

battery-related products



J

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battery-related products

J1 BATTERY SELECTOR / MASTER DISCONNECT SWITCHES

For any vehicle that needs to use two batteries where one battery is used for starting the engine, while the other is used to power auxiliary loads. This is a common situation in trucks, boats, RVs, police and rescue vehicles, and in ambulances and fire equipment. See wiring diagrams, Section J5.

M-750 Basic Switch ★



Back of Switch



Model M-754 is shown. The three small terminals in the middle are for connection to the pilot light circuit. M-754-01, M-755 and M-755-01 are similar.

Models M-752 and M-753 have two small terminals in the middle marked F1 and F2 for connection to the Alternator Field Disconnect circuit.

M-750 and M-751 have no small terminals in the middle. Full wiring instructions are included.

M-751 With Keys



563 Switch Position Label

Useful when the switch is mounted through a panel. Pressure-sensitive label.

See chart on next page for additional models.

CONTINUED J1

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.

A selector switch allows use of the first battery, the second battery, or both batteries simultaneously. This provides back-up starting power in an emergency. Either or both batteries can be selected for energizing.

These switches combine the functions of Battery Selector and Master Disconnect Switches to give four battery power options:

- Power cut off at the source.
- Power On, Battery 2.
- Power On, Battery 1.
- Power On, both Batteries.

Battery selector switches provide a positive battery disconnect, which has many advantages:

- It gives a reliable shutdown of power during maintenance.
- The version with the key protects against theft of the vehicle, when unattended.
- It helps protect against electrical fires, when the vehicle is not in use, and minimizes battery drain.



Electrical Ratings

Labeled UL 707B. Rating: 500A intermittent, 310A continuous, 6-36V DC

Electrical ratings on UL labels are conservative. Use with either alternators or generators. Make before break design permits operation through the three On positions with the engines running. Engines should always be shut down before turning to Off. Wiring instructions are included.

Heavy-Duty Construction

Vaporproof, weather-, dust- and corrosion-resistant. Durable, fracture-resistant high temperature plastic case, knob and insulator. Switches conform to USCG section 183.410 for ignition protection. Resistant to impact, and temperature extremes.

Heavy duty copper stud terminals, with brass hexnuts. Can be surface mounted, or installed through a 3 5/16" diameter hole in the panel (use label No. 563. See Section F4.) Dimensions: Flange: 6" (152.4mm) diameter, overall height 2 5/8" (66.7mm). Terminals: 3 copper studs, 3/8" (9.5mm) diameter.

Eight Models For Every Application:

MODEL	Lock	AFD	Pilots	Pilot Circuit
M-750 ★				
M-751	✓			
M-752		✓		
M-753	✓	✓		
M-754				✓
M-754-01			✓	✓
M-755	✓			✓
M-755-01	✓		✓	✓

Lock: With key lock and two keys.

AFD: Alternator field disconnect circuit switch. Prevents possible alternator diode failure if the switch is accidentally turned to Off with the engines running.

Pilots: Supplied with two separate green pilot lights PL-T18-GC001.

Pilot Circuit: With pilot indicator light circuit.

Largest amp capacity for the dollar of any competitive switch

500A intermittent, 310A continuous, 6-36V DC



★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.



J2 MASTER DISCONNECT SWITCHES

Some models have indexing pins to align the switch and prevent rotation caused by loosening of the nut.
See Section J4 for faceplates to match switches with or without an indexing pin. See wiring diagrams, Section J5.

Single Pole

Two positions: Off-On. For 6-36V DC systems.
Will disconnect the battery circuit only.

Electrical Ratings (unless noted):

1000A intermittent, 175A continuous.

UL Listed 707B: 800A intermittent, 175A continuous.

UL Listed 375M: 250A at 6V, 125A at 12V intermittent;
40A at 6V, 20A at 12V continuous.

Electrical ratings on UL labels are conservative.

With diecast lever

2484-16 ★



Mounting stem: Brass, 3/4" -16 thread, 23/32" (18.3mm) long.
Fits panels up to 3/16" (4.8mm) thick. Terminals: Two 3/8"
-24 studs. Case: Plated steel. Contacts: Silver.
Labeled UL 707B.

2484-A ★

Same as 2484-16, but without UL label.

2484-09 ★

Same as 2484-16, but with copper contacts, and without
UL label.

2484-06 ★

Same as 2484-16, but weather-resistant with O-ring seal in
operating shaft, gasket-sealed terminal insulation and sealant
in mounting stem and case.

2484 ★

Same dimensions as 2484-16, but with copper
contacts and ratings: Labeled UL 375M.



waterproof

Some manufacturers claim that their switches are 'waterproof'. We, on the other hand, maintain that 'waterproof' refers only to an article that is specifically intended to function underwater. You'll find that many of our switches are designated 'weather-resistant', meaning that they are designed to function reliably in an environment that may be damp, perhaps subject to being splashed with salt spray, etc. These weather-resistant switches are also a good choice for dusty environments, such as those encountered in agriculture and construction.

M-284-01 Long stem, brass case BP ★



Mounting stem: Brass 3/4" -16 thread (19.1mm), 1 13/32"
(46.1mm) long. Fits panels up to 15/16" (23.8mm) thick.
Terminals: Two 3/8" (9.5mm) diameter studs. Actuator: Chrome-
plated lever. Silver-laminated contacts. Labeled UL 707B.

M-284 BP ★

Same as M-284-01, but without silver contacts, and UL label.

M-284-A ★

Same as M-284-01, but without UL label.

M-284-02 Weather-resistant ★

Same as M-284-01, but with O-ring seal in operating shaft,
gasket-sealed terminal insulator and diecast lever with
protective dichromate finish, and without UL label.

Also available with faceplate (M-284-09BP)

M-288 50 amps



Rated at 50A at 14V DC. Mounting stem: 5/8" (15.9mm)
diameter, 3/4" (19.1mm) long. Fits panels up to 17/32"
(13.5mm) thick. Terminals: Two 10-32 brass screw terminals.
Actuator: Diecast lever. Contacts: Silver. Case: Plated steel.

75908 300 amps, weather-resistant ★



Disconnects battery circuit only. Electrical rating: 2000A
intermittent. 30 seconds On, 3 minutes Off, 300A continuous.
Mounting stem: 3/4" -16 thread. Fits panels up to 1/4" (6.4mm)
thick. Terminals: Two 1/2" -20 copper studs. Case: Plated steel.
Sealing: sealed between shaft and mounting stem; case and
terminal insulator.

Also available as double pole (75907)

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.

CONTINUED J2

With Hencol lock

2484-02



Mounting stem: Brass, 3/4" -16 thread 17/32" (13.5mm) long. Fits panels up to 1/4" (6.4mm) thick. Terminals: Two 3/8" -24 studs. Plated steel case, silver-laminated contacts. Hencol lock and 2 keys. Indexing pin.

2484-03

Same as 2484-02, but with O-ring seal in the operating shaft.

2484-19 Weather-resistant

Same as 2484-02, with gasket-sealed terminal insulator and with O-ring seal in operating shaft.

Double Pole

Two positions: Off-On. For 6-36V DC systems. Will disconnect the battery and the alternator or generator field circuit.

Electrical ratings: Large studs: 1000A intermittent.

15 seconds On, 5 minutes Off. 125A continuous (unless noted). Small studs: 20A continuous.

With diecast lever

75903 Steel case ★



Chrome-plated diecast lever. Plated steel case. Brass mounting stem 3/4" -16 thread 23/32" (18.3mm) long. Fits panels through 3/16" (4.8mm) thick. Two 3/8" -24 and two 10-32 studs.

75904 Steel case, silver contacts ★

Same as 75903, but with laminated silver contacts.

M-289 Brass case



Chrome-plated diecast lever. Brass mounting stem 3/4" -16 thread 1 13/32" (46.1mm) long. Fits panels through 15/16" (23.8mm) thick. Two 3/8" -24 and two 10-32 studs.

M-290 Brass case, silver contacts

Same as M-289, but with laminated silver contacts.

M-290-01

Same as M-290, but with O-ring seal in operating shaft.

M-290-05 UL-listed ★



Brass case. Silver laminated contacts. Chrome-plated diecast lever. Brass mounting stem 3/4" -16 thread 1 13/32" (46.1mm) long. Fits panels through 15/16" (23.8mm) thick. Two 3/8" -24 and two 10-32 studs. Labeled UL 707B.

75904-01 Weather-resistant, with indexing pin and O-ring ★



Diecast lever. Plated steel case. Silver-laminated contacts. Brass mounting stem 3/4" -16 thread 17/32" (13.5mm) long. Fits panels through 1/4" (6.4mm) thick. Two 3/8" -24 and two 10-32 studs. O-ring seal in the operating shaft, and gasket-sealed terminal insulator.

75907 300 amp, Weather-resistant ★



Electrical ratings: Large studs: 2000A intermittent, 30 seconds On, 3 minutes Off. 300A continuous. Small studs: 20A continuous. Plated steel case. Chrome-plated diecast lever. Mounting stem 3/4" -16 thread, fits panels through 1/4" (6.4mm) thick. Two 1/2" -20 copper and two 10-32 studs. Sealed between shaft and mounting stem, and case and terminal insulator. With indexing pin.

Also available as single pole (75908).

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.

J2 MASTER DISCONNECT SWITCHES

With Hencol key

75904-02



Two Hencol keys.
Plated steel case.
Silver-laminated contacts.
Brass mounting stem 3/4" -16 thread
17/32" (13.5mm) long. Fits panels through 1/4" (6.4mm) thick.
Two 3/8" -24 and two 10-32 studs. With indexing pin.

75904-03

Same as 75904-02, except with O-ring seal in the operating shaft.

For two high current loads

75912



AVAILABLE
FALL 2006

Electrical ratings: 125A continuous, 750A intermittent; 15secs On, 5min Off. Up to 36V DC max, carry only. Silver contact surfaces. Both poles are separately insulated. Four 3/8" -24 studs. Lockwasher and two brass hexnuts per stud are provided. 3/4" -16 brass mounting stem. Operating temperature range: -40° to 85°F (-40° to 29°C) O-ring seal in mounting stem; gasket seal at terminal insulator. Epoxy seal at case, mounting stem and locating pin. Heavy duty plated steel case. With indexing pin. Mounting torque 20ft lbs (27 Nm); stud torque 4.4 to 7.4 ft lbs (6-10Nm).

battery-related products

J3 BATTERY ISOLATORS

For vehicles with two batteries, these devices electrically isolate the batteries to prevent the battery with the higher charge from draining into that with the lower charge. In addition, both batteries can be charged simultaneously from one source. For 12-36V DC negative ground systems (48051 is for 12V DC only). The electronic components are embedded to give excellent protection from adverse conditions, such as contamination and vibration. The integral heat sink provides efficient heat dissipation. The amp rating of each item is the maximum alternator rating. For wiring instructions, see Section J5.

Most alternators on new vehicles have an integral electronic voltage regulator that requires the use of the 4-stud battery isolator. The small 4th stud is for connection to a circuit switched by the ignition switch. The newer alternators were first introduced by Delco and are therefore sometimes called 'Delcotron-type alternators'. A 4-stud battery isolator can be used with older pattern alternators (in this case the 4th stud will remain unconnected), but a 3-stud battery isolator cannot be used with the Delcotron-type alternator.

4-stud general purpose isolators

For use with Delcotron-type alternators. Four studs.

48092 90 amp



Terminations: three 1/4" (6.4mm) studs and one No. 10 stud.
Two 9/32" (7.2mm) diameter mounting holes. Size: 6 1/2"L x 3 1/4"W x 2 13/16"H (165.0 x 82.6 x 71.0mm).

48122 140 amp



Terminations: three 5/16" (7.9mm) studs and one No.10 stud.
Four 9/32" (7.2mm) diameter mounting holes. Size: 6"L x 4 13/16"W x 3 11/32"H (152.4 x122.2 x 84.9mm).

CONTINUED **J3**

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.

48162 200 amp



Terminations: three 5/16" (7.9mm) studs and one No.10 stud. Four 9/32" (7.2mm) diameter mounting holes. Size: 8 1/2"L x 4 3/16"W x 3 13/32"H (215.0 x 122.2 x 86.5mm).

3-stud battery isolators

For use with alternators that do not have an integral electronic voltage regulator.

48080 42 amp



Terminations: one 10AWG 6" (152.4mm) wire lead, two 12AWG wire leads. Two 13/64" (5.2mm) diameter mounting holes. Size: 5"L x 3 1/4"W x 2 3/16"H (127.0 x 82.6 x 71.0mm).

48070 70 amp



Terminations: three 1/4" (6.4mm) studs. Two 9/32" (7.2mm) diameter mounting holes. Size: 5"L x 3 1/4"W x 2 3/16"H (127.0 x 82.6 x 71.0mm).

48090 90 amp



Terminations: three 1/4" (6.4mm) studs. Two 9/32" (7.2mm) diameter mounting holes. Size: 6 1/4"L x 3 1/4"W x 2 3/16"H (165.0 x 82.6 x 71.0mm).

48120 140 amp



Terminations: three 5/16" (7.9mm) studs. Four 9/32" (7.2mm) diameter mounting holes. Size: 6 1/4"L x 4 3/16"W x 3 11/32"H (152.4 x 122.2 x 84.9mm).

48160 200 amp



Terminations: three 5/16" (7.9mm) studs. Four 9/32" (7.2mm) diameter mounting holes. Size: 8 1/2"L x 4 3/16"W x 3 13/32"H (215.0 x 122.2 x 86.5mm).

For ambulances

Used to isolate medical equipment batteries from vehicle batteries. With Schottky diode, to comply with Federal Specification KKK-A-1822B for ambulances.

48051 75 amp at 12V DC



48161 250 amp



Same as 48160, but with Schottky diodes. Terminations: three 5/16" (7.9mm) studs. Four 9/32" (7.2mm) diameter mounting holes. Size: 8 1/2"L x 4 3/16"W x 3 13/32"H (215.0 x 122.2 x 86.5mm).

24505 Lockout Lever Kit ★



Special lever and flange plate accept a padlock to securely lock a Disconnect Switch in the Off position, which is required by many lock-out/tag-out safety regulations. For use with Cole Hersee lever actuated master disconnect switches with a 3/4" diameter (19.1mm) mounting stem: 2484, 2484-A, 2484-06, 2484-09, 2484-16, 75903, 75904, 75904-01, M-284, M-284-A, M-284-01, M-284-02, M-289, M-290, M-290-01, M-290-05. (We recommend the use of a padlock with a 5/16" (7.9mm) diameter shackle.)

80101-B Replacement Lever



Chrome-plated diecast lever. Fits all Cole Hersee lever-actuated Master Disconnect Switches.

83353 Hencol Key



For Hencol trouble-free locks. Heavy gauge plated steel resists corrosion.

lockouts/tagouts

Lockouts and tagouts prevent operators, technicians and maintenance personnel from unanticipated power-ups that might cause injury or death.

According to OSHA, "A lockout device utilizes a positive means such as a lock to hold an energy isolating device in a safe position and prevent the energization of a machine." A tagout is a tag or seal that states 'Do not operate or remove this tag' and is signed by the person who places the tagout. Procedures specify that nobody but that person may remove the tag.

A lockout on a battery switch not only keeps a vehicle safe, but also immobilizes it. A locked out vehicle is less vulnerable to battery drain or theft.

Face Plates

82065 without indexing hole



For Master Disconnect Switches. Polished aluminum with enamel finish. Fits Cole Hersee Master Disconnect Switches without indexing pin. 2 1/2" (63.5mm) diameter.

82065-02 with indexing hole

Same as 82065, but with hole for indexing pin.

563 Switch Position Label for M-750 Series

Pressure-sensitive label for Dual Battery Selector & Master Disconnect Switches. Useful when the switch is mounted through a panel.

Battery Jumper Terminals and Studs

Use them to make easily-accessible battery connections, inside or outside the vehicle. Can be used individually or in pairs. Easy to install. Solid brass posts. Includes brass hexnut and lockwasher. Jumper terminals have contact post 13/16" (20.6mm) diameter, 1 1/8" (28.8mm) long, which is grooved to accept standard jumper cables 6 -48V DC.

46210-02 Post with red cap for positive terminals ★



97846-A Replacement captive red cap

46210-03 Post with black cap for negative terminals ★



97846-B Replacement captive black cap

CONTINUED J4

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.

46211-R Red Battery Feeder Stud

Brings 6-36V DC power through bulkheads or firewalls. Impact-resistant plastic insulator/mounting bushing, 1 17/64" (32.1mm) diameter, 5/8" (15.9mm) long. Two 3/8" -16 thread brass stud terminals, 5/8" (15.9mm) long.

**46211-01 Black Battery Feeder Stud** ★

Same as 46211-R, only black plastic.

**3188 Copper Cable Terminal**

0.46" (11.7mm) diameter for 0AWG or 00AWG cable. 150A. 13/32" (10.3mm) diameter hole for 3/8" (9.5mm) stud.



dead batteries in inactive vehicles

If you leave a fully charged battery connected in an inactive vehicle, it could be dead within two months. Today's vehicles all have electronics, and although they require only a very small amount of current to maintain their memory, it's enough to kill an uncharged battery over time.

Any breakdown in insulation in the electrical system can result in the same problem. Breakdown of the insulation can be caused by abrasion, infiltration of contaminants such as road salt, or the use of electrical test prods.

Apart from inconvenience, there are two important reasons to avoid complete battery discharge. First, the battery plates can crystallize and the battery will no longer take a charge — an irreversible process. The second reason is cold temperatures. When a battery is fully charged, its electrolyte freezes at -83°F (-64°C), but when it's discharged, it freezes at a higher temperature — closer to 32°F (0°C). Resulting ice buildup can break the inter-cell connections and crack the case.

A good way to prevent a dead battery is to fully charge it, then disconnect the ground cable. In this state the battery can hold its charge for about a year.

The best way of all is to totally disconnect the battery using a Master Disconnect Switch.

standards

Cole Hersee makes switches and connectors that meet industry standards, generally understood to be those of the SAE and the automotive industry. Many of our switches meet other standards as well, such as USCG, ABYC, US Mine Safety & Health Administration. For OEMs we can design a switch to meet or exceed any standard.

For over a century, Underwriters' Laboratories (UL) has been a third-party trusted source worldwide for product compliance.

Having the UL mark on our products means that UL has tested and evaluated representative samples of that product and determined that they meet the stringent UL requirements. Products are continually checked by UL to make sure they continue to meet those requirements — UL inspectors visit the Cole Hersee factory every quarter to check on certified products. UL marks may be only used on products certified by UL and under the terms of a written agreement between UL and Cole Hersee.

Visit the UL website, www.ul.com where you can find us listed under 'Cole-Hersee'.

UL certified products are accepted in the US and Canada by OSHA, insurance companies, labor unions, fire officials and electrical inspectors.

**The UL Listing Mark**

One of the most common UL Marks, found on many Cole Hersee products. It means UL found that samples of this product met the UL safety requirements that are primarily based on UL's own published Standards for Safety.

**The UL Marine Mark**

These products have been tested specifically for marine use, and have been evaluated to UL's published Marine Safety Standards and other applicable standards and codes. These requirements specifically relate to hazards that can occur as a result of exposure to harsh marine environments - vibration, impact, ignition protection, water ingress and salt spray corrosion common on pleasure craft and boats.

Many of our marine switches also conform to applicable ABYC and USGC standards.

American Boat & Yacht Council: www.abycinc.org
United States Coast Guard: www.uscg.mil

We provide UL certification because our customers may be mandated to install UL-marked products. There are costs associated with UL certification and ongoing testing and auditing, and therefore UL-labeled switches may be slightly more expensive than their unmarked counterparts.

**The CE Mark**

The CE mark is a European mark analogous to UL. It similarly denotes that a product has undergone assessment procedures complies with European standards that apply to the product. The designation "CE" is French for "Conformité Européen".

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.



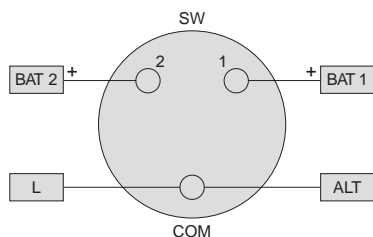
Battery Selector & Master Disconnect Switches

Key to diagrams: L = starter & load, SW = Battery Selector & Master Disconnect Switch, BAT = battery, ISO = Battery Isolator, COM = common, ALT = alternator

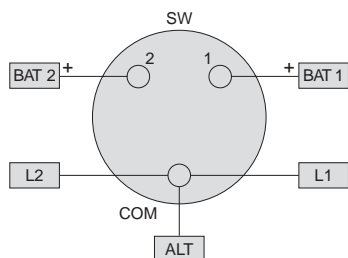
M-750 & M-751

Download instruction form IF-63 from our website.

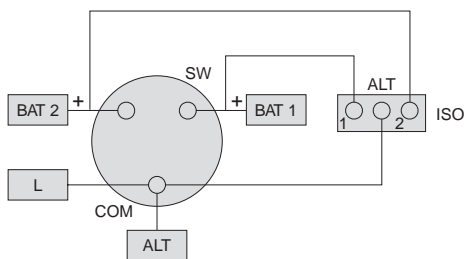
One engine and two batteries



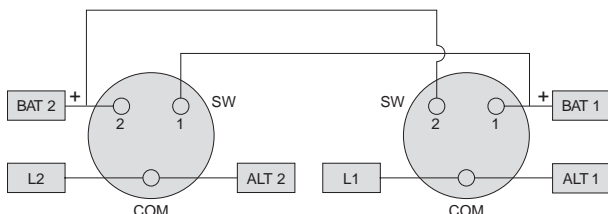
Two engines and two batteries



One engine, two batteries, with battery isolator



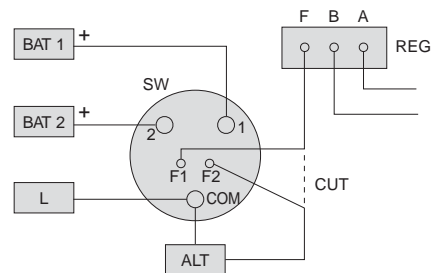
Two engines, two batteries, two switches



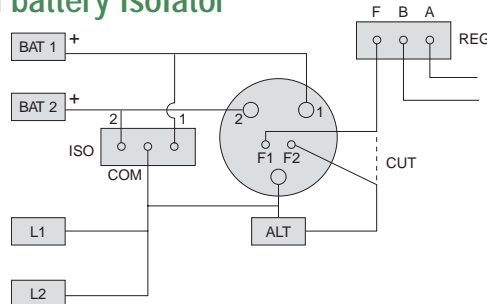
M-752 & M-753

Download instruction form IF-130 from our website.

One engine and two batteries



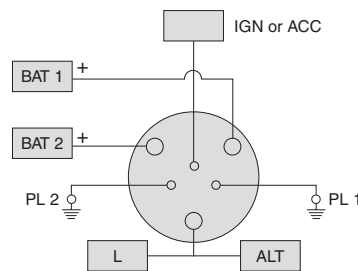
Two engines and two batteries, with battery isolator



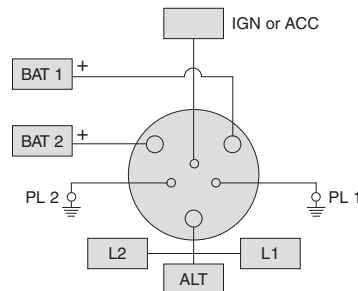
M-754 & M-754-01, M-755 & M-755-01

Download instruction form IF-121-1 from our website.

One engine and two batteries

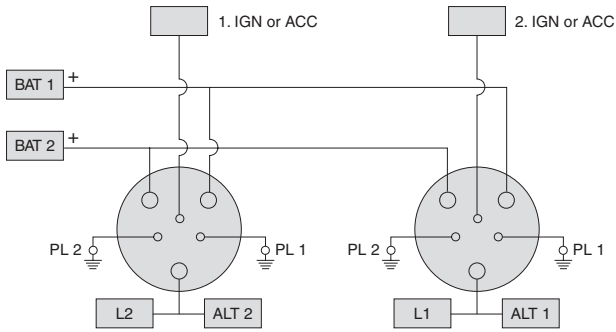


Two engines and two batteries

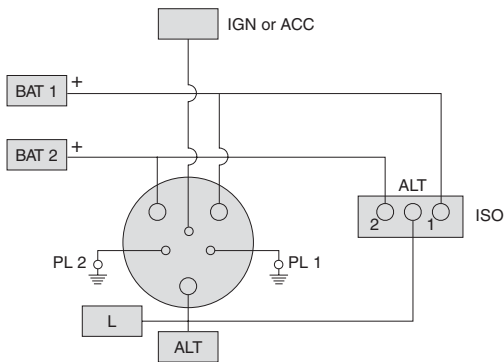


CONTINUED J5

Two engines, two batteries, two switches



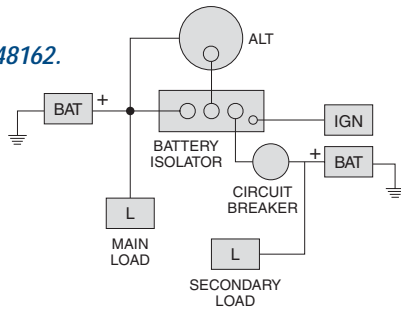
One engine and two batteries, with battery isolator



Battery Isolators

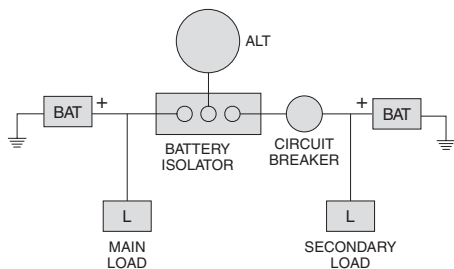
4-stud type

48092, 48122 and 48162.



3-stud type

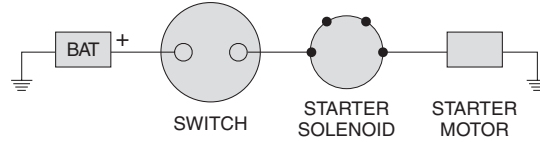
48070, 48080, 48090, 48120, 48160, and 48161.



Master Disconnect Switches

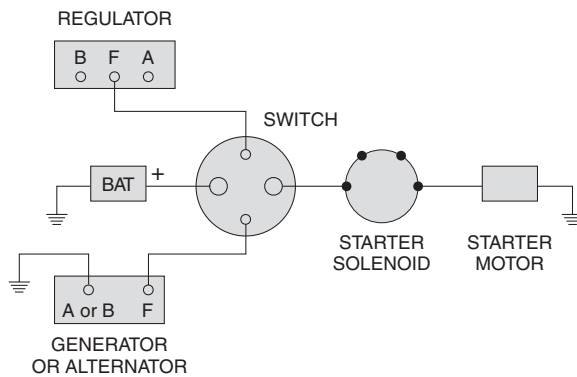
SPST Switches

Download instruction form IF-126 from our website.



DPST Switches

Download instruction form IF-109 from our website.



75912 Switch

For two high current loads.

