

Check Tag and Antenna Assembly

Installation Instructions

16-6000-004 Rev B 11/19

This document describes how to install and connect the check tag and antenna assembly for Encompass® 5 and Encompass 6 Readers.

Required Supplies for Installing Check Tag Assembly

Before proceeding, make sure you have the check tag accessory kit (TransCore P/N 13-6000-001).

Table 1 lists the parts included in the kit.

Table 1 Check Tag Accessory Kit

Quantity	Description
1	Check tag assembly
1	Check tag antenna assembly (Refer to Table 2)
1	DB9 ribbon cable assembly
4	#6-32 x 3/8 inch stand-off
4	#6-32 x 1/4 inch Phillips screw
2	3/4 inch round spacer
1	Coaxial inline attenuator, 8-dB, 1 watt, SMA
1	RF cable assembly

Note: The 8-decibel inline attenuator supplied with the check tag assembly kit should be adequate for most applications; however, the attenuator value may need to be adjusted depending on a customer's reader and system configuration.

If you plan to use a check tag and antenna multiplexer on the same Encompass reader, you must use a different data cable (TransCore P/N 08315-01) to connect the two option assemblies to the Encompass reader DB9 port.

You will need the following additional equipment and tools to install the check tag assembly.

- 50-ohm coaxial cable from check tag to check tag antenna (no more than 3 decibel (dB) loss in cable).

Note: Use the same type of coaxial cable used to connect an RF antenna to an Encompass Multiprotocol Reader.

- N-type coaxial cable connectors
- Cable terminating/crimping tools
- Torque-limiting wrench (in/lb range)
- Standard set of tools (wrenches, screwdrivers, and pliers)

Mounting and Connecting the Check Tag Assembly

To mount and connect the check tag assembly

1. Check that you have all parts as listed in [Table 1](#).
2. Insert and tighten the four mounting stand-offs.
3. Place the check tag assembly on top of the stand-offs and secure with Phillips screws.
4. Fasten 8-dB inline attenuator to check tag assembly antenna SMA port ([Figure 1](#)) and tighten to 10in/lb.
5. Connect check tag antenna cable plug to other end of the inline attenuator and tighten to 10in/lb.
6. Connect the check tag assembly data cable to the DB9 ports on the check tag assembly and Encompass reader. Secure connections by tightening screws.

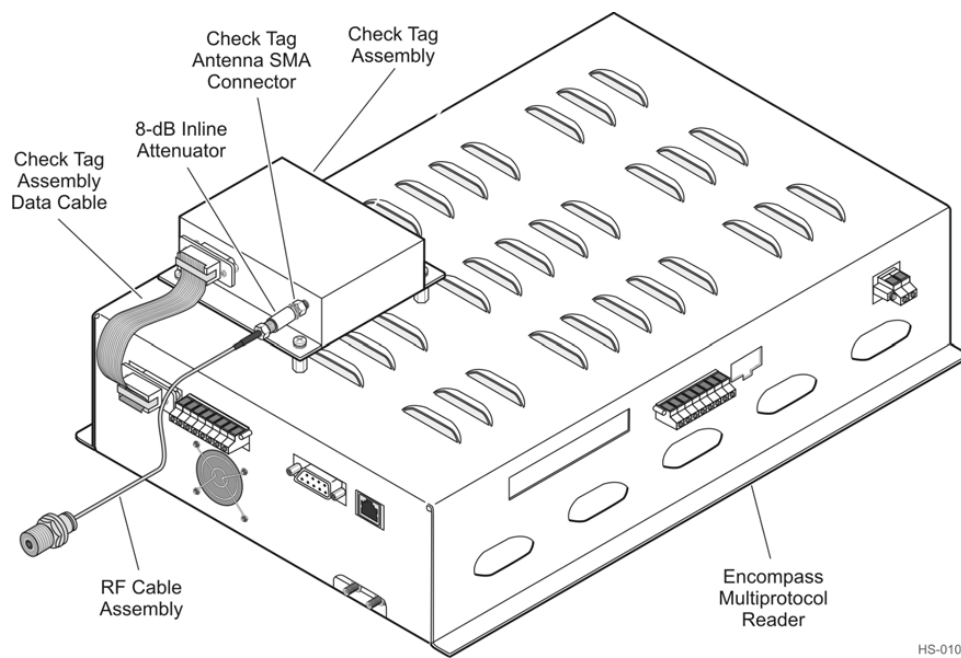


Figure 1 Check Tag Assembly Mounted on Encompass Housing

Caution

When using an enclosure that is not supplied by TransCore, to prevent damage to the SMA connectors, TransCore strongly recommends that you provide a strain-relief bracket or other means of securing the antenna coaxial cable that terminates at the RF cable assembly.

Do not connect the check tag antenna cable to the check tag assembly until you have completed the antenna installation.

Required Supplies for Installing Check Tag Antenna

Before proceeding, make sure you have the Check tag antenna kit (TransCore P/N 05429-01).

Table 2 lists the parts included in the kit.

Table 2 Check Tag Antenna Kit

Quantity	Description
1	Check tag antenna mounting bracket
1	N-connector antenna mount
1	Antenna connector spacer
1	3/32 inch hex wrench
2	O-ring .614 inch, .754 inch OD
1	Antenna

You will need the following additional equipment and tools to install the check tag antenna:

- Standard set of tools
- Torque wrench with 0 to 100 ft-lb (0 to 136 N-m) range

Note: Check tag antenna has been factory-tuned to 912 MHz. This setting permits operation in the 902.25 to 921.5 MHz frequency range.

Assembling the Check Tag Antenna

To assemble the check tag antenna and base

1. Insert whip antenna into collar (Figure 2).



Caution

Ensure the whip antenna is fully seated in the collar.



Figure 2 Whip Antenna Inserted into Collar

2. Tighten the lower and upper hex screws (Figure 3).

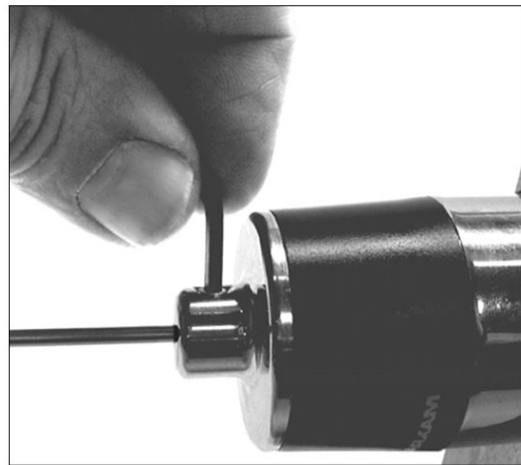
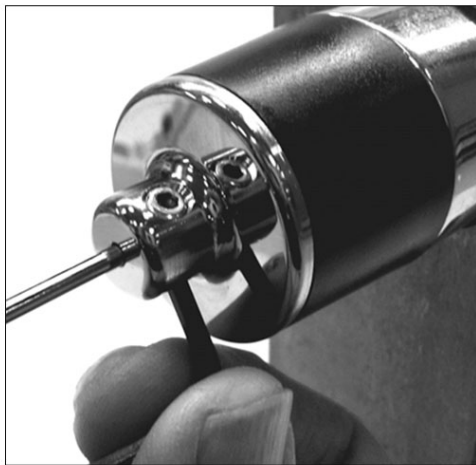


Figure 3 Lower and Upper Hex Screws

3. The check tag antenna is now ready for installation with the UTA.

Installing the Check Tag Antenna with UTA

Figure 4 shows where the check tag antenna is located in the reader system. The check tag antenna typically is installed in front of the antenna radome. For UTA installations that use a mounting pipe, the check tag antenna is installed on the pipe next to the antenna.

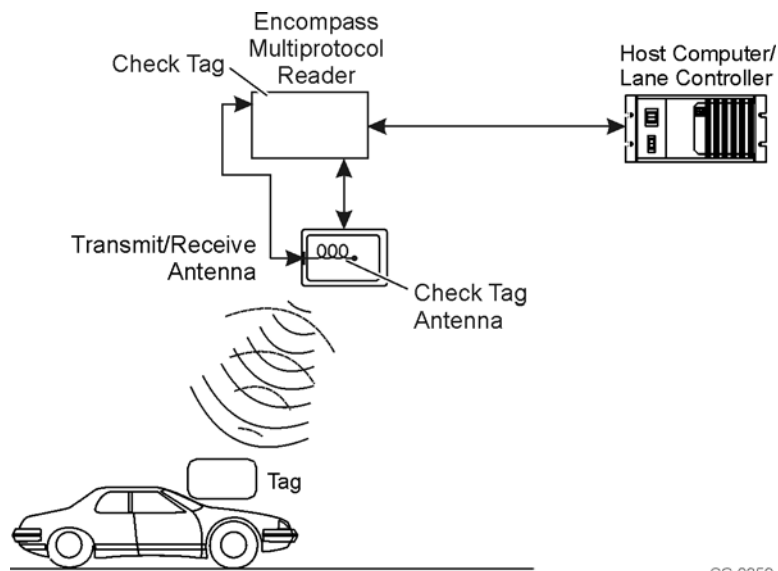


Figure 4 Mounting Location for Check Tag Antenna

To install the check tag antenna on the UTA radome

1. At the end where the check tag antenna will be mounted, place a short spacer (1/4 inch) between the check tag antenna bracket and UTA radome. Place a lock washer and nut over each of the bolts. On the end opposite the check tag antenna, use a 1-inch spacer (supplied with UTA), lock washer, and locking nut over each end of the U-bolt (Figure 5).

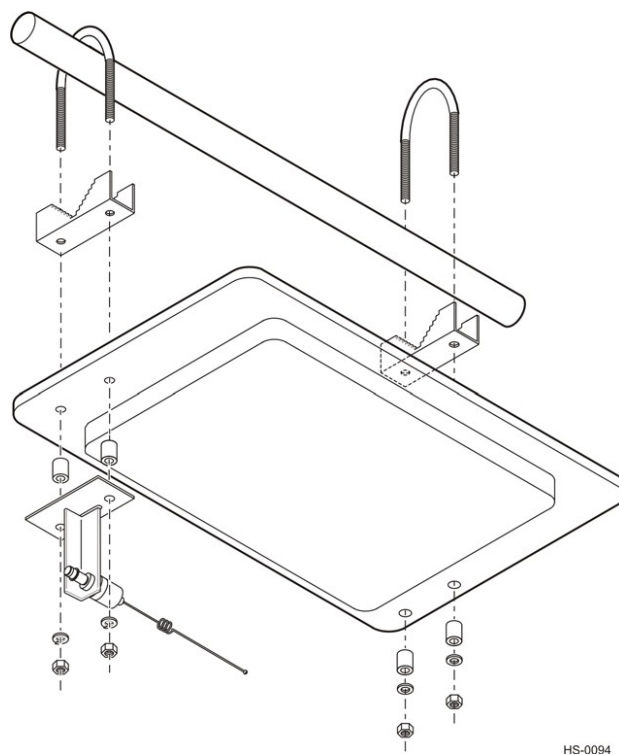


Figure 5 Check Tag Antenna Mounting on UTA Radome

2. Tighten the nuts with a torque wrench to 50 ft-lb (68 N-m).
3. Slide the shrink-tubing over the check tag antenna cable and use heat to shrink it.

To install the check tag antenna on the mounting pipe next to the UTA

1. Place the check tag antenna along the mounting pipe and insert a U-bolt around the pole and through the mounting bracket. Place a washer, spacer, lock washer and nut in that order over each side of the U-bolt (Figure 6).

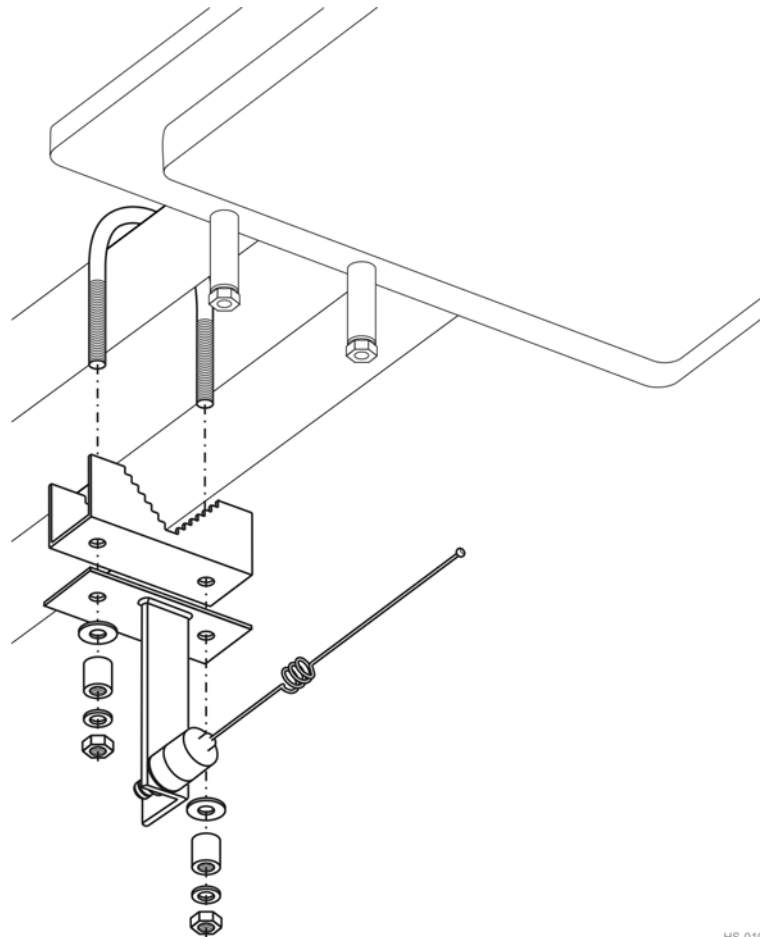


Figure 6 Check Tag Antenna Mounting on Mounting Pipe

2. For a typical configuration, adjust the check tag antenna so that it is mounted about 1 inch (2.5 cm) from the side of the UTA and centered above the UTA face. It should extend across about one third of the UTA width.
3. Tighten the nuts with a torque wrench to 50 ft-lb (68 N-m).
4. Slide the shrink-tubing over the check tag antenna cable and use heat to shrink it.



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