

special purpose switches



R

MECHANICAL NEUTRAL SAFETY SWITCHES

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NEUTRAL SAFETY & BACK-UP SWITCHES

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R1 MECHANICAL NEUTRAL SAFETY SWITCHES

Heavy-duty switches for applications to 36V DC.

Normally Off Ball Switches

SPST. On with ball depressed, spring return to Off. Silver contacts. 35A at 12V DC, 20A at 24V DC, except where noted. Moisture-resistant insulators, corrosion-resistant metal housings.

9242 ★

Two screw terminals. Mounting stem 9/16" -18 UNF-2A thread, 5/16" (7.9mm) long. *Replaces: International 863187-R91.*



9242-01

Same as 9242, but with brass gasket/washer.

9242-04 with Delphi (Packard) Connector

22" (559mm) harness includes 2-pole Delphi (Packard) connector 2984855, with two female blade terminals 6288106. Mounting stem 9/16" -18 UNF-2A thread, 5/16" (7.9mm) long. Plasticized housing provides protection against moisture and dirt. Internal gasket seal. *Replaces: GMC 702733.*



92102

15A at 12V DC. Two-button head accepts standard female blade terminals, and will mate with Delphi (Packard) 2-pole connector 2962679, or equivalent. Mounting stem 9/16" -18 UNF-2A thread, 21/32" (16.7mm) long.



92107-04

20A at 12V DC. Two-screw terminals. Mounting stem 3/4" -16 UNF-2A thread, 31/64" (12.3mm) long.



9162

35A at 12V DC. Two female bullet terminals. Mounting stem 3/4" -16 UNF-2A thread, 31/64" (12.3mm) long. *Replaces: Chrysler 1527835, Clark 73631.*



9162-03

Same as 9162, except with gasket on the mounting stem. *Replaces: Massey 181140M94.*

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.

Normally On Ball Switches

SPST. Off with ball depressed. Spring return to On. Silver contacts. 5A at 12V DC, 3A at 24V DC, except where noted. Moisture-resistant insulators, corrosion-resistant metal housings.

9224 ★

Two screw terminals.
Mounting stem 3/4" -16 UNF-2A thread,
31/64" (12.3mm) long, with
aluminum gasket/washer.
Replaces: Clark 224620



9224-07

Two screw terminals.
Mounting stem 9/16" -18 UNF-2A thread.



92105*

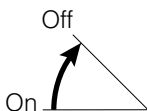
Two female bullet terminals.
Mounting stem 3/4" -16 UNF-2A
thread, 31/64" (12.3mm) long,
with aluminum gasket/washer.



Lever-Actuated Switch

8486-05

10A at 12V DC. SPST, Normally Off, contacts Open. Lever-actuated to On, spring return to Off. Two bullet terminals. Two 10-32 tapped mounting holes, 5/8" (15.9mm) on centers. 2 7/8" (73.0mm) long lever. For a similar switch that is Normally On, see 8846 on page 104. *Replaces: John Deere AM38713*



Vacuum Switches

See page 107.



Types of Thread

Information on most threads can be found in the ANSI standards, the SAE Handbook, and the National Institute of Standards and Technology Handbook H-28.

UNC is the most commonly used thread on general-purpose fasteners. UNC threads are deeper than UNF threads and are easier to assemble without cross threading. Manufacturing tolerances can be larger than for finer threads, allowing for higher plating tolerances. Because of their looser fit, UNC threads are usually easier to remove when corroded.

UNF thread has a larger minor diameter than UNC thread, which gives UNF fasteners slightly higher load-carrying and better torque-locking capabilities than UNC fasteners of the same material and OD. UNF threads have a smaller lead angle that allows for finer tension adjustment. They also have more stringent manufacturing tolerances than UNC threads.

The most common thread systems in the US are:

- UNC – Unified National Coarse
- UNF – Unified National Fine
- UNEF – Unified National Extra Fine
- NC – American National Coarse
- NF – American National Fine
- NEF – American National Extra Fine

R2 NEUTRAL SAFETY & BACK-UP SWITCHES

SPST, normally Off. On with plunger depressed, spring return to Off.

9134 Back-Up Switch 35A

35A at 12V DC. Silver contacts. Transmission-mounted, extra heavy-duty. Compact design for mounting in areas where space is limited. Two female bullet terminals. 9/16" -18 thread mounting stem, 5/16" (7.9mm) long. *Replaces: Chrysler 1343998, 2198779, Motorcraft SW-410*



91113 Back-Up Switch 20A ★

20A at 12V DC. Silver contacts. Transmission-mounted, extra heavy-duty. Compact design for mounting in areas where space is limited. Two screw terminals. 9/16" -18 thread mounting stem, 5/16" (7.9mm) long. *Replaces: Autocar 8E-01360, Brockway 128537, Diamond Reo 560-65, Kenworth AT-91-69 Mack 1MR-1320, Oshkosh 13320-F1, White 1743529.*



9025* Back-Up Switch 10A

10A at 12V DC. Two screw terminals. 7/16" (7.9mm) diameter mounting stem, 7/16" -20 (7.9mm) long, with two flats for mounting in double-D hole. 1/2" (12.7mm) long plunger. *Replaces: Superior School Bus B67176.*



75125 Back-Up Alarm Switch

SPST. Normally Off. Spring lever actuated to On, spring return to Off. Two screw terminals. Two 13/64" (5.2mm) diameter mounting holes, 1/2" (12.7mm) on centers. 5" (127mm) lever.



9052

10A at 12V DC. Two screw terminals. 7/16" (7.9mm) diameter mounting stem, 7/16" -20 (7.9mm) long, with two flats for mounting in double-D hole. 1/2" (12.7mm) long button-head plunger. *Replaces: Ford B9AF, C0AF, 51-A15520A, Jeep 710412, 721028, Motorcraft SW-410.*



91105 Back-Up Lamp Switch

10A at 12V DC. PVC coated housing protects against moisture and dirt. Two 18AWG wire leads, 7" long. Button-head actuator, 3/8" (9.5mm) long. 7/16" -20 (7.9mm) diameter mounting stem with two flats for mounting in double-D holes. *Replaces: AMC 3171244.*



83377 Protective Boot

For Neutral Safety and Back-up Lamp Switches.

Molded of durable PVC to resist moisture and dirt. Internal ring forms a seal with the groove around the switch housing.

Fits Cole Hersee switches with a 1 1/8" (28.6mm) hex housing: 9134, 9162, 9224, 9242, 9242-07, 92102, 92103, 92105, 92107-04.



★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.

R3 OVERDRIVE KICKDOWN SWITCHES**SPST, Normally On***Off with plunger depressed, spring return to On.***9096-02**

15A at 12V DC. With special diaphragm/mounting bracket, sealed to protect the mounting shaft. Plasticized body protects against moisture and dirt. Two 16AWG wire leads, 3" (76.2mm) long with female bullet terminals. Insulator sleeves protect the connections. 13/64" (5.2mm) diameter mounting holes, 1 1/2" (38.1mm) on centers. 1/4" (6.4mm) long plunger.

**SPST, On - Momentary On****9106-02***

10A at 12V DC per circuit. Two circuits: No.1 normally On, No.2 On with plunger depressed, spring return to No.1. Four screw terminals. 7/16" -20 (7.9mm) diameter mounting stem, 7/8" (22.2mm) long with flat on stem for mounting in D-shaped hole. Gasket-sealed terminal insulator. Plunger: 7/32" (5.6mm) long. *Replaces: Chrysler 1479527, Jeep 717589.*



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R4 HEAVY-DUTY WEATHER-RESISTANT SWITCHES*Universal application. Suitable for Back-up Lamp, Neutral Safety, Overdrive Switches.***SPST Normally On***Off with plunger depressed, spring return to On.***91042**

10A at 12V DC. Rubber cap/seal snaps into grooves in the plunger and mounting stem to protect the operating shaft from moisture and dirt. Two blade terminals mate with two-pole Delphi (Packard) connector 2977647 or equivalent. 5/8" -32 (15.9mm) diameter mounting stem, 11/16" (17.5mm) long. Gasket-sealed terminal insulator. 3/8" (9.5mm) long plunger, protrudes through the cap.

**91042-05***

Same as 91042, except with two screw terminals.
Replaces: Fiat Allis 7307175501.

90043 ★

20A at 12V DC, 10A at 24V DC. Silver contacts. Rubber cap snaps into special groove and is secured to the mounting stem by a deep-threaded nut for a positive seal. Two blade terminals mate with two-pole Delphi (Packard) connector 2977647 or equivalent. 5/8" -32 thread mounting stem, .625" (15.9mm) long. Gasket-sealed case. Steel plunger protrudes through the cap.

**SPST Normally Off***On with plunger depressed, spring return to Off.***92116**

20A at 12V DC, 10A at 24V DC. Silver contacts. Rubber cap/seal snaps into grooves in the plunger and mounting stem to protect the operating shaft from moisture and dirt. Two blade terminals mate with two-pole Delphi (Packard) connector 2977647 or equivalent. 5/8" -32 (15.9mm) diameter mounting stem, 11/16" (17.5mm) long. Gasket-sealed terminal insulator. 3/8" (9.5mm) long plunger, protrudes through the cap.



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R5 FOOT-OPERATED TURN SWITCHES

Through-floorboard mounting. Depress to On, spring return to Off. Two switches are needed for left and right turn signals. Sealed switches are plastic coated, providing protection against moisture dust and roadsplash. 7/8" (9.5mm) diameter stem. Three 1/4"-20 tapped mounting holes, 3/4" (19.0mm) and 1 3/4" (44.4mm) on centers. 12A at 12V DC.

7792-01 With Screw Terminals



7785 Sealed, with Wire Leads



7792 Sealed, with Screw Terminals



Pilot Lights

See page 111.



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R6 VOLTAGE REDUCERS

Allow the use of 6V accessories in 12V electrical systems. The resistor coil is embedded into the ceramic insulator for effective heat dissipation. Voltage reducers can be wired singly in series or in parallel. For use with low amperage load accessories. Two screw terminals with lockwashers. 7/16"-28 thread mounting stem. Size: 2" x 2 9/16" x 1 1/2."

68068 For 6A Maximum Load 1.0 Ohm resistance, 35W.



68003 For 4A Maximum Load 1.5 Ohm resistance, 25W.



★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply. Part numbers needed in BOX require a -BX suffix on the purchase order.

Wire Gauge

Values in the table are the appropriate American Wire Gauge cable at 12V DC.

Cable length	2.5ft	5ft	10ft	20ft	30ft	40ft	50ft	60ft	80ft	100ft
1	20AWG	20	20	20	20	20	20	20	20	18
1.5	20	20	20	20	20	20	20	20	18	18
2	20	20	20	20	20	20	18	18	16	16
3	20	20	20	20	20	18	18	16	16	14
4	20	20	20	20	18	18	16	16	14	12
5	20	20	20	18	18	16	14	14	12	12
6	20	20	20	18	16	16	14	14	12	12
7	20	20	20	18	16	14	14	12	12	10
8	20	20	20	16	16	14	12	12	10	10
10	20	20	18	16	14	12	12	12	10	10
11	20	20	18	16	14	12	12	10	10	8
12	20	20	18	16	14	12	12	10	10	8
15	20	20	18	14	12	12	10	10	8	8
18	20	20	16	14	12	10	10	8	8	6
20	20	18	16	12	12	10	10	8	8	6
22	20	18	16	12	10	10	8	8	8	6
24	20	18	16	12	10	10	8	8	6	6
36	20	16	14	10	8	8	8	6	6	4
50	18	16	12	10	8	6	6	4	4	2
100	14	12	10	6	4	4	2	2	1	0
150	14	10	8	4	2	2	1	0	00	000
200	12	8	6	4	2	1	0	00	000	0000
	0.762m	1.524m	3.048m	6.096m	9.144m	12.192m	15.240m	18.288m	24.384m	30.480m