

7.1.2: MOUNTING DIRECTLY TO BOOM HEAD

(Follow steps a to c in section 3.1.1)

Note: Distance between two holes for the mounting screws can be between 1 1/2" to 2 3/8" center to center only when NOT using the mounting bracket.

- d. Using supplied 5/16"-18 x 1 3/4" mounting screws with lock washers, mount the transmitter directly to the boom by fastening the screws through the holes of the transmitter. Cut the lanyard holding the safety pin right at the base of the transmitter. Discard the safety pin (see illustration).

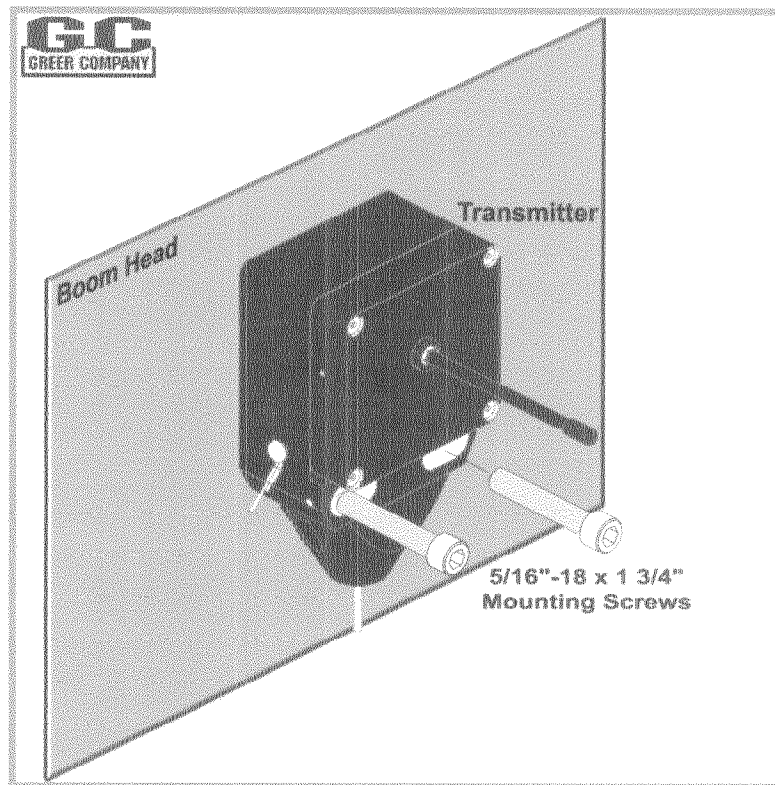


FIGURE 6: MOUNTING TRANSMITTER DIRECTLY TO BOOM HEAD

7.2 Attaching the Chain and Weight Assembly

3.2.1 To attach the chain to the fork, slip the end of the chain in between the fork and secure it with the clevis pin. Push the cotter through the clevis pin and the cotter around the clevis pin to prevent it from slipping out (see illustration). Note: Cotter shown in illustration is not spread.

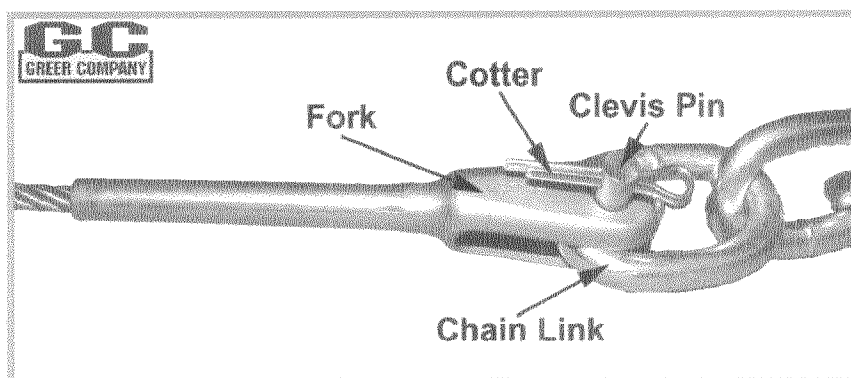


FIGURE 8: ATTACHING CHAIN TO FORK

3.2.2 To attach the ATB weight to the chain, open the ATB weight by lifting the latch up and turn counterclockwise to release. Slip the cable in between the ATB weight and re-attach latch, turn clockwise and push latch down. Make sure that the chain is not wrapped around the cables.

7.3 Mounting Compact OEM Receiver

Locate a suitable location for the receiver preferably protected from rain and direct sunlight. The Compact OEM Receiver can be mounted on flat surface using any ¼ inch screws 4" apart center to center. Mount the antenna into any metal surface (using magnet). Make sure that the radio antenna is positioned parallel to transmitter antenna and where it has minimal or even zero interference with the transmitter.

For wire connections, please refer to the illustration below:

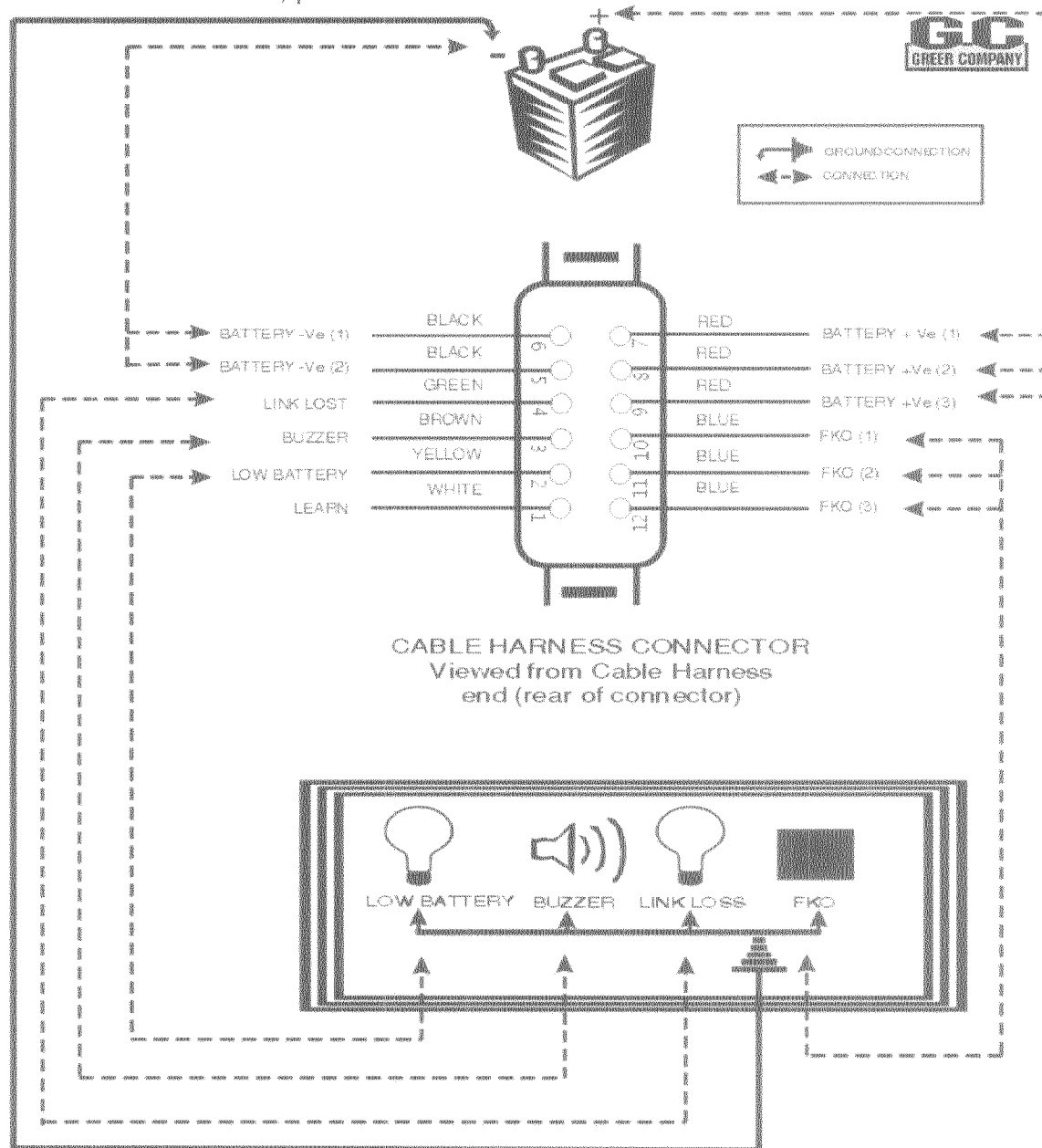


FIGURE 9: RECEIVER WIRE CONNECTIONS

7.3.1 CONNECTIONS

BATTERY – Ve (1,2)	- Connect both wires to Battery Negative
BATTERY + Ve (1,2,3)	- Connect to Battery Positive – All three wires should be connected if directly driving kickout solenoids
FKO (1,2,3)	- Function Kickout Output – Connect all three wires to function kickout solenoids OR one wire if an external relay slave is used.
LINK LOSS	- If receiver does not detect transmitter signal, a Loss of Link Alarm condition will occur. Output is +12v. Connect to an indicator lamp if required. (Current 3A max)
BUZZER	- Turns on during any alarm condition. Connect to alarm. Output is +12v.
LOW BATTERY	- If Transmitter Battery is Low, a low battery alarm condition is likely to happen. Output is +12v. Connect to an indicator lamp if required. (Current 3A max)
LEARN – Input	- Connect this wire BRIEFLY to Battery Negative in order to force the Receiver to learn the Transmitter code.

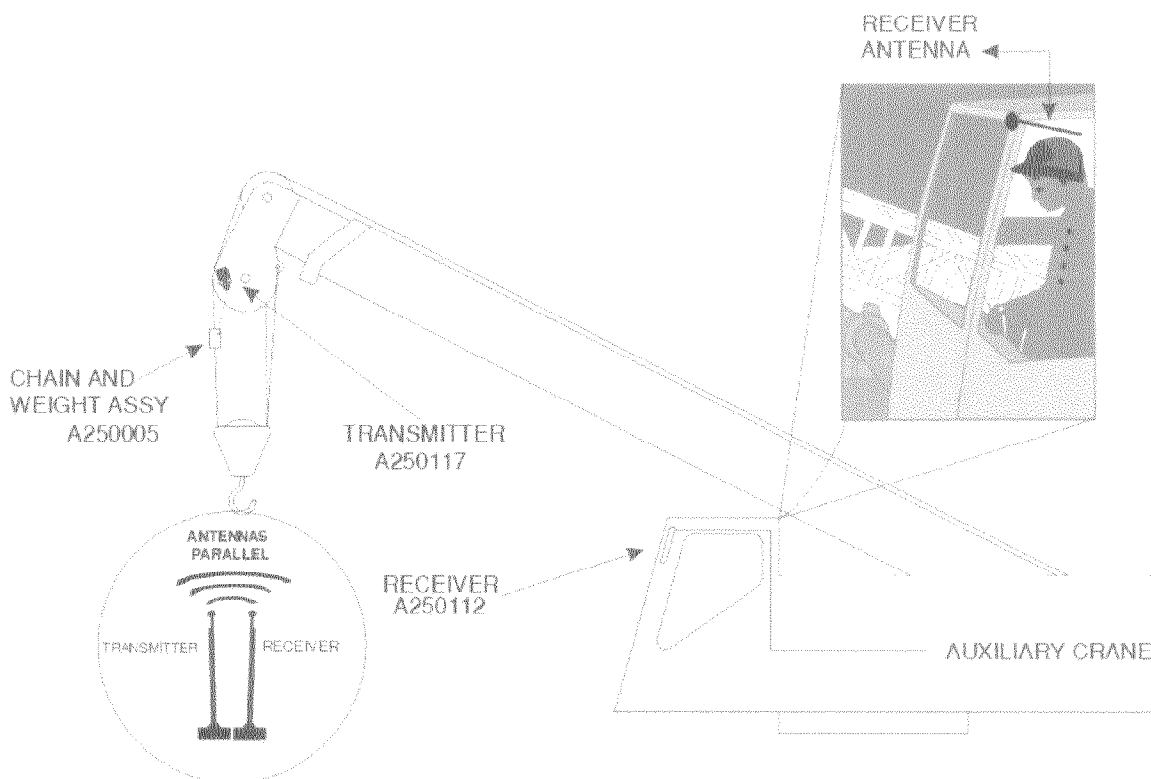


FIGURE 10: RECOMMENDED RECEIVER ANTENNA INSTALLATION

8. Operation

Before operation:

Remove the locked out pin by pulling the wire rope down to release it. Failure to do so will make the system inoperable.



Before operating the system, "learn" the Transmitter codes by performing the following:

- Momentarily connect WHITE LEARN wire to ground (via a switch) OR
- Wave a powerful magnet closely over the of the receiver enclosure to activate an internal reed switch.

Operate the transmitter on and off until alarm outputs operate to make sure that transmitter and receiver are set to the same code. It is also advised that the system be tested before every operation.

TESTING:

At the start of every work period, it is **ESSENTIAL** that the System be tested momentarily by two-blocking the block and/or the ball. You can do this by manually lifting the ATB weight or operating the crane. Confirm that the audible alarm and the alarm lamp come on. When this happens, all boom motions should stop.

IMPORTANT:

When the crane is left in a two-block condition for more than two minutes, the transmitter will automatically shut off. This action saves the battery during long waiting periods and during crane transports (if locked out pin is not used).

When in a two-block condition, the System will **automatically reset itself** when the hook or ball is lowered; this action takes the crane out of the two-block condition. If the crane becomes two-block again, all normal two-block warning signs, signals, actions will activate.

9. TESTING THE SYSTEM

CHECKING THE TWO-BLOCK ALARMS

On the following tests, it is presumed that receiver connections are properly done and connected to their respective devices i.e. indicator lamps, horns or buzzers, etc.

1. Start and warm up engine.
2. Raise the hook until the weight on the switch is lifted and the boom approaches a two-block condition. The **horn** should **beep** and the **FKO indicator lamp** should be **OFF**. All **boom motions** should **cease** (if the motion cut system is installed).
3. Ensure that the boom down, boom out, hoist up motions are **NOT** active.
4. ***What to do when a two-block condition occurs.***
5. Lower the hook until the **horn** goes out and the FKO Indicator lamp goes on indicating that the crane is no longer in two-block.
6. To check the shut off timer in the transmitter, **note the time** as the boom hoists into two-block. Approximately 2 minutes later, the transmitter should shut off. The **LOL** (Loss-of-Link) Indicator Lamp should be **lit**, the horn should beep at about half-second intervals (fast) and the **FKO** Indicator Lamp should be **off**. (This occurs after 2 minutes in a two-block condition, the transmitter is programmed to deactivate to conserve battery life.)
7. Correct the situation described in No. 6. Lower the hook until the crane is no longer in two-block.
8. Now, raise the hook again approaching a two-block condition. The transmitter will have reset and all two-block alarm warnings will be active.

CHECKING THE RECEIVER

Refer to the truth table below to verify receiver status:

Transmitter Condition	RF Link Intact?	Transmitter Battery	Low Batt Lamp	Buzzer Or Horn	Loss of Link Lamp	FKO Lamp
SAFE	YES	NORMAL	OFF	OFF	OFF	ON
SAFE	YES	LOW	ON	BEEP (slow)	OFF	ON
UNSAFE	YES	NORMAL	OFF	ON	OFF	OFF
UNSAFE	YES	LOW	ON	ON	OFF	OFF
No ComLink	NO	No matter	OFF	BEEP (fast)	ON	OFF

10. TROUBLESHOOTING

- **Receiver not working / not receiving**
 - ☞ Make sure Transmitter and Receiver codes are the same. Refer to Section 4 Operation - Learn Mode
 - ☞ Make sure power connections are properly connected. Refer to Section 3.3 Mounting Compact OEM Receiver
 - ☞ Damaged Receiver. Contact Greer Company for repair or replacement

- **Transmitter not working / not switching**
 - ☞ Make sure Transmitter and Receiver codes are the same. Refer to Section 4 Operation - Learn Mode
 - ☞ Switch / battery connectors (inside the transmitter) loose. Open the transmitter (refer to Section 4 Installing a New Battery on how to open transmitter) and carefully check connections.
 - ☞ Very low battery. Replace with new battery.
 - ☞ Damaged Transmitter. Contact Greer Company for repair or replacement

- **No communication between Transmitter and Receiver (Loss of Link)**
 - ☞ Transmitter in sleep mode (in two-block condition). Lower down the hook click to reset transmitter.

- **Low Battery Alarm**
 - ☞ Battery in transmitter is low. Replace with new battery.

- **Indicator Lamps, Buzzer/horn not working**
 - ☞ Check if indicator lamps, buzzer/horn are correctly and securely connected with receiver.
 - ☞ Check if indicator lamps, buzzer/horn are working at all (test devices).
 - ☞ Replace indicator lamps, buzzer/horn.

11. SERVICE INSTRUCTIONS

INSTALLING A REPAIRED TRANSMITTER OR RECEIVER



The transmitter and receiver must have exactly the same code set. Receiver unit must "learn" the transmitter codes. Failure to set the codes correctly may result in property damage, severe injury or death.

LEARN MODE

There are two ways to "learn" the Compact OEM Receiver.

1. Connect briefly the LEARN (white) wire of the receiver to Battery Negative (via a switch) to force the receiver into Learn Transmitter Mode.
2. Wave a powerful magnet closely over the receiver enclosure to activate an internal reed switch.

Operate the transmitter on and off until alarm outputs operate.

INSTALLING A NEW BATTERY

Before opening the transmitter to replace a worn-out battery, **make sure you have a new original battery** on hand. Only use a 9 VDC ready as a temporary replacement since it doesn't last long.

1. Remove the 4 screws fastening the transmitter cover using 3/32 Allen Wrench.
2. Gently lift the cover from the transmitter. Be careful not to damage the wires. (Note: The Transmitter board underneath the cover is connected to the body with wires)
3. Carefully unplug the Battery connector first from the Transmitter board before unplugging the Switch connector. Note: It is important that the battery connector is pulled out first to prevent damage to the transmitter.
4. Take out battery pad and the worn-out battery from its compartment.

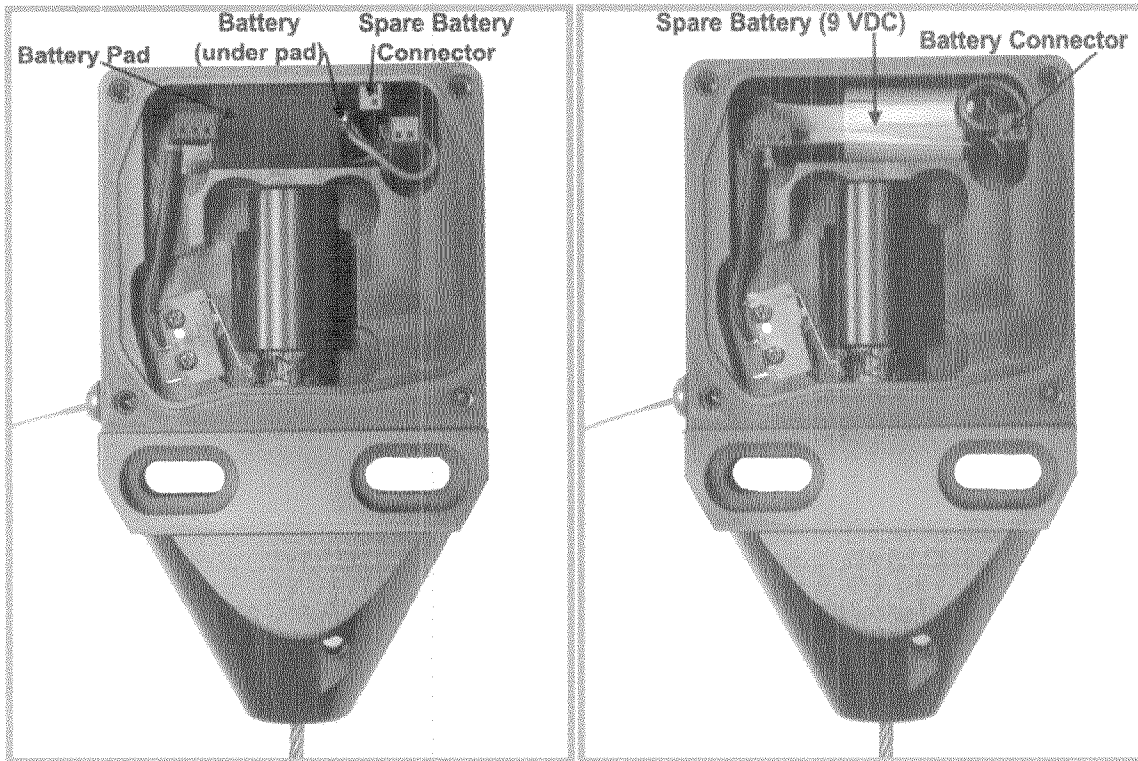


FIGURE 11: TRANSMITTER WITH ORIGINAL BATTERY

FIGURE 12: TRANSMITTER WITH SPARE BATTERY (NOT SUPPLIED)

5. Place the New Original battery in the battery compartment where the old battery was seated and place the battery pad. Only use the supplied spare battery connector to connect a commercial 9 VDC. (See Illustration)
6. Connect the switch connector and the battery connector to their respective pins in the transmitter board.
7. Put unit back together. Be careful NOT to press wires between the cover and the transmitter body.



The spare battery is only to be used as a temporary. You need to order the original battery since the 9 VDC Battery doesn't last long.

12. REPLACEMENT PARTS

For Parts Orders or Replacements, contact **Greer Company** at 714-259-9702 or Sales at 1-800-346-5245

DESCRIPTION	GREER PART NO.
ATB Switch Assembly - 916MHz Radio FM RF System R1 Configuration (Transmitter)	A250107
Bracket Mounting Common	P065662
Battery Pack Custom 7.2 V 1.45Ah	P099083
Pin Cotter 3/32" Dia x 1/2" LG	P050869
Pin Clevis 3/16" OD x 0.59" GRLG	P050875
Flag -"Locked Out"- Red/Black	P060043
ATB Receiver - 916MHz Radio FM RF System Single Receiver (OEM Receiver)	A250112
Antenna Sub-Assembly	S250102
Cable Assembly	S250101