



Remote Control Systems

INTEGRATED RECEIVER/ENDGATE and AIR HOIST CONTROL MANUAL

The **G. Force** Remote Control is designed to provide the ultimate in convenience and safety to perform tasks remotely. It is a radio frequency (RF) controlled device that allows operation of a gate, chute, etc. from a hand held transmitter operated remotely. The Transmitter, which operates at 418 MHz FM, transmits encoded information to the Receiver, which then decodes the information and performs the desired function. When coupled with motor/driver, this system may be used to operate a swinging gate, raise a chute, open a valve, etc. The Transmitter and Receiver are designed to operate within 300' but actual range is dependent on operating environment.

Features :

- Simplicity of design and quality of engineering.
- User selectable security code.
- Power On/Off switch on Receiver.
- LED Indicator lights.
- 9v Transmitter Battery
- Ease of installation/removal.
- All controls can be by either Manual Keypad or Remote Control
- Multiple Transmitters can operate a single Receiver.
- Multiple Receivers can be operated by a single Transmitter.
- Up to 4 different Channels can be operated by one Receiver

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Specifications:

Transmitter:

Power:	9 volt dc battery
Frequency:	418 MHz
Modulation:	FM
Indicators:	Power/Transmit Red LED
Case Size:	2.6" x 4.1" x .9"
Weight:	.25 lb.
Range:	300'+ (depending on environment)
Antenna:	1.3" Fixed Mini Tuned
Security Code:	3 ⁸ selections
Safety:	Off/Standby Slide Switch
Functions:	2 to 9 Button (depending on Model)

Receiver:

Power In:	12 vdc
Power Out:	12 vdc @ 10 amps max
Standby:	40mA
Security Code:	3 ⁸ selections
Power Input:	4' non-terminated 16ga wires
Hoist Inputs:	Plug-and-Lock Connector
Indicators:	Power On Red LED Receive RF Data Yellow LED Channel Active Green LED
Options:	Latched/Momentary Data Multi-Channel (1-4) Main Power On/Off Switch Manual Switch Control
Antenna:	7" Flexible Tuned
Case Size:	3.75" x 5" x 19"
Weight:	5 lb.

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Electric Cylinder Model ECL2S/12

Force: 540 lb.
Speed: .75 in/sec.
Stroke 11.8" Full Stroke
Closed Length: 18" Pin-to-pin
Electrical: 9.5A @ 12v Full Load
Duty Cycle: 5%

Hoist Output

Connector: 2-pin Plug-n-lock
Cabling: 15' of 2 Conductor 18ga. wire non-terminated

Solenoid Air Valve

Valve: 12vdc Dual Solenoid Operated Air Valve
Air: 1/4" Airline Push-to-Connect Fittings
Electrical: 12vdc .5Amp Solenoids - Prewired

Warning: Be sure truck hoist is securely blocked and valve lever activated safely in both directions before beginning installation!

Think Safety:

Do Not install or operate where damage to property or persons may occur.

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INSTALLATION INSTRUCTIONS

Connecting Power to Receiver:

Using sufficiently heavy gage wire, (not included), connect +12vdc and Ground wires to the wire from the Electric Cylinder marked **POWER IN** using the crimp connectors supplied. The polarity **must** be correct as follows: **+12v on the BLUE wire**, and **GROUND on the BROWN** wire. Power may be supplied from the fused side of the ACCessories on the ignition switch so that the Receiver is only powered while the vehicle ignition key is on or alternatively, connected using an inline fuse directly to battery power. When the Power ON/Off switch on the bottom of the Receiver is turned on the Red LED indicator light should be ON indicating normal operation.

Electric Cylinder Installation:

Before mounting the Electric Cylinder on the end gate, determine the correct location for installing the mounting tabs by extending and retracting the cylinder to ensure required stroke. This can be accomplished once power is supplied to the Receiver by pressing the ENDGATE manual switches on the Receiver.

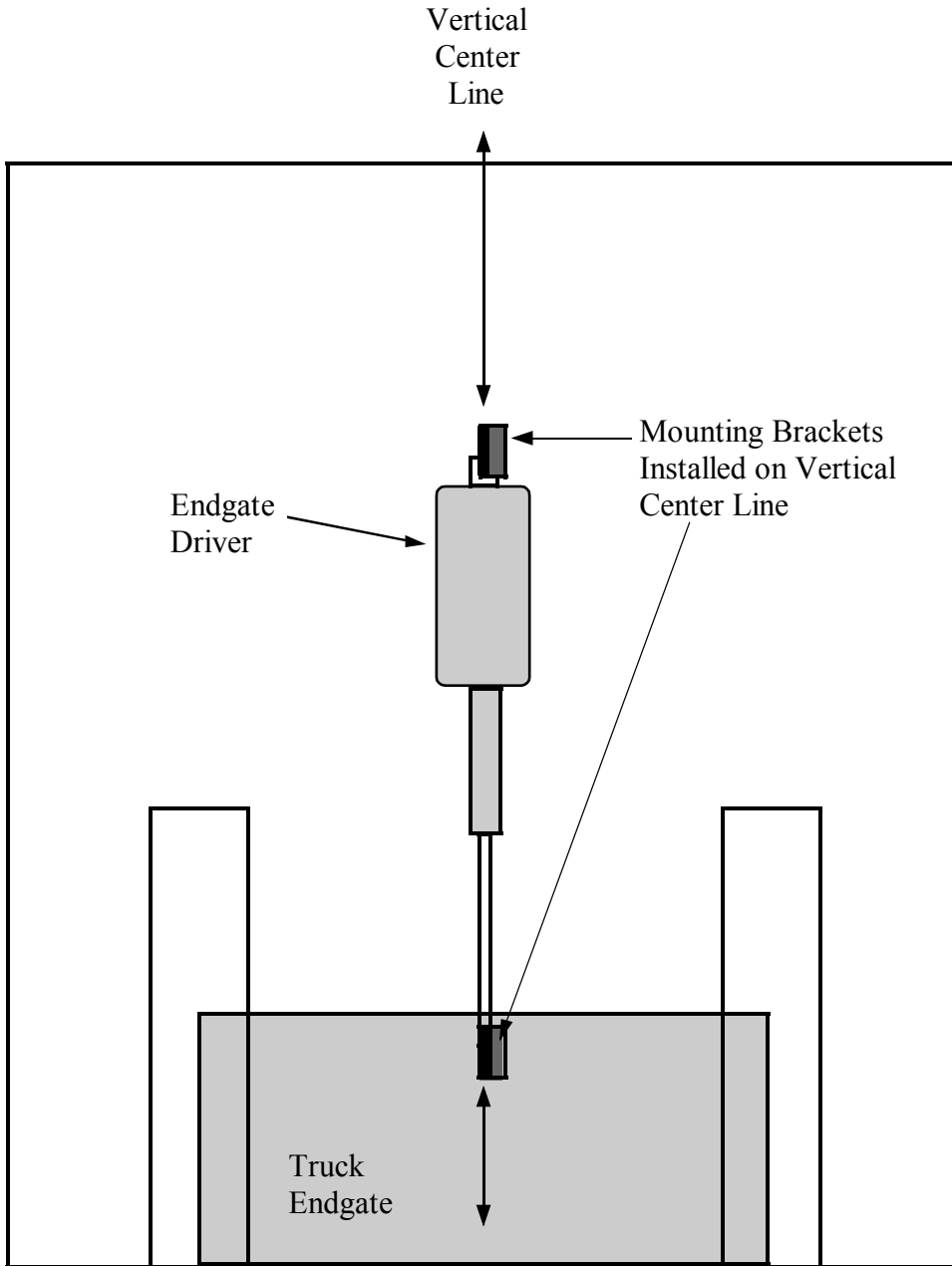
Ensure the grain chute operates freely. Position the mounting tabs such that when the grain chute is fully open the cylinder is not quite fully retracted. Then check to ensure that the distance to fully close does not exceed the electric cylinder stroke length and that the electric cylinder can be mounted free of any obstacles.

Weld or drill/bolt the mount tabs in position on the vertical center-line of the grain chute and box end panel at the desired positions.

Attach the cylinder main body to the top mount tab using the bolt and locknut supplied. Attach the cylinder piston to the moveable grain chute with the snap pin supplied. Route the electrical wire and connect using the insulated crimp terminals supplied. Secure all wires using the cable ties provided.

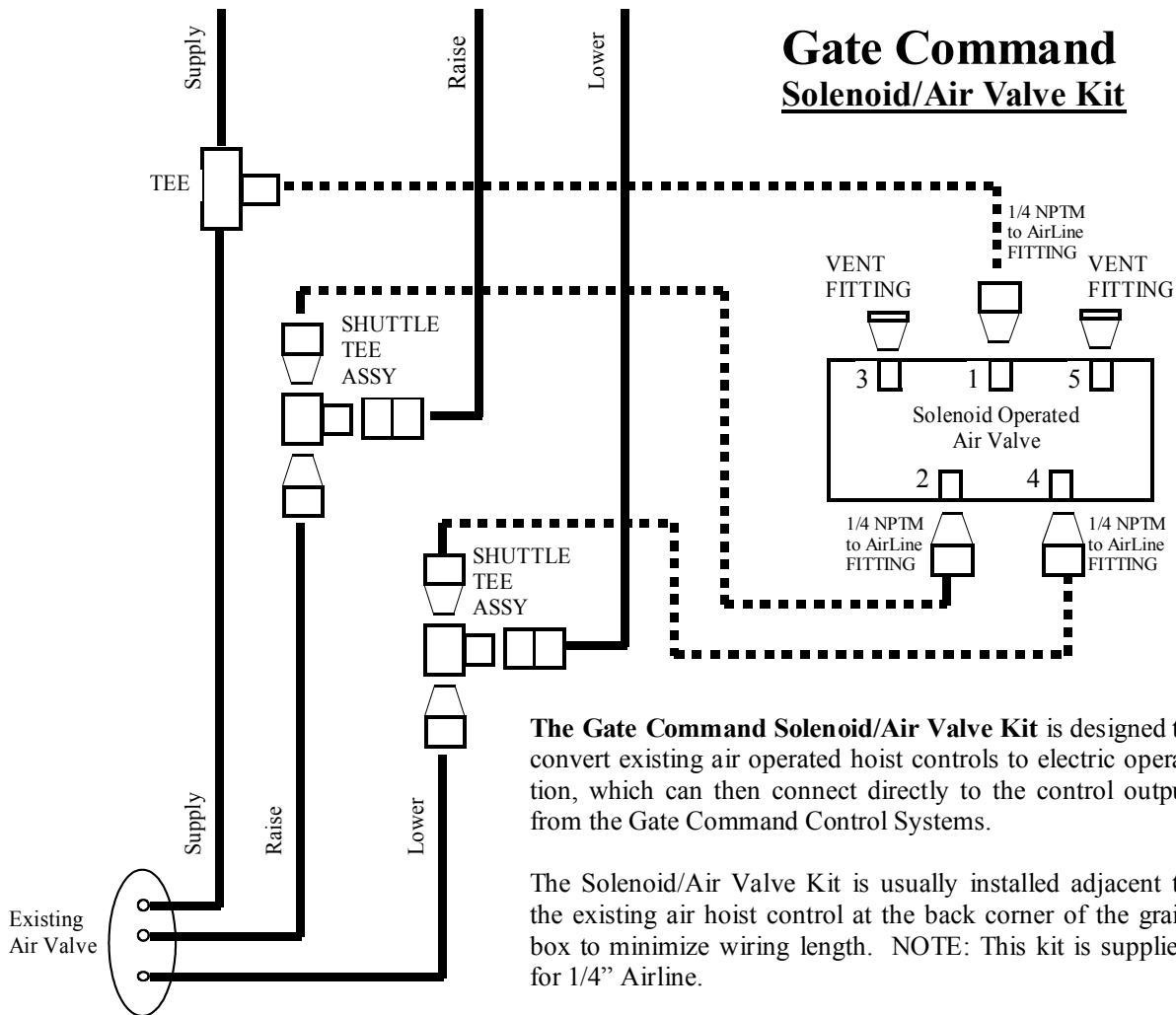
NOTE: The existing lift handle on the endgate need not be removed, however, it must not be able to lock in any position. This could cause the electric cylinder to stall resulting in reduced service life or destruction.

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ENDGATE DRIVER INSTALLATION DRAWING

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Air Line Connections:

- 1) Install 1/4" Airline TEE into the Supply Line and connect to Port 1 of the Solenoid/Air Valve.
- 2) Assemble the SHUTTLE TEE ASSY's and install one into each of the air cylinder lines which raise and lower the hoist. Connect to Ports 2 & 4. (Ports 2 & 4 are interchangeable as "Raise" and "Lower" will be selected by the electrical connection.) BE SURE to install the SHUTTLE TEE's as shown such that the shuttle operates between the Existing Air Valve and the Solenoid Operated Air Valve.
- 3) Install the Vent Fittings into Ports 3 & 5 of the Solenoid/Air Valve.

NOTE: the fittings supplied are "push-to-connect". They require no ferrules and can be disconnected by depressing the colored release collar and pulling the airline away.

Electrical Connections:

Connect the input wires from the Solenoid/Air Valve to the black and white Hoist Output wires from the Gate Command Receiver. Before making the connections permanent, check to ensure the hoist operates in the correct direction when the "Up" and "Down" buttons on the Gate Command are selected. If the operation is backwards, reverse these two wires.

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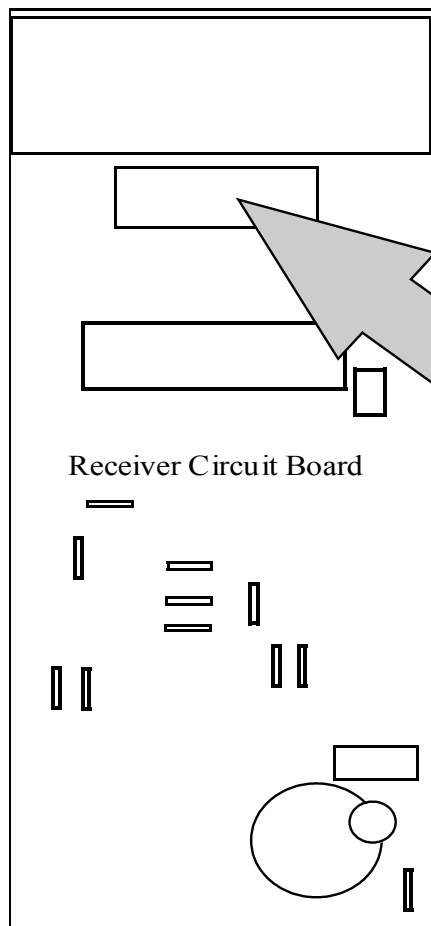
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General Operation:

RECEIVER:

The Receiver is equipped with a Power On/Off switch on the outside of the case. When the switch is ON, the Red LED should be lit indicating normal operation.

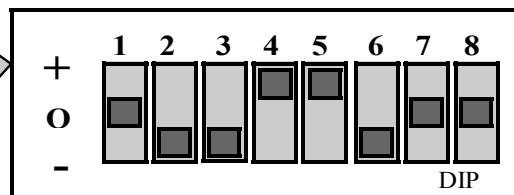
The Receiver is equipped with an 8-position switch used to set the user security code. The security code is provided to prevent unwanted operation of the Receiver by other devices. Only a Transmitter with identical switch settings will be able to "talk" to this Receiver. When the switches are set identically and the transmitter "talks" to the Receiver, the yellow "RECEIVE" light will come on. This indicates that valid data with a matching security code has been received. Position these switches to any desired On/Off pattern for your own security code. REMEMBER: The 8-position switch on the Transmitter must be set **IDENTICALLY**. To access the security code switch, remove the 6 screws securing the case from the rear and open the case.



USER SELECTABLE SECURITY CODE SWITCH

8 - POSITION MUST BE SET

IDENTICAL
TO THE TRANSMITTER



NOTE: This is a TRI-STATE switch.

Each of the 8 switches has **3 positions** which must be identically matched to the corresponding Transmitter/Receiver.

These code switches are fully compatible with 8-position Two- State On/Off switches by using the **"+" setting as ON** and the **"O" setting as OFF**.

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The Endgate and Hoist can be operated using the Transmitter, or alternatively, by pressing the desired UP/DOWN arrows on the Receiver to activate the Manual Switches. Whenever the endgate or hoist is operating, the Green LED indicating power to that device, will be lit.

Only one device can be operating at a time. The Hoist Driver will return to its Off (Neutral) position before allowing any other output. The Manual Switches have priority over the Transmitter signal when the Hoist Driver is in its OFF position.

The Receiver has two automatically resetting fuses. Fuse F1 (1 Amp) is intended to protect the RF receiver and data circuitry, and Fuse F2 (10 Amp) is intended to protect the relays from overload. These fuses will automatically reset when cooled

TRANSMITTER:

The Transmitter is powered by a 9v battery which, when installed, should light the red "power" light when a switch is pressed. If the battery does not exceed 7 volts the Power light will not come On, indicating battery replacement is required.

Set the 8-position switch to your own security code which matches the code on the Receiver to which it is to "talk". Note that any number of Transmitters can "talk" to the same Receiver as long as they have the security code which matches the receiver.

To access the Transmitter security code switch or battery, remove the 4 screws in the back of the Transmitter case and open the case.

NOTE: The STOP button shown/included on the Transmitters is NOT USED as both the Hoist and Endgate **only operate while a button is held.**

Think Safety:
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damage to property or persons may occur.

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ENDGATE DRIVER:

The Endgate Driver will only operate while its transmitter button/ manual switch control button is depressed. Release the button immediately when the endgate is fully opened or closed. Do not operate in a stalled condition. This could result in reduced service life or destruction of the Endgate Driver.

The Receiver power switch should be turned Off when not in use to prevent undesired operation.

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