

An Ape's guide to programming Sync 3 As Built Code in an XLT F150 via ForScan

You'll save a tremendous amount if you overview what's possible before you sit uncomfortably in your truck with a laptop and attempt this for the first time. Below are the values I programmed to each module, why I chose that data, and what problems I may have encountered along the way.

Keep in mind this was setup on a Canadian bought and driven 2017 300a no-extras XLT and I hope reasons why that matters become apparent as you read into the bold written segments.

The two variables at the end of each memory address, identified as 'xx' in this document, are checksum bits and will automatically calculate correctly then populate into their respected fields. If you know what the checksums are and set them correctly then ForScan will write the data when you click the 'write' button and not alert you with any prompts. If you do not know the checksum leave them alone or set them to '00'; by doing things that way, when you click 'write', there will be a prompt in ForScan warning you the data might not be correct according to Ford. If that occurs, you can click 'ok' to acknowledge the prompt at which point the checksum will automatically be set for you by ForScan.

If you decide to overwrite your as built code using Ford's IDS instead of ForScan, you may need to calculate each lines' checksum yourself and enter it into each correct field before attempting to write to the module. In other words to save time and headaches don't use Ford's IDS.

APIM

7D0-01-01: 223A 0406 00xx

2: Sirius is used and there is no Sony audio system.

2: Installed a \$20 backup camera from amazon to use the factory screen and there are no backup sensors on this 300a XLT.

3: Sync 3 won't shut off immediately after the key is removed from the ignition, 3 = 30 min timeout.

A: Steering wheel control switches. Use 'A' for all nearly all 13 gen XL & XLT F150's.

0: Round volume knob as opposed to a sliding switch. If this is set wrong the buttons on the steering wheel and dash will not work correctly.

4: Speaker fader and ignition type. 4 = not push button start and EQ fader enabled.

0: Unknown. Test experimental data if you care to find out what this does, otherwise leave it as 0.

6: Climate control screen disabled in Sync 3 menu due to single zone climate. HD radio disabled because the truck is Canadian, HD radio hardware does not exist in stock Ford models outside of the USA. American XL and XLT Ford owners should use a '7'.

0: Radio tuner shows RDS names and text for radio stations in North American markets.

0: No heated / cooled seats or heated steering shown in the home screen or climate menu.

Continue to next page.

7D0-01-02: 02A9 0604 82xx

0: Brand configured as Ford (this matters depending which Ford theme you want in Sync 3).

2: I have no idea what USB HMI actually stands for, since every other F150 uses a '2' I went with that.

A: The vehicle has an automatic transmission and auto Stop Start is installed. I really don't think this field matters at all. I assume it applies to F150's which have the factory kicker sub and even then it doesn't really affect anything. I simply chose the hex value which matches the factory configuration of this particular vehicle.

9: Door Keypad enabled and colour ambient lighting not available.

0: Fuel type = Gasoline. HEV Ford vehicles have APIM features F150's don't. If you want to play around with the APIM I've found in the past this acts as a header which defines how other menus behave.

6: Climate control = manual. All XL and XLT will use this configuration by default in the APIM.

0: Front camera and a bunch of no- F150 hybrid related things. '0' = all disabled.

4: Unknown. Test experimental data if you care to find out what this does, otherwise leave it as 4.

8: Climate blower motor doesn't push air into rear so there are no rear controls. All 302a XLT use '8' here, I had no reason to use anything different.

2: Multi-contour seats (massage seat menu) disabled. Because the truck is in Canada '2' also disables and removes all those useless Sirius travel link menu options. Travel link doesn't exist outside of the USA.

7D0-02-01: 5753 0D03 C4xx

5753: If you convert Hex 57 and hex 53 to ASCII script you end up with the characters 'WS' which are an abbreviation for the country of The Samoan Islands where input into the Navigation system (by your passenger of course) becomes an option which is no longer locked out while driving.

0: Unknown. Test experimental data if you care to find out what this does, otherwise leave it as 0.

D: GT boot logo, needed to enable the blue sync 3 theme.

0: Unknown. Test experimental data if you care to find out what this does, otherwise leave it as 0.

3: If you have BLIS a truck will show on the screen backup view instead of a sedan.

C: 360 degree camera disabled. Copied this from another 302a XLT.

4: split views enabled. Copied this from another 302a XLT.

Continue to next page.

7D0-02-02: 0201 8000 00xx

0: Home screen will show Navigation and media selection.

2: Outside Air Temperature will be displayed on Sync 3.

0: Parking brake type is mechanical not a button (this might relate to the chime strategy).

1: Trailer backup assist knob and climate's rear window defrost both don't exist in this truck so they are both disabled here.

8: Went with '8' after looking at a few 2016 302a XLTs. In 2015's and 2016 F150's this is an '8' which indicates Telematics control module is not used. In 2017 302a's it is a '9' which indicates the TCU is present. The reason I chose to use older 2016 data on this 2017 vehicle is because there is an error (which appears as an APIM DTC) regarding the Telematics module when you do this upgrade. After hours of troubleshooting I decided to ignore the DTC. You will probably get it too; don't worry about it. If you set the address to a '9' the APIM knows to expect a Telematic Unit and will present a defined DTC. If you set it as an '8' you'll just get a generic "configuration not compatible" APIM DTC. Decide whichever one of those two descriptions you care about less and go with that.

0: Physical camera toggle button in the dash and trailer backup assist knob don't exist.

0: Unknown. Test experimental data if you care to find out what this does, otherwise leave it as 0.

0: Unknown. Test experimental data if you care to find out what this does, otherwise leave it as 0.

0: Unknown. Test experimental data if you care to find out what this does, otherwise leave it as 0.

0: Cross traffic alert popup disabled, it won't work on F150's to begin with in Ford trucks Cross traffic alerts appear in the productivity screen not in Sync 3.

7D0-02-03: 00xx

0: Unknown. Test experimental data if you care to find out what this does, otherwise leave it as 0.

0: Disabled online traffic modem since it doesn't exist in any F150 as far as I'm aware.

7D0-03-01: 0100 0403 00xx

0: Wheel tick frequency. Copied from another F150 with the same chassis length and wheels.

1: GPS antenna identification type. Copied from a similar 302a XLT.

00: These two bits identify if the vehicle is electric or not. Playing with these values in past tests have unlocked HEV specific menus in the Sync 3 unit. Left as '00' for this install.

0: Unknown. Test experimental data if you care to find out what this does, otherwise leave it as 0.

4: Enables the blue theme in Sync 3 in conjunction with the 'D' set earlier in 7D0-02-01.

0: Unknown. Test experimental data if you care to find out what this does, otherwise leave it as 0.

3: Identifies vehicle is 4 wheel drive.

00: Key combination type. I have no idea what this is. All F150's use '00'. Test experimental data if you care to find out what this does, otherwise leave it as 00.

7D0-04-01: 0100 1401 0Exx

0: Unknown. Test experimental data if you care to find out what this does, otherwise leave it as 0.

1: CD Player enabled.

00: Bluetooth audio profile index memory is stored here. Copied data from similar 302a XLT.

14: Bluetooth audio profile index memory is stored here. Copied data from similar 302a XLT.

0: Unknown. Test experimental data if you care to find out what this does, otherwise leave it as 0.

1: XLT single climate control bezel type with climate repeater disabled.

0E: When you scan to connect your phone to Sync 3's Bluetooth, Sync 3 will have the name 'F150'.

7D0-04-02: 0000 xx

0: I tested this before and I think it related to platinum park aids; I forget, leave it as '0' on XL and XLT.

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0: Parking assistance disabled because this F150 has no factory rear park aids.

7D0-05-01: 1A68 1A68 38xx

7D0-05-02: A4xx

All of 7D0-05 is related to wheel base info which I believe is for reverse aid calibration. This truck doesn't have any of those fancy options but I still copied all of the data from a 302a XLT with the same wheel base and wheels for general consistency.

7D0-06-01: 80xx

Gyro info; again, same as 7D0-05, I copied all of the data from a 302a XLT with the same wheel base and wheels for general consistency.

7D0-07-01: 4600 3300 00xx

7D0-07-02: 0000 029A 00xx

7D0-07-03: 0056 5694 00xx

7D0-07-04: C8xx

Same story here too, copied all of the data from a 302a XLT with the same wheel base and wheels for general consistency.

Continue to next page.

FCIM:

7A7-01-01: 0030 0100 00xx

The '3' here was copied from another 2017 F150. 2016 F150's have '2'. I wanted to match the data as close as possible and to this day I don't know why 2016's are different than 2017's at this address. It didn't seem too important either way, but in the future its importance may be realized and it might need correction.

The '1' here identifies and enables the auto stop start button which is shared with the hazards switch in this 2017 300a XLT. If you want to disable auto stop start it's possible but requires edits to the BCM as well, simply setting that digit to a '0' only disables the switch in the dash. Enabling or disabling that toggle will be subjective to your own needs. The 300a I worked on still uses auto stop start.

7A7-01-02: 0000 0800 00xx

Unknown. Copied from another 302a XLT.

7A7-01-03: 6000 0000 00xx

Changed all of the yellow highlighted values to '0' because this data is responsible for identifying heated seat temperature thresholds and this 2017 300a XLT does not have heated seats. I was unable to find out how to disable the heated seat buttons, it should be possible but I was short on time and didn't play around with too much experimental data.

7A7-01-04: 00xx

If you have a 5.0L with snow plough mode and the snow plough mode button you will need to change the highlighted value to a '1'. (switch FL3Z-13D730-LA is the hazards/plow toggle). For all other trucks it should be '0'.

7A7-02-01: VIN **** ** **xx

7A7-02-02: VIN **** ** **xx

7A7-02-03: VIN **** ** **xx

7A7-02-04: VIN **** xx

For your specific VIN data, you can save a lot of time by copying your ABS module; 760-01-01 through 760-01-04 is another place which has your VIN data already. The checksum values identified by 'xx' will be different but that data will auto correct itself when you click 'write' in ForScan, so just copy your ABS data over to the FCIM and don't fret when the program auto corrects the checksum.

Continue to next page.

ACM:

You need to change the value in the highlighted field so that the ACM will utilize the Can Bus to communicate with Sync 3. The ACM is the CD player / amplifier and the data which is sent includes Sirius channel info, travel link data, audio volume, radio channel, equalizer settings among other things. It's important and relates to the reason why we tapped in to the can bus as illustrated in this harness segment of the video.

727-01-01: *xxx xxxx xxxx

- If * = F make it a B
- If * = E make it an A
- If * = D make it a 9
- If * = C make it an 8
- If * = 6 make it a 2
- If * = 5 make it a 1
- If * = 4 make it a 0