



# TECHNICAL SERVICE BULLETIN

TSB 2019-1002 Level: 1

Effective July 31<sup>st</sup>, 2019

<b>Topic</b>	<b>P51-860 &amp; P51-870 TITAN equipped with firmware version v1.00 (visible on power up) do not correctly display saturation properties for Opteon xp40 (R-449A). Mantooth App versions 3.1.5(109) [iOS] and 3.1.2.0 [Android] or earlier are also affected by this issue.</b>
<b>Affected Units</b>	<b>All P51 TITAN models: 40860, 40870, &amp; 40875 with firmware version v1.00, Mantooth App versions 3.1.5(109) or earlier on iOS, 3.1.2.0 or earlier on Android devices.</b>
<b>Resolution</b>	<b>Users must update their P51-TITAN product (40860, 40870, 40875) firmware via a downloadable firmware updater available on the Yellow Jacket website. The Mantooth app (both Android &amp; iOS) must also be updated to the latest version.</b>

## ISSUE:

Both P51-TITAN units and the Mantooth App utilize saturation data generated by the REFPROP database to accurately display saturation temperature and calculate system Superheat and Subcooling based on actual system pressure & temperature. It was recently discovered that the saturation properties for refrigerant R-449A were not correctly generated and do not match the refrigerant manufacturers' published data. This issue will cause any P51-TITAN unit or the Mantooth App to present erroneous saturation temperatures, and as a result, incorrect superheat and subcooling calculations.

## ROOT CAUSE ANALYSIS:

The saturation properties for refrigerant R-449A were incorrectly generated and do not match the refrigerant manufacturers' published saturation properties.

## INSTRUCTIONS:

To update a P51-TITAN unit, the appropriate firmware updater must be downloaded from the Yellow Jacket website. To download the firmware updater, follow the corresponding link below:

P51-860 TITAN (40860)

<https://yellowjacket.com/product/p51-860-titan-digital-manifold/>

P51-870 TITAN (40870 & 40875)

<https://yellowjacket.com/product/p51-titan-digital-manifold/>

Once downloaded, follow the onscreen prompts to update your P51-TITAN unit. Make sure to download the correct firmware updater for your device.

The Mantooth App can be updated through the app store if an update is available. If auto-updates are enabled through the app store, the Mantooth App will automatically update to the latest version available. To verify your firmware version, navigate to the settings menu and scroll to the bottom. The App Version should exceed 3.1.5(109) on iOS and 3.1.2.0 on Android devices.