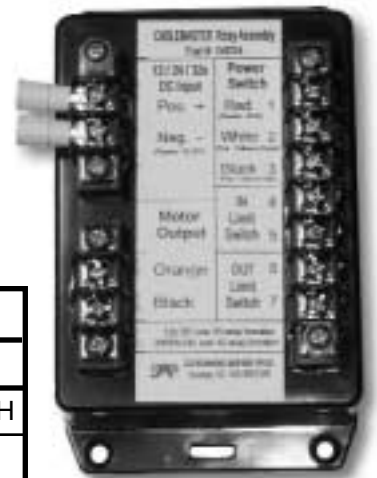
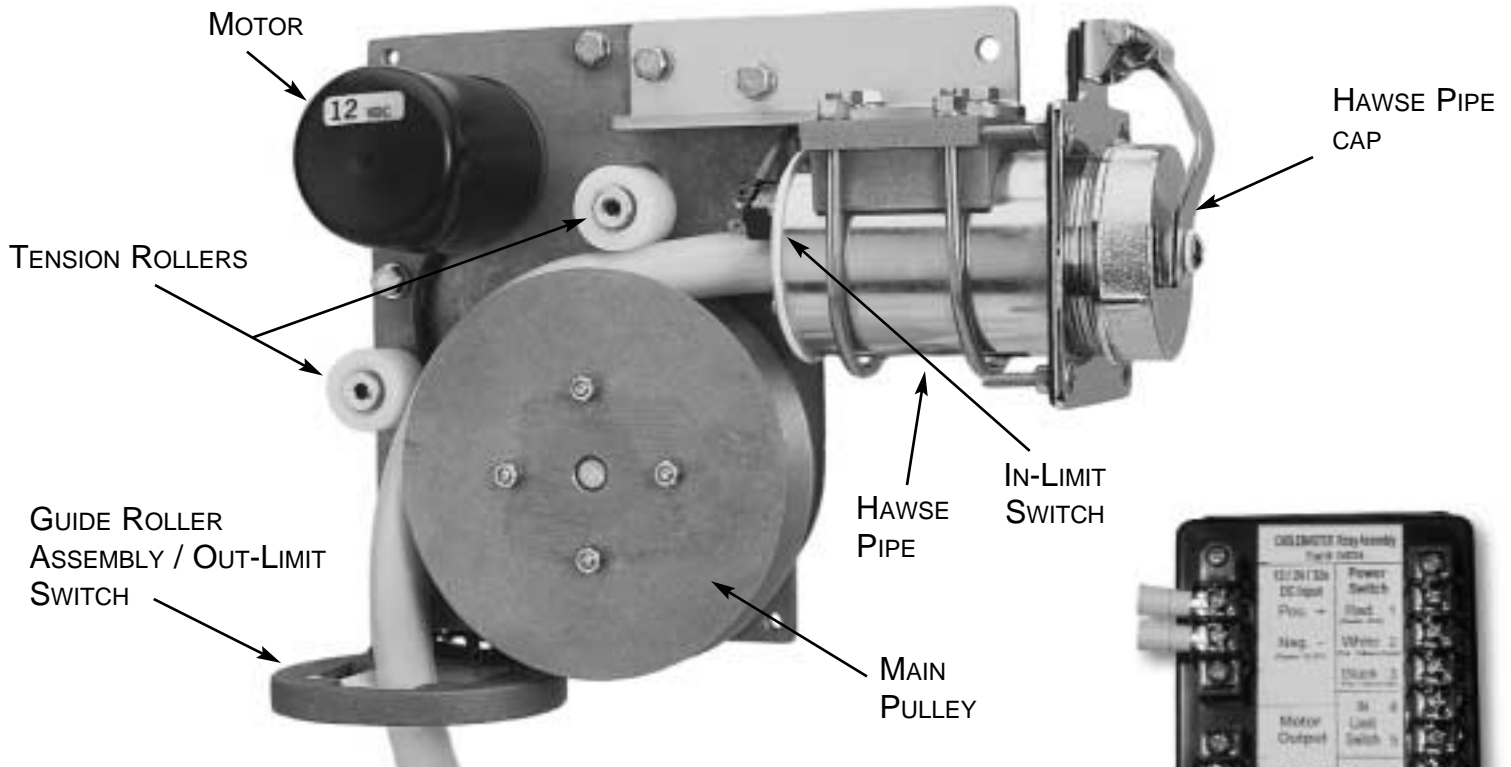


CABLEMASTER

TECHNICAL INFORMATION GUIDE



RELAY



POWER SWITCH ASSEMBLY

REPLACEMENT PARTS LIST			
DESCRIPTION	P/N	DESCRIPTION	P/N
12 V Motor Assembly	04035	Hawse Pipe Hinge	50421-H
24 / 32 V Motor Assembly	04036	Hawse Pipe Cap	50420
12/24 V Relay	04034	Hawse Pipe Cap & Hinge Assembly	04051
In-Limit Switch Assembly (w/o ring)	04812		
In-Limit Switch Assembly (w/ ring)	04830		
Out-Limit Wire Assembly	04824		
Out-Limit Bracket Assembly	04046		
Power Switch Cover	90004		
FOR "OLD" STYLE RELAY:		FOR "NEW" STYLE RELAY:	
3' Power Switch Assembly	04800	3' Power Switch 18/3	04840
5' Power Switch Assembly	04802	7' Power Switch 18/3	04841
10' Power Switch Assembly	04804	10' Power Switch 18/3	04842
15' Power Switch Assembly	04806	15' Power Switch 18/3	04843

RELAY ASSEMBLIES

The DC powered Cablemaster has been manufactured since 1987. During that time, two relay assemblies have been used. The unit on the left is the earlier model used in Cablemaster units from 1987-9/1999. The relay on the right has been used on all Cablemasters manufactured AFTER September 1999.



OLD STYLE RELAY

- Shipped before Sept. 1999
- Voltage specific
- Connects to Remote Control with some wiring modification



NEW STYLE RELAY

- Shipped AFTER Sept. 1999
- Suitable for 12 or 24 VDC
- Remote Control ready

IMPORTANT — GENERAL TROUBLESHOOTING GUIDELINES

1. For each listed problem, troubleshoot the problem in the order listed below.
2. Prior to troubleshooting, it is good marine practice to ensure that the equipment being worked on is clean and dry. Electrical problems can frequently be caused by dirty or corroded electrical connections, or by wet or salt residue causing grounding or shorting. All electrical connections should also be checked to ensure that they are tight.
3. One of the few maintenance requirements that should be regularly performed is to verify the integrity of the rubber covers over the power and in-limit switch (marine unit). Cuts or holes in this cover will frequently cause failure of the associated switch.

CABLEMASTER ELECTRICAL TROUBLESHOOTING PROCEDURE

If the Cablemaster fails to operate at all, or only operates in one direction, the most likely cause of the problem is that some part of the electrical system has failed. The following guide will help the service technician to troubleshoot and repair the Cablemaster motor and control circuits.

In general, the problem will fall into one of two categories, either the Cablemaster does not operate in either direction or the unit only operates in one direction (IN or OUT).

PROBLEM / SYMPTOM: THE CABLEMASTER DOES NOT OPERATE IN EITHER DIRECTION.

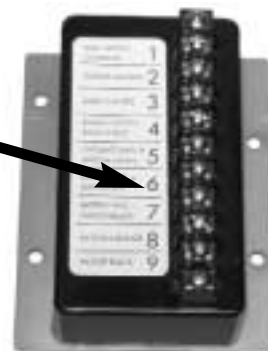
ANSWER 1:
Check the supply voltage at the relay box

CHECK CORRECT VOLTAGE — On the relay box, measure the voltage between input power terminals. The power supply to the unit should be connected via a fuse or circuit breaker (Fuse rating: 12 VDC: 20 amps; 24/32 VDC: 15 amps). If no voltage is observed at the relay box, check for a tripped breaker, blown fuse or other electrical supply problem.

CHECK VOLTAGE POLARITY — Verify that power is supplied to the unit with the correct polarity.

OLD STYLE RELAY

Input Terminals #6 & #7



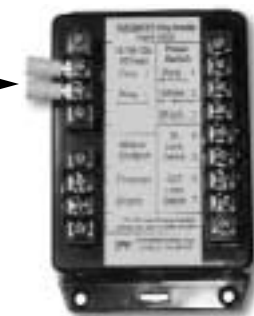
ANSWER 2:
Check the operation of the motor

Remove the motor leads from terminal connectors on the relay box. Connect the power directly to the motor leads (polarity is not important). The motor should operate in one direction; reversing the power / motor lead connection will reverse the motor direction.

If the motor fails to operate at this point, motor replacement is required.

NEW STYLE RELAY

Input Terminals



IMPORTANT

Motor leads MUST be disconnected from relay terminal connections in order to test motor operation. Failure to remove the motor leads from the relay box before applying power to the motor leads will cause damage to the relay box components.

REPAIR PROCEDURE (MOTOR REPLACEMENT)

1. Remove vinyl cover from motor assembly. Remove motor from Cablemaster power unit by removing 2 screws from motor end bell. Motor can then be pulled from Cablemaster.
2. Install new motor assembly in Cablemaster power unit, aligning screw holes. Secure motor assembly with 2 screws. Reinstall vinyl cover.

ANSWER 3:
Control circuit failure (In-limit, Out-limit, Power Switch, Relay Box)

If the motor operates when it is connected directly to power, but the Cablemaster does not operate in either direction when the normal power switch is moved, some part of the Cablemaster motor control circuit has most likely failed. This would include the Cablemaster relay, In / Off / Out control switch, or limit switches.

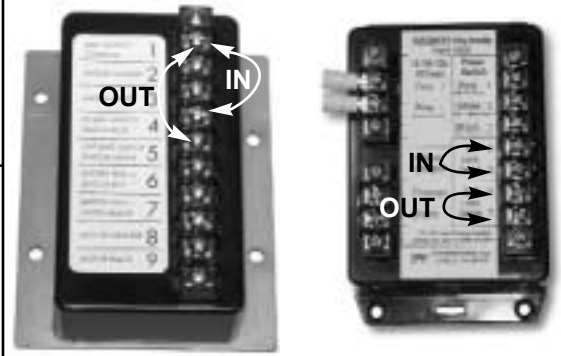
Complete the troubleshooting steps listed under the next section: ***"The Cablemaster only operates in one direction (either IN or OUT)"***

PROBLEM / SYMPTOM: THE CABLEMASTER ONLY OPERATES IN ONE DIRECTION (EITHER IN OR OUT).

ANSWER 1:
Check the appropriate limit switch

a. The in- and out-limit switches are "normally closed"; that is, they conduct electrical current until they are actuated. If one of the limit switches fails, it will not allow the cable to operate in the direction that of the failed switch.

b. The limit switches can be checked by installing jumpers at the appropriate terminals on the relay box. If installing a jumper corrects the problem, replace the appropriate switch.



NOTE

In some installations, the configuration of the power unit will reverse the location of the limit switches and their terminal connections. Verify the terminal connections of each limit-switch before jumpering.

The in-limit switch comes as an assembly with wire already connected to the switch and includes a rubber switch cover. The out-limit switch includes 2 microswitches and connecting wiring.

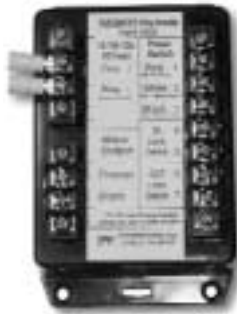
ANSWER 2:
Check the power switch for proper operation

The power switch can be checked by installing wire jumpers in certain relay terminals in order to simulate the power switch operation. Follow the directions on the photos to install the wire jumper(s) in the appropriate terminals. If the Cablemaster now operates in both directions, replace the power switch.



- 1) Install a jumper between Relay Box terminals #1 and #7.
- 2) Connect one end of a second jumper to Relay Box terminal #6.
- 3) Briefly touch the other end of the second jumper to Terminal #2 or Terminal #3.

When Terminal #2 or Terminal #3 are contacted by the second jumper, the Cablemaster should operate in one direction or the other. If the Cablemaster now operates in both directions, replace the power switch.



- 1) Connect one end of a jumper on Relay Box terminal #1.
- 2) Briefly touch the other end of the second jumper to Terminal #2 or Terminal #3.

When Terminal #2 or Terminal #3 are contacted by the second jumper, the Cablemaster should operate in one direction or the other. If the Cablemaster now operates in both directions, replace the power switch.

ANSWER 3:
Replace relay box

If the Cablemaster still does not operate in both directions, the Relay Box is faulty.

NOTE

The power switch comes as an assembly with wire already connected to the switch. Specify whether the switch is sustained contact or momentary contact.



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