

SmarTire Service Bulletin

Subject: Instructions for setting up the SmarTire RV receiver to conform to the customer's preferred approach for setting cold tire pressure values.

The following two approaches can be chosen by a customer when setting tire pressure values to Placard specified levels:

- 1. Placard pressure specifications are based upon inflation of tires at 65 degrees F.**
- 2. Placard pressure specifications are based upon inflation of tires at the prevailing ambient temperature.**

The pros and cons of these two approaches are listed below:

Pros – Pressure setting based on temperature of 65 degree F.

- **Published load inflation tables of tires are based on inflation at 65 degrees F. Therefore the tires' load carrying capabilities are maintained.**
- **Tire pressure settings do not require adjustment in conjunction with seasonal temperature changes.**
- **Tire load carrying capabilities are maintained when ambient temperatures increase.**
- **Pressure buildup is greater with respect to a given heat buildup in the tire. This translates into the tires running cooler and with less sidewall deflection, especially, in the high ambient temperature regions of the country.**

Cons – Pressure setting based on temperature of 65 degree F.

- **Tire pressure levels, in high ambient temperature regions, may exceed the capabilities of shop inflation systems.**
- **Tire pressure levels, in high ambient temperature regions, may exceed the designated maximum pressure rating of the wheels.**
- **Customers encounter nuisance alerts when tire inflation methods do not match the functionality of the SmarTire software.**

Pros – Placard Pressures set at prevailing ambient temperature

- **Less complicated for person setting pressures**
- **No requirement to exceed the labeled pressure rating of the wheel**

Cons – Placard Pressures set at prevailing ambient temperature

- Tire inflation, at high ambient temperatures, results in less pressure buildup as a function the tire heat buildup; therefore tires will run hotter and with greater sidewall deflection.
- Pressures corrections will be needed when ambient temperatures change.

The primary differences (to the tire) of these two approaches to setting inflation pressures is that the tire’s reserve load carrying capabilities are reduced when setting the placard pressures at higher prevailing ambient temperatures. Inflating tires to specified Placard pressure levels at higher prevailing ambient temperatures results in tires being exposed to increased operating temperatures and sidewall deflection typical of under inflation.

Setting Placard Pressures based on Temperature of 65 degrees F.

The current SmarTire RV and passenger car receivers utilize software that relates the cold pressure settings to 65 deg. F. Therefore, if this method is preferred by the customer, then the initial pressure settings will have to take into account the temperature level of the tire when it is being inflated. The attached table provides the equivalent pressure values to be set into the tires as a function of specific contained air temperatures.

When initially setting the cold placard pressure levels in the vehicle’s tires, locate the closest prevailing ambient temperature in the second column from the left and follow that row across to the column of the desired Placard pressure setting. The value shown represents the temperature compensated pressure value that is equivalent to the desired placard pressure value at a temperature of 65 degrees F.

Since tire contained air temperatures may actually be higher than the ambient temperature due to factors such as direct sunlight, access the pressure deviation viewing mode for identifying any necessary minor pressure adjustments.

PRESSURE / TEMPERATURE CORRELATION														
Locate the nearest prevailing ambient temperature in the left hand column and then scan to the right until intersecting with the applicable PLACARD Pressure column (for the respective axle location). Set the CP settings in the receiver to the pressure values shown to adjust the pressure deviation function to accomodate tires being inflated at the different ambient temperatures.														
Cold Pressure Settings		65	70	75	80	85	90	95	100	105	110	115	120	125
Deg. Kelvin	Deg. F.													
275	35	61	65	70	75	80	84	89	94	98	103	108	113	117
280	45	62	67	72	76	81	86	91	96	100	105	110	115	120
286	55	64	69	73	78	83	88	93	98	103	108	113	118	123
291	65	65	70	75	80	85	90	95	100	105	110	115	120	125
297	75	67	72	77	82	87	92	97	102	107	113	118	123	128
303	85	68	73	79	84	89	94	100	105	110	115	120	126	131
308	95	70	75	80	86	91	96	101	107	112	117	123	128	133
313	105	71	76	82	87	93	98	103	109	114	119	125	130	136

Setting Placard Pressures Based on Prevailing Ambient Temperature

Should a customer desire to set the placard pressure levels at the prevailing ambient temperatures, it will be necessary to adjust the cold pressure settings in the SmarTire Receiver to a value equivalent to the temperature compensated placard pressure for a temperature of 65 degrees F.

The following chart lists the temperature compensated cold pressure values that must be programmed into the receiver to have it accommodate the setting of tire pressures at the listed prevailing temperatures.

CP Settings For Various Prevailing Ambient Temperatures													
Target Pressures	65	70	75	80	85	90	95	100	105	110	115	120	125
Ambient Temperatures Deg. F.	Locate the prevailing ambient temperature in the left hand column and then scan to the right until intersecting with the target pressure column (specified on the vehicle manufacturer's PLACARD for the respective axle location). Use the pressure setting provided as the cold pressure setting when programming the SmarTire receiver.												
35	70	75	80	85	90	96	101	107	112	117	123	127	133
45	68	73	78	84	89	94	99	104	110	115	120	125	130
55	66	71	77	82	87	92	97	102	107	112	117	122	127
65	65	70	75	80	85	90	95	100	105	110	115	120	125
75	63	68	73	78	83	88	93	98	103	107	112	117	122
85	62	67	71	76	81	86	90	95	100	105	110	115	119
95	60	64	70	74	79	84	89	93	98	103	107	112	117
105	59	63	68	73	78	82	87	91	96	101	105	110	114

To maintain the accuracy of the pressure deviation function in the SmarTire receiver, the CP settings will need to be updated periodically when seasonal temperature changes of approximately 10 deg. F. occur.