

Welcome Guest, is this your [First Visit?](#) already a member: Remember Me?

User Name

Password

[Log in](#)
[Register](#) [Forum](#) [Garage](#) [Blogs](#) [What's New?](#) [Auto Escrow](#) [Insurance](#) [Gallery](#) [Classifieds](#) [Advertise](#) [Auto Loans](#)
[Today's Posts](#) [FAQ](#) [Calendar](#) [Forum Actions](#) [Quick Links](#)

If this is your first visit, be sure to check out the [FAQ](#) by clicking the link above. You may have to [register](#) before you can post: click the register link above to proceed. To start viewing messages, select the forum that you want to visit from the selection below.

[Forum](#) [Volkswagen Passat Discussion](#) [Volkswagen Passat B5 Discussion](#) [B5 Information-Base](#) [Custom Search](#) [Search](#)

[DIY Write-up: Complete Guide to Multi-Function Steering Wheel Install](#)

Welcome to VW Passat Forums : Volkswagen Passat Forum â€“ General discussion forum for Volkswagen Passat



Welcome to VW Passat Forums : Volkswagen Passat Forum - a website dedicated to all things Volkswagen Passat.

You are currently viewing our forum as a **guest**, which gives you limited access to view most discussions and access our other features. By joining our community, at **no cost**, you will have access to post topics, communicate privately with other members (PM), respond to polls, upload content and access many other special features. Registration is free, fast and simple, [Join VW Passat Forums : Volkswagen Passat Forum today!](#)

» Site Navigation

- » Home
- » Volkswagen Passat Insurance
- » Auto Insurance Quotes for your Volkswagen Passat Results
- » forum_landing
- » content_wrapper-wide
- » Active Topics
- » Blog
- » Blog Entry
- » Not_Forum_Section
- » Home
- » Active Topics
- » Photo Gallery
- » Garage
- »
- » Forum
- > Settings
- > FAQ
- > Classifieds
- > Contact Us

[+ Reply to Thread](#)

Results 1 to 9 of 9

Thread: DIY Write-up: Complete Guide to Multi-Function Steering Wheel Install

[LinkBack](#) [Thread Tools](#)

08-26-2012, 01:43 PM

#1

hamdex

1st Gear

Join Date: Feb 2009
Location: Walpole, MA
Age: 25
Posts: 222

DIY Write-up: Complete Guide to Multi-Function Steering Wheel Install

Warning: This procedure requires the cutting and soldering of wires. I or anybody on this forum shall not be responsible for any damage you cause. Do this at your own risk! After much research and the help of a friend who managed to accomplish the install I have finally put together all the information necessary to complete a Multi-Function Steer Wheel (MFSW for short) retrofit. This retrofit is not for the faint of heart but it is well worth it. With these instructions I would estimate about 4-6 hrs to complete it. If anybody has any questions feel free to contact me. I can also help you obtain any of the parts needed. I am also willing to make some wiring harnesses if anybody is interested.

Parts Required:

Multi-Function Steering Wheel with Airbag
5 Pin Clock Spring (All North American B5.5 clock springs will work)
Multi-Function Steering Wheel turn signal stalk (Only has the on/off for cruise)
Relay 451 or 452 with relay plate (Read below for which one you need)
Wiring to clockspring/cruise on turn signal stalk

Tools Required:

Soldering Iron
Solder
Heatshrink
Stranded Wire (I used 22 gauge wire)
T25 Torx
8mm and 10mm Socket
Small Flathead to take of Airbag
12mm Triple Square Bit OR T55 Torx to take off the Wheel
Allen Wrenches (I believe it was 5mm)

So Which Relay do I need?

There are two possible relays that can be installed on these cars. The older version is Relay 452 which works by communicating with the stereo via a communication wire. The

» Forum Threads

- [WTB multiple B5 items....](#)
04-28-2017 06:40 AM
by [passatevos](#)
- [Last post by passatevos](#)
Today 06:03 AM
6 Replies 245 View s

- [Car won't start."EPC".....](#)
03-27-2006 06:10 AM
by [Sillymanzillo](#)
- [Last post by passatevos](#)
Today 06:02 AM
28 Replies 280,224 View s

- [Fixing water ingress...](#)
Yesterday 07:24 PM
by [silverpassat_awm](#)
- [Last post by semicycler](#)
Today 06:00 AM
2 Replies 75 View s

- [Sudden loss of fuel?](#)
Yesterday 11:57 PM
by [Kittera](#)
- [Last post by Electron Man](#)
Today 05:56 AM
1 Replies 43 View s

- [First project of the...](#)
03-18-2017 09:34 PM
by [AndreasPassat](#)
- [Last post by AndreasPassat](#)

DIY Write-up: Complete Guide to Multi-Function Steering Wheel Install

newer version is [Relay 451](#) which uses CAN. Now here comes the confusing part: [Relay 451](#) can be programmed to be used as Relay 452 via [Vag-Com](#) by changing the soft coding from 0118 (CAN Communication) to 00008 (Non-CAN). Now the way to determine which relay you need is if you have a SINGLE DIN radio then you will need 452 because it does not have CAN. DOUBLE DIN radios will use 451 since they have CAN. If you have a 2001.5 B5.5 like I do then you have the ability to use Relay 451 as the car has CAN but it will be coded as a NON-CAN car because the car still uses a single din radio. The wiring will differ between 451 and 452 but only in the pins that need to be connected. The pinout for both relays is the SAME. This was a big source of confusion until I understood this.

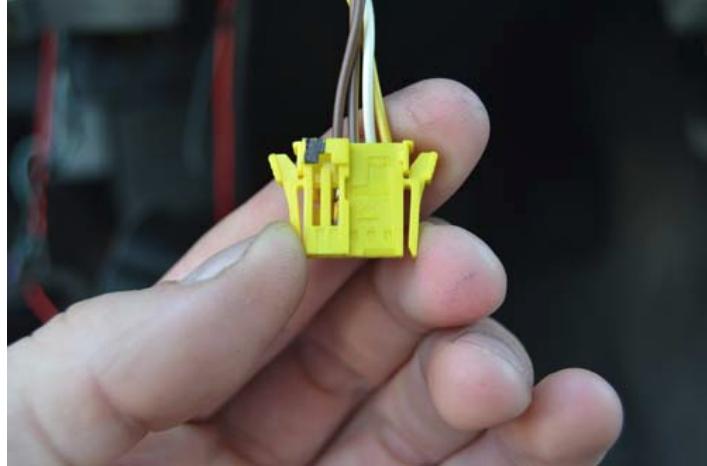
Now on to understanding the wiring diagrams: To be able to do this you must understand the terminology used. The Bentley wiring diagrams specify the connector/pin # (e.g. T18c/12). Here is a list of the specified connectors.

T18c – Double [Relay Plate](#) for either 451 or 452

T10s - Cruise Connector on Turn Signal Stalk



T5b – Clock Spring Connector



The Actual Instructions:

1. Disconnect the [Battery](#). Make sure to write down the mileage if you like to keep track of [fuel](#) economy like myself.
2. Remove Lower Knee Panel. Do this by removing the [headlight switch](#), fuse panel, and then the 4 torx that hold it on.
3. Remove the Airbag/Steering Wheel. Refer to other instructions: [Installing R32 3 spoke steering wheel \(multifunction swap\)](#)
4. Remove steering column clam shell. Do this by removing the torx that hold on the column adjuster. There is one torx and two long phillips on the bottom of the clam shell along with two phillips on the front.

Today 05:08 AM
18 Replies 409 Views

[Color paint code](#)
06-04-2010 06:28 AM
by seaman
[Last post by Fogcat](#)
Today 04:42 AM
5 Replies 31,300 Views

[here's a good one on a...](#)
05-22-2017 09:14 AM
by batman4279
[Last post by Hirnbeiss](#)
Today 04:41 AM
9 Replies 204 Views

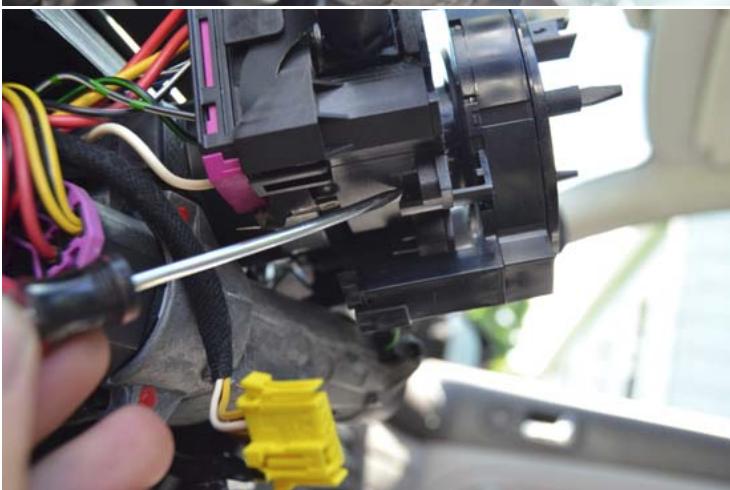
[01 Passat 1.8t automatic](#)
Today 03:24 AM
by 01 1.8t
[Last post by 01 1.8t](#)
Today 03:24 AM
0 Replies 20 Views

[BNIB Koni FSDS for...](#)
05-09-2017 09:21 PM
by blackb5v
[Last post by blackb5v](#)
Yesterday 09:34 PM
7 Replies 321 Views

[need help PLZ!](#)
05-06-2017 11:29 AM
by Sinsear
[Last post by Tomvw](#)
Yesterday 08:58 PM
5 Replies 330 Views



5. Remove Clockspring. It has one connector and three clips holding it in.





6. Disconnect stalks. Each one has two connectors. Then remove them by loosening the 5mm allen bolt.



7. Separate the stalks by releasing the pictured clip and sliding them apart.



At this point this is what it should look like.



Step 8. (Kinda Long)

At this point you should take a moment and soldering wire extensions on to [relay plate](#). I highly recommend starting at the [relay plate](#) and working backwards instead of the other way around. Here are the locations that the relay pins should go to. This information was provided by waldo22 on tdiclub; however it was modified for B5 connections. Disclaimer: Not all the colors match up and that is just fine as long as the pins match. I also ran a wire from the previous Cruise connection instead of running the wires to the ECU. This means that anywhere you see "Wire to T10s/*" means that you cut the wire at the connection and solder a new wire running down to the relay panel.

T18c Pin Location - Color/Strip - Function/Destination

- 1 - Orange/Brown - CAN Low (Not applicable for Relay 452)
- 2 - N/A
- 3 - Orange/Brown - CAN High (Not applicable for Relay 452)
- 4 - Black/White - Cruise Off Function - Wire into T10s/4
- 5 - Lavender - REM wire for remote control of NON-CAN radio (Read: SINGLE DIN). Wire into T20/11 on the back of the radio ([Green Connector Pin 11](#)). DO NOT wire this for Double DIN.
- 6 - Green/Purple - Diagnostic K-Wire. Option is either to wire it into T16/7 on the instrument panel wiring harness or pick up from OBD2 port.
- 7 - N/A
- 8 - Red/Yellow - Cruise Set Output, Run wire to T10s/3
- 9 - Brown/Yellow - Dual Tone Horn Relay, Run wire to S1/6. This is the leftmost connector on the bottom relay panel. Cut the original wire at S1/6 and make sure to leave enough to solder in at either end. The wire that has been cut (running into the harness, not connector) runs to T5b/3. This USED to be the horn but with the MFSW it is now the switch power. I wired this end into T18c/12 and then 75x (switched power).
- 10 - Brown - Ground, connect to any ground connection
- 11 - N/A
- 12 - Black/Red - 12V Switched Power, Wire this and T18c/9 into 75x.
- 13 - Red/Green - 12V Power, connect to fuse 40 OR run an inline [fuse](#).
- 14 - Red/Grey - Cruise Cancel, Wire to T10s/5
- 15 - Grey/Blue - Illumination Wire, tap into T3c/3 (Dimmer Switch Connector). NOT needed for [Relay 451](#).
- 16 - Blue - Cruise Resume, Wire to T10s/2
- 17 - N/A
- 18 - Green/White - Data Bus Connection, add wire to T5b/1 (Far right on connector)

Step 9. Install in reverse order.

Once you are done it should look like this:



I have attached the necessary wiring diagrams if you are more of a visual person. Don't mind that it is a golf/jetta diagram because they share the [wheel](#), clockspring, turn signal stalks and relay plates with the passats. In essence they share the same electrical systems just with different dimensions.

Resources:

[TDIClub Forums - View Single Post - replacing steering wheel with multifunction wheel](#)
[replacing steering wheel with multifunction wheel - TDIClub Forums](#)

Attached Files

- [www.volkspage.net_technik_ssp_ssp_SSP_235_d2.pdf \(45.3 KB, 533 views\)](#)
- [Bentley - Volkswagen Jetta, Golf, GTI MK4 Multifunction Steering Wheel Wiring Diagram.pdf \(545.7 KB, 606 views\)](#)

Share

[Reply](#) | [Reply With Quote](#)

08-26-2012, 01:48 PM

#2

arlenok ◊

2nd Gear



Join Date: May 2011
 Location: Ardmore, PA
 Posts: 649



Nice write-up! Doesn't seem too hard either

Share

[Reply](#) | [Reply With Quote](#)

08-30-2012, 12:59 PM

#3

Mozzy ◊

3rd Gear



Join Date: Jun 2009
 Location: ONTARIO '03 1.8T APR
 Age: 32
 Posts: 2,167

[Garage](#)

what did you have in here before?

Share

[Reply](#) | [Reply With Quote](#)

08-30-2012, 01:52 PM

#4

Bdubskii ◊

I break for old people



Join Date: May 2012
 Location: Somew here in Merica'
 Posts: 7,549

Awesome DIY!

Share

[Reply](#) | [Reply With Quote](#)

08-30-2012, 02:09 PM

#5

doyles-1.8T ◦

3rd Gear

Join Date: Dec 2008
 Location: Dallas, TX
 Posts: 1,209

Interesting. If you don't mind me asking, how much was your total \$ out of pocket?

[Share](#)[Reply](#) | [Reply With Quote](#)

08-30-2012, 03:23 PM

#6

chrisradioman ◦

Neutral

Join Date: Mar 2011
 Location: Sw ansea
 Posts: 10

Awesome I've been thinking of getting one of these [wheels](#). 😊
 One question after fitting does your wheel control the radio & cruise control?

My car is a 52 plate 2002 1.9 TDI 130 Sport it has no multi-function wheel or cruise at the moment. 🚗

[Share](#)[Reply](#) | [Reply With Quote](#)

08-30-2012, 05:06 PM

#7

keithwbloom ◦

SuperCooled30V Moderator



Join Date: Apr 2005
 Location: In his w orkshop
 Age: 50
 Posts: 4,559
Garage
 Blog Entries: 3

I need to do the reverse. I had a multifunction and I installed an [Audi S-Line B5 steering wheel](#) with the cruise control stalk. I have to program the ECU to recognize the [cruise control stalk](#) and I am assuming I have to tell the car that the horn signal is on the airbag circuit/connector and not the MFSW circuit/connector. Would you happen to have the reference materials that cover those adaptations?

👏 on the DIY. Well done.

B7 S4 Cabriolet 6MT, 8P A3 Tip, B5.5 SC/IC V6 5MT

[Share](#)[Reply](#) | [Reply With Quote](#)

08-30-2012, 07:18 PM

#8

hamdex ◦

1st Gear

Join Date: Feb 2009
 Location: Walpole, MA
 Age: 25
 Posts: 222

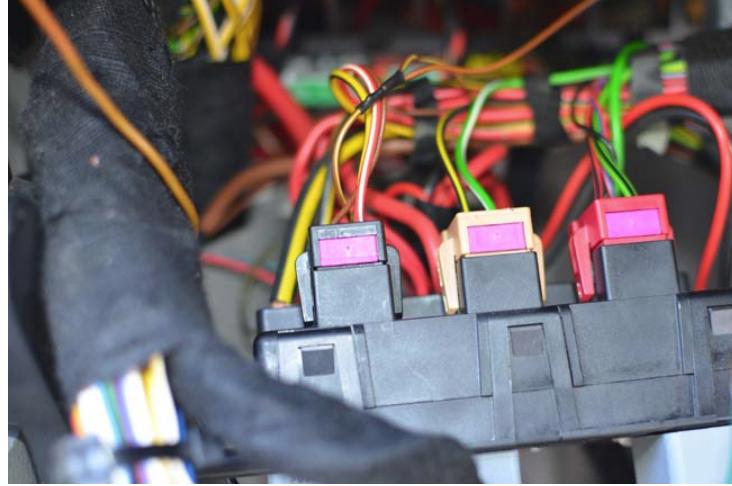
Thanks guys. I had the regular 4 spoke [steering](#) with the cruise on the stalk. Here's a reference photo.



doyles-1.8T, I ended up spending ~\$160 at a pick and pull for the [wheel](#), airbag, clock spring (which I didn't use), relay, [relay plate](#), and column wiring harness. I already had the wire and heat shrink laying around. Not too shabby.

chrisradioman, Yes the radio and cruise control are now controlled by the wheel while the turn signal stalk houses the Cruise On/Off switch. If you are interested feel free to email me and I should be able to help you get Cruise control working if you are interested.

keithwbloom, There should be no programming necessary. What you will need to accomplish is actually pretty simple. If I were you I would run a new harness from [relay 451](#) (or 452) to the [steering](#) column. To get the horn working you will need to cut the existing connection at S1/6 (runs to T18c/9 on Relay Plate) and then run a wire from S1/6 (thats the leftmost connector in the picture below) to T5b/3. That should get your horn working. Cruise is a little trickier because there are a few more wires and you will also need to add pins to the cruise connector (T10s pictured above). You will need to cut the connector at T18c/4 and run a wire to T10s/4. Same for T18c/8->T10s/3, T18c/14->T10s/5, and T18c/16->T10s/2. After that your cruise stalk should work. You can also take out the wire from T10s/1 as it is no longer used.



Just reiterating that the leftmost connector is S1. This is the [BOTTOM relay panel](#) where relay 53 is the dual tone horn relay. You will also see another relay 53 in the [TOP panel](#). Do not mess with these wires as it is the [starting relay](#). Yes VW uses the same part ☺.

Last edited by hamdex; 08-30-2012 at 07:22 PM. Reason: Forgot Pictures

Share

[Reply](#) | [Reply With Quote](#)

08-31-2012, 05:42 AM

#9

JayTheSnork ◊

RETIRED Super Stealth Moderator



Join Date: Jan 2003
Location: Waterford CT USA
Posts: 27,843
Blog Entries: 3

and it's off to the Info Base with this one... OP, you have to leave the pix in your photo sharing account forever.

Share

[Reply](#) | [Reply With Quote](#)

+ Reply to Thread

You May Like

Sponsored Links by Taboola

You're In For A Big Surprise in 2017 If You Own A Home in Massachusetts

Morning Finance | LendingTree Quotes

These 10 Cards Offer Massive Cash Back

CreditCards.com

East Walpole: This Meal Service is Cheaper Than Your Local Store

Home Chef

Shoppers Are Getting Unbelievable Deals With This Little-Known Site

Tophatter

Thinking About Installing Solar Panels? Read This First

Energy Bill Cruncher Solar Quotes

Find Local East Walpole Experts To Clean Your Home Inside & Out

Home Advisor

This game will keep you up all night!

Throne: Free Online Game

If you're over 25 and own a computer, this game is a must-have

Vikings: Free Online Game

The 10 Most Comfortable Cars Under \$30,000

Kelley Blue Book

Quick Reply


Human Verification

In order to verify that you are a human and not a spam bot, please enter the answer into the following box below based on the instructions contained in the graphic.

 Your Answer

[Register & Post Quick Reply](#)[Go Advanced](#)[« Previous Thread](#) | [Next Thread »](#)**Thread Information**

There are currently 1 users browsing this thread. (0 members and 1 guests)

Tags for this Thread

complete, diy, guide, install, multi-function, multifunction, retrofit, steering, wheel, writeup
[View Tag Cloud](#)

Posting Permissions

You may not post new threads
 You may not post replies
 You may not post attachments
 You may not edit your posts

BB code is On
Smilies are On
[IMG] code is On
 HTML code is Off

5/24/2017

DIY Write-up: Complete Guide to Multi-Function Steering Wheel Install

Pingbacks are On

Trackbacks are On

Powered by vAdvanced CMPS v4.1.2

Choose a skin: -- PassatWorld-3 ▼

Custom Search

Search

Contact Us About Us VW Passat Forums : Volkswagen Passat Forum Archive Privacy Statement Terms of Service Top

All times are GMT -7. The time now is 06:16 AM.
vBulletin Security provided by vBSecurity v2.2.2 (Pro) - vBulletin Mods & Addons Copyright © 2017 DragonByte Technologies Ltd.
Digital Point modules: Sphinx-based search

AutoGuide.com

Manufacturer Domestic Import European Truck AutoGuide.com

[AcuraWorld.com](#)
[Audi-Forums.com](#)
[BenzForum.com](#)
[BenzWorld.org](#)
[BimmerWerkz.com](#)
[DodgeTalk.com](#)
[Ferrari-Talk.com](#)
[FordForums.com](#)

[FordInsideNews.com](#)
[GMInsidenews.com](#)
[Hyundai-Forums.com](#)
[HyundaiPerformance.com](#)
[Kia-Forums.com](#)
[Lamborghini-Talk.com](#)
[LandRoversOnly.com](#)
[LotusTalk.com](#)

[MazdaWorld.org](#)
[Mini2.com](#)
[Mitsubishi-Forums.com](#)
[Volvo-Forums.com](#)
[Nissan-Sites.com](#)
[NissanClub.com](#)
[NissanForums.com](#)

[ScionForum.com](#)
[SaabScene.com](#)
[SRTforums.com](#)
[SuperHonda.com](#)
[Suzuki-Forums.com](#)
[ToyotaNation.com](#)
[VWforum.com Noreast](#)