Heated + Power Seats in 2024 F150 STX - Part 2

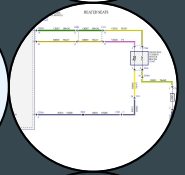
•••

Swapping in a XLT HVAC module, wiring, and FORSCAN configuration

Game Plan

STEP 01 — Materials Needed

STEP 02 — Review factory wiring Diagrams



STEP 03 — FORScan changes

STEP 04 — Installation with Tips & Tricks

Materials Needed

- **Gen 14 F150 Power + Heat Seat Frames + Wiring (XLT)**
- **Gen 14 F150 HVAC module from XLT**
- **Wire**
  - 14 Gauge
  - 16 Gauge
  - 22 Gauge
- **Pins/Terminals**
  - **Seats (C312/C311) (3 male/female pin/terminals per seat)**
    KU2Z-14S411-SA
    KU2Z-14S411-TA
    (Or the signal wires from your seats you swapped)
  - **HVAC (C228B) 2 terminals each, 6 total**

Terminal Part Number	Service Part Number	Size	
73CT-14474-LA	Not Available		**
7C3T-14474-JA	DU2Z-14474-DA	1.50	**
9U5T-14474-DB	DU2Z-14474-AA	0.64	

**Mouser MX150 F TIN 14/16 works. Mouser P/N: 538-33012-2021-LP

Wiring Thoughts

Seat signals to HVAC

C312/C311 (Seats) - > C248 and C263 (Signal Return to Split S222) - > C228B/C228A

Power to HVAC

1) BCMC F06 to Split 204 on circuit SBB06 to Pin 1 & 2 on S228B
2) CJB (F24A - Moonroof) on New Circuit (SBA24) to Pin 1 & 2 on S228B **
3) Choose your own power adventure

** 2.8 Clean Body Apex Terminal. Mouser P/N: 829-33350992

FORScan is a product that allows you to modify factory calibrations: https://forscan.org/

Requires the Software with License and Cable. See link above for details.

Multiple changes required to code out any errors as you are changing modules. Spreadsheet available here (*Shout out to Livnitup from the Ford Forums*): https://docs.google.com/spreadsheets/d/1-_e09lLPPeSHoO3SsNwyqu5v3dgpbluvJcezUItTSVI/edit?gid=1489108671#gid=1489108671

Changes I made:

Added Unreal Sync theme
Added Climate Bar at the bottom of Sync Screen

Feature Name	Module	Address	Value change			Notes
Enable 75th Anniversary Splash Screen	APIM	7D0-03-01	xxxx	24xx	xx--	Requires Sync ver 22012 or higher - reset APIM in FORScan after either/both changes
Enable Unreal Sync Theme	APIM	7D0-02-03	xxxx	xxx1	xx--	
Enable Climate Bar at the bottom of Sync screen	APIM	7D0-02-02	xxx*	xxxx	xx--	use 2 for non-hybrid or 6 for hybrid - requires Unreal theme above

Changed VIN on 2021 HVAC module to match my truck VIN
Ran the calibration in FORScan to learn where door limits are and scanned for errors.
KEY NOTE: When you are making changes, be sure it is for the year you are changing, not the year of your truck (I used '21-23 codes as that is the module in my 24 truck)

Changed to Single Zone (disable Dual Zone).
HVAC 733-01-08-xx*x-xxxx-xx–
Changed from 8 to 0

				Front control zone (F) • Rear control zone (R) • Heated Windscreen cold engine warm up (HW)			
733-01-08	xx*x	xxxx	xx--	0 =	F Single Zone • R Single Zone • HW Heated Windscreen cold engine warm up strategy is disabled	8 =	F Dual Zone • R Single Zone • HW Heated Windscreen cold engine warm up strategy is disabled

continued....

Changes I made:

Coded out solar sensors (not present on my truck, throwing codes). I went from “A” to “2”

					Sun Load Sensor Type (SLST) • Automatic Transmission Warm-Up Type (ATWUT) • Battery Chiller Strategy (BCS)		
733-01-08	xxxx	*xxx	xx--	0 =	SLST No Sensor • ATWUT Climate thermal load based ATWU is supported • BCS Battery Chiller strategy is not enabled	6 =	SLST Single Sensor • ATWUT ECT, OAT based ATWU is supported • BCS Battery Chiller strategy is not enabled
				1 =	SLST No Sensor • ATWUT Climate thermal load based ATWU is supported • BCS Battery Chiller strategy is enabled	7 =	SLST Single Sensor • ATWUT ECT, OAT based ATWU is supported • BCS Battery Chiller strategy is enabled
				2 =	SLST No Sensor • ATWUT ECT, OAT based ATWU is supported • BCS Battery Chiller strategy is not enabled	8 =	SLST Dual Sensor • ATWUT Climate thermal load based ATWU is supported • BCS Battery Chiller strategy is not enabled
				3 =	SLST No Sensor • ATWUT ECT, OAT based ATWU is supported • BCS Battery Chiller strategy is enabled	9 =	SLST Dual Sensor • ATWUT Climate thermal load based ATWU is supported • BCS Battery Chiller strategy is enabled
				4 =	SLST Single Sensor • ATWUT Climate thermal load based ATWU is supported • BCS Battery Chiller strategy is not enabled	A =	SLST Dual Sensor • ATWUT ECT, OAT based ATWU is supported • BCS Battery Chiller strategy is not enabled
				5 =	SLST Single Sensor • ATWUT Climate thermal load based ATWU is	B =	SLST Dual Sensor • ATWUT ECT, OAT based ATWU is supported •

Coded out right hand discharge temp (not present on my truck, throwing codes). I went from “6” to “0”

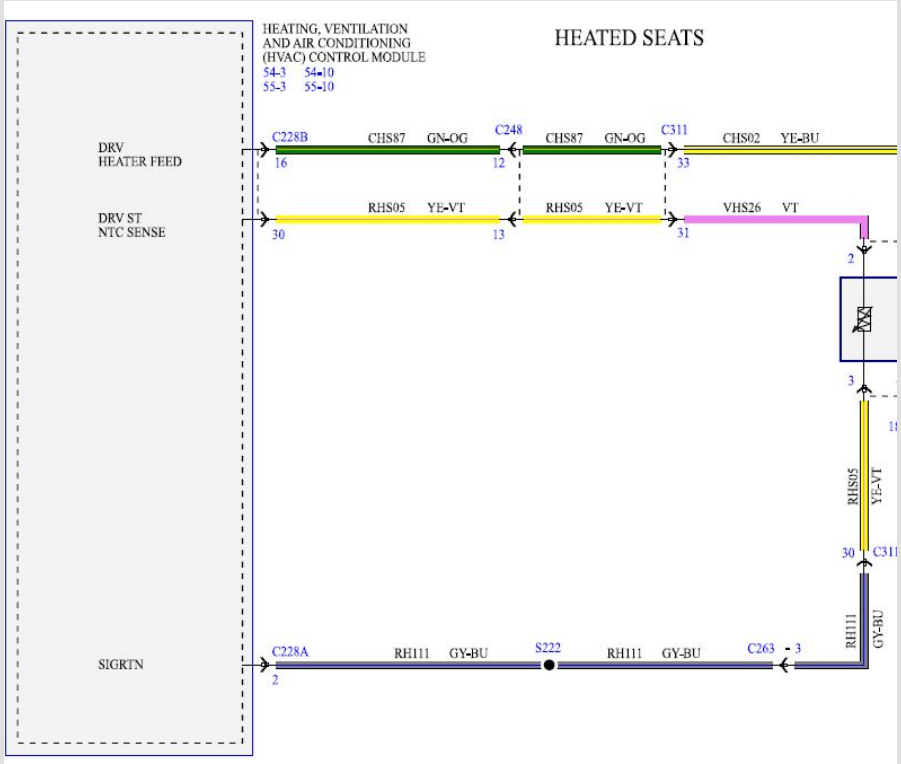
252					Front, Right-Hand Side discharge sensor - Defrost (FRHSD) • Front, Right-Hand Side discharge sensor - Panel (FRHSP) • Front, Right-Hand Side discharge sensor - Floor (FRHSF) • Front, Right-Hand Side discharge sensor (FRHS)		
253	733-01-03	x*xx	xxxx	xx--	0 =	FRHSD Front, Right-Hand Side discharge air temperature sensor for Defrost outlet NOT present in vehicle • FRHSP Front, Right-Hand Side discharge air temperature sensor for Panel outlet NOT present in vehicle • FRHSF Front, Right-Hand Side discharge air temperature sensor for Floor outlet NOT present in vehicle • FRHS Front, Right-Hand Side discharge air temperature sensor NOT present in vehicle	8 =	FRHSD Front, Right-Hand Side discharge air temperature sensor for Defrost outlet present in vehicle • FRHSP Front, Right-Hand Side discharge air temperature sensor for Panel outlet NOT present in vehicle • FRHSF Front, Right-Hand Side discharge air temperature sensor for Floor outlet NOT present in vehicle • FRHS Front, Right-Hand Side discharge air temperature sensor NOT present in vehicle
254					1 =	FRHSD Front, Right-Hand Side discharge air temperature sensor for Defrost outlet NOT present in vehicle • FRHSP Front, Right-Hand Side discharge air temperature sensor for Panel outlet NOT present	9 =	FRHSD Front, Right-Hand Side discharge air temperature sensor for Defrost outlet present in vehicle • FRHSP Front, Right-Hand Side discharge air temperature sensor for Panel outlet NOT present in

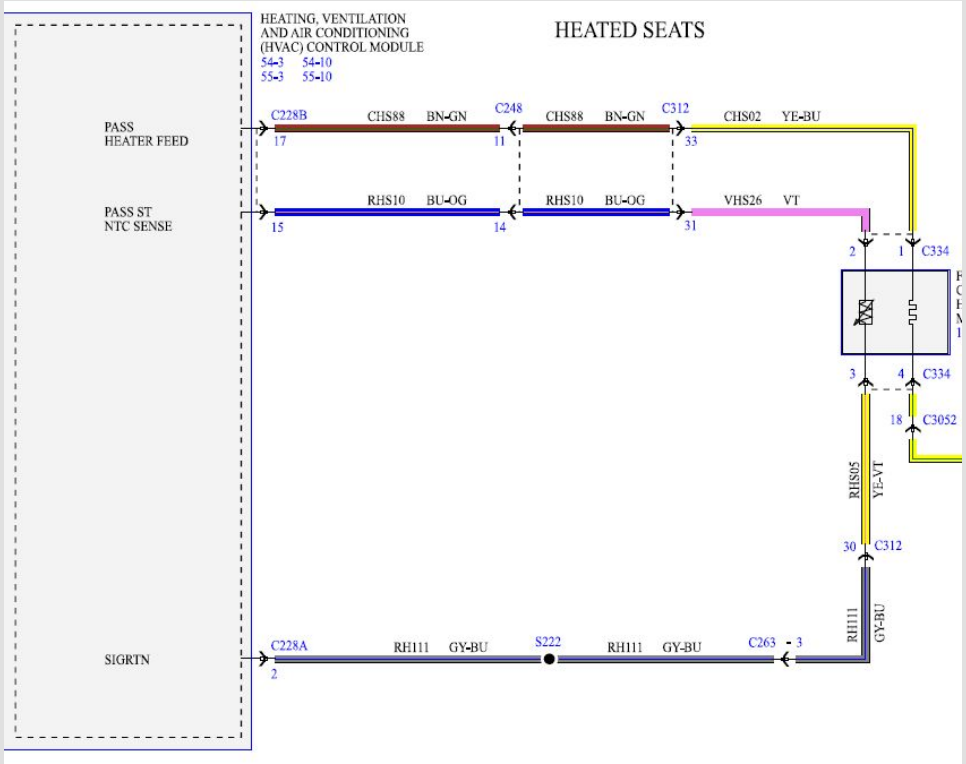
Changes I made:

Coded out damper position sensor (blend door) (not present on my truck, throwing codes). I went from “8” to “0”

				Passenger Blend Door Actuator (PBDA) • Rear Mode Door Actuator (RMDA)			
733-01-08	xxxx	xxxx	*x--	0 =	PBDA Vehicle Does NOT have Passenger Blend Door Actuator • RMDA Vehicle Does NOT have Rear Mode Door Actuator	8 =	PBDA DOES have, WITH feedback • RMDA Vehicle Does NOT have Rear Mode Door Actuator
				1 =	PBDA Vehicle Does NOT have Passenger Blend Door Actuator • RMDA DOES have, but with NO feedback	9 =	PBDA DOES have, WITH feedback • RMDA DOES have, but with NO feedback
				2 =	PBDA Vehicle Does NOT have Passenger Blend Door Actuator • RMDA DOES have, WITH feedback	A =	PBDA DOES have, WITH feedback • RMDA DOES have, WITH feedback
				3 =	PBDA Vehicle Does NOT have Passenger Blend Door Actuator • RMDA RESERVED	B =	PBDA DOES have, WITH feedback • RMDA RESERVED
				4 =	PBDA DOES have, but with NO feedback • RMDA Vehicle Does NOT have Rear Mode Door Actuator	C =	PBDA RESERVED • RMDA Vehicle Does NOT have Rear Mode Door Actuator
				5 =	PBDA DOES have, but with NO feedback • RMDA DOES have, but with NO feedback	D =	PBDA RESERVED • RMDA DOES have, but with NO feedback
				6 =	PBDA DOES have, but with NO feedback • RMDA DOES have, WITH feedback	E =	PBDA RESERVED • RMDA DOES have, WITH feedback
				7 =	PBDA DOES have, but with NO feedback • RMDA RESERVED	F =	PBDA RESERVED • RMDA RESERVED

Wiring pg 1

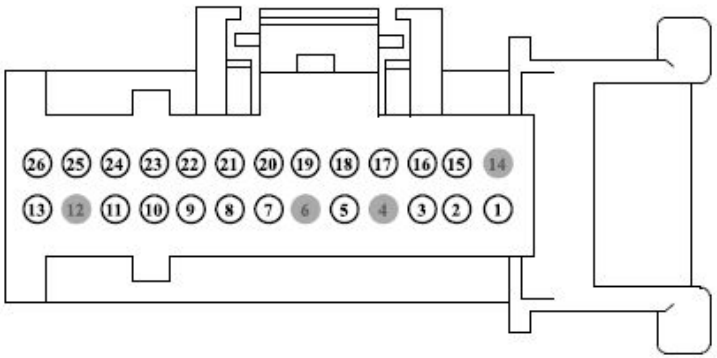




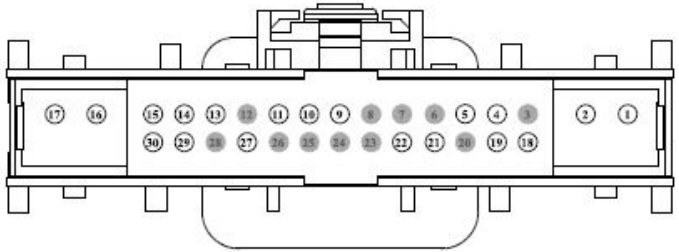
Driver Seat:
C311 Pin 33 to C228B Pin 16 (Feed, 20g-22g)
C311 Pin 31 to C228B Pin 30 (Sensor 22g)
C311 Pin 30 to C228A Pin 2 (Splice Ref Ground)

Pass Seat:
C312 Pin 33 to C228B Pin 17 (Feed, 20g-22g)
C312 Pin 31 to C228B Pin 15 (Sensor 22g)
C312 Pin 30 to C228A Pin 2 (Splice Ref Ground)

Wiring pg 2 - HVAC Side



C228 A



C228 B

Splice into C228A- pin 2 (Gray/Blue) to Pin 30 on EACH seat to maintain REF ground.

Power from your choice to Pins 1 & 2 on C228 B.
Pin 15/30 to Pass/Driver Signal
Pin 16/17 to Pass/Driver Power feed