



# Wiring Instructions for 92 1 50/54/56 - 2-6 Function Receiver/Actuator Systems



**1 BEFORE YOU START**

- The Receiver is designed to carry a maximum of 15 Amps. That is, for example, 15 Amps through one output or 5 Amps each through 3 outputs.
- Master Output. This can be configured to Continuous or Parallel operation, see overleaf for details.
- If Receiver outputs are connected in parallel with an external switching device (wired remote) the Receiver will instantly switch off when the wired remote is operated
- Lodnar Receivers **MUST** have an isolation switch for safety, to allow for registering a replacement Transmitter.
- Safety Feature. Both the Transmitter and the Receiver will "time out" after 30 minutes of inactivity. This can be altered, ask your dealer.

**2 IDENTIFY POWER CONNECTION POINT AND ISOLATE SUPPLY**

Remove fuse  
or Disconnect Battery

**WARNING**  
Vehicle batteries contain gases which are flammable and explosive. Wear eye protection and do not lean over battery while disconnecting. Do not wear metal jewellery.

**3 MOUNT RECEIVER**

**CAUTION**

**TAKE TIME TO LOCATE THE BEST POSITION**

If necessary, power the Receiver and move it around the vehicle until the required performance is achieved. Operate the Transmitter and observe the Receiver internal LED's.

Mount as **HIGH** as possible  
**AVOID** surfaces with **HEAVY VIBRATION**  
**AVOID DIRECT SPRAY** from wheels  
In a **HOT CLIMATE** fit in a **SHADED** position  
Cable gland should face **DOWN** or **BACK**

Receiver 92 04 RX and 93 04 RX shown,  
Waterproof to IP67, complete with 3 metres (10 ft) cables

Red & Black are power & ground connection.

Secure using 5mm (3/16") bolts (not supplied) through the 4 mounting feet

**4 LOCATE A SUITABLE POSITION TO MOUNT THE CYLINDER(s)**

Chassis  
Support Channel across vehicle  
Control Lever Housing  
Control Rod  
Control Lever

Control rod setup on a popular carrier showing air cylinder in an ideal mounting position

**5 WILL IT FIT**

295mm (11.6") approx at Max Travel

64mm (2.5") approx

Trunnion for cylinder mounting

IMPORTANT MEASUREMENT when mounting 240mm (9.5") approx with Cylinder at mid point

Lug for clevis at cylinder rod end

Allow a minimum of 6mm (1/4") clearance over dimensions shown

**6 WELD LUG TO CONTROL ROD**

**CAUTION** Take care to maintain alignment

**7 FABRICATE A MOUNTING POINT FOR THE TRUNNION AT CYLINDER END**

**CAUTION** Take care to maintain alignment

**IMPORTANT MEASUREMENT - 240mm (9.5")**  
Distance between mount face of trunnion and Lug for clevis when lever is in neutral position (see figure 2)  
This is to ensure cylinder is at mid point and can operate in both directions

**IT IS BETTER FOR THIS DISTANCE TO BE LONGER NOT SHORTER TO ALLOW FOR PACKING IF REQUIRED**

**8 FIT CYLINDER**

**IMPORTANT**  
Grease the trunnion and the clevis before fitting

**VERY IMPORTANT**  
Test the operation of the control lever to ensure that it moves freely in both directions, and when released that it RETURNS TO THE NEUTRAL POSITION  
If there is tightness at any point it must be eased at this time

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**BEFORE YOU MAKE FINAL CONNECTIONS**

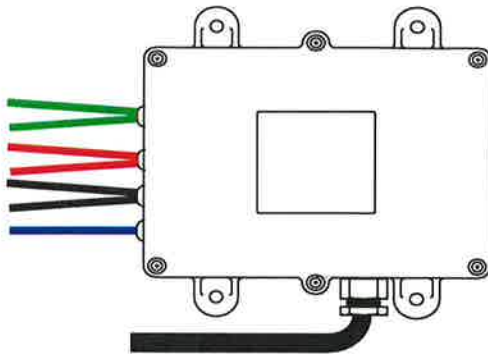
**CAUTION** - Maximum air pressure 120 psi

**IMPORTANT** - Take care to keep all pipes and connectors clean at all times  
**PARTICLE INGRESS WILL CAUSE DAMAGE**

**CAUTION** - A pressure regulator may be required  
At 120 psi the cylinder can push with a force of 91 lbs and pull 76 lbs

**CAUTION** - Air supply should be **CLEAN** and **DRY** at all times.  
Most important in cold climates  
Actuator failure could occur

GREEN PIPES  
Cylinder 3  
RED PIPES  
Cylinder 2  
BLACK PIPES  
Cylinder 1  
BLUE PIPE  
Air Supply



**FINAL CONNECTIONS**

- CONNECT to power supply (see figure 3)
- CONNECT air supply (BLUE PIPE) the adaptor may be require
- CONNECT to cylinder 1(BLACK PIPES) all pipes are push fit
- CONNECT to cylinder 2 (RED PIPES) 92 1 54 Models only
- CONNECT to cylinder 3 (GREEN PIPES) 92 1 56 Models only

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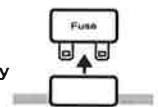
**FINAL ADJUSTMENTS**

There is a flow control valve on the blue pipe in the Actuator Control Box. Screw the adjuster in (clockwise) to reduce the airflow into the cylinder. This gives some degree of "feel" and "soft start" to the system.

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**ACTIVATE SUPPLY**

Replace fuse or re-connect Battery



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**CONNECT TRANSMITTER BATTERY**

Batteries generally have to be disconnected when shipping.

**TEST**

Press the Transmitter **RESET** button to activate the system, and carefully test each function for correct operation.

**FM Series - Effective working range up to a distance of 60 metres (200 feet).**  
**Narrow Band FM Series - Effective working range up to a distance of 300 metres (1000 feet)**

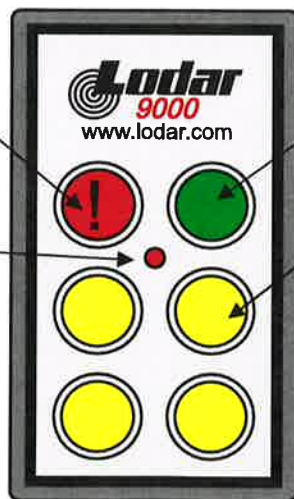
**STOP** Button switches off the Receiver and the keypad function buttons

**L.E.D. Blinks** when Transmitter and Receiver are active.

**L.E.D. ON** when a Transmitter Button is pressed.

**SAFETY FEATURE**

The Transmitter automatically transmits a **STOP** signal after 30 minutes; this de-activates the Receiver and the Transmitter keypad.



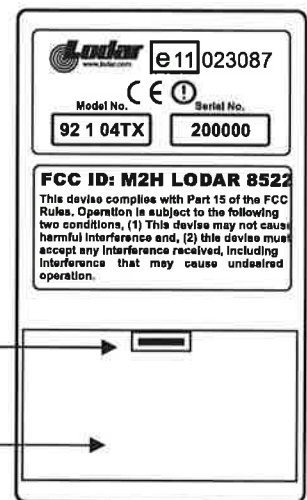
**RESET** Button activates the Receiver and the keypad function buttons

Function Buttons (Yellow)

Release Catch

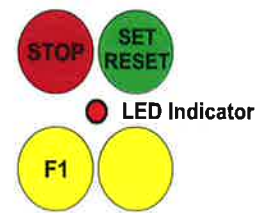
Battery Compartment

Rear



## Registering a Lodar transmitter to a Lodar receiver unit

Take a moment to familiarize yourself with the buttons on your Lodar wireless controller.



**STOP** - This button turns off the handheld and the receiver unit.  
This button is in the same location (top left) on all Lodar models

**SET / RESET** - This button is used for two operations and is in the same location (top right) on all Lodar models .  
**SET** - normal operation , transmitter and receiver unit have been paired, a single press will turn on the handheld and the associated receiver unit / ready for wireless operations.

**RESET** - The green button is used to register - re-register (associate) a Lodar handheld unit to a Lodar receiver unit.  
(register - adding a new handheld to your Lodar system)  
(re-register - on occasion a Lodar transmitter can loose it's association to the Lodar receiver unit and will need to be paired again) The green button is used for either register / re-register or normal operation.

**F1** - Function 1 button - This button is located just below **STOP** on all models.

This button is used to register / re-register (associate) later models of Lodar transmitter to a Lodar receiver.

(Normal operation - F1 / when Lodar system is on, pressing this button activates the function 1 receiver output)

Step 1 - Identify the version of Lodar transmitter you are attempting to register.

Look at the LED indicator, press and hold the **GREEN** button, if the LED indicator stays solid you will be using a single button setting procedure / if the LED indicator starts solid and begins to flash after 2 seconds you will be using a 2 button setting procedure. (\*\* Note , if LED indicator begins flashing immediately while holding the **GREEN** button you have a battery voltage issue / change battery / check battery /batteries for correct positive / negative installation)

Single button procedure - Remove power from your Lodar receiver unit, restore power to the Lodar receiver unit.

This opens a 20 second registration window on the receiver unit.

Immediately press / hold the **GREEN** button only for 10 seconds, the SET LED on the receiver should now be illuminated and your Lodar wireless system ready to use.

2 button procedure - Remove power from your Lodar receiver unit, restore power to the Lodar receiver unit.

This opens a 20 second registration window on the receiver unit.

Immediately press / hold the **GREEN** button, within 2 seconds of pressing and holding the **GREEN** button press and hold the F1 button also. You will be holding both buttons in that sequence **GREEN** first , then F1 for 10 seconds. The SET LED on the receiver unit should now be illuminated and your Lodar wireless system ready to use.

**If you have issues with this procedure please call Lodar Service & Support Toll Free 877-257-1581**