



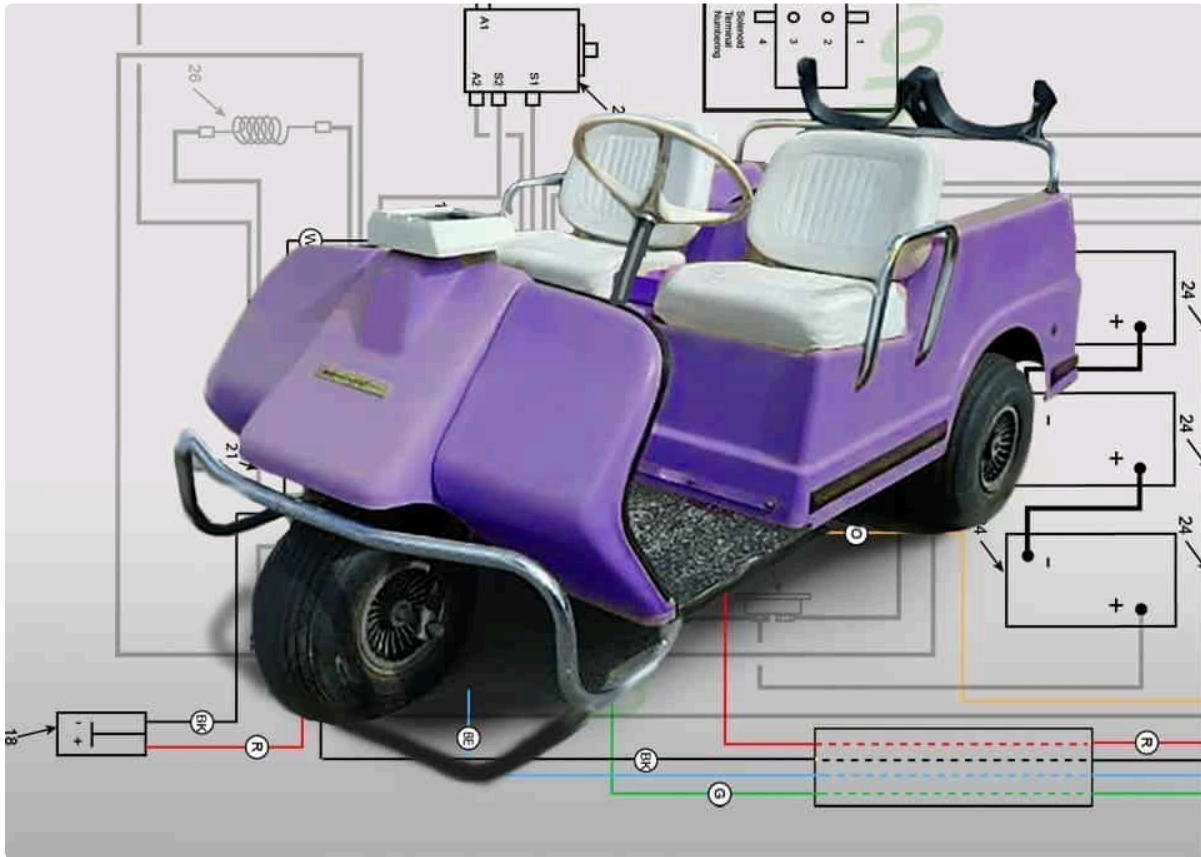
Golf Cart Tips

Troubleshooting Harley Davidson Golf Cart Wiring 1969-70 DEC

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Last Updated on March 5, 2024 by Chuck Wilson

Troubleshooting Harley Davidson golf cart wiring? The following charts and tables will save you hours of online searching and help to pinpoint solutions to the problems this 50-year-old cart may present.

The final two years of the DEC model changed the headlight and taillight options, plus a few 16 gauge wire configuration changes.

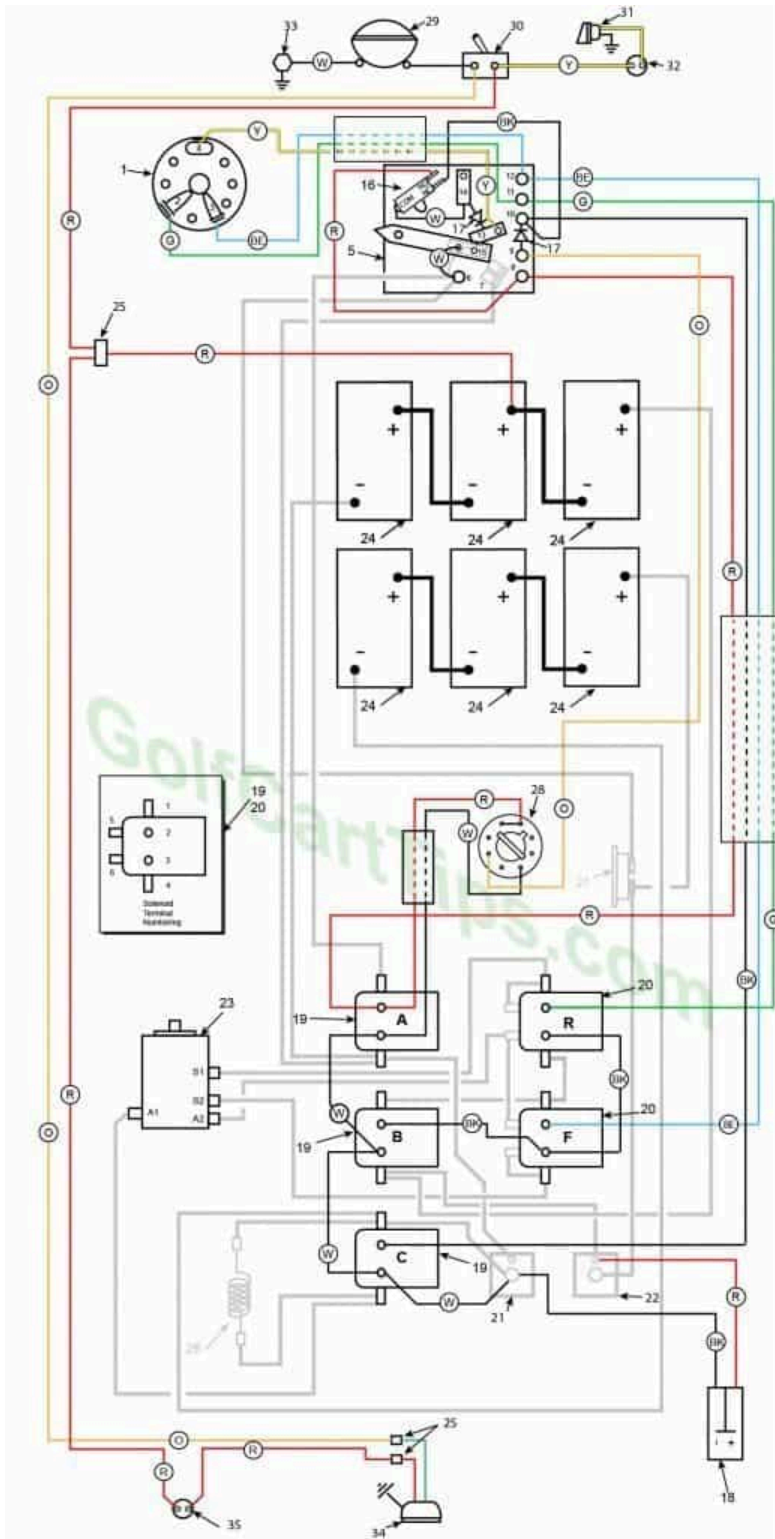
Tools needed for troubleshooting include:

- A multimeter or voltmeter
- A 1/2" size wrench
- Electrical tape
- Safety glasses

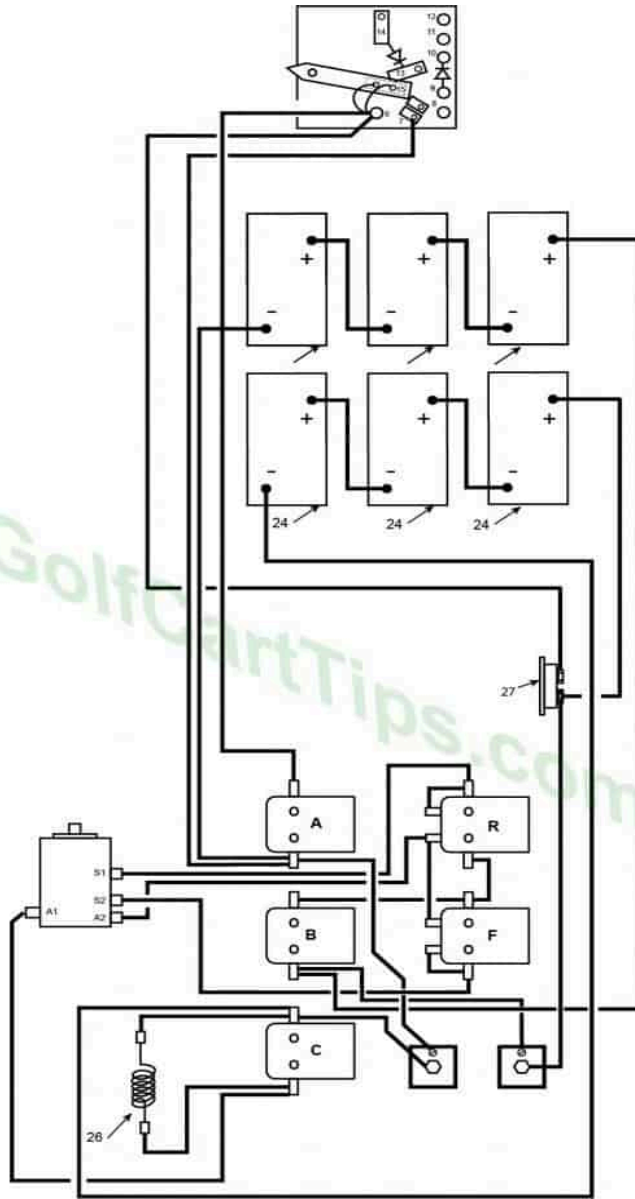
[Unsure of your Year and Model? Click Here...](#)

Harley Davidson Golf Cart Wiring Diagrams

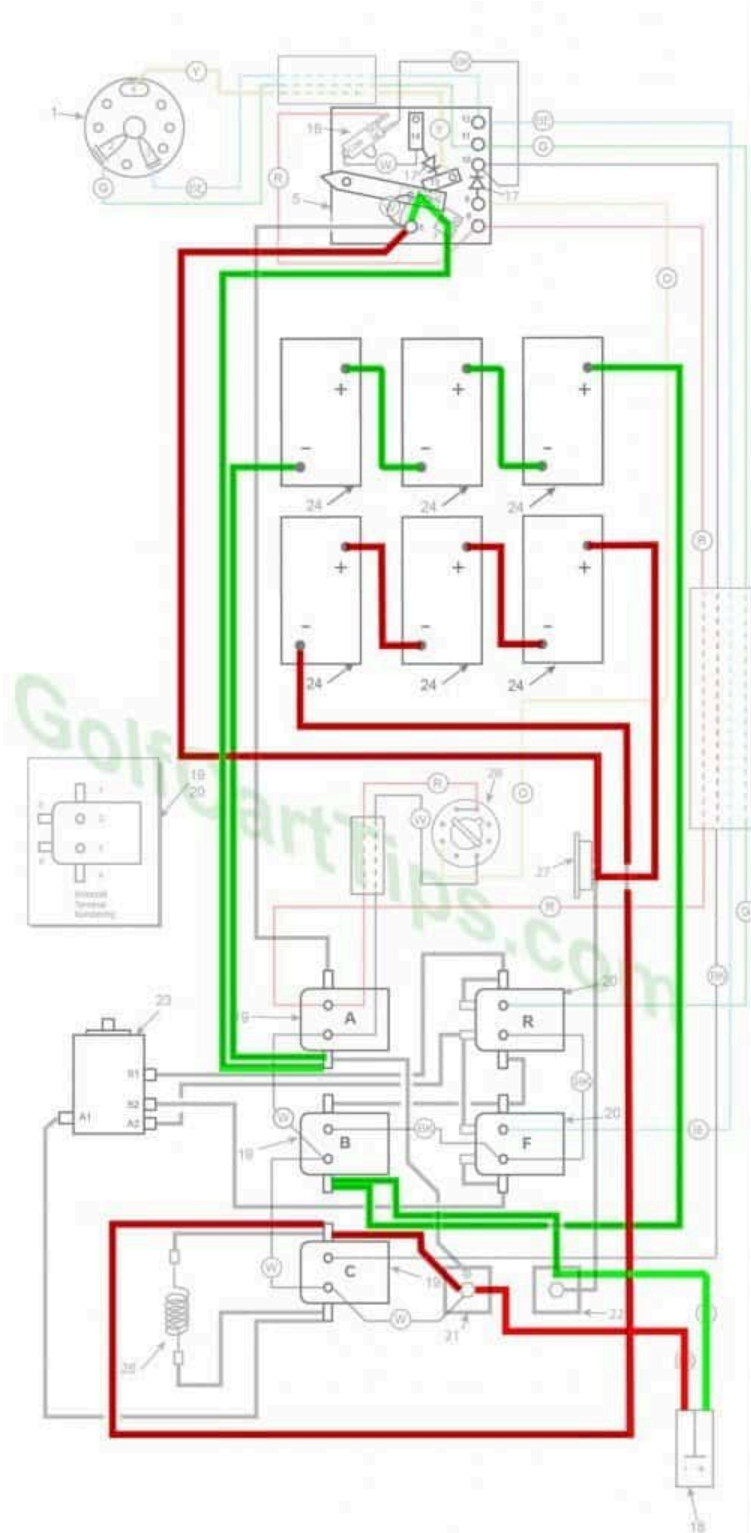
1969-70 Model DEC Control Circuit Wiring Diagram for 16 Gauge Wire



1969-70 Model DEC Heavy Cable Diagram



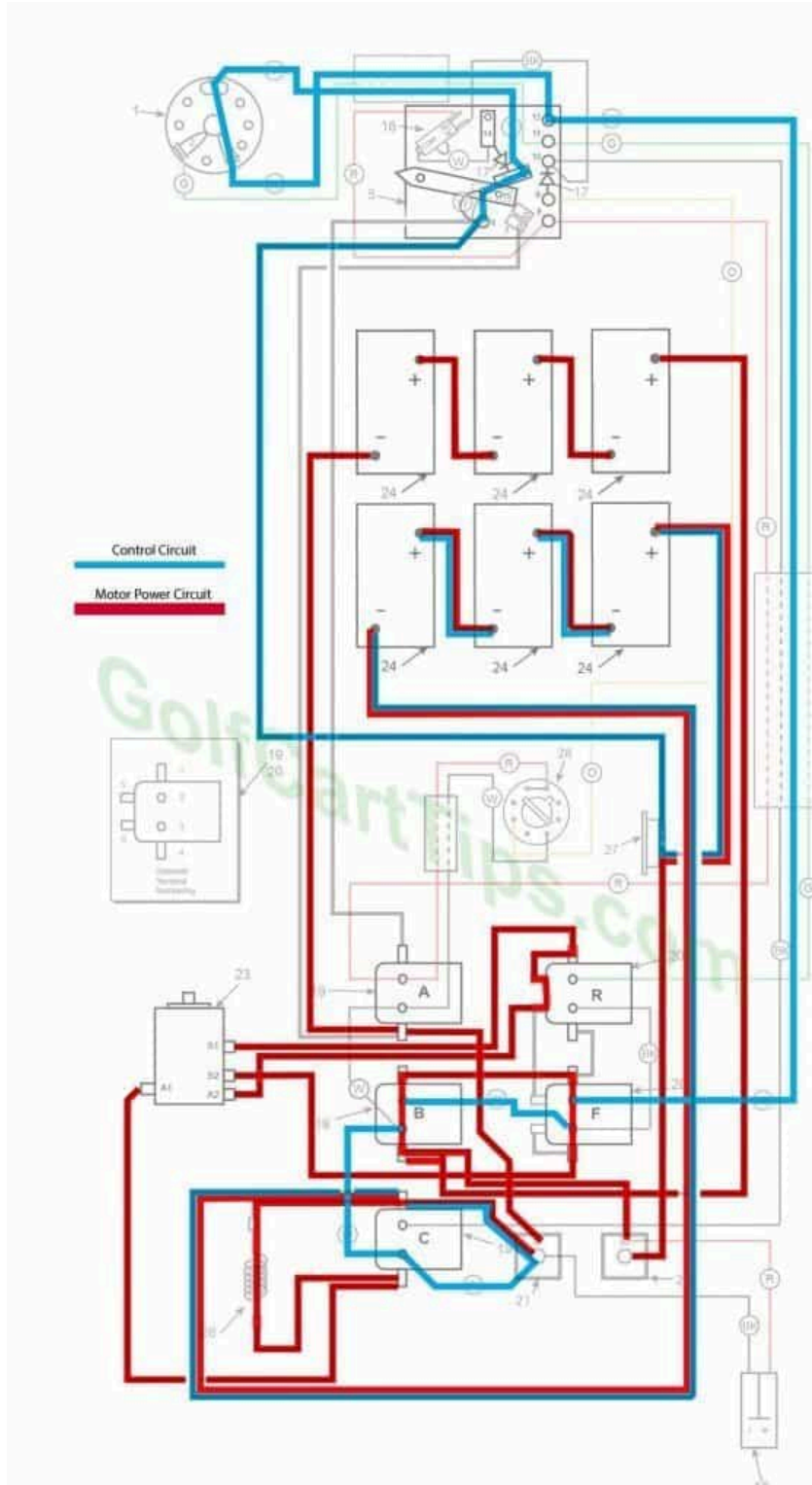
Charging



- Key switch – Off
- Speed Switch – at resting stop
- Solenoid "A" Open – Voltage not applied to small terminals
- Solenoid "B" Open – Voltage not applied to small terminals
- Solenoid "C" Open – Voltage not applied to small terminals
- Solenoid "F" Open – Voltage not applied to small terminals – Bottom terminals closed

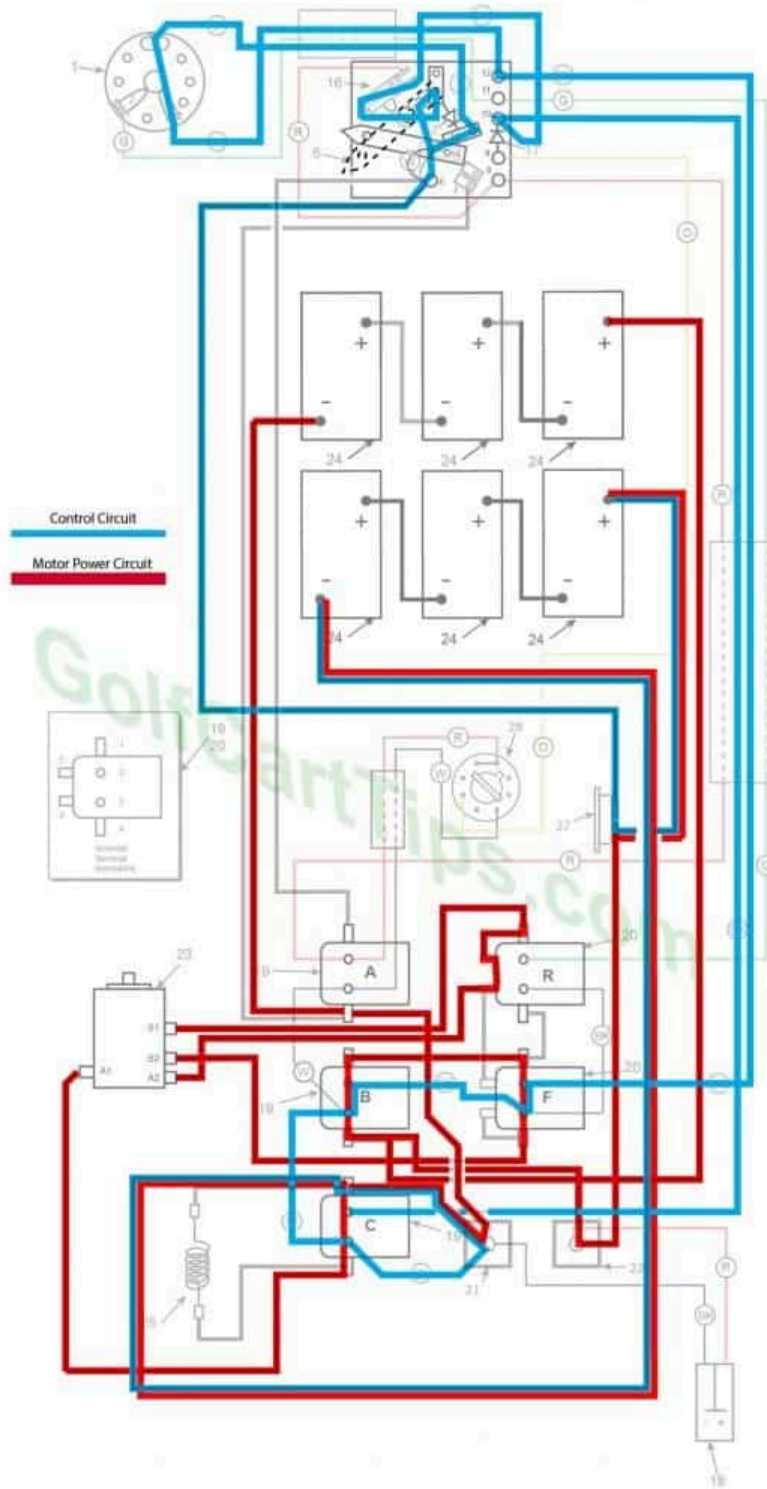
- Motor Diodes – None
- Speed Switch Diode – None
- Time Delay – Open
- Micro Switch – NO Open NC Closed

First Speed



- Solenoid "A" Open – Voltage not applied to small terminals
- Solenoid "B" Closed – Voltage applied to small terminals, continuity across large terminals
- Solenoid "C" Open – Voltage not applied to small terminals
- Solenoid "F" Closed – Voltage applied to small terminals, continuity across large terminals – Bottom terminals open
- Solenoid "R" Open – Voltage not applied to small terminals – Bottom terminals closed
- Voltage to Motor – 18-volts through the Resistor
- Voltage across A1 and A2 – 12-volts
- Left Motor Diode – Current flowing from Solenoid "A" to Solenoid "B"
- Right Motor Diode – Current flowing from Solenoid "C" to Solenoid "A"
- Speed Switch Diode – Blocks current from Speed Switch fourth Contact
- Time Delay – Open
- Micro Switch – Open

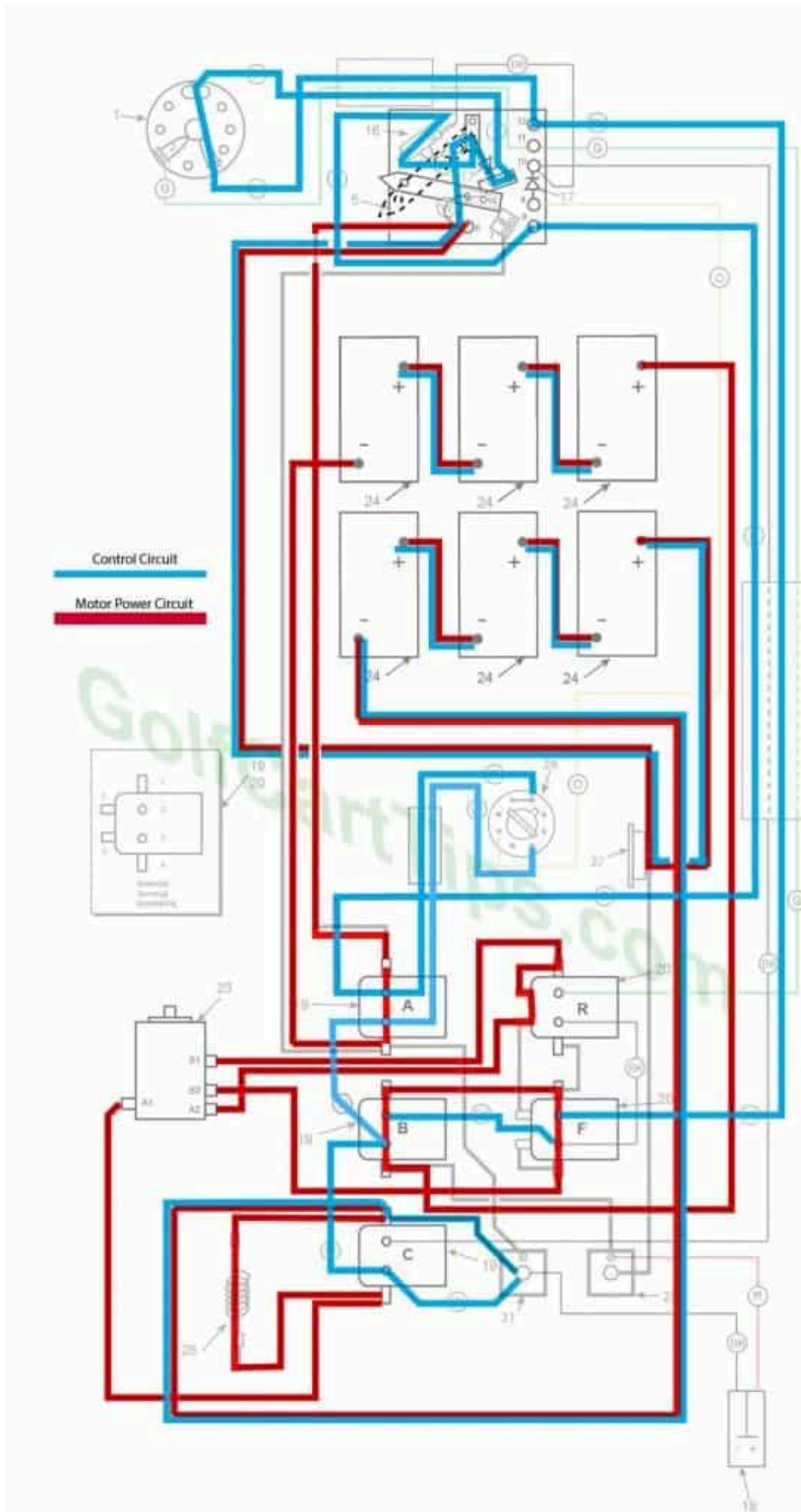
Second Speed



- Key switch – Forward
- Speed Switch – Contact #4 Micro Switch not depressed yet
- Solenoid “A” Open – Voltage not applied to small terminals
- Solenoid “B” Closed – Voltage applied to small terminals, continuity across large terminals
- Solenoid “C” Closed – Voltage applied to small terminals, continuity across large

- Solenoid "R" Open – Voltage not applied to small terminals – Bottom terminals closed
- Voltage to Motor – 18-volts bypassing the Resistor
- Voltage across A1 and A2 – 15.5-volts to 16.5-volts
- Left Motor Diode – Current flowing from Solenoid "A" to Solenoid "B"
- Right Motor Diode – Current flowing from Solenoid "C" to Solenoid "A"
- Speed Switch Diode – Allows current from Speed Switch to third Speed Switch Contact and on to Solenoid "B" and "F"
- Time Delay – Open
- Micro Switch – not activated but allowing current to pass to power Solenoid "C"

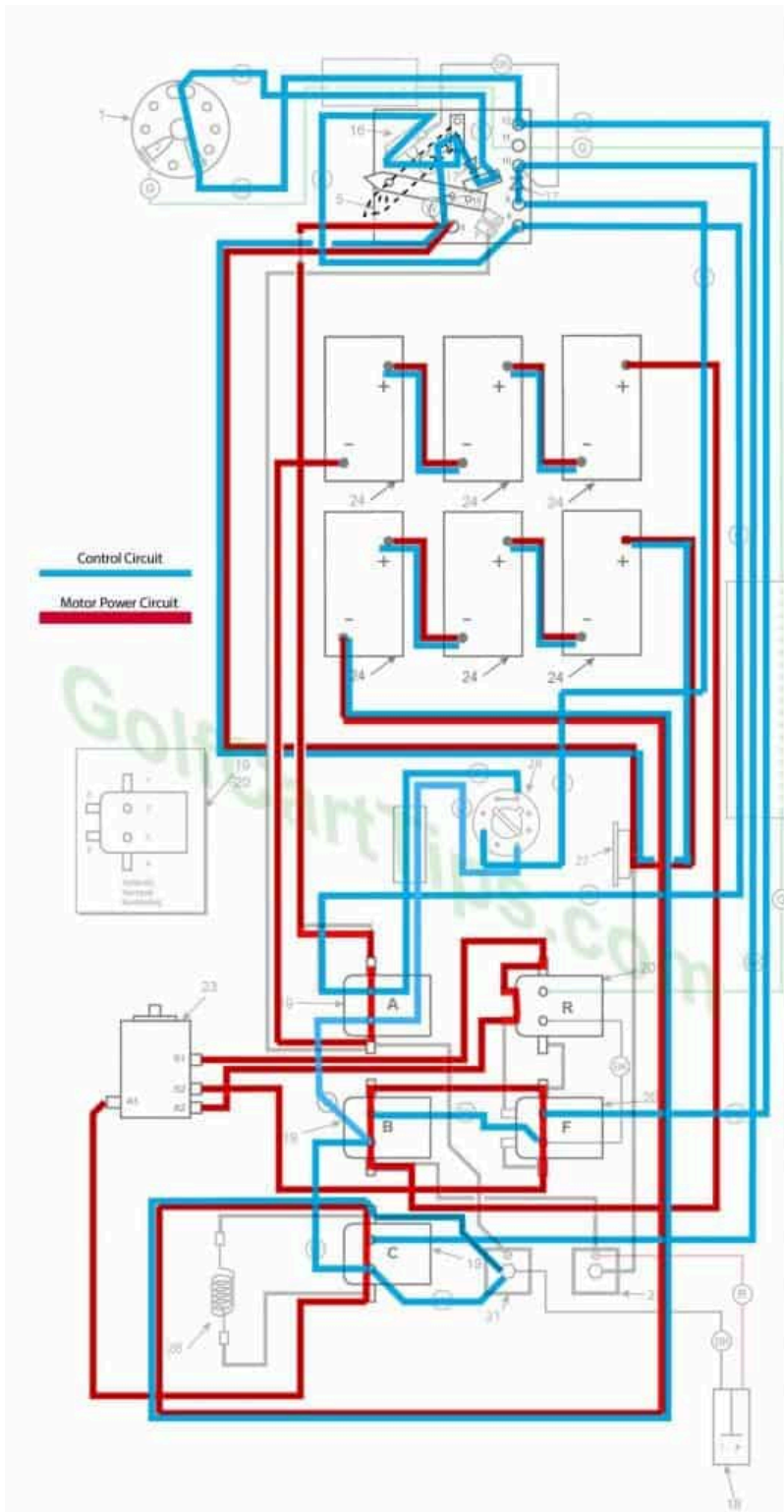
Third Speed



- Key switch – Forward
- Speed Switch – Contact #4 Micro Switch has depressed
- Solenoid “A” Closed – Voltage applied to small terminals, continuity across large terminals
- Solenoid “B” Closed – Voltage applied to small terminals, continuity across large terminals

- Solenoid "R" Open – Voltage not applied to small terminals – Bottom terminals closed
- Voltage to Motor – 36-volts through the Resistor
- Voltage across A1 and A2 -30.5-volts to 31.5-volts
- Left Motor Diode – Blocking current flowing from Solenoid "A" to Solenoid "C"
- Right Motor Diode – Blocking current flowing from Solenoid "B" to Solenoid "A"
- Speed Switch Diode – Allows current from Speed Switch to third Speed Switch Contact and on to Solenoid "B" and "F"
- Time Delay – Actuated and powering Solenoid "C" after 1.8 seconds
- Micro Switch – Activated and powering Solenoid "A" and Time Delay

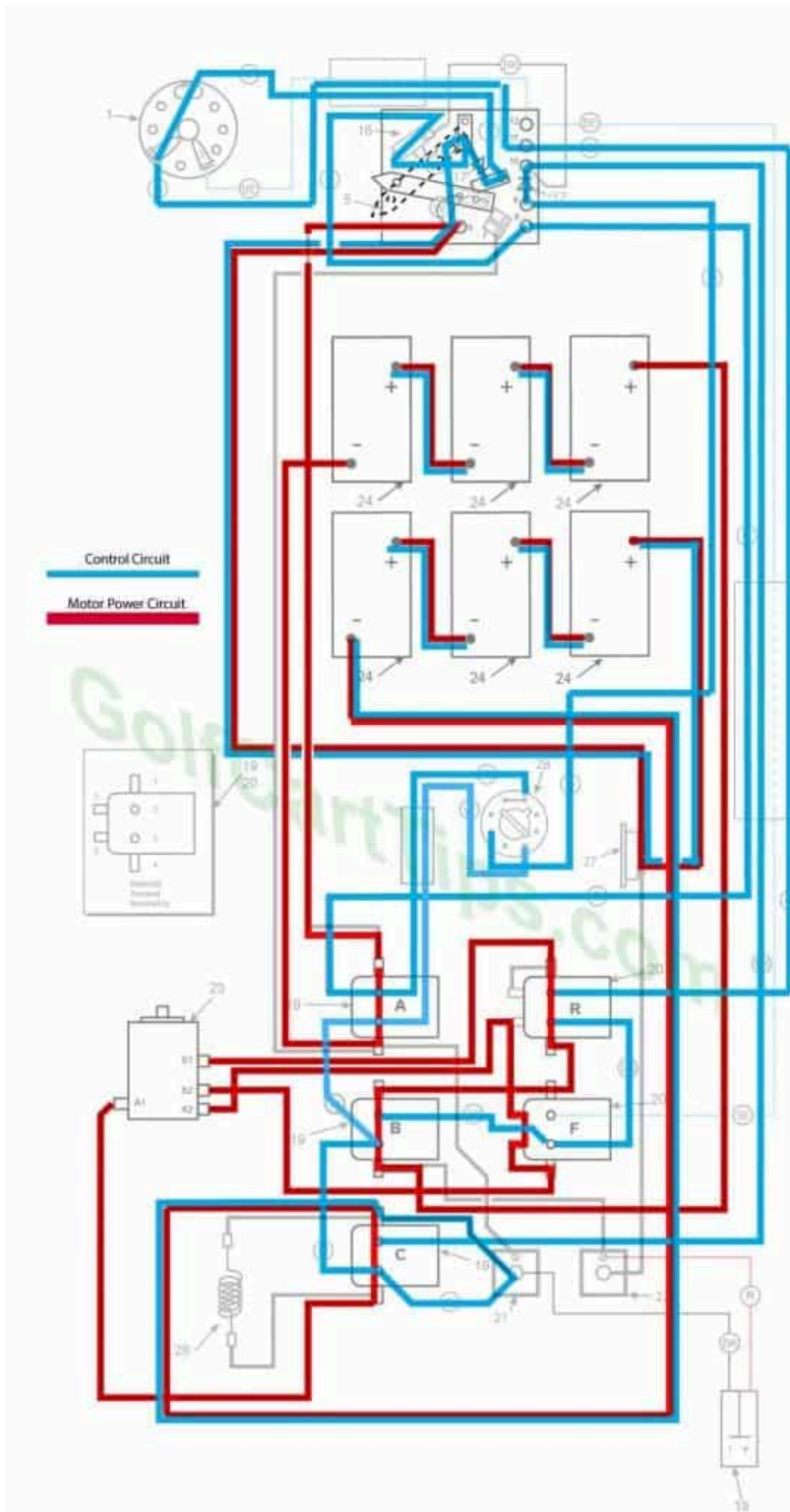
Fourth Speed



- Key switch – Forward
- Speed Switch – Contact #4 Micro Switch has depressed
- Solenoid "A" Closed – Voltage applied to small terminals, continuity across large terminals
- Solenoid "B" Closed – Voltage applied to small terminals, continuity across large terminals

- Solenoid "F" Closed – Voltage applied to small terminals, continuity across large terminals – Bottom terminals open
- Solenoid "R" Open – Voltage not applied to small terminals – Bottom terminals closed
- Voltage to Motor – 36-volts bypassing the Resistor
- Voltage across A1 and A2 – 33.5-volts to 34.5-volts
- Left Motor Diode – Blocking current flowing from Solenoid "A" to Solenoid "C"
- Right Motor Diode – Blocking current flowing from Solenoid "B" to Solenoid "A"
- Speed Switch Diode – Allows current from Speed Switch to third Speed Switch Contact and on to Solenoid "B" and "F"
- Time Delay – Actuated and powering Solenoid "C"
- Micro Switch – Activated and powering Solenoid "A" and Time Delay

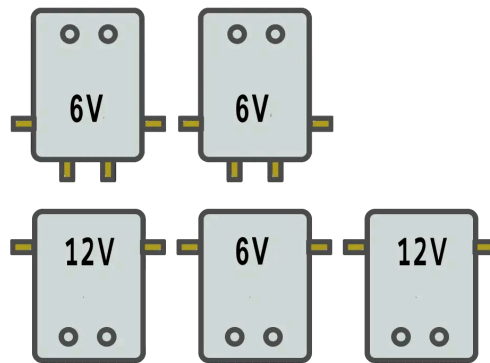
Reverse (Fourth Speed Shown)



- Key switch – Reverse
- Speed Switch – Same as Forward Speeds
- Solenoid “A” – Same as Forward Speeds
- Solenoid “B” – Same as Forward Speeds
- Solenoid “C” – Same as Forward Speeds
- Solenoid “F” Open – Voltage not applied to small terminals – Bottom terminals closed

- Voltage across A1 and A2 – Same as Forward Speeds
- Left Motor Diode – Same as Forward Speeds
- Right Motor Diode – Same as Forward Speeds
- Speed Switch Diode – Same as Forward Speeds
- Time Delay – Same as Forward Speeds
- Micro Switch – Same as Forward Speeds

Solenoid Arrangement



1967 Thru 1971 Model DE
1969 Thru 1971 Model DEC

Numbering Key for 1969 – 1970 Diagrams

1. Key Switch – 3 wires (Green, Blue, Yellow) For terminals 2, 3, and 4
2. Key Switch Terminal – Green wire to Speed Switch Connection 11
3. Key Switch Terminal – Blue wire to Speed Switch Connection 12
4. Key Switch Terminal – Yellow wire to Speed Selector Switch 13
5. Speed Switch (Contains Terminals 6, 7, 8, 9, 10, 11, 12, 13 and 14)
6. Speed Switch Terminal – White wire to Terminal 15 on Switch Arm (2), Black wire to Solenoid Terminal A1, Black wire to Circuit Breaker 27 – 4 wires
7. Speed Switch Terminal – Black wire to Solenoid Terminal A4
8. Speed Switch Terminal – Red wire to Micro Switch NO terminal, Red wire to Solenoid Terminal A2
9. Speed Switch Terminal – Orange wire to Time Delay Tube Pin 5, Diode connected to Speed Switch Terminal 10
10. Speed Switch Terminal – Diode to Key Switch Terminal 9, Black wire to Solenoid Terminal C2, and Black wire to Micro Switch NC Terminal
11. Speed Switch Terminal – Green wire to Key Switch Terminal 2, and Green wire to Solenoid Terminal R2
12. Speed Switch Terminal – Blue wire to Solenoid Terminal F2. Blue wire to Key Switch

13. Speed Switch Terminal – Yellow wire to Key Switch Terminal 4, Diode to Speed Switch Terminal 14
14. Speed Switch Terminal – White wire to Micro Switch Common, Diode to Speed Switch Terminal 13
15. Speed Switch Wiper Arm – White wire (2) to Speed Switch Terminal 6
16. Micro Switch – White wire to Speed Switch Terminal 14, Red wire to Speed Switch Terminal 8, Black wire to Speed Switch Terminal 10
17. Diode (2)
18. Charger Connection Plug – Negative Terminal 1 Black wire to Left Motor Diode, Red wire to Right Motor Diode
19. Solenoids A, B, and C
 - Solenoid A
 - A1 – Black wire to Speed Switch Terminal 6
 - A2 – Red wire to Time Delay Tube pin #8, Red wire to Speed Switch Terminal 8
 - A3 – White wire to Time Delay Tube Pin # 2, White wire to Solenoid Terminal B3
 - A4 – Black wire to Left Motor Diode, Black Wire to Circuit Breaker 27, Black wire to Speed Switch Terminal 7
 - Solenoid B
 - B1 – Copper Strap to Solenoid Terminal F1
 - B2 – Black wire to Solenoid Terminal F3
 - B3 – White wire to Solenoid Terminal A3, White wire to Solenoid Terminal C3
 - B4 – Black wire to Right Motor Diode 22, Black wire to Battery Positive Post
 - Solenoid C
 - C1 – Black Wire to Battery Negative Post, Black wire to Resistor 26, Black wire to Left Motor Diode 21
 - C2 – Black wire to Speed Switch Terminal 10
 - C3 – White wire to Left Motor Diode 21, White wire to Solenoid Terminal B3
 - C4 – Black wire to Resistor 26, Black wire to Motor Terminal A1
20. Solenoids R and F
 - Solenoid R
 - R1 – Copper Strap to Solenoid Terminal R5, Black wire to Motor Terminal S1
 - R2 – Green wire to Speed Switch Terminal 11
 - R3 – Black wire to Solenoid Terminal F3
 - R4 – Copper Strap to Solenoid Terminal F1
 - R5 – Copper Strap to Solenoid Terminal R1
 - R6 – Copper Strap to Solenoid Terminal F5, Black wire to Motor Terminal A2
 - Solenoid F
 - F1 – Copper Strap to Solenoid Terminal R4, Black wire to Solenoid Terminal B2
 - F2 – Blue wire to Speed Switch Terminal 12
 - F3 – Black wire to Solenoid Terminal R3, Black wire to Solenoid Terminal B2
 - F4 – Copper Strap to Solenoid Terminal F6, Black wire to Motor Terminal S2
 - F5 – Copper Strap to Solenoid Terminal R6
 - F6 – Copper Strap to Solenoid Terminal F4

23. Motor – 4 wires

A1 – Black wire to Solenoid Terminal C4

A2 – Black wire to Solenoid Terminal R6

S1 – Black Wire to Solenoid Terminal R1

S2 – Black Wire to Solenoid Terminal F4

24. Batteries – Six 6-volt in series 36-volt, and two sets of 3 in series 18-volt

25. Connector

26. Resistor – Black wire to Solenoid Terminal C1, Black wire to Solenoid Terminal C4

27. Circuit Breaker

28. Delay Tube – Pin 2 White wire to Solenoid Terminal A3. Pin 5 Orange wire to Speed

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33. Ground Bolt – White wire to Headlight



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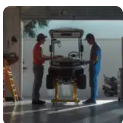
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