# **Control Panel Replacement Kit**

Models: T350, Speed Scrub 350



Page 1 of 8

### This kit includes the necessary part to replace a defective control board. Kit installation is required by Tennant*True* service or an authorized Tennant/Nobles service provider.

**NOTICE:** This kit installation procedure requires access to the Tennant Service Application Software to program the new control board. Refer to page 3 for details.

### Authorized Tennant service providers:

If the Tennant Service Application Software is currently installed on your computer, ensure latest software version is installed for new firmware updates.

# **INSTALLATION INSTRUCTIONS:**

#### Installation Time: 1 Hour

**Kit Installation Requirements:** Tennant ServiceLink computer or a computer with Wi-Fi connection to access the Tennant Service Application Software, and USB cable (supplied with kit).

Computer System Requirements: Windows<sup>®</sup> 7 OS, Microsoft .NET Framework 4.5 or later, USB Port.

Tools Required: Philips Screwdriver

FOR SAFETY: Before servicing machine, stop on level surface and turn off machine.

### **INSTALL NEW CONTROL BOARD KIT:**

1. Disconnect battery cables from machine.

# WARNING: Always disconnect battery cables from machine before working on electrical components.

2. Remove the old control panel from operator shroud. Carefully disconnect the wire connectors from the electrical components. Remove the existing switches and hour meter from old panel for reuse (Figure 1).

Take note of wire connections before disconnecting.



3. Install the new pre- assembled control panel and reinstall the switches and hour meter.

NOTE: When handling the control panel, it is recommended to use a static wrist strap to protect control board from damage.

- 4. Reconnect battery cables.
- 5. Program the new control board as described below.

# PROGRAM THE NEW CONTROL BOARD:

The Tennant Service Application Software is required to program the new control board. See **TENNANT SERVICE APPLICATION SOFTWARE** on page 3 to access software .

If you encounter any problems during the programming process please contact the Technical Service Department for support.

1. Start the Service Software Application program "Service Diagnostics..." (Figure 2). Refer to Figure 12 for further details to access Software.





2. After software start up, the following screen will appear (Figure 3).



Fig. 3

### KIT NO. 9040204, 9040205

3. Connect the supplied USB cable to the machine's USB port, located near battery charger, and to the computer (Figure 5).



Fig. 4

5. Turn the key switch to the on position. The application software will then connect to the machine (Figure 5). If the application remains on the "Connecting to Machine" screen for an extended period, cycle the key or reconnect the USB cord. If it still fails to connect, restart software or computer.





6. The software will automatically detect that a new control board has been installed by displaying the following screen (Figure 6). Enter the serial number from the machine's serial number label. Then select the appropriate model from the drop-down menu. Press the arrow button to advance to next screen.



Fig. 6

 Carefully configure the machine by selecting the installed options (Figure 7). This may require visually inspecting the machine for installed options. After selections are made, press the arrow button to start the programming process for the new control board.

**NOTE:** If the machine is configured incorrectly, the machine may throw a fault code during machine start up.

CONNECTED: T350	4536 Q			
	0	Battery	Wet 2404H C/20	•
•	67.9	Cleaning Technology	ec-H2O NanoClean	
	-	Cleaning Tool Attachment	Conventional	•
<b>▲</b> ≈		Charger Location	On-Board	
Stan	dard	-Seven Environment Switch	Yes	•
Adva	nced	€ Quiet Mode	Ves	÷
		Warning Lights and Alarms	Without	•
		Machine Communication (RIS)	Yes	•
		Reduced Propel Speed	No	у.
			٤	*

Fig. 7

8. During the programming process the following screen will appear (Figure 8). The programming process may prompt for key cycles. Turn off key, wait a few seconds and turn key back on to continue.

NOTE: This programming process will also automatically update any machine firmware as needed.

CONNECTED: T350 ProParel T350-P213	0	
	MODULE : LCD Interface Hardware Rev: 3.00 Firmware Rev: 1.00	3 %
	MODULE: Scrub Controller Hardware Rev: 3:00 Firmware Rev: 1.62	
	MODULE: ECH20 NanoClean Module Hardware Rev: 3.00 Firmware Rev: 1.23	
$\circ$	MODULE: SPE Charget Hardware Rev: 0.00 Firmware Rev: 1.38	
<ul> <li>Open Firmware Package</li> </ul>	MODULE : IDrive Module Hardware Rev : 0.00 Firmware Rev : 0.00	
Update Master Firmware  First Machine  Update Other Fernisare  First Machine	MODULE : Battery Watering Module	



9. The following screen will appear when the programming process has completed (Figure 9). Press the arrow button to return to the Home Screen. Disconnect the USB cable from the machine and turn key off. The machine is now ready for operation.

4536 0 TENNAN TENNAN TENNAN TENNAN Tennan	•

- 10. Test machine to ensure all installed options are functioning and no fault codes appear. If a fault code appears proceed to next step.
- 11. First, check for any loose wire connectors at new control board.

Reconnect the application software to the machine and check the machine configuration selections for any incorrect installed options. When the software is reconnected to machine, the following Home page will now appear (Figure 10). Select the Configuration button.



#### Fig. 10

12. Check and correct the installed options (Figure 11). Then press the down arrow button to reprogram the machine. A green check will appear next to the down arrow button when programmed.

vice Diagnostics SE 1.5.20		and the second second				C
4536 Q					0	4
8	Notel Configuration changes have	re been programmed to the machine. Key cycle	e machine to finish applyi	ng the r	new se	tting
· 0-	Battery	Wet 230AH C/S	٠	Ø	<u>*</u>	~
	Cleaning Technology	ec H2O NanoClean	•	C	*	
	Cleaning Tool Attachment	Conventional	٠	C	<u>+</u>	
G Standard	Durger Location	On-Board	٠	C	ŧ	
Advanced	- Severe Environment Switch	Yes	•	o	ł	
	€ Quet Mode	Ves	•	0	*	
	-@- ■ Warning Lights and Alarms	Webout	•	ø	<u>+</u>	
	Machine Communication (JRIS)	Yes	•	C	<u>*</u>	
	Reduced Propert Speed	No	•	a	4	

Fig. 11

- 13. Cycle key to apply the corrected configuration setting. Disconnect USB cable.
- 14. Retest machine to ensure all installed options are functioning.

# TENNANT SERVICE APPLICATION SOFTWARE:

The Tennant Service Application Software is required to program the new control board. The software can be accessed or downloaded as described below.

# TennantTrue Service with ServiceLink computers:

The software is pre-installed on your computer as shown below. The software application is titled "**Service Diagnostics**" (Figure 12).

Icon on Desktop



### From Start menu



From Start menu > All Programs > Tennant Company > Tennant Service Diagnostics





### Authorized Tennant Service Providers:

The Service Application Software can be downloaded from the Tennant Public website as described below.

**NOTE:** If the Service Application Software is currently installed on your computer, confirm or re-install the software to ensure latest software version is installed.

To access the Service Application Software, go to www.tennantco.com. Depending on your geographical location, the website may have a "My Account Log In/Sign Up" button at the upper right or a "My Tennant Customer Sign In" tab at the upper right of the Tennant website as shown below (Figure 13).

Proceed with the software download instructions as described on the following pages.



OR



Fig. 13

### Website with "My Account Log In/Sign Up" button:

1. Press "My Account Log In/Sign Up" to open or create an account (Figure 14).





2. Once logged in to the "My Account" website, click on the "**INTERNAL RESOURCES**" link as shown below (Figure 15).

SOLUTION	S PRODUCTS SHOP SERVICES
MY ACCOUNT	Welcome to My Account
PROFILE	Where you can check to the status of your account, look up orders, place service re- more watch the tutorial below.
	Vote for Tennant
	Innovations!
VERTICAL MARKETS	Cast your vote for Tennant's Hassle-Free Service
DISTRIBUTION CHANNEL	ISSA Innovation Awards.
DIRECT CHANNEL	Visit us at ISSA booth 3431 to see how Tennant is driving innovation.
STRATEGIC ACCOUNT CHANNEL	NOTE NOW
	Fig. 15

3. Click on the "SERVICE APPLICATION SOFTWARE" link as shown below (Figure 16).



Nobles

Supported Equipment Tennant

- B5B7
- M17



SpeedGleam® 5

Speedgleam® 7

Alfa

• A300

• A500

 Within the Service Application Software page, click on the link titled "Service Diagnostics LE version x.x.xx" (Figure 17).

#### Documents



### Fig. 17

5. To download the service software continue to click as instructed then click the Save button (Figure 18).

internet Explorer	23
What do you want to do with LE_Setup_1522.zip	?
Size: 409 MB	
From: www.tennantco.com	
Open The file won't saved automatically.	
→ Save	
Save as	
	Cancel

Fig. 18

 Open the "Downloads" folder and locate the "LE\_Setup\_xxxx" zip file. Open the zip file and double click on the "LE\_Setup\_xxx" file to install the application software on your computer (Figure 19). Follow instructions on screen to install.



Fig. 19

7. After the service application software is installed on your computer, refer to figure 12 to access the program.

### Website with "My Tennant Customer Sign in" tab:

1. Log in to the "My Tennant" website or register as a new user (Figure 20).





2. Once logged on to the "My Tennant" website, click on the "Service Application Software" link under the "Product Support & Solution" section as shown below (Figure 21).

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Fig. 21

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• B7		- Speedoloom®	7					
• M17		Speed Scrub 3	100					
• M20		(\$\$300)						
* M5U		Speed Scrub 5	00					
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Fig. 22

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Fig. 23

5. After the software is installed on your computer, refer to figure 12 to access the program.

# Membrane Control Panel Kit Contents (p/n 9040204)



Ref.	Part No.	Description	Qty.
1	9040204	Control Board Kit, Membrane	1
2	1224562	Panel, Overlay [Membrane, Tennant]	1
3	1232232	Plate, Spacer, Membrane	1
4	1231462	Panel, Instmt, Oprtr station	1
5	1228044	Circuitboard Assy [User interface]	1
6	1202860	Washer, Flat, 0.17B 0.31D .03, Nyl	4
7	49162	Screw, Pan, Phl, 08- 16 x 0.50, f/plstc	4
8	1231800	Gasket, Panel, Instr, RH	1
9	1231801	Gasket, Panel, Instr, LH	1
10	1071235	Cable [USB, 2M, A- Male to Mini- B- Male]	1

# Pro-Panel Control Panel Kit Contents (p/n 9040205)



Ref.	Part No.	Description	Qty.
1	9040205	Control Board Kit, Membrane	1
2	1225321	Panel, Overlay [Pro- Panel]	1
3	1210743	Display, Color, 5 in, with touch panel	1
4	1231823	Inductor, Ribbon Cable	1
5	1231462	Panel, Instmt, Oprtr station	1
6	1228045	Circuitboard Assy [User interface]	1
7	1202860	Washer, Flat, 0.17B 0.31D .03, Nyl	4
8	49162	Screw, Pan, Phl, 08- 16 x 0.50, f/plstc	4
9	1231800	Gasket, Panel, Instr, RH	1
10	1231801	Gasket, Panel, Instr, LH	1
11	1071235	Cable [USB, 2M, A- Male to Mini- B- Male]	1