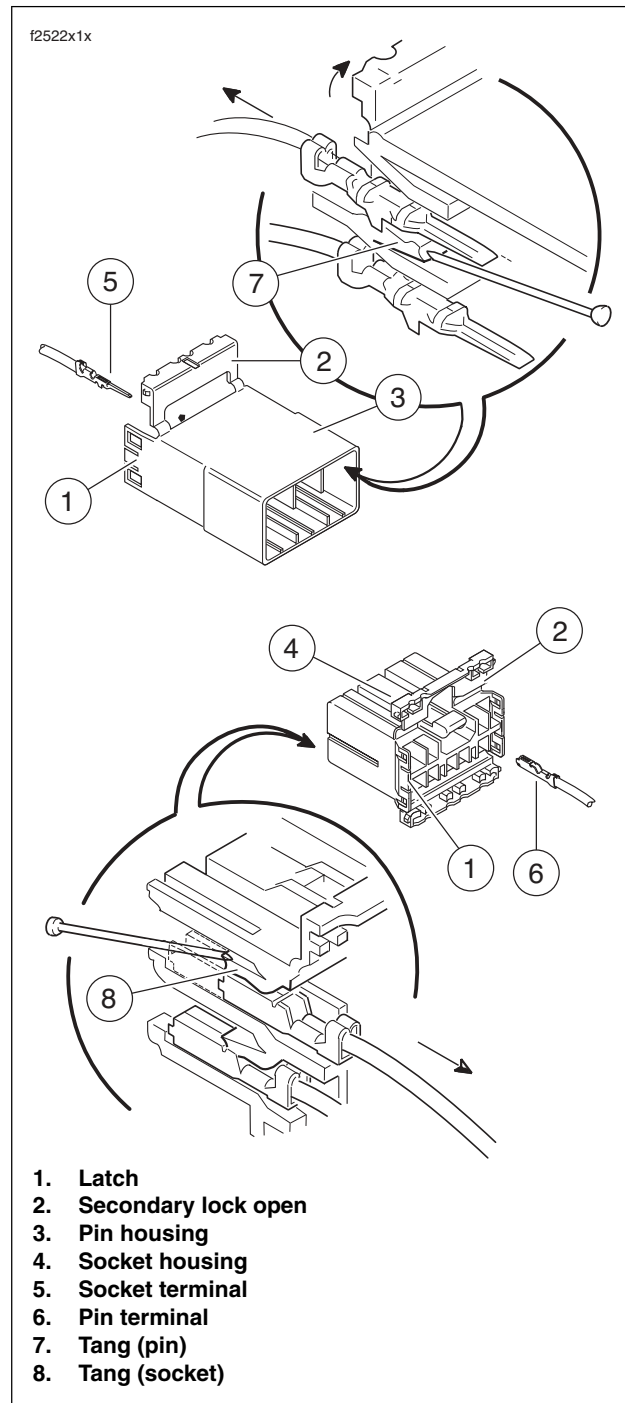


Figure B-2. Socket and Pin Housings

## Insert Terminals into Housings

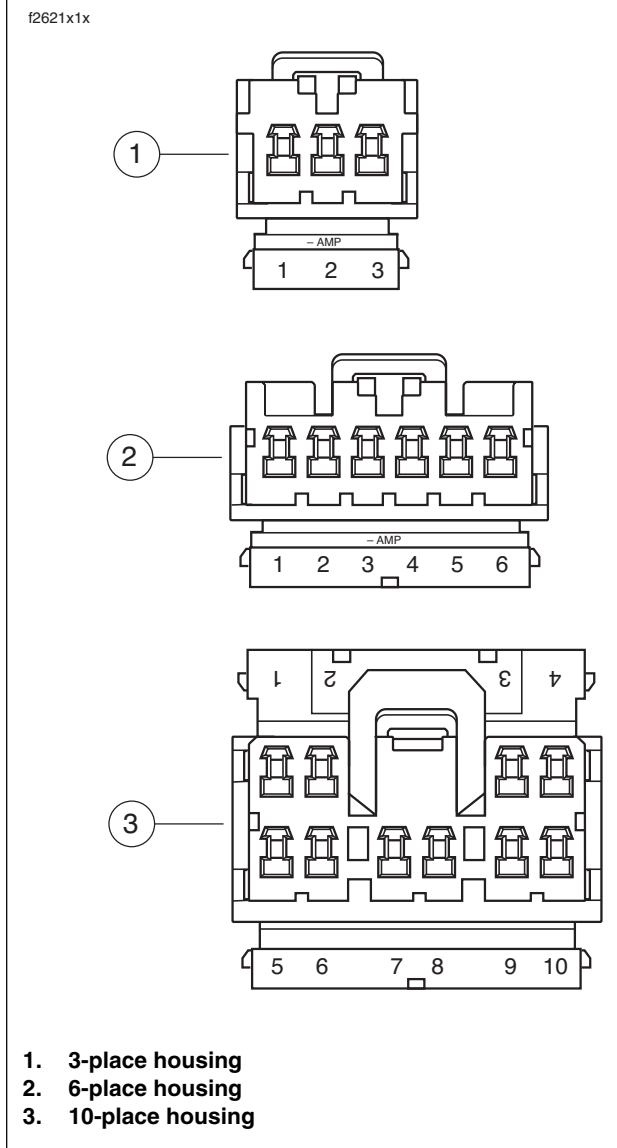
### NOTE

See [Figure B-3](#). Cavity numbers are stamped into the secondary locks of both the socket and pin housings. Match the wire color to the cavity number found on the wiring diagram.

1. Hold the terminal so the catch faces the tang in the chamber. Insert the terminal into its numbered cavity until it snaps in place.

### NOTES

- Up and down can be determined by the position of the release button, the button is the top of the connector.
  - On the pin side of the connector, tangs are positioned at the bottom of each cavity, so the slot in the pin terminal (on the side opposite the crimp tails) must face downward.
  - On the socket side, tangs are at the top of each cavity, so the socket terminal slot (on the same side as the crimp tails) must face upward.
2. Gently tug on wire end to verify that the terminal is locked in place.
  3. Rotate the hinged secondary lock inward until tabs fully engage latches on both sides of connector.



**Figure B-3. Cavity Numbers on Secondary Locks (socket housings shown)**

TERMINAL CRIMPS

Prepare Wire Leads

- 1. Strip wire lead removing 0.1562 in. (3/16?) (4.0 mm) of insulation from the wire lead.
- 2. See Figure B-4. and Figure B-5. Select the pin/socket terminals from the parts catalog and identify the wire crimp tails (1) and the insulation crimp tails (2) and the groove for the crimp tool locking bar (3).
- 3. Identify the wire lead gauge and the corresponding crimper tool and nesting die.

Table 1-2. Crimp Tool Wire Gauge/Nest

Wire Gauge	Nest
20	Front
16	Middle
18	Rear

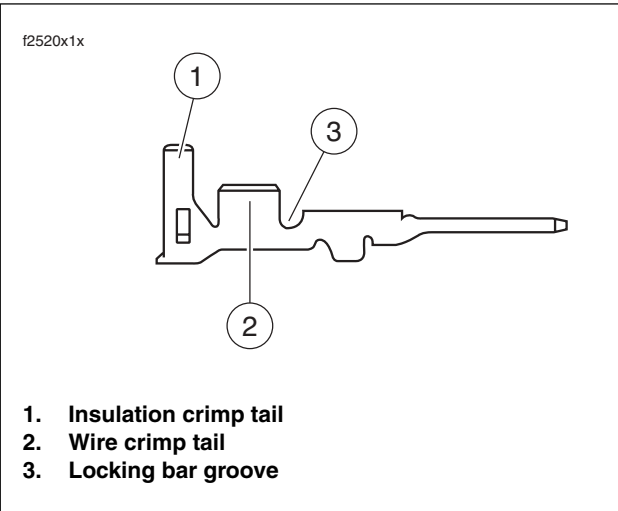


Figure B-4. Pin Terminal

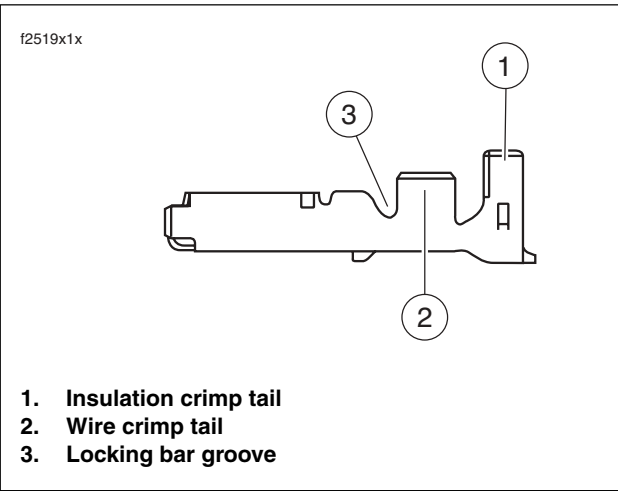


Figure B-5. Socket Terminal

Crimp Terminals to Leads

NOTE

Crimping with an Amp Multilock tool is a one step operation. One Squeeze crimps both the wire core and the insulation tails.

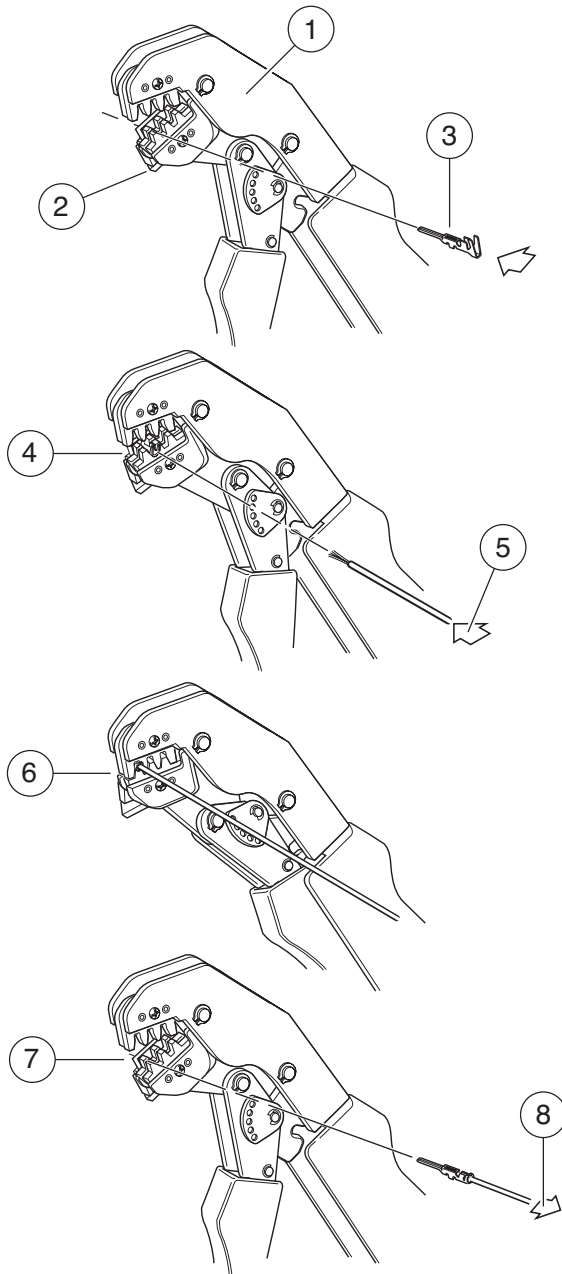
- 1. See Figure B-6. Squeeze the handles to cycle the AMP MULTI-LOCK CRIMPER (HD-41609) to the fully open position (1).
- 2. Raise locking bar by pushing up on bottom flange (2).

NOTE

See Figure B-4. and Figure B-5. Hold the terminal with the installation crimp tail (1) facing up. The tool will hold the terminal by the locking bar groove (3) and crimp the wire crimp tail (2) around the bare wire of the stripped lead and the insulation crimp tail around the insulation.

- 3. See Figure B-6. With the installation crimp tail facing upward, insert terminal (pin or socket) (3) through the locking bar, so that the closed side of the terminal rests on the nest of the crimp tool. Refer to Table 1-2.
- 4. Release locking bar to lock position of contact (4). When correctly positioned, the locking bar fits snugly in the space at the front of the core crimp tails.
- 5. Insert stripped end of lead (5) until ends make contact with locking bar.
- 6. Verify that wire is positioned (6) so that wire crimp tails squeeze bare wire strands, while insulation crimp tails fold over the wire lead insulation.
- 7. Squeeze handle of crimp tool until tightly closed (7). Tool automatically opens when the crimping sequence is complete.
- 8. Raise up locking bar (8) and remove crimped terminal.

f2518x1x



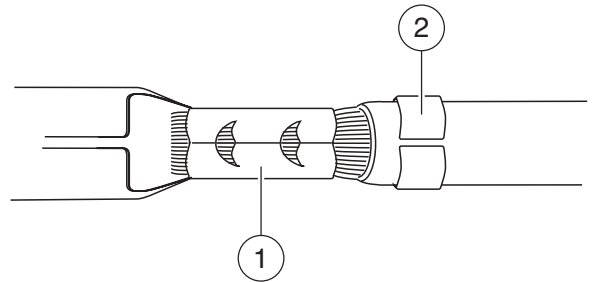
1. Open position
2. Locking bar flange
3. Insert contact
4. Release locking bar
5. Insert lead
6. Squeeze
7. Raise locking bar
8. Remove crimped terminal

Figure B-6. Multilock Crimping Procedure

## INSPECT CRIMP

See [Figure B-7](#). Inspect the wire core (1) and insulation crimps (2). Distortion should be minimal.

f2517x1x



1. Wire core crimp
2. Insulation crimp

Figure B-7. Terminal Crimp

GENERAL

Deutsch connectors are colored coded for location purposes. Those connectors associated with **left** side accessories, such as the front and rear **left** turn signals, are **gray**. All other connectors, including those associated with right side accessories, are black.

PART NO.	SPECIALTY TOOL
HD-42879	Electrical crimp tool
HD-41475	Deutsch terminal repair kit
HD-38125-7	Packard terminal crimper

NOTE

A Deutsch Connector Service Kit (HD-41475) contains a selection of wire seals, internal seals, seal plugs, secondary locking wedges, attachment clips and socket/pin terminals. Also included is a compartmented storage box, carrying case and pick tool (HD-41475-100) used for the removal of all types of locking wedges.

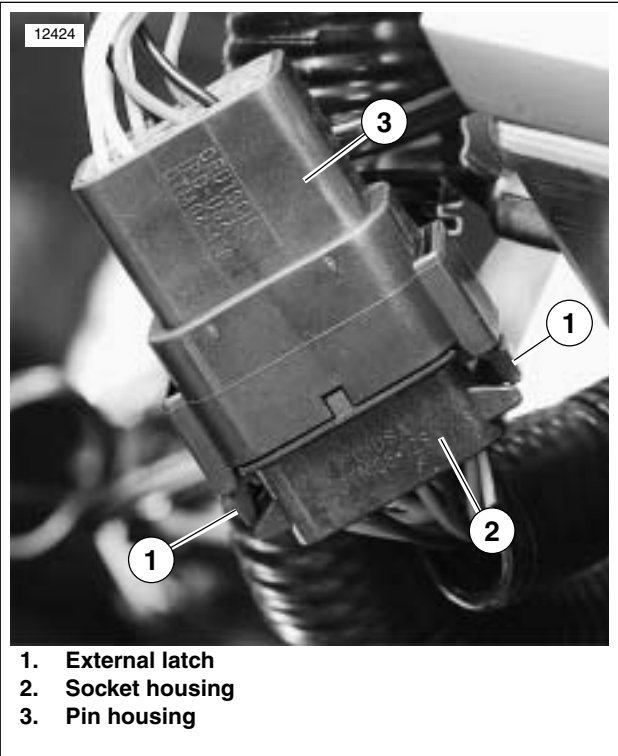


Figure B-8. Deutsch Electrical Connector

PIN AND SOCKET HOUSINGS

Separate Housings

See Figure B-8. To separate the connector halves, depress the external latch(es) (1) on the socket housing (2) while rocking the pin (3) and socket housings.

NOTES

- Generally, the socket housing is found on the accessory side, while the pin housing is plumbed to the wiring harness.
- Two-, three-, four- and six-place Deutsch connectors have one latch on the connector.
- Eight- and twelve-place connectors have a latch on each side. Simultaneously press both latches to separate the connector.

Mate Housings

1. Align the connectors to match the wire lead colors.  
**For One External Latch:** Two-, three-, four- and six-place Deutsch connectors have one external latch on the socket half of the connector. To fit the halves of the connector together, the latch on the socket side must be aligned with the latch cover on the pin side.  
**For Two External Latches:** (8-place and 12-place) Align the tabs on the socket housing with the grooves on the pin housing.
2. Insert socket housing into pin housing until it snaps or clicks into place.  
**For Two External Latches:** (8-place and 12-place) If latches do not click (latch), press on one side of the connector until that latch engages, then press on the opposite side to engage the other latch.
3. If necessary, fit the attachment clip to the pin housing.
4. Place large end of slot on attachment clip over T-stud on frame. Push assembly forward to engage small end of slot.



## WIRE TERMINALS

### Remove Socket Terminals

1. See [Figure B-9](#). Insert a small screwdriver between the socket housing and locking wedge in-line with the groove (in-line with the pin holes if the groove is absent). Turn the screwdriver 90 degrees to pop the wedge up and remove the secondary locking wedge.
2. Use a pick or small screwdriver to depress terminal latches inside socket housing and back out sockets through holes in rear wire seal. See [Figure B-12](#).

#### NOTE

If wire leads require new terminals, go to [TERMINAL CRIMPS](#).

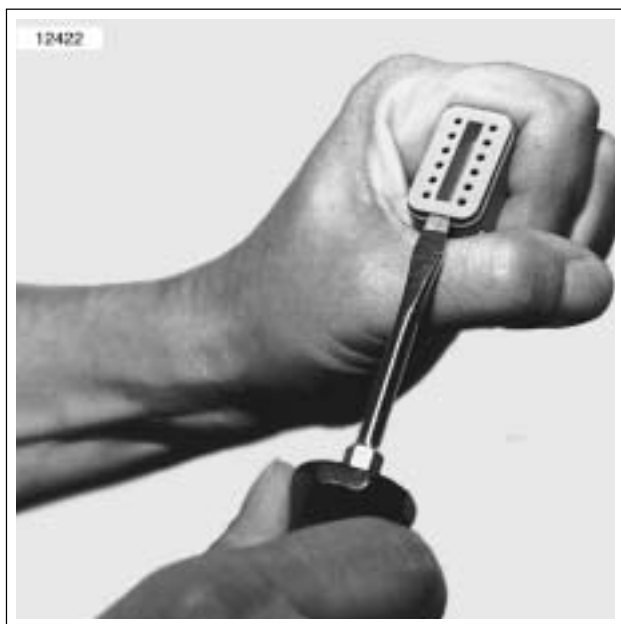


Figure B-9. Remove Secondary Locking Wedge

### Install Socket Terminals

1. Match wire lead color to connector cavity.
2. See [Figure B-11](#). Fit rear wire seal (1) into back of socket housing (2), if removed.
3. Grasp wire lead approximately 1 in. (25.4 mm) behind the socket terminal (3). Gently push socket through hole in wire seal into its chambers until it "clicks" in place.
4. A tug on the wire will confirm that it is properly locked in place.

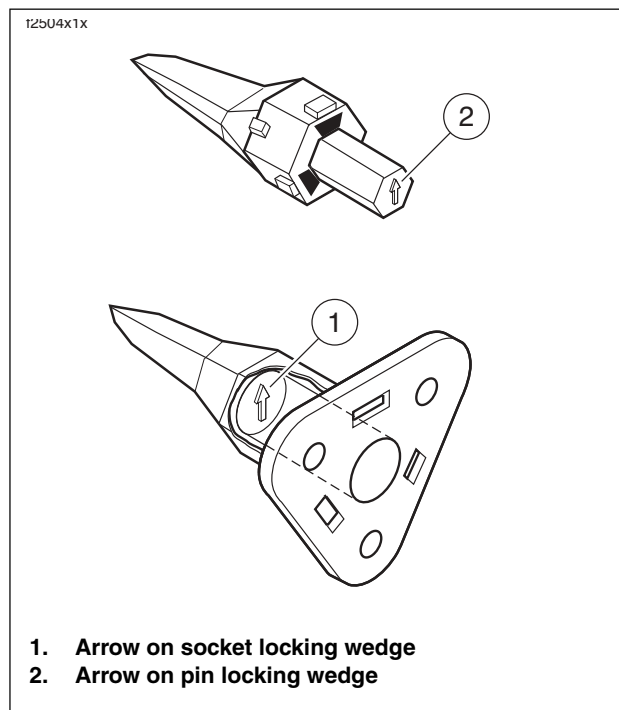
#### NOTE

Seal plugs (6) are installed through the wire seals of unused chambers. If removed, seal plugs must be replaced to seal the connector.

5. Install internal seal (4) on lip of socket housing, if removed.
6. Insert tapered end of secondary locking wedge (5) into socket housing and press down until it snaps in place. The wedge fits into the center groove within the socket housing and holds the terminal latches tightly closed.

#### NOTES

- See [Figure B-10](#). While rectangular wedges do not require a special orientation, the conical secondary locking wedge of the 3-place connector must be installed with the arrow (1) pointing toward the external latch.
- If the secondary locking wedge does not slide into the installed position easily, verify that all terminals are fully installed in the socket housing. The lock indicates when terminals are not properly installed by not entering its fully installed position.



1. Arrow on socket locking wedge
2. Arrow on pin locking wedge

Figure B-10. 3-Place Locking Wedges

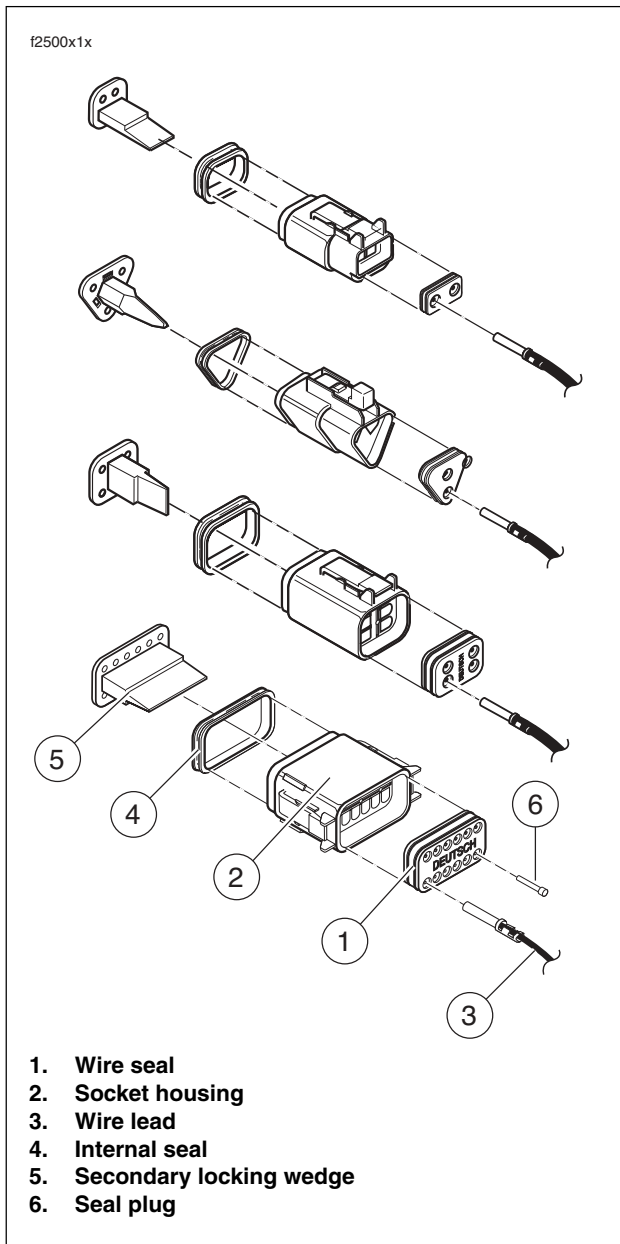


Figure B-11. Two, Three, Four and Six Place Socket Housings

## Remove Pin Terminals

1. Use the hooked end of a stiff piece of mechanics wire, a needle nose pliers or a suitable pick tool (HD-41475-100) to remove the secondary locking wedge.
2. Gently depress terminal latches inside pin housing and back out pins through holes in wire seal.

### NOTES

- If wire leads require new terminals, go to [TERMINAL CRIMPS](#).
- If it should become necessary to replace a pin or socket housing, please note that the 8-place and 12-place gray and black connectors are not interchangeable. Since location of the alignment tabs differ between the black and gray connectors, plugs or receptacles must be replaced by those of the same color.
- When replacing both socket and pin housings, then the black may be substituted for the gray, and vice versa. The socket and pin housings of all other connectors are interchangeable, that is, the black may be mated with the gray, since the alignment tabs are absent and the orientation of the external latch is the same.

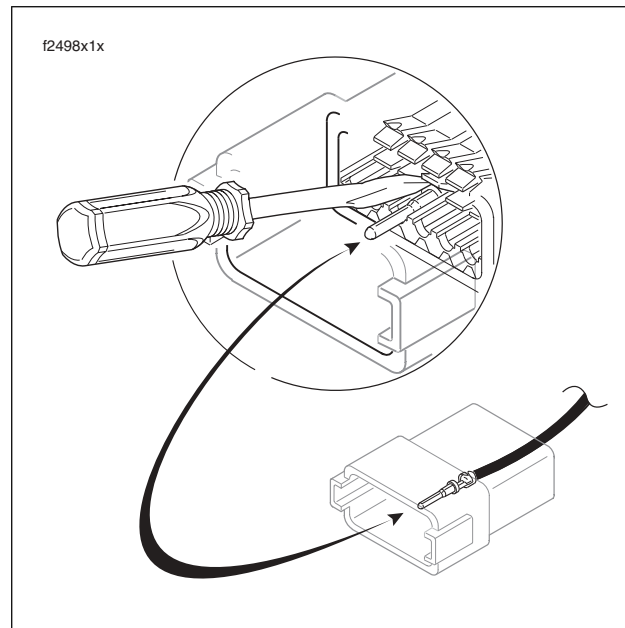


Figure B-12. Depress Terminal Latch & Back Out Pin

## Install Pin Terminals

1. See [Figure B-13](#). Fit wire seal (1) into back of pin housing (2).
2. Grasp wire lead approximately 1 in. (25.4 mm) behind the pin terminal (3). Gently push pin through holes in wire seal into its respective numbered chamber until it “clicks” in place.

### NOTE

*A tug on the wire lead will confirm that a pin is locked in place.*

3. Insert tapered end of secondary locking wedge (5) into pin housing and press down until it snaps in place.

### NOTES

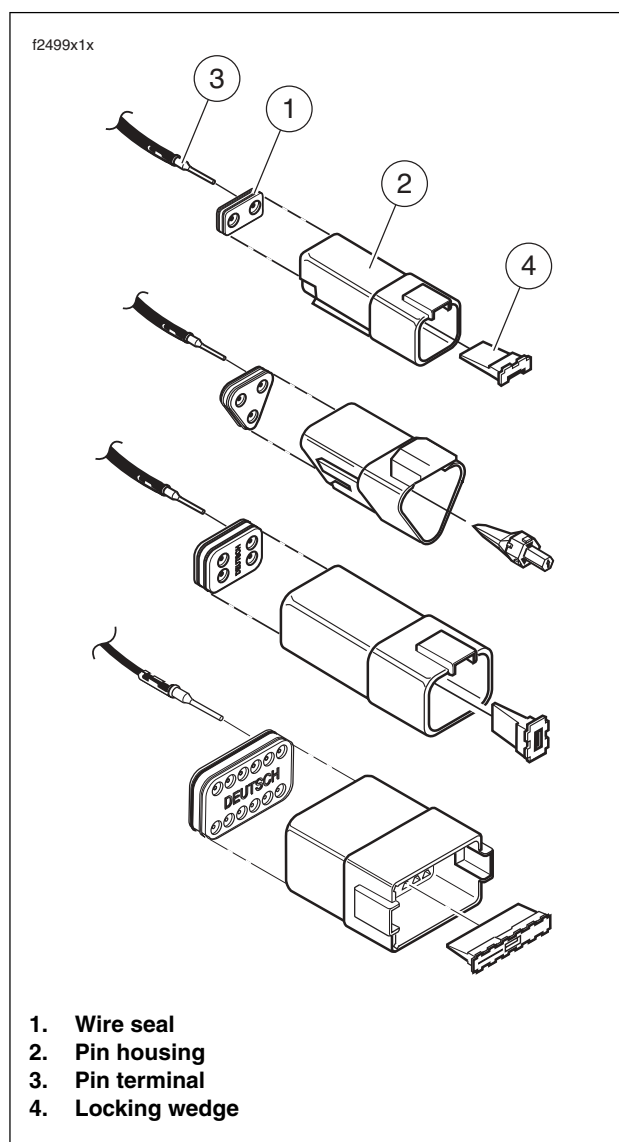
- The wedge fits in the center groove of the pin housing and holds the terminal latches tightly closed.
- See [Figure B-10](#). While rectangular wedges do not require a special orientation, the conical secondary locking wedge of the 3-place connector must be installed with the arrow (2) pointing toward the external latch.
- If the secondary locking wedge does not slide into the installed position easily, verify that all terminals are fully installed in the pin housing. The lock indicates when terminals are not properly installed by not entering its fully installed position.

## TERMINAL CRIMPS

Refer to [Table B-3](#). Identify which of the types of Deutsch terminals are used with the connector and follow the corresponding crimping instructions.

**Table B-3. Deutsch Terminal Crimping Instructions: 2007 Buell Blast**

TYPE	CRIMPING INSTRUCTIONS
Standard (with crimp tails)	<a href="#">B.4 DEUTSCH STANDARD TERMINAL</a>
Mini-Deutsch (with crimp tails)	N/A
Solid barrel (without crimp tails)	N/A



**Figure B-13. 2, 3, 4 and 12 Place Pin Housings**

PREPARE WIRE LEAD

- 1. Use a shop gauge to determine gauge of wire lead.
- 2. Strip lead removing 5/32 inch (4.0 mm) of insulation.

CRIMP TERMINAL TO LEAD

- 1. See Figure B-14. Squeeze the handles of the DEUTSCH TERMINAL CRIMP TOOL (HD-39965) to open the jaws. Push the locking bar (1) up.
- 2. Insert (2) terminal (socket/pin) through hole of the locking bar, so that the rounded side of the contact barrel rests in the die (concave split level area) with the crimp tails facing upward. To match the wire gauge to the crimp tool die, refer to Table B-4.

Table B-4. Wire Gauge to Die

Wire Gauge (AWG)	Crimp Tool Die
20	Front
16-18	Middle

- 3. Release locking bar to lock terminal in die.

NOTE

If the crimp tails are slightly out of vertical alignment, the crimp tool automatically rotates the terminal so that the tails face straight upward. When positioned, the locking bar fits snugly in the space between the contact band and the core crimp tails.

- 4. Insert stripped wire core between crimp tails until ends make contact with locking bar. Verify that wire is positioned so that short pair of crimp tails squeeze bare wire strands, while long pair folds over the insulation.
- 5. Squeeze handle of crimp tool until tightly closed. Tool automatically opens after the terminal is crimped.
- 6. Raise locking bar up and remove wire lead and terminal.

INSPECT CRIMP

Inspect the wire core and insulation crimps. Distortion should be minimal.

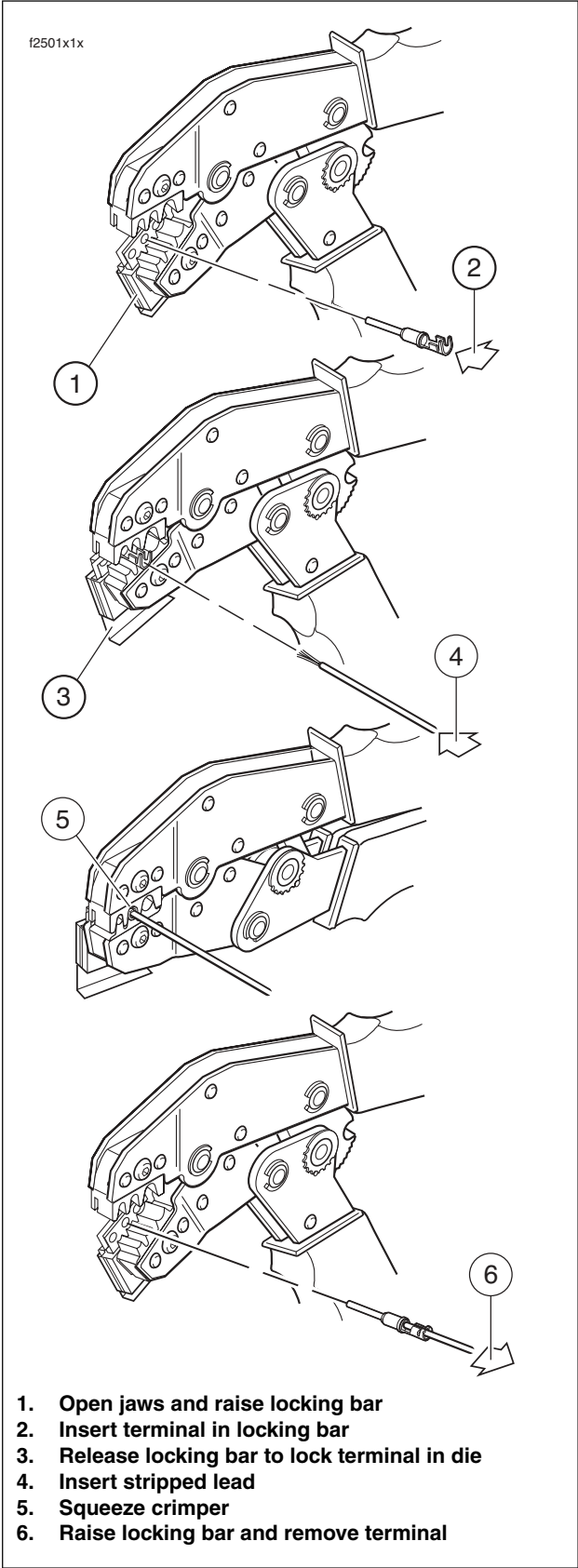


Figure B-14. Crimping a Deutsch Standard Terminal

## GENERAL

Splice connectors and several OE ring terminal connectors use heat shrink covering to seal the connection.

## PREPARE THE WIRE LEADS

PART NO.	SPECIALTY TOOL
HD-38125-8	Packard crimping tool
HD-39969	Ultra-torch
HD-25070	Heat gun
HD-41183	Heat shield attachment

### NOTE

*If adjacent wires are to be spliced, stagger the splices so that the sealed splice connectors will not touch each other but are located at different positions along the length of the wires.*

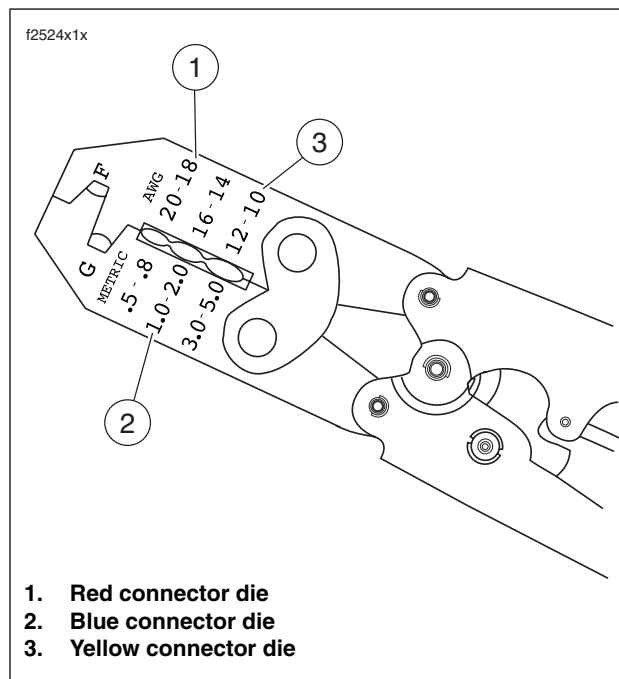
1. Identify (use a shop gauge) the gauge of the wire.
2. Match the wire gauge to a sealed splice connector by color and part number. Refer to [Table B-5](#).
3. Using a wire stripper, cut and strip a length of insulation off the wire ends. Refer to [Table B-5](#) for the strip length.

**Table B-5. Sealed Splice Connectors**

Wire Gauge	Connector Color	Connector Part No.	Strip Length
18-20 (0.5-0.8 mm)	Red	70585-93	3/8 in. (9.5 mm)
14-16 (1.0-2.0 mm)	Blue	70586-93	3/8 in. (9.5 mm)
10-12 (3.0-5.0 mm)	Yellow	70587-93	3/8 in.? (9.5 mm)

### NOTE

*If any copper wire strands are cut off of the wire core, trim the end and strip the wire again in a larger gauge stripper.*



**Figure B-15. Packard Crimping Tool (HD-38125-8)**

## SPLICING WIRE LEADS

### NOTE

See [Figure B-16](#). The connector is crimped twice - one side and then the other.

1. See [Figure B-15](#). Open the Packard Crimping Tool (HD-38125-8) ratchet by squeezing the handles closed.
2. Match the connector color to the wire gauge crimp die in the jaws and insert one end of the sealed connector.
3. Gently squeeze the handles until the connector is held in the jaws.
4. See [Figure B-16](#). Feed the stripped end of a wire into the connector until the wire stops inside the metal insert (1).
5. Squeeze the handles tightly closed to crimp the lead in the insert (2). The tool automatically opens when the crimping is complete.
6. Slide the connector to the other half of the metal insert. Insert the stripped wire lead (1) until it stops, and crimp the lead in the insert (2).

### ⚠ WARNING

Be sure to follow manufacturer's instructions when using the Ultra-Torch UT-100 or any other radiant heating device. Failure to follow manufacturer's instructions can cause a fire, which could result in death or serious injury. (00335a)

- Avoid directing heat toward any fuel system component. Extreme heat can cause fuel ignition/explosion resulting in death or serious injury.
  - Avoid directing heat toward any electrical system component other than the connectors on which heat shrink work is being performed.
  - Always keep hands away from tool tip area and heat shrink attachment.
7. Use an Ultra-Torch (HD-39969), or a Heat Gun (HD-25070) with a Heat Shield Attachment (HD-41183), to heat the connector from the center of the crimp (3) out to each end.

### NOTE

It is acceptable for the splice to rest against the heat shrink tool attachment.

## INSPECT SEAL

See [Figure B-16](#). Allow the splice to cool and inspect the seal. The insulation should appear smooth and cylindrical. Melted sealant will have extruded out the ends (4) of the insulation.

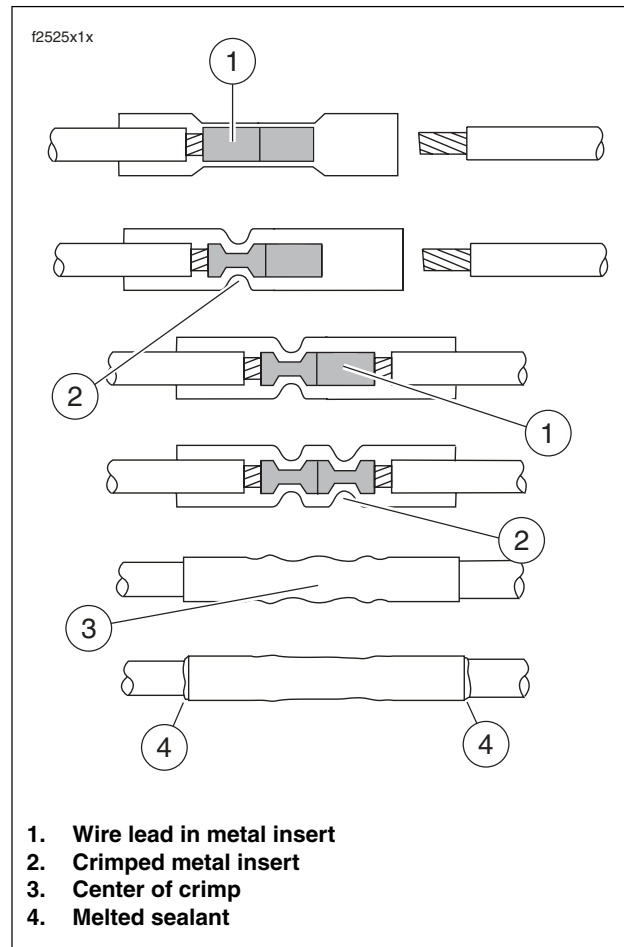


Figure B-16. Sealed Splice Connector

WIRE COLOR CODES

Wire traces on wiring diagrams are labeled with alpha codes. Refer to [Table B-6](#).

**For Solid Color Wires:** See [Figure B-17](#). The alpha code identifies wire color (3).

**For Striped Wires:** The code is written with a slash (/) between the solid color code and the stripe code (4). For example, a trace labeled GN / Y is a green wire with a yellow stripe.

WIRING DIAGRAM SYMBOLS

See [Figure B-17](#). On wiring diagrams and in service/repair instructions, connectors are identified by a number in brackets (1). The letter (2) inside the brackets identifies whether the housing is a socket or pin housing.

**A=Pin:** The letter A after a connector number and/or the pin symbol (5) identifies a pin housing.

**B=Socket:** The letter B after a connector number and/or the socket symbol (6) identifies a socket housing.

Other symbols found on the wiring diagrams include the symbol for a diode (7), a symbol for a wire-to-wire connection (8) and a symbol that verifies that no connection (9) between two wire traces exists.

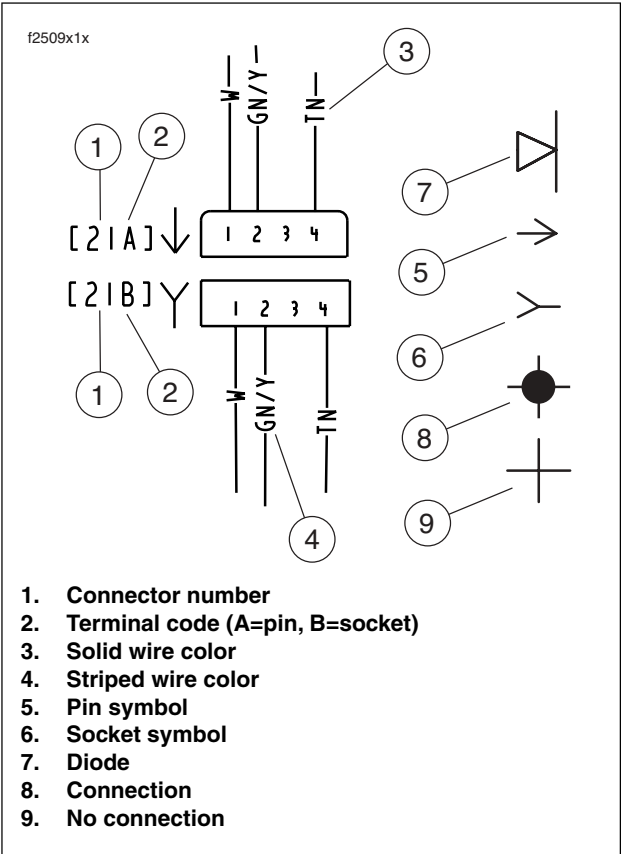


Figure B-17. Connector/Wiring Diagram Symbols (typical)

Table B-6. Wire Color Codes

Alpha Code	Wire Color
BE	Blue
BK	Black
BN	Brown
GN	Green
GY	Grey
LGN	Light Green
O	Orange
PK	Pink
R	Red
TN	Tan
V	Violet
W	White
Y	Yellow

**Table B-7. Wiring Diagram Index**

DIAGRAM/CIRCUIT	PAGE
Main harness	<a href="#">Figure B-18. 2007 Buell Blast P3 Model - Main Harness</a>
Starting circuit	<a href="#">Figure B-19. 2007 Buell Blast P3 Model - Starting</a>
Charging circuit	<a href="#">Figure B-20. 2007 Buell Blast P3 Model - Charging</a>
Horn and instruments circuit	<a href="#">Figure B-21. 2007 Buell Blast P3 Model - Horn and Instruments</a>
Lighting circuit	<a href="#">Figure B-22. 2007 Buell Blast P3 Model - Lighting</a>
Ignition circuit	<a href="#">Figure B-23. 2007 Buell Blast P3 Model - Ignition</a>



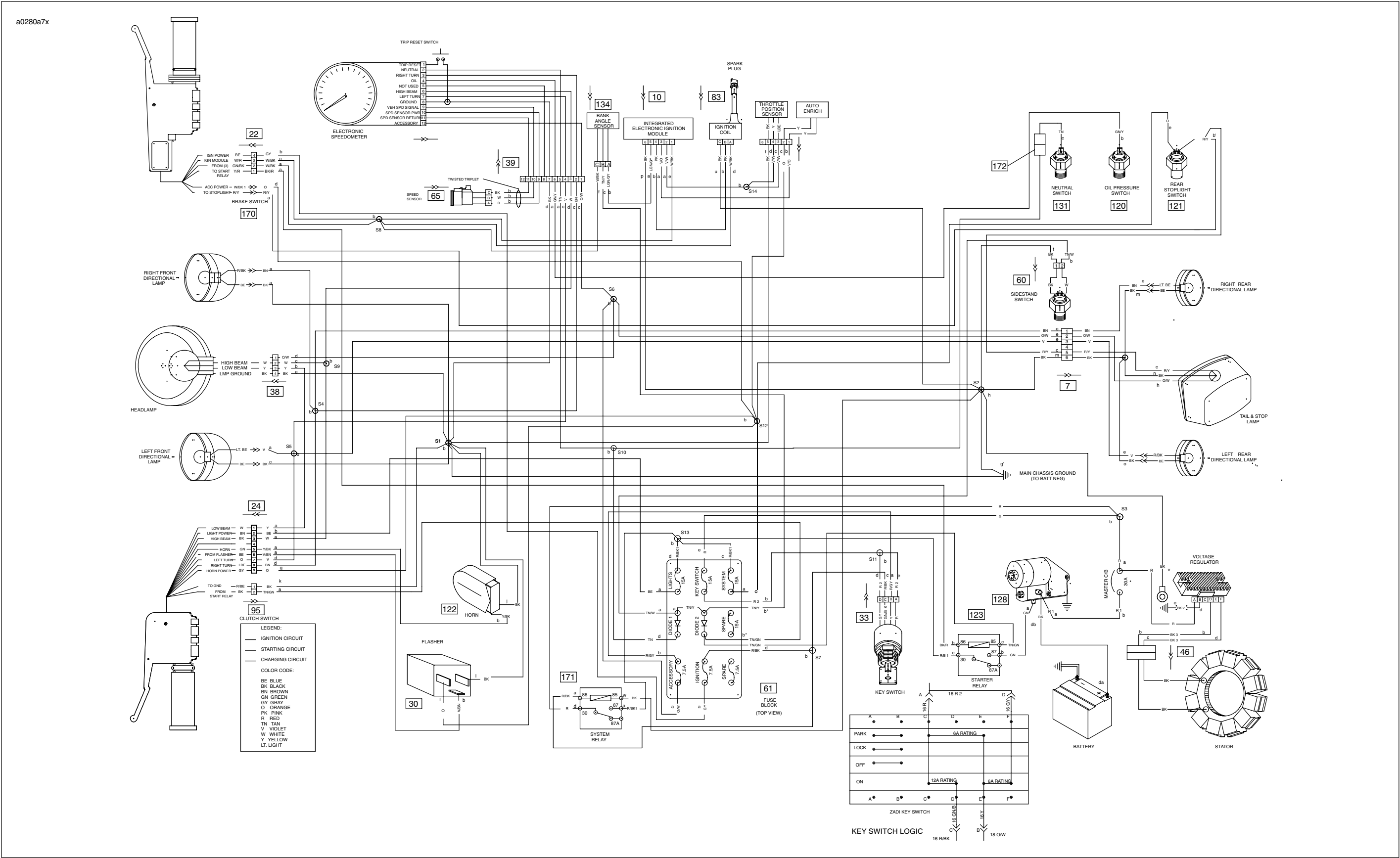
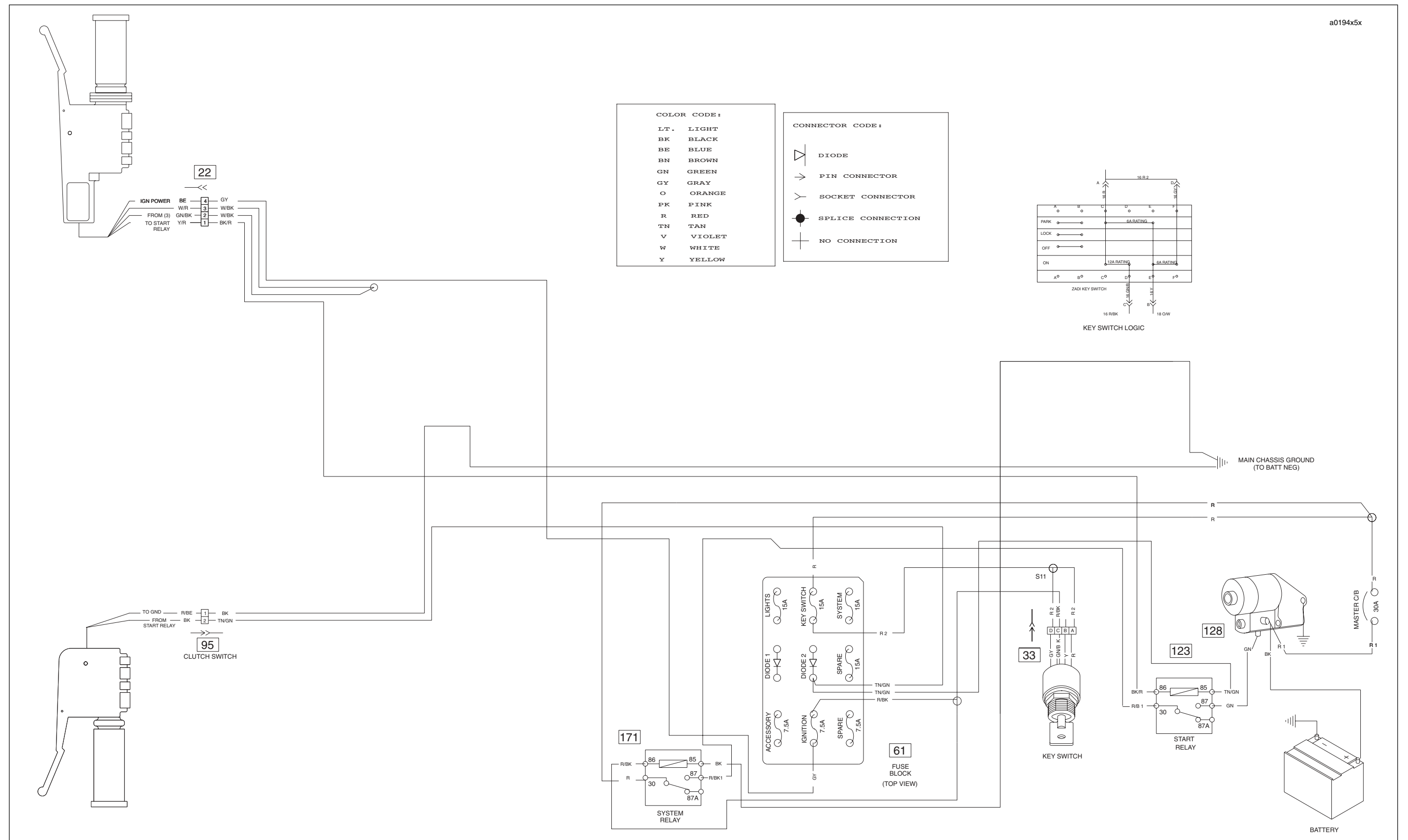


Figure B-18. 2007 Buell Blast P3 Model - Main Harness

**2007 Buell Blast P3 Model - Main Harness**

**2007 Buell Blast P3 Model - Main Harness**



**Figure B-19. 2007 Buell Blast P3 Model - Starting**

**2007 Buell Blast P3 Model - Starting**

**2007 Buell Blast P3 Model - Starting**

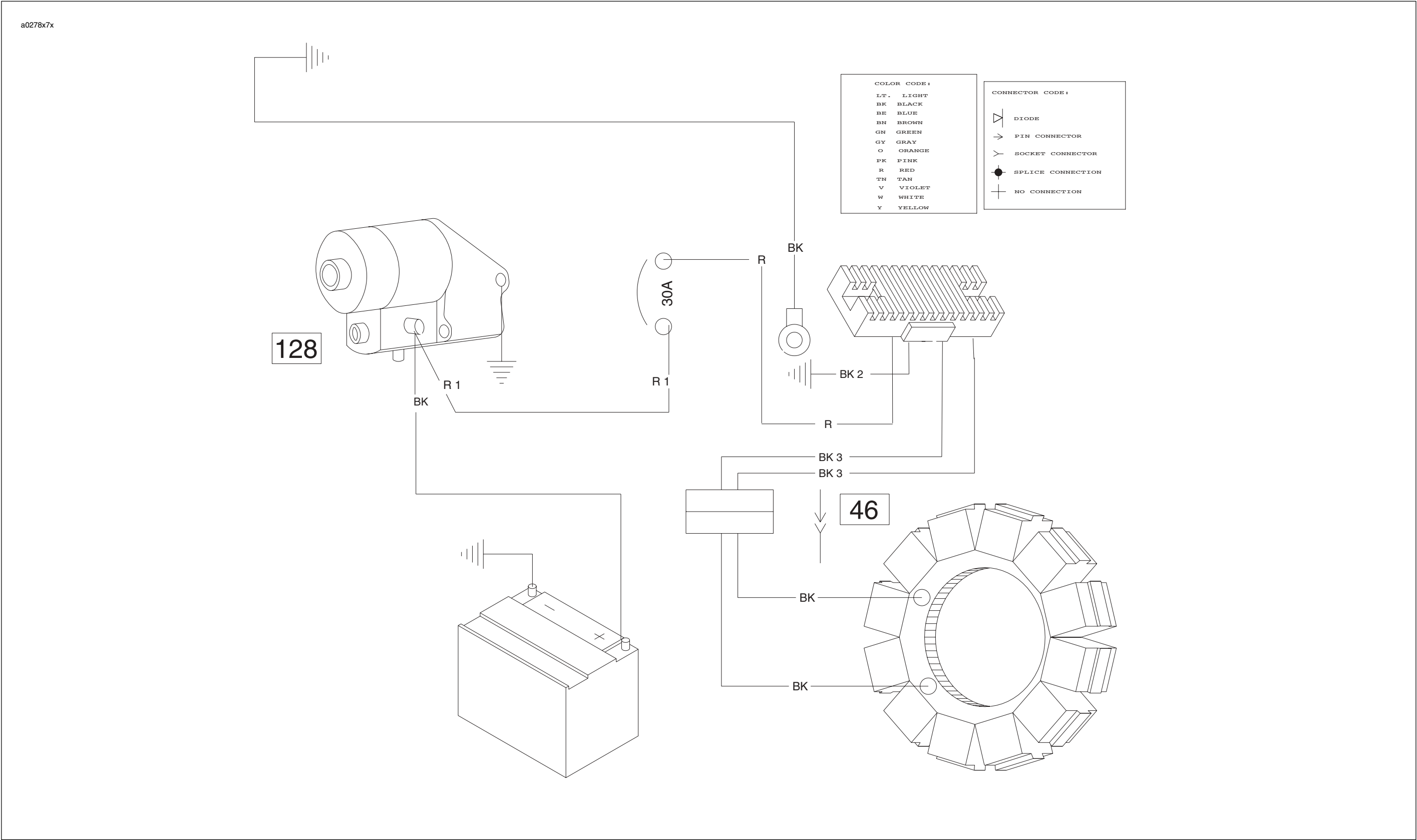


Figure B-20. 2007 Buell Blast P3 Model - Charging

2007 Buell Blast P3 Model - Charging

2007 Buell Blast P3 Model - Charging

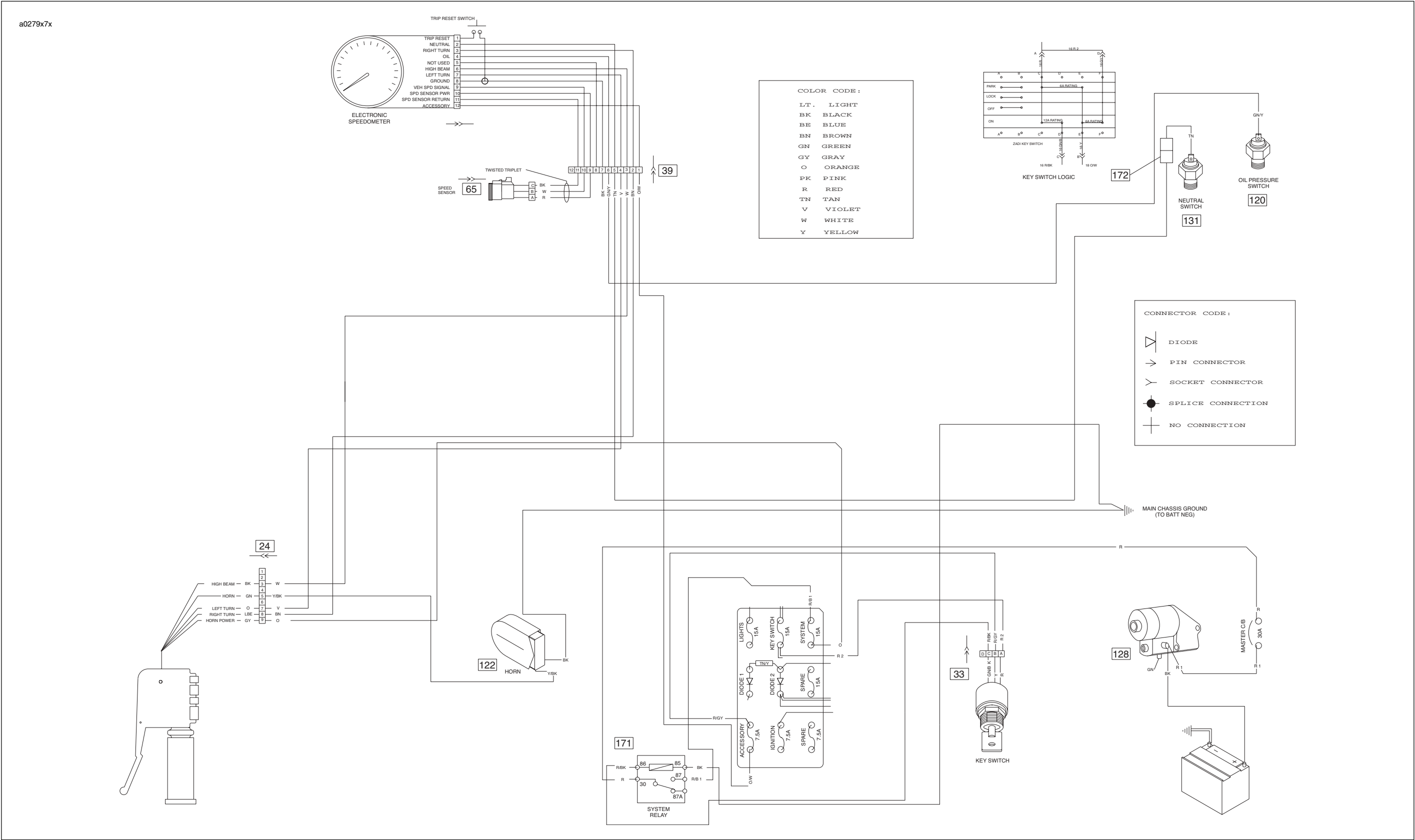


Figure B-21. 2007 Buell Blast P3 Model - Horn and Instruments

2007 Buell Blast P3 Model - Horn and Instruments

2007 Buell Blast P3 Model - Horn and Instruments





**Figure B-22. 2007 Buell Blast P3 Model - Lighting**

2007 Buell Blast P3 Model - Lighting

2007 Buell Blast P3 Model - Lighting

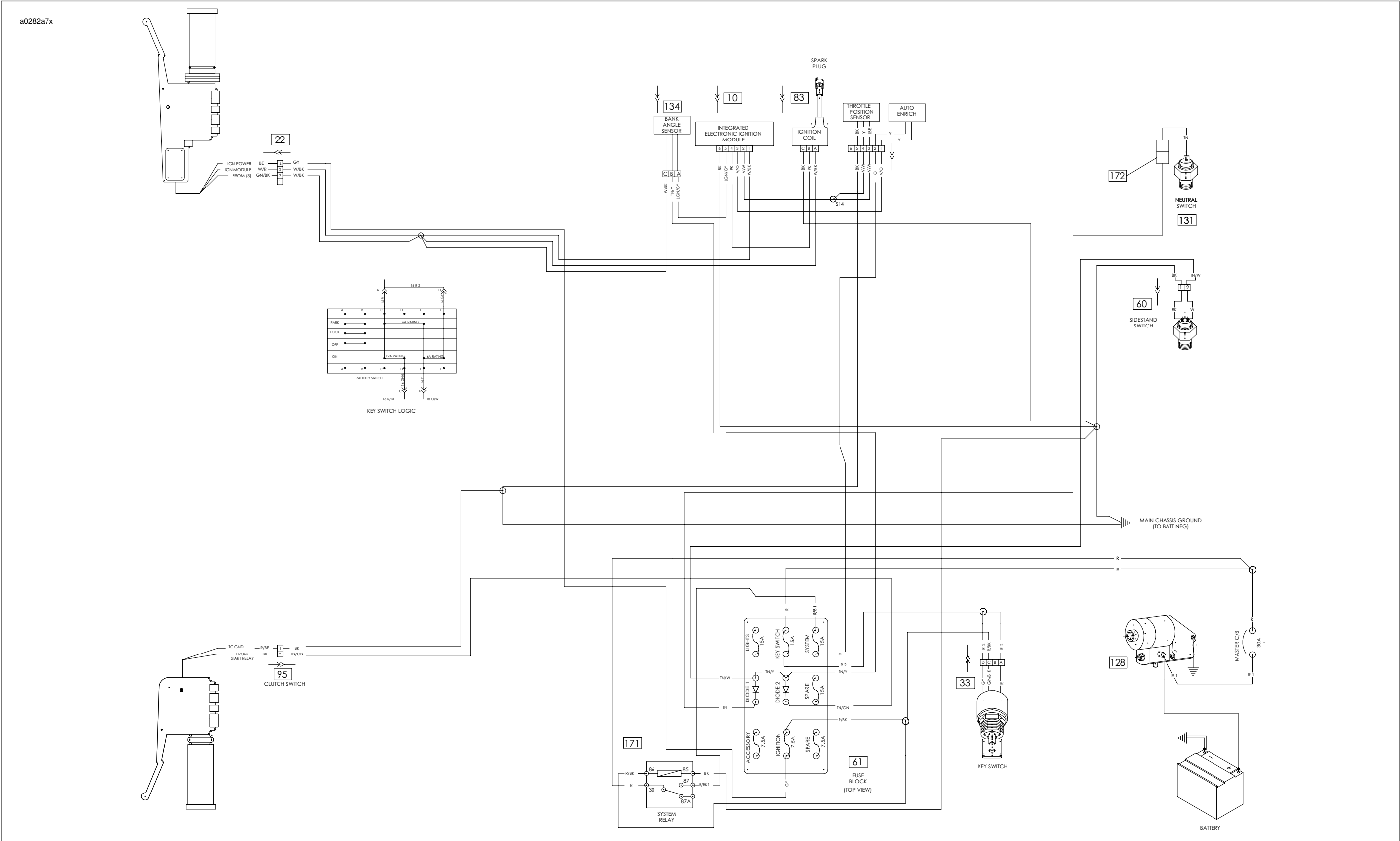


Figure B-23. 2007 Buell Blast P3 Model - Ignition

2007 Buell Blast P3 Model - Ignition

2007 Buell Blast P3 Model - Ignition