

ELECTRIC ROOF LIFT SYSTEM

WIRELESS REMOTE CONTROLLED

Wireless or Wired Control

Light Weight

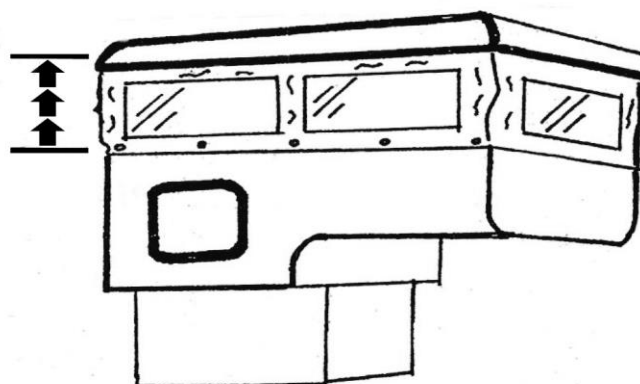
Fast and Powerful

Safe and Enclosed Mechanism

State of the Art Actuator &
Controls

Manual Back-up

Proven Durability



Pop-Up Camper



965 Lambrecht Road ♦ Frankfort, IL 60423
Phone: 866.403.9803 ♦ Fax: 815.469.4705
Email: customerservice@riecotitan.com
www.riecotitan.com

Doc. Date 1-15-14
Rev. Date 3-25-14

ELECTRIC ROOF SYSTEM

WIRELESS REMOTE CONTROLLED

DESCRIPTION OF SYSTEM

The Rieco-Titan electric roof lift system is an advanced motorized electric powered 12 Volt DC system, which was designed to provide a way to automatically lift and lower the roof on a pop-up type camper.

The system is operated by a switch in the camper. In an emergency, if the electric system should fail, the system is equipped to be operated manually using a flexible shaft and an electric drill. The system can be operated wirelessly (with the optional Key Fob) from anywhere within 100 feet of the camper.

The roof lift weight limitations are as follows:

- No amount of snow may be allowed on the roof.
- 200 lbs of additional weight may be placed on the roof by the camper owner. This is based upon the roof's weight not exceeding 500 lbs including AC, Roof, Canvas, and Cabinets. (See the camper manufacturer for details)
- All additional weight must be placed behind the bed overhang, and distributed evenly.

It was developed in conjunction with a pop-up camper manufacturer to meet all possible requirements of weight, speed, power, safety, and durability.

The best application of this system comes when it is possible to install the four roof lift actuator posts in the four corners of the camper, where the load is proportionally shared, as designed. However, each application is different, and completely satisfactory operation can be attained where not all of the actuators are located in the corners.

The roof lift kit comes with the following components:

1. Four (4) roof lift actuator posts which are equipped with a motor, housing, travel limit switches, and a gear reduction transmission to a screw and nut mechanism. The actuators can travel 20".
2. Four (4) roof mounting brackets for attaching the actuators to the roof frame.
3. One (1) rocker switch and wall plate for wired operation (Standard)
A key fob transmitter and receiver are available at an additional price for wireless operation.
4. Complete installation and operation instructions, drawings and specifications.
(contained herein)

The system comes with a 2 year warranty on parts, when Rieco-Titan has approved the installation design. Warranty period starts from purchase date to final customer.

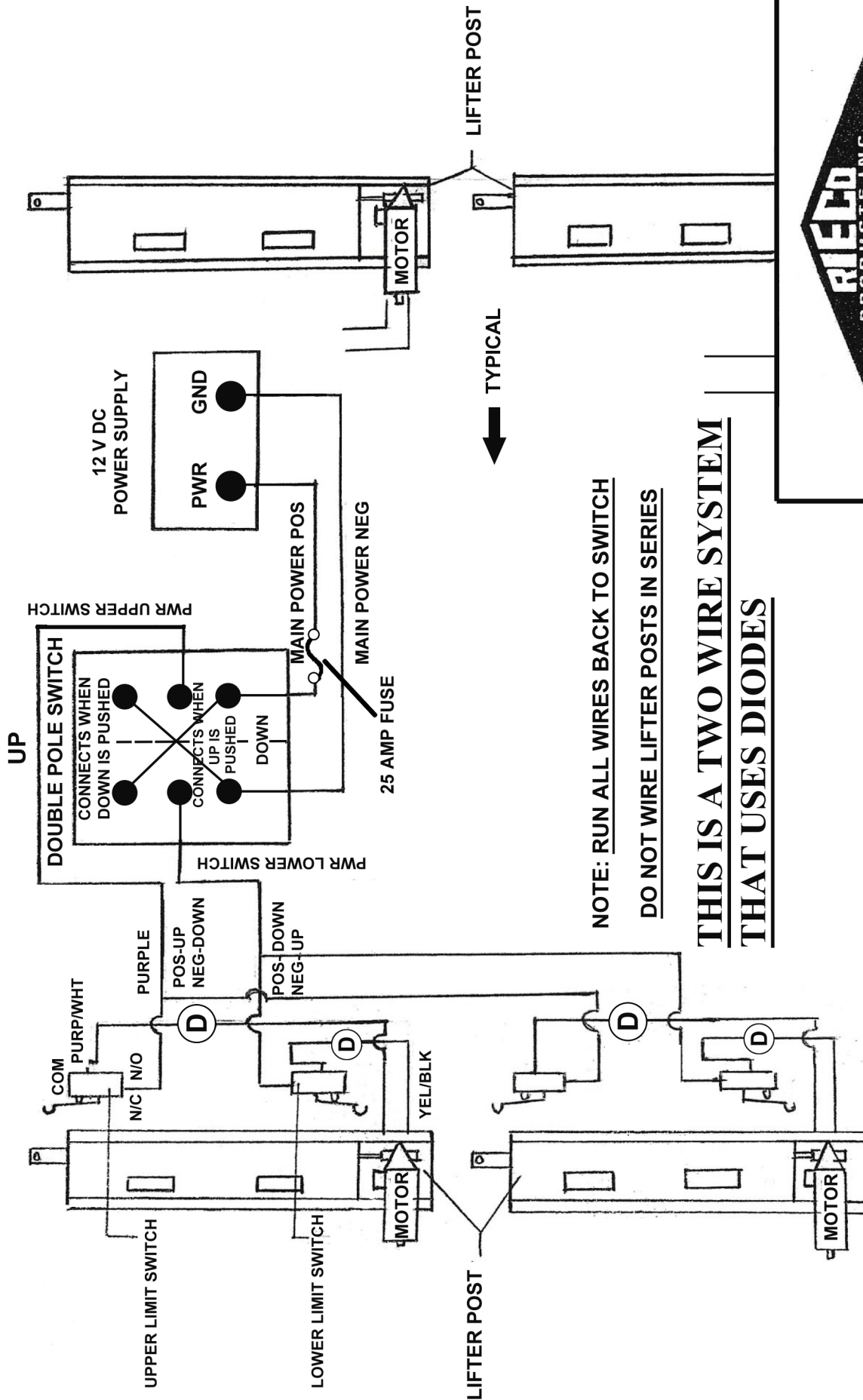
The system is safe because it is totally enclosed, and people in the camper cannot be snagged or caught in the mechanism. Normal precautions regarding shutting off the power ensures electrical safety when trouble shooting, etc.

NO-ONE OTHER THAN THE OPERATOR SHOULD BE IN THE CAMPER WHEN THE ROOF LIFTING OPERATION IS COMMENCING.

IT MUST BE EMPHASIZED THAT THE ROOF HOLD DOWNS MUST BE OPENED BEFORE ATTEMPTING OPERATION OF THE ROOF LIFT SYSTEM.
A Trouble Shooting Guide is included in the kit in the event something abnormal occurs.

Call us at Rieco-Titan Customer Service Toll Free: (866) 403 9803 if you need any assistance.

See attachments for details about wiring, set –up, installation, of wired, wireless, and manual back-up modes.

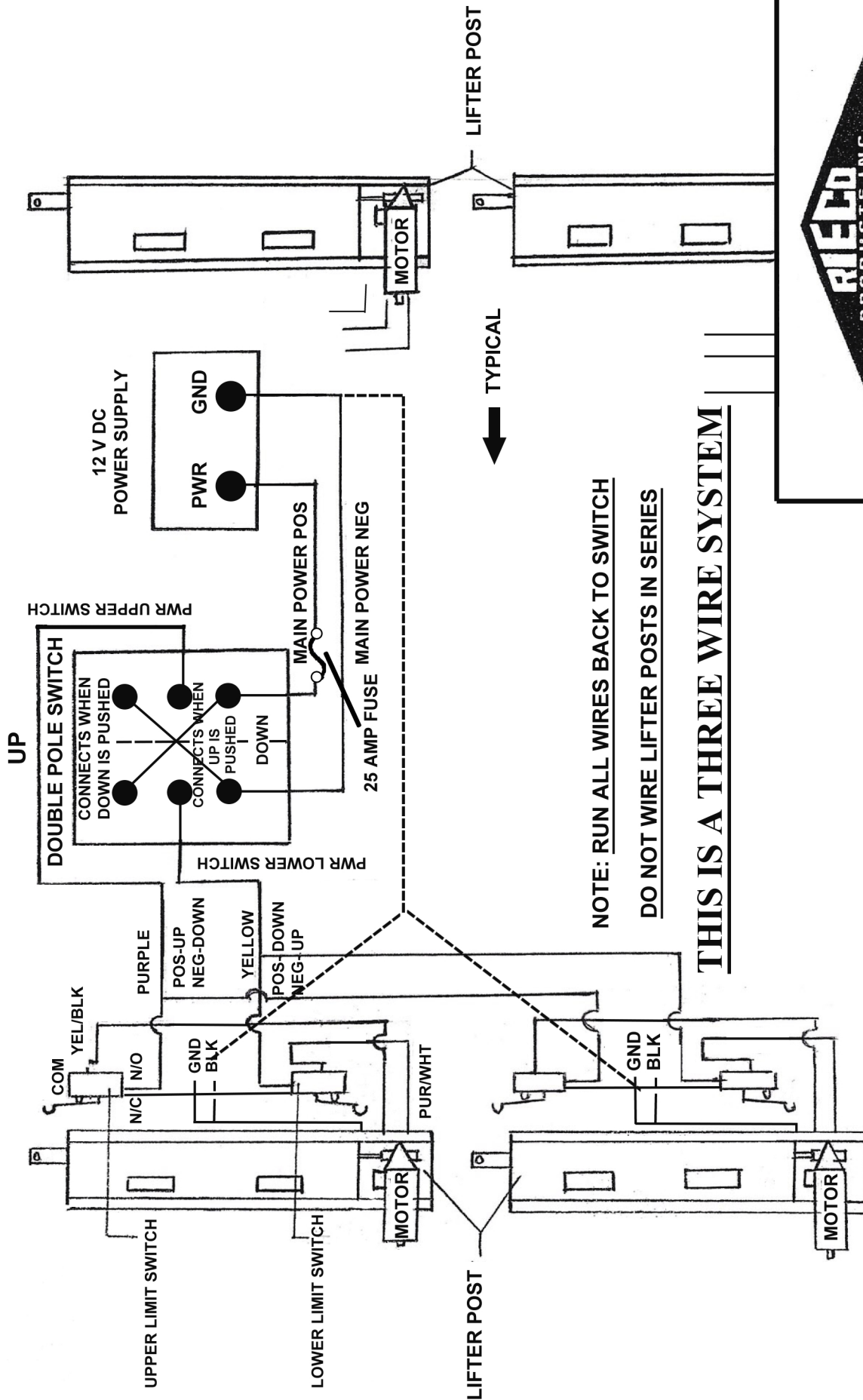


2 WIRE

LIFTER POST WIRING DIAGRAM

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3-26-14



NOTE: RUN ALL WIRES BACK TO SWITCH
DO NOT WIRE LIFTER POSTS IN SERIES

THIS IS A THREE WIRE SYSTEM



LIFTER POST WIRING DIAGRAM

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FOUR POINT ROOF LIFT SYSTEM **TROUBLE SHOOTING GUIDE**

<u>PROBLEM</u>	<u>CHECK</u>	<u>CORRECT</u>
1. Roof will not raise or lower	<ul style="list-style-type: none">- Power Supply Fuse- Inspect Wires For Damage- Motor & Limit Switch Connections	<ul style="list-style-type: none">- Replace Fuse- Replace or fix- Connect
2. Roof not fully extended	<ul style="list-style-type: none">- Top Limit Switch	<ul style="list-style-type: none">- Confirm Activation- Adjust Switch- Reinstall
3. Roof does not stop	<ul style="list-style-type: none">- Bent Switch Arm	<ul style="list-style-type: none">- Adjust Switch

Warning: Do not over tighten the limit switch screws or the threads may strip.

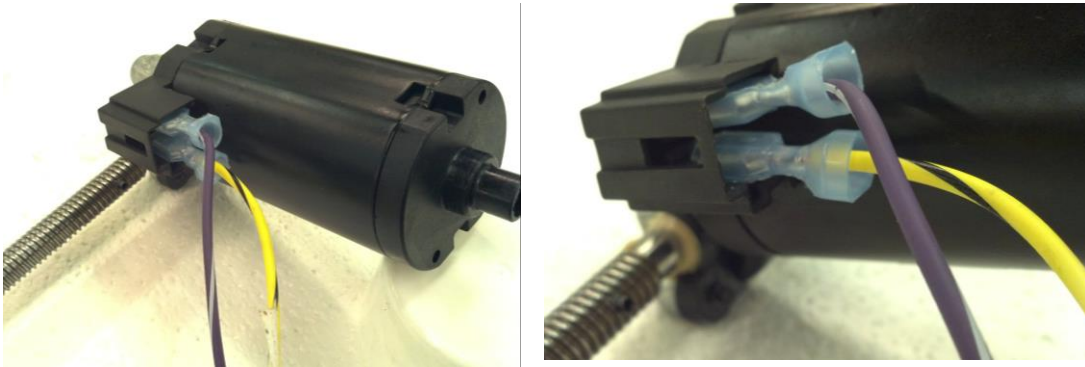
Always turn off the power when diagnosing the problem and fixing it.

Note: To adjust switch arm, hold/support the metal switch arm at the point it goes into the switch body. Grab the end of the arm, bend it slightly toward the body, and reinstall the switch.

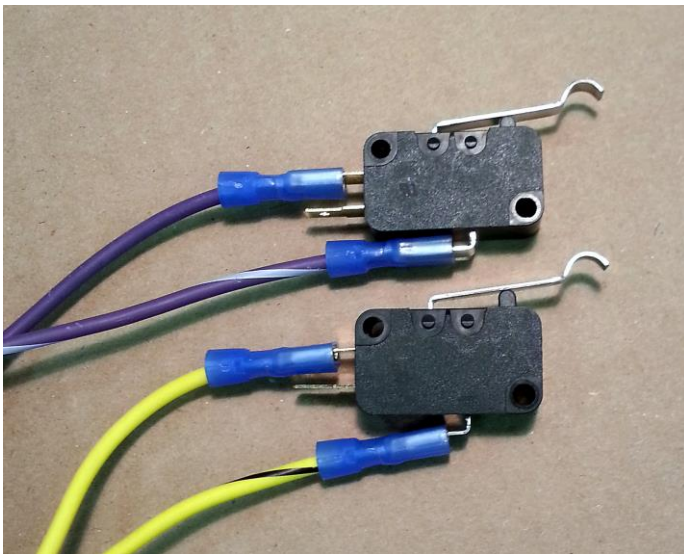
Before adjusting the switch, remove the 2 screws and pull the limit switch out of the lift arm's body, but do not disconnect it from the wiring. Then try to activate the lift system. (This will confirm the switch was activated)

Always Make Sure Roof Hold Downs are Opened Before Operating System

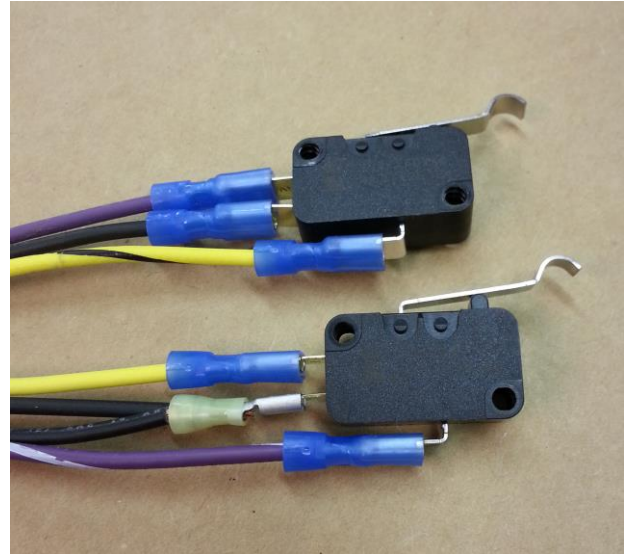
FULL WIRING DIAGRAMS CAN BE FOUND ON PAGES 4 & 4A



Proper wiring of the motor is shown above.



Two Wire System Harness

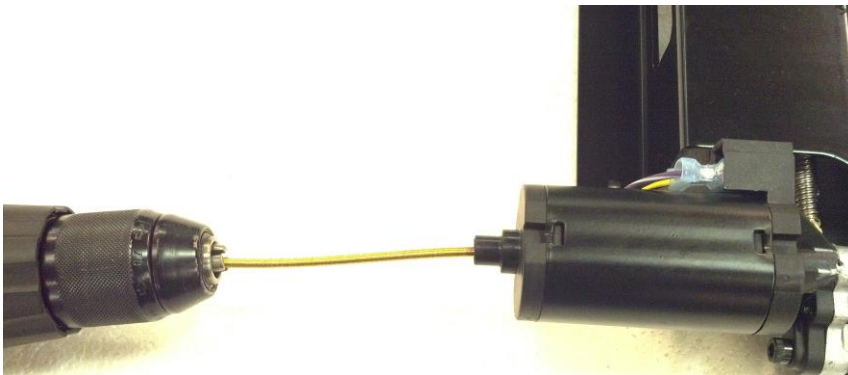


Three Wire System Harness

The limit switch at the top of each picture is the limit switch at the top of the roof lift arm.



When adjusting the limit switches... **LIGHTLY SNUG UP THE SCREWS**
*****DO NOT OVER TIGHTEN THE SCREWS OR THE THREADS MAY STRIP.*****



Location of Emergency Flex Drive Shaft port.
- Support Flex Shaft with your hand to reduce the chance of kinking.
***** Wear proper hand protection when supporting the flex shaft.*****

RTP 16102

Wireless Remote Control System for 12 volt dc motor

The receiver box should be located in an area where the on/off switch will be accessible. Mounting the receiver module within cabinetry works well. However, if you are mounting the module within a steel compartment it is recommended that you drill a hole in the steel and let the antenna hang out. Typical range with the wireless key fob is 50-100 feet, depending on where the receiver module is mounted.

All electrical connections that are made to the receiver module should be made with proper connectors. All wiring should be routed in areas that will protect it from road hazards and sharp edges. The receiver module should be installed so that the electrical connections are fully insulated and protected from objects that may come in contact with them causing an electrical short. All connecting wires should be the same size as the wires on the receiver (10/14-gauge stranded copper wire).

BATTERY WIRING

- 1 RED** (Main 12volt +dc power) - Connect a 10-gauge red wire with a **20-amp automatic reset circuit breaker or a 30-amp fuse** to the red wire from the receiver module and the battery positive terminal. *This device must be installed within 18" of the battery and may be installed in the battery enclosure or compartment, provided this compartment is well ventilated.*
- 2 BLACK** (Ground 12volt -dc) - Connect the black wire from the receiver module directly to the battery negative terminal. If you need to extend the black wire, do so by using a 10-gauge black wire. *Improper grounding will cause malfunctions. Be sure ground is clean.*

MOTOR WIRING

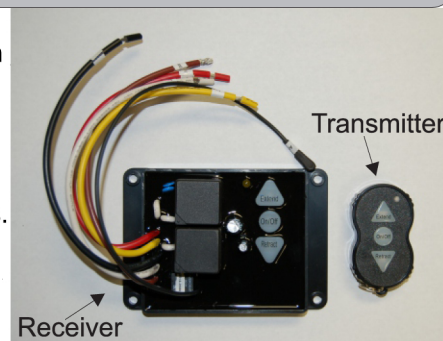
- 3 YELLOW** (Up/Extend) - Cut the wires that connect the motor to the existing wall switch (usually red & yellow wires). *The existing wires that are still connected to the wall switch will no longer be used. Manual back-up switches or located on the receiver module.* Now connect one of the wires from the motor to the yellow wire from the receiver module.
 - 4 WHITE** (Down/Retract) - Connect the other wire from the motor to the white wire from the receiver module.
 - 5 BROWN** (Motor Brake) - If your motor has a third wire (motor brake wire) connect that wire to this brown wire. If your motor does not have a third wire this brown wire will not be used. Then blunt cut wires so no electrical short can occur!
- * When testing, if the transmitter or manual switch located on the receiver module has the application moving in the wrong desired direction, then simply reverse the connection of the motor wires coming from the receiver module.

MANUAL SWITCH WIRING

- 6 GREEN** (Up/Extend)(SPDT) - Connect one of the manual switch wires from step 3 to this green wire from the receiver module. *The manual / internal wall switch must be a normally open momentary type switch. A SPDT (Single Pole Double Throw) switch is recommended that is a (ON)/OFF/(ON) type switch. The manual switch must be located so that a **NEGATIVE/GROUND** signal can be run to the switch and then back to the receiver module (**NOT A POSITIVE SIGNAL**).*
- 7 PURPLE** (Down/Retract)(SPDT) - Connect the other manual switch wire from step 3 to this purple wire from the receiver module.

OPERATION

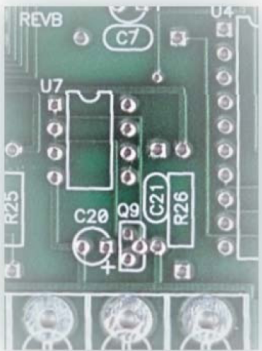
- Depress the on/off button on the transmitter, to activate. The blue light on the top right corner should turn on. The transmitter should be in the off position when the unit is not in use. This transmitter has a safety time-out feature. When the unit was active and then not used in 3-minutes it will automatically turn off. Hit the on/off button to turn it back on!
- On the transmitter, depress and hold the Extend or Retract Button to operate the motor.
- The switch mounted on the receiver module will function the same as the key fob buttons.
- Care should be taken not to overdrive the application. When the application reaches the end of travel, **release the button or switch**.
- In the event the application would need to be manually cranked, it may be necessary to unplug the motor wires from the receiver box, previously described in steps 3, 4, & 5. This is because, some motors will create excessive drag in the system when manually cranked and by unplugging the motor wires it will make it easier to operate.



To learn a transmitter:

- 1) Enter learn mode: Push & hold the on/off button on the Receiver Module until the LED starts to flash, then release the button
- 2) Push & hold the on/off button on the Transmitter until the LED on the Receiver Module comes on constant. Release the on/off button. The Transmitter is now "learned".
- 3) Option: Learn a 2nd or 3rd transmitter repeating step 2. Note: Receiver Module remains in "learn mode" as long as LED is flashing.
- 4) To exit "learn mode", push & release the on/off button on the receiver module. Light will change to constant on. The unit will also exit the "learn mode" upon 30 seconds of no activity.





Rieco Titan Products, Inc.

Making Your Life Easier.

Patent#
6142504
6900603

*The Only
Patented Remote
in the Industry

Part# 16102

Electric Remote Control System

Operate your Electric Motor from
inside or outside your vehicle!!

Easy Installation!

50-100
Feet Range

Will Operate 12 or 24 Volt DC - Electric Motor!

The Best Wireless Remote Control in the Industry!



- * Front Jacks
- * Rear Jacks
- * Awning
- * Slide-Outs
- * Winch
- * And More!

Operate your Electric Motor from
inside or outside your vehicle!
This remote adds convenience and
safety to every application!

Simply hold down a button and let the
wireless remote control system
operate your existing 12 or 24 volt dc
electric motor. Now there is no need
to be restricted to one area to
operate your motor. It is safer to
have the option of mobility!

This convenient wireless system lets
you move around and monitor the area
while you are operating!

Features and Benefits

- Works with 12 and 24 volt dc systems.
- Potted for protection!
- Installation wires instead of terminals.
- Learning transmitter!
- 3-minute automatic time-out feature.
- Back-up manual switches on receiver!
- In-line fuse required.
- On/off switch on xmtr & receiver!
- Can still use a remote wall-mount switch.

Call us today to order!

e-mail: customerservice@riecotitan.com

Call us or visit our website today!
www.riecotitan.com
1.866.403.9803



Rieco-Titan Products Making Your Life Easier

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SPECIFICATIONS

Operating Voltage
Maximum Current

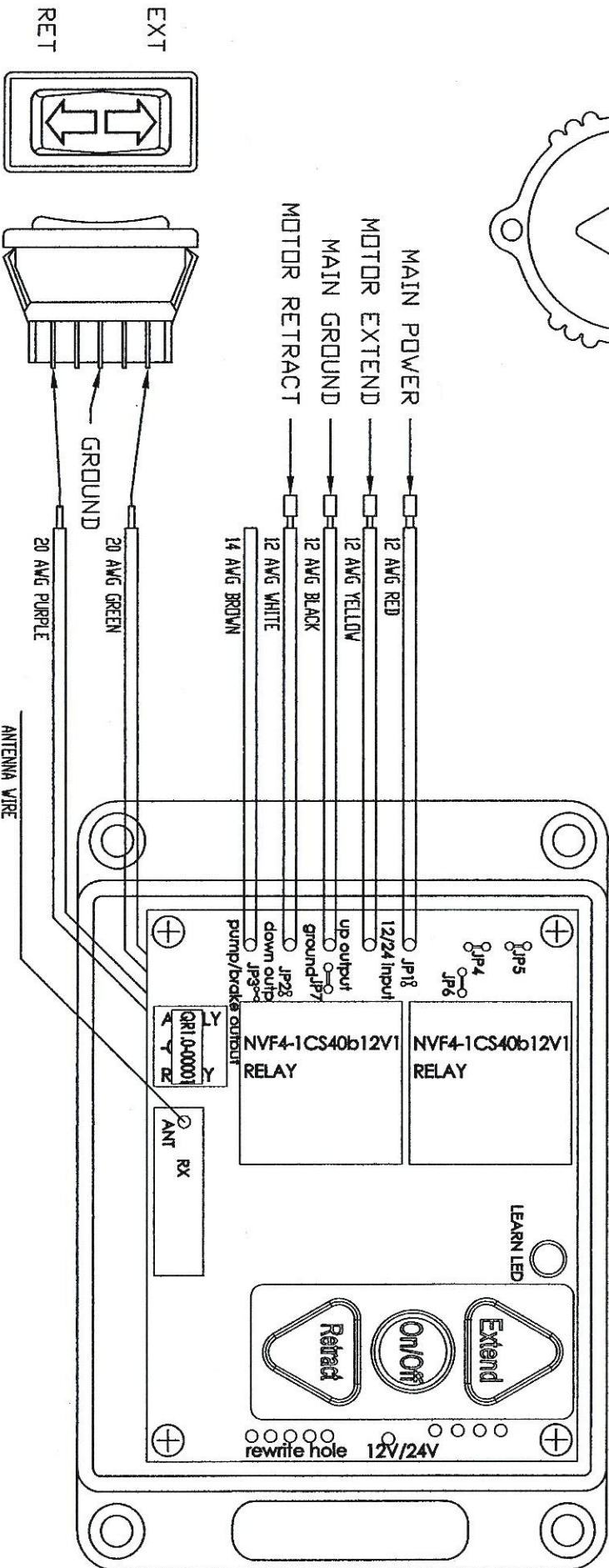
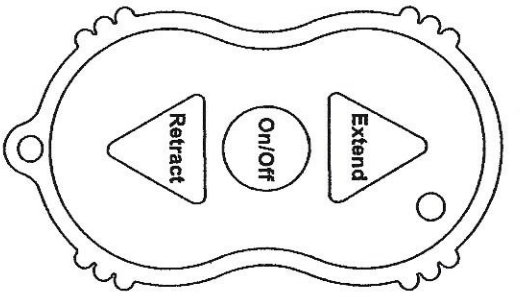
+9V DC to +28V DC
40 Amps @ 12VDC
20 Amps @ 24VDC
-40 C to +125 C

Operating Temperature

DOC. DATE 1-15-14

-9-

PRODUCTION REVISIONS			
REV.	DESCRIPTION	DATE	BY



FRONT VIEW

PROCESS		APPROVALS		INITIAL	DATE	SCALE	REV	TITLE	
STEP	NEXT	ENGINEERING				1:1	A		
1000	4000					UNIT	SIZE		
4000	7000	MANUFACTURING				IN	A		
7000	9000					DIM TOL	DRN BY		
9000		SALES DEPT				.XX ± .02			
						.XXX ± .005			
		CUSTOMER				ANG TOL	DATE	PART NO.	
						X ± .1"			
						X ± .5"			



GMF 36 Rev. 1

******* LIMITED WARRANTY *******

The Wireless Remote Controlled Roof Lift System is warranted against manufacturing defects and workmanship for two (2) years from the date of purchase by final customer.

Within this period, Rieco- Titan Products, Inc. will at its option, repair or replace the product or any part thereof without charge for parts or labor. To exercise the warranty, the original customer-owner must return the original invoice, and the product freight prepaid and insured to Rieco- Titan Products, Inc.

This warranty does not apply in the following cases: Product finish, improper installation, misuse, failure to follow installation & operation instructions, alterations, abuse, tampering, accident, or acts of god or nature.

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed and the following is made in lieu of warranties, expressed or implied. Seller's and manufacturer's only obligation shall be to replace such quantity of product proved to be defective in accordance with published warranty policy. Neither seller nor manufacturer shall be liable for injury, loss or damage, direct or consequential arising out of the use or the inability to use the product. Before using, user shall determine the stability of the product for his intended use and user assumes all risk and liability whatsoever in connection therewith.

Except as provided herein, Rieco-Titan Products, Inc. makes no express warranties and any implied warrant of merchantability or fitness for a particular purpose is limited to the duration of the limited warranties set forth herein.

There will be charges rendered on repairs to the product made after expiration of the aforesaid two (2) year warranty period.

This warranty gives you specific legal rights and you may have other rights which may vary from state to state.