

2024

MODEL YEA

- Updated Model Lineup and Weights
- Updated Dimensional Data
- Updated Seating Reference Data
- Updated Electrical Pinouts/Locations
- Box Delete and Box Removal are no longer supported
- Super Crew is now the only available model variant

What's New

Index

2 RANGER



1 2

# Body Builders Layout Book

| RANGER |
|--------|
| INDEX  |

| Introduction  | 3                                |
|---|----------------------------------|
| Model Lineup (Weights: GVWR, Payload, ARC, GAWR, Curb)  | 4                                |
| Dimensional Data Crew Cab Ride Height, Cab Height & Frame Length Tire & Wheel Dimensions Seat H-Point Dimensions  | 5-7<br>8<br>8<br>9               |
| Electrical: Electrical Pass Thru CHMSL and Delayed Accessory Auxiliary Switches/Relay Customer Access B+/Grounding Customer Access Circuits Run / Start Ford Co-Pilot 360 | 10<br>11<br>12<br>13<br>14<br>15 |
| Change Control  | 16                               |

2024 MODEL YEAR

# Body Builders Layout Book

### **RANGER** INTRODUCTION

#### **IMPORTANT NOTICES**

The information described herein is believed to be correct at the time of publication, but accuracy cannot be guaranteed. Ford reserves the right to discontinue models or change specifications or designs at any time without notice and without incurring any obligation.

Representations regarding the compliance of any Ford- manufactured incomplete vehicle to any rule, regulation or standard issued pursuant to the National Traffic and Motor Vehicle Safety Act or the Canadian Motor Vehicle Safety Act are set forth only in the Incomplete Vehicle Manual (IVM) which accompanies each incomplete vehicle.

Regulations such as those issued by the Federal Highway Administration (FHA) or issued pursuant to the Occupational Safety and Health Act (OSHA), and/or state, provincial, and local laws and regulations may require installation of additional equipment for the particular use intended for the vehicle. It is the responsibility of the subsequent stage manufacturer or completed vehicle alterer and the vehicle purchaser to ascertain how the vehicle will ultimately be used, if FHA, OSHA or state provincial or local regulations apply and how the vehicle as completed will comply with those requirements. Nothing contained herein is to be construed as a representation that such equipment required for the particular use intended has been installed on the completed or incomplete vehicle.

#### REFERENCE INFORMATION

#### Ford Body Builder Advisory Service Publications

This document is an example of a program-specific Body Builders Layout Book (BBLB) published by the Ford Body Builder Advisory Service (BBAS) team. Each Ford Commercial Truck vehicle line has a similar document that aims to provide detailed information which may be of interest to a subsequent-stage manufacturer or alterer.

The Ford Transit and Transit Connect also have a Body and Equipment Mounting Manual (BEMM), which is a comprehensive resource dedicated to body and equipment mounting information.

Yet another source of program-specific information are the "Vehicle Specification" documents available on the Ford BBAS website. Information typically found in these documents are vehicle curb and accessory weights, vehicle dimensions, component descriptions, capacities, GAWRs, alternator output, powertrain output and gear ratios.

In addition to the program-specific documents, there are several Ford BBLB documents that contain general best practices or information on specific subjects that span multiple vehicle lines. These include:

- General BBLB contains Definitions, Design Recommendations and Vehicle Storage Guidelines.
- Snowplow BBLB
- · Pickup Box Removal BBLB

These publications are updated every model year and can be accessed via the web at https://fordbbas.com under "Publications". For BBLB and BEMM documents. expand the "Body Builder Layout Book" Section to view all available documents. For Vehicle Specifications, expand the "Vehicle Specifications" section. The website search function can be used to filter for specific content or vehicle line.

#### Ford Body Builder Advisory Service Bulletins

Occasionally, the Ford BBAS team will create an SVE "Bulletin" to address a specific issue or distribute important information in a timely manner. These documents can be accessed via the web at https://fordbbas.com, under "Bulletins". The website search function can be used to filter for specific content or vehicle line.

If applicable, information from each SVE bulletin will be incorporated into the appropriate BBLB document the following model year. In some cases, SVE bulletins will continue to be referenced in this document.

2024

MODEL YEAR

#### Ford Body Builder Advisory Service Contact

The Ford Truck Body Builder Advisory Service may be consulted if guestions regarding the completion of Ford commercial vehicles are not adequately addressed in the documentation described above. For assistance call (877) 840-4338 or e-mail via the web at https://fordbbas.com under "Contact Us" and select "General Questions".

For Ford vehicle CAD requests, please visit https://fordbbas.com , select "Contact Us" and then "CAD Request".

For both Questions and CAD Requests, please be as specific as possible with the request details to assure the most accurate and timely response.

#### Ford Service Publications

Ford Service Technical Resources (including wiring diagrams, repair manuals and diagnostic tool support) are available by subscription via the Motorcraft website: www.motorcraftservice.com

The following publications are examples of digital and printed manuals which are available from Helm Incorporated; call 1-800-782-4356 or contact Helm, Inc. at their website www.helminc.com:

- · Ford Truck Shop Manuals
- Ford Towing Manuals
- · Ford Wiring Diagrams



# Body Builders Layout Book

2024 MODEL YEAR

## **RANGER**

**MODEL LINEUP: CREW CAB** 

| MODEL        |        | GVWR   | ADVERTISED / LABEL | MAX ARC       | GAWR  |      | BASE CURB WEIGHT |      |       |
|--------------|--------|--------|--------------------|---------------|-------|------|------------------|------|-------|
| CAB/DRIVE    | ENGINE | (LBS.) | PAYLOAD            | WEIGHT (LBS.) | FRONT | REAR | FRONT            | REAR | TOTAL |
| CREW CAB 4X2 | 2.3L   | 6050   | 1805               | 879           | 2930  | 3570 | 2315             | 1888 | 4203  |
| CREW CAB 4X4 | 2.3L   | 6170   | 1711               | 667           | 3130  | 3570 | 2492             | 1923 | 4415  |
| CREW CAB 4X4 | 2.7L   | 6170   | 1542               | 656           | 3274  | 3570 | 2660             | 1922 | 4582  |
| CREW CAB AWD | 3.0L   | 6790   | 1411               | 395           | 3307  | 3615 | 2940             | 2386 | 5325  |

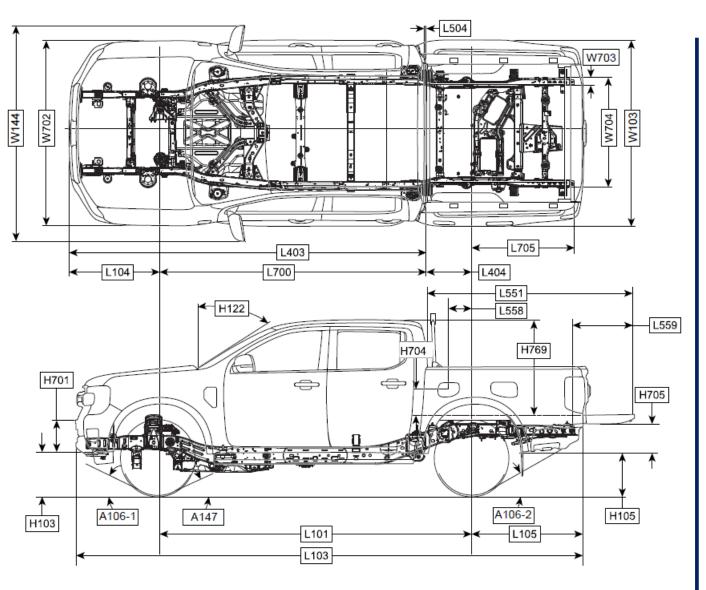
#### NOTES:

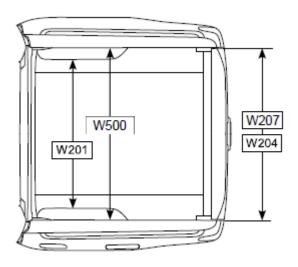
- 1. Load rating represents maximum allowable weight of people, cargo and body equipment and is reduced by optional equipment weight.
- 2. OPT/ARC Weight is the maximum allowable weight of regular production options (OPT) and aftermarket equipment (Accessory Reserve Capacity) above standard equipment for each configuration. Please also refer to footnote 5.
- 3. Gross Axle Weight Rating is determined by the rated capacity of the minimum component of the axle system (axle, springs, wheels, tires) of a specific vehicle. Front and Rear GAWRs will, in all cases, sum to a number equal to or greater than the GVWR for the particular vehicle. Maximum loaded vehicle (including passengers, equipment and payload) cannot exceed the GVW rating or GAWR (front or rear).
- Base Curb Weights shown above are for truck models with standard equipment. Please also refer to footnote 3.

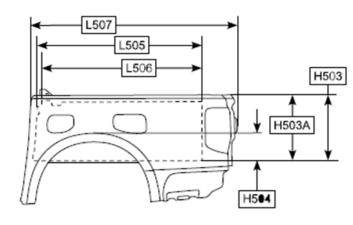
2024 MODEL YEAR

### **RANGER**

### **DIMENSIONAL DATA: CREW CAB & BOX**







H61-1

H62-1 FORD

H61-2

L33

L51-2

EFFECTIVE HEAD ROOM - FRONT

MAXIMUM HEAD ROOM - FRONT\*

EFFECTIVE LEG ROOM - SECOND

EFFECTIVE HEAD ROOM - SECOND

MAXIMUM LEG ROOM - ACCELERATOR

2024

MODEL YEAR

1011 [39.8]

1041 [41]

974 [38.3]

1109 [43.7]

879 [34.6]

**DIMENSIONAL DATA: CREW CAB & BOX** 

| EXTERIOR | DESCRIPTION                               | 4X2          | 4X4          | 4X4 RAPTOR   |
|----------|---|--------------|--------------|--------------|
| L101     | WHEELBASE                                 | 3270 [128.7] | 3270 [128.7] | 3270 [128.7] |
| L103     | VEHICLE LENGTH                            | 5350 [210.6] | 5350 [210.6] | 5357 [210.9] |
| H101     | VEHICLE HEIGHT - MAXIMUM                  | 1877 [73.9]  | 1890 [74.4]  | 1927 [75.9]  |
| W103     | VEHICLE WIDTH*                            | 1918 [75.5]  | 1918 [75.5]  | 1927 [75.9]  |
| W144     | VEHICLE WIDTH - INCLUDING OUTSIDE MIRRORS | 2203 [86.7]  | 2203 [86.7]  | 2203 [86.7]  |
| W145     | VEHICLE WIDTH - WITH MIRRORS FOLDED       | 2007 [79]    | 2007 [79]    | 2007 [79]    |
| W102-1   | VEHICLE TRACK FRONT CURB                  | 1620 [63.8]  | 1620 [63.8]  | 1710 [67.3]  |
| W102-2   | VEHICLE TRACK REAR CURB                   | 1620 [63.8]  | 1620 [63.8]  | 1710 [67.3]  |
| L104     | FRONT OVERHANG                            | 865 [34.1]   | 865 [34.1]   | 862 [33.9]   |
| L105     | REAR OVERHANG                             | 1215 [47.8]  | 1215 [47.8]  | 1225 [48.2]  |
| A106-1   | APPROACH ANGLE                            | 29.2 [1.1]   | 30.2 [1.2]   | 33 [1.3]     |
| A106-2   | DEPARTURE ANGLE                           | 25.1 [1]     | 25.8 [1]     | 26.4 [1]     |
| A147     | RAMP BREAKOVER ANGLE - CURB               | 21.8 [0.9]   | 23 [0.9]     | 24.2 [1]     |
| H156     | MINIMUM RUNNING GROUND CLEARANCE          | 223 [8.8]    | 235 [9.3]    | 272 [10.7]   |
| L403     | FRONT OF BUMPER TO BACK OF CAB            | 3637 [143.2] | 3637 [143.2] | 3637 [143.2] |
|          |   |              | -            |              |
| INTERIOR | DESCRIPTION                               | 4X2          | 4X4          | 4X4 RAPTOR   |

| W5-1 | HIP ROOM - FRONT                | 1421 [55.9] | 1421 [55.9] | 1421 [55.9] |
|------|---------------------------------|-------------|-------------|-------------|
| W5-2 | HIP ROOM - SECOND               | 1373 [54.1] | 1373 [54.1] | 1373 [54.1] |
| W3-1 | SHOULDER ROOM - FRONT           | 1450 [57.1] | 1450 [57.1] | 1450 [57.1] |
| W3-2 | SHOULDER ROOM BELTLINE - SECOND | 1440 [56.7] | 1440 [56.7] | 1440 [56.7] |
|      |                                 |             |             |             |

1011 [39.8]

974 [38.3]

1109 [43.7]

879 [34.6]

1041 [41]

1011 [39.8]

974 [38.3]

879 [34.6]

1109 [43.7]

1041 [41]

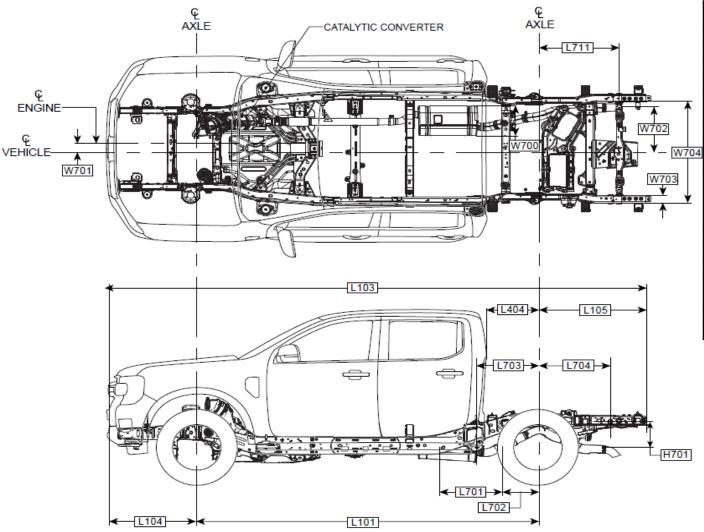
| CAPACITIES | DESCRIPTION  | 4X2    | 4X4    | 4X4 RAPTOR |
|------------|--|--------|--------|------------|
| CALCULATED | PASSENGER VOLUME TOTAL = PV1 + PV2 + PV3 + PV4 + PV5 | 2782.4 | 2782.4 | 2782.4     |
|            |  | LITERS | LITERS | LITERS     |

| BOX DIMENS | SIONS  |               |
|------------|--|---------------|
|            |  | CREW CAB      |
| CODE       | DESCRIPTION  | 5FT BOX       |
| H503       | CARGO BODY HEIGHT W/ MOLDING                                       | 529 [20.8]    |
| H503A      | CARGO BODY HEIGHT WITHOUT MOLDING @ CL OF REAR AXLE                | 524 [20.6]    |
| H504       | WHEELHOUSE HEIGHT WITH MOLDING                                     | 211 [8.3]     |
| L505       | CARGO BODY LENGTH @ FLOOR  | 1514 [59.6]   |
| L506       | CARGO BODY LENGTH @ TOP (BELT)                                     | 1471 [57.9]   |
| L507       | CARGO BODY OVERALL LENGTH (INCLUDES TAILGATE HANDLE BEZEL & BADGE) | 1654 [65.1]   |
| W201       | CARGO WIDTH AT WHEELHOUSE  | 1224 [48.2]   |
| W204       | REAR OPENING WIDTH @ TOP (BELT)                                    | 1413 [55.6]   |
| W207       | REAR OPENING WIDTH AT FLOOR  | 1365 [53.7]   |
| W500       | EXPOSED CARGO WIDTH  | 1584 [62.4]   |
| V5         | CARGO VOLUME – LITERS [ C U.FT.]                                   | 1232.6 [48.5] |
|            |  |               |

2024

MODEL YEAR

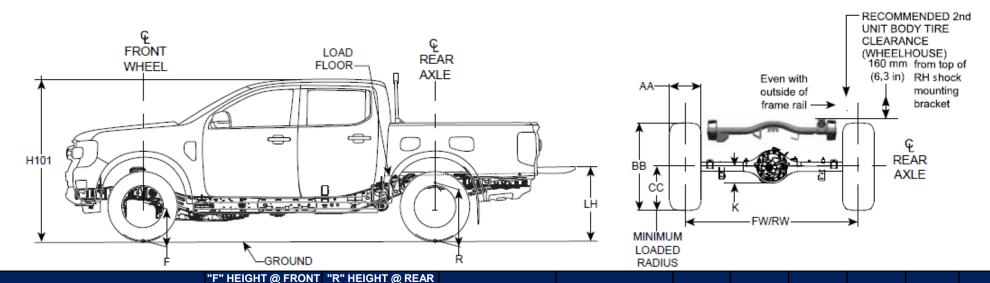
# RANGER DIMENSIONAL DATA: CREW CAB



| CODE | DESCRIPTION  | SUPER CAB<br>4x2      |
|------|--|-----------------------|
| H701 | C/L OF OUTLET PIPE TO BOTTOM OF FRAME                      | 262 [10.3]            |
| L101 | WHEELBASE  | 3220 [126.8]          |
| L103 | OVERALL LENGTH   | 5355 [210.8]          |
| L104 | FRONT OVERHANG   | 910 [35.8]            |
| L105 | REAR OVERHANG (TO REAR OF HITCH<br>RECEIVER BRACKETS)      | 1144.4 [45.1]         |
| L404 | BACK OF CAB TO C/L OF REAR AXLE                            | 794.6 [31.3]          |
| L701 | MUFFLER LENGTH   | 583 <mark>[23]</mark> |
| L702 | MUFFLER REAR TO C/L REAR AXLE                              | 356.3 [14]            |
| L703 | REAR SPRING FRONT EYE TO C/L REAR<br>AXLE                  | 590 [23.2]            |
| L704 | C/L REAR AXLE TO C/L REAR SPRING<br>SHACKLE BRACKET        | 719 [28.3]            |
| L711 | C/L OF REAR AXLE TO C/L OF EXHAUST PIPE                    | 645.6 [25.4]          |
| W700 | MUFFLER CROSS SECTION                                      | 274.9 [10.8]          |
| W701 | DISTANCE BETWEEN C/L ENGINE / VEHICLE                      | 0 [0]                 |
| W702 | END OF TAILPIPE TO C/L VEHICLE FROM<br>OUTLET PIPE END TIP | 833 [32.8]            |
| W703 | FRAME RAIL WIDTH   | 83.2 [3.3]            |
| W704 | REAR FRAME RAIL WIDTH                                      | 1184.2 [46.6]         |

MODEL YEAR

## **DIMENSIONAL DATA: RIDE HEIGHT, CAB HEIGHT & WHEEL & TIRE DIMENSIONS**



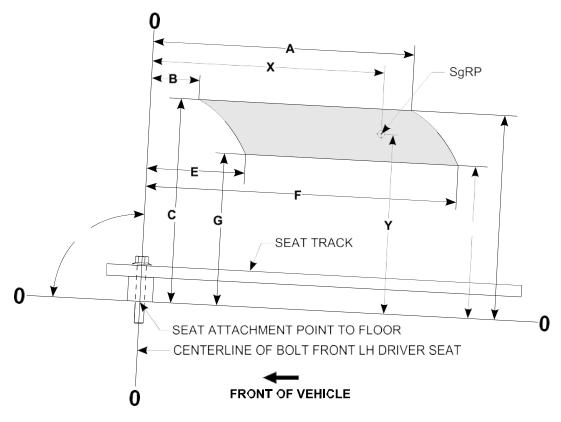
|                           |             |                |           | WHI<br>TO BOT                 | EEL<br>TOM OF<br>ME <sup>1,2</sup> | WH<br>TO BOT | EEL<br>TOM OF<br>ME <sup>1,2</sup>     | LH <sup>1,2</sup> |           | ,2 H011,2   |            | H01 <sup>1,2</sup> |                          |                  |                               |                |                |  |  |
|---------------------------|-------------|----------------|-----------|-------------------------------|------------------------------------|--------------|--|-------------------|-----------|-------------|------------|--------------------|--------------------------|------------------|-------------------------------|----------------|----------------|--|--|
| MODEL                     | WB<br>(in.) | GVWR<br>(lbs.) | Base Tire | HEIGHT<br>AT BASE<br>CURB WT. | )                                  |              | LOADED<br>HEIGHT<br>@ SPRING<br>RATING | EMPTY             | LOADED    | EMPTY       | LOADED     | K                  | AA<br>(SECTION<br>WIDTH) | BB<br>(DIAMETER) | CC<br>(STATIC LOAD<br>RADIUS) | W102-1<br>FW   | RW             |  |  |
| TREMOR CREW<br>CAB<br>4X4 | 126.8       | 6790           | 285/70R17 | 486.1[19.1]                   | 461 [18.1]                         | 680.5 [26.8] | 583.2[23]                              | 918[36.1]         | 713[28.1] | 1927 [75.9] | 1789[70.4] | 138.7[5.5]         | 272[10.7]                | 772.6 [30.4]     | 369.1 [14.5]                  | 162[63.8]<br>0 | 162[63.8]<br>0 |  |  |
| CREW CAB<br>4X2           | 126.8       | 6050           | 255/70R16 | 435.4[17.1]                   | 410.6[16.2]                        | 625.6 [24.6] | 529.4 [20.8]                           | 864[34]           | 759[29.9] | 1877 [73.9] | 1737[68.4] | 138.7[5.5]         | 265[10.4]                | 730 [28.7]       | 347.9[13.7]                   | 162[63.8]<br>0 | 162[63.8]<br>0 |  |  |
| CREW CAB<br>4X4           | 126.8       | 6170           | 265/65R18 | 438.5[17.3]                   | 413.5[16.3]                        | 639 [25.2]   | 545.1[21.5]                            | 881[34.7]         | 713[28.1] | 1890[74.4]  | 1748[68.8] | 138.7[5.5]         | 265 [10.4]               | 731 [28.8]       | 349.6[13.8]                   | 162[63.8]<br>0 | 162[63.8]<br>0 |  |  |

| RIM WIDTH | SECTION WIDTH   | STATIC LOADED RADIUS   |
|-----------|---|--|
| [7.0]     | [10.04]   | [13.50]  |
| [7.5]     | [10.44]   | [14.61]  |
| [7.5]     | [10.44]   | [14.61]  |
| [7.5]     | [10.71]   | [14.02]  |
| [7.5]     | [10.71]   | [13.94]  |
| [8.5]     | [10.67]   | [14.63]  |
| [7.5]     | [10.71]   | [14.02]  |
| [7.0]     | [9.83]  | [13.50]  |
| [7.5]     | [10.51]   | [13.94]  |
| [8.5]     | [10.67]   | [14.63]  |
|           | [7.0]<br>[7.5]<br>[7.5]<br>[7.5]<br>[7.5]<br>[8.5]<br>[7.5]<br>[7.0]<br>[7.5] | [7.0]     [10.04]       [7.5]     [10.44]       [7.5]     [10.71]       [7.5]     [10.71]       [7.5]     [10.71]       [8.5]     [10.67]       [7.5]     [10.71]       [7.0]     [9.83]       [7.5]     [10.51] |

|   | WHEEL TYPE / DESCRIPTION             | WHEEL SIZE<br>(IN.) | INSET             | NO.<br>OF<br>STUDS | BOLT<br>CIRCLE           | MAX. WHEEL<br>CAPACITY LOAD<br>FRONT / REAR |
|---|--------------------------------------|---------------------|-------------------|--------------------|--------------------------|---|
|   | STEEL- BRIGHT POLISH SILVER          | 16 x 7              | 55.0 <b>[2.2]</b> | 6                  | 139.7 <b>[5.5]</b>       | 3274 / 2025                                 |
|   | STEEL- HG BLACK (SPARE ONLY)         | 17 x 7.5            | 55.0 [2.2]        | 6                  | 139.7 [5.5]              | 3274 / 3570                                 |
|   | PAINTED- SPARKLE SILVER              | 17 x 7.5            | 55.0 [2.2]        | 6                  | 139.7 [5.5]              | 3274 / 3570                                 |
|   | PAINTED-MEDIUM BOLDER GREY           | 17 x 7.5            | 55.0 [2.2]        | 6                  | 139.7 [5.5]              | 3274 / 3570                                 |
|   | CHROME-LIKE PVD                      | 18 x 7.5            | 55.0 [2.2]        | 6                  | 139.7 [5.5]              | 3274 / 3570                                 |
|   | PRECISION GREY                       | 17 x 8.5            | 55.0 [2.2]        | 6                  | 139.7 [5.5]              | 3307 / 3615                                 |
|   | CHROME-LIKE PVD                      | 18 x 7.5            | 55.0 <b>[2.2]</b> | 6                  | 139.7 [5.5]              | 3274 / 3570                                 |
| - | MACHINED- MEDIUM BOLDER GREY POCKETS | 18 x 7.5            | 55.0 [2.2]        | 6                  | 139.7 [5.5]              | 3274 / 3570                                 |
| 1 | MACHINED- ASPHALT BLACK POCKETS      | 18 x 7.5            | 55.0 <b>[2.2]</b> | 6                  | 139.7 <mark>[5.5]</mark> | 3274 / 3570                                 |

2024 MODEL YEAR

### **DIMENSIONAL DATA: SEAT TRACK & H-POINT DATA**



|            | SEAT TRAVEL DATA |                |                  |                  |                |                  |                 |                 |                  |                  |  |  |  |  |  |
|------------|------------------|----------------|------------------|------------------|----------------|------------------|-----------------|-----------------|------------------|------------------|--|--|--|--|--|
|            |                  | SgRP Lo        | cation           |                  |                |                  |                 |                 |                  |                  |  |  |  |  |  |
| SEAT MODEL | Α                | В              | С                | D                | Е              | F                | G               | Н               | X                | Υ                |  |  |  |  |  |
| 4-WAY SEAT | 280.2<br>[11.03] | 26.2<br>[1.03] | 311.5<br>[12.26] | 309.8<br>[12.20] | 88.7<br>[3.49] | 342.7<br>[13.49] | 250<br>[9.84]   | 248.2<br>[9.77] | 294.3<br>[11.59] | 279.3<br>[11.00] |  |  |  |  |  |
| 8-WAY SEAT | 281.4<br>[11.08] | 24.5<br>[0.96] | 311.2<br>[12.25] | 309.4<br>[12.18] | 87.1<br>[3.43] | 343.9<br>[13.54] | 249.6<br>[9.83] | 247.9<br>[9.76] | 294.3<br>[11.59] | 279.3<br>[11.00] |  |  |  |  |  |

SEAT TRACK ANGLE TO TOP OF FRAME = 4.5°

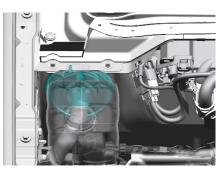
## **ELECTRICAL: PASS THRU WIRE GROMMET LOCATIONS (DASH & CAB BACK PANELS)**

### PASS THRU WIRE GROMMET LOCATIONS (DASH & CAB BACK PANEL)

Grommets are a component of the main wiring harness that contains securely bound wire bundles.

It is not possible to feed extra wires through with the wire bundle. The grommets have a pass through knob moulded into the grommet where an additional hole can be made using the following procedure:

- Check that the immediate surrounding area is free from obstructions and/or components to prevent damage to critical systems.
- Use a suitable tool, for example a knife or side-cutters.
- Cut off or snip the outer end of the pass through knob.
- Pass electrical wiring through the grommet as required.
- Apply sealant as required to ensure water-tightness.

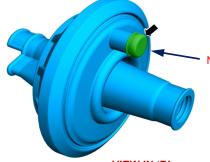


VIEW IN 'A'

**DASHWIRE GROMMET** 



VIEW IN 'B'

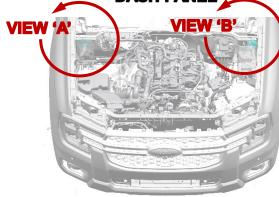


- PASS THROUGH LOCATION FOR ADDITIONAL WIRING.
- MAKE SURE PASSTHROUGH IS ADEQUATELY SEALED.

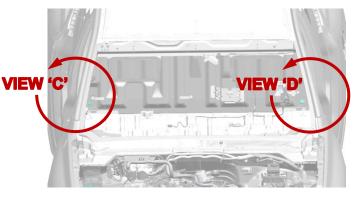
VIEW IN 'B'

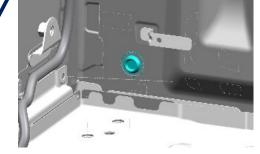
(VIEW ROTATED FOR BETTER VISIBILITY)

## **DASH PANEL**



### **CAB BACK PANEL**





VIEW IN 'C'

#### NOTE:

- PASS THROUGH LOCATION FOR ADDITIONAL WIRING.
- MAKE SURE PASSTHROUGH IS ADEQUATELY SEALED.

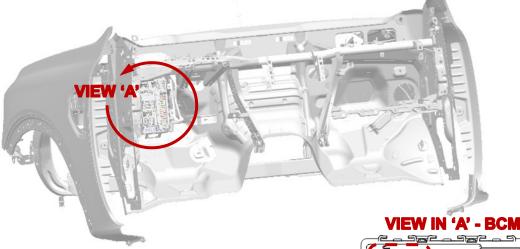


### **ELECTRICAL: CHMSL & DELAYED ACCESSORY CIRCUITS**

| CHMSL CIRCUIT INFORMATION |         |                        |                     |                                 |  |  |
|---------------------------|---------|------------------------|---------------------|---------------------------------|--|--|
|                           | CIRCUIT | MAX                    |                     | CIRCUIT RESERVE CAPACITY        |  |  |
| TRIM LEVEL                | TYPE    | CURRENT <sup>1,3</sup> | FACTORY CHMSL LOAD3 | WITH FACTORY CHMSL <sup>2</sup> |  |  |
| XL/XLT                    | PWM     | 1.55A                  | 1.06A               | 0.49A                           |  |  |
| ARIAT / RAPTOR            | PWM     | 1.55A                  | 0.20A               | 1.35A                           |  |  |
| NOTEO                     |         | •                      |                     |                                 |  |  |

#### NOTES:

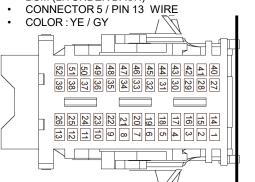
- 1. THE MAXIMUM CURRENT LOAD FOR THE CIRCUIT MUST NOT BE EXCEEDED.
- 2. IF AUXILIARY CHMSL EXCEEDS THE RESERVE CAPACITY, THE FACTORY CHMSL MUST BE DISCONNECTED.
- 3. CONTINUOUS AT 12V

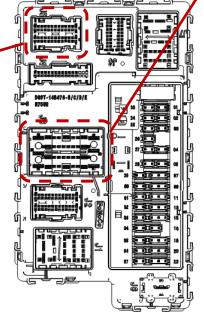


### **CONNECTOR 5**

#### **CHMSL CIRCUIT**

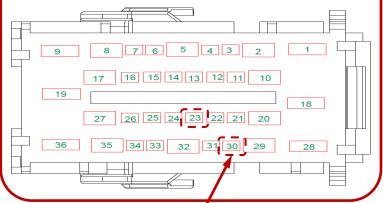
• BCM (LH UNDER DASH)





#### **CONNECTOR 3**

BCM Connector 3 has a black plastic cover that will need to be temporarily removed to install the terminal kit(s)



#### **DELAYED ACCESSORY CIRCUIT**

When installing auxiliary equipment that is active with Delayed accessory, a relay connected to B+ must be installed. This relay can then be driven by a delayed accessory feed from the BCM.

Install a female terminal kit (DU2Z-14474-DA) into the open location on in BCM CONNECTOR 3, PIN 30 - DELAYED ACCESSORY FEED

The terminal kit should then be connected to a 2- or 3-amp inline fuse before connection to the relay input (can install a s witch between the fuse and relay).

This BCM output shares BCM FUSE #23 with another circuit, the added inline fuse prevents issues in the new circuit from blowing the BCM fuse and affecting other electrical features in the vehicle.

### https://fordbbas.com

2024

MODEL YEAR

### **ELECTRICAL: AUXILIARY SWITCHES CIRCUIT**

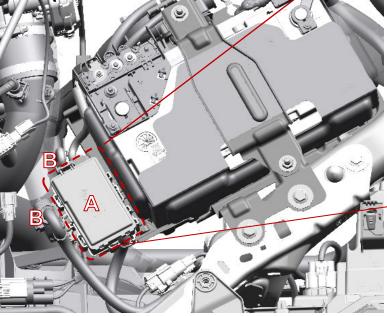
#### **AUXILIARY SWITCHES**

The Auxiliary switches are pre-wired thru the Aux Fuse/Relay Box located on the front left side of the engine compartment. Blunt Cut power lead wires are provided exiting the Aux fuse/relay box. See table below for circuit ratings and wire lead colors.

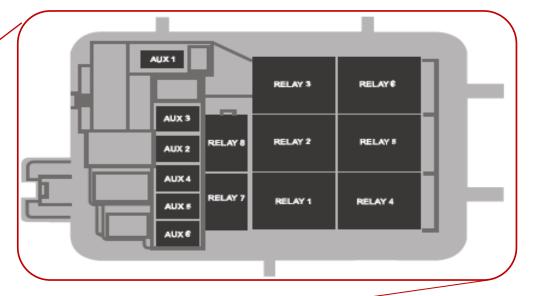


## **AUXILIARY SWITCHES (IN CAB)**

### **AUXILIARY FUSE & RELAY BOX** (FRONT LEFT OF ENGINE COMPARTMENT)



- A AUXILIARY FUSE AND RELAY BOX.
- **B** POWER LEAD LOCATIONS.



| AUXILIARY SWITCHES CIRCUIT INFORMATION |               |              |      |                     |          |              |  |
|--|---------------|--------------|------|---------------------|----------|--------------|--|
| AUX. SWITCHES                          | WIRE COLOR    | WIRE<br>SIZE | FUSE | PROTECTED COMPONENT | POSITION | NOTE         |  |
| AUX1                                   | VIOLET/GREEN  | 1.5mm        | 5A   | RELAY 1             | В        | -            |  |
| AUX 2                                  | BLUE/ORANGE   | 1.5mm        | 15A  | RELAY 2             | В        | •            |  |
| AUX 3                                  | YELLOW/ORANGE | 1.5mm        | 15A  | RELAY 3             | С        | •            |  |
| AUX 4                                  | BROWN         | 1.5mm        | 15A  | RELAY 4             | С        | •            |  |
| AUX 5                                  | GREEN/BROWN   | 2.5mm        | 25A  | RELAY 5             | В        | •            |  |
| AUX 6                                  | YELLOW        | 2.5mm        | 25A  | RELAY 6             | Α        | •            |  |
| -                                      | -             | •            | -    | RELAY 8             | -        | AUX SW POWER |  |
| AUX 3- GROUND                          | -             |              | -    | -                   | С        | •            |  |
| AUX 4- GROUND                          | -             | -            | -    | -                   | С        | -            |  |
| AUX 6- GROUND                          | -             | -            | -    | -                   | Α        | -            |  |

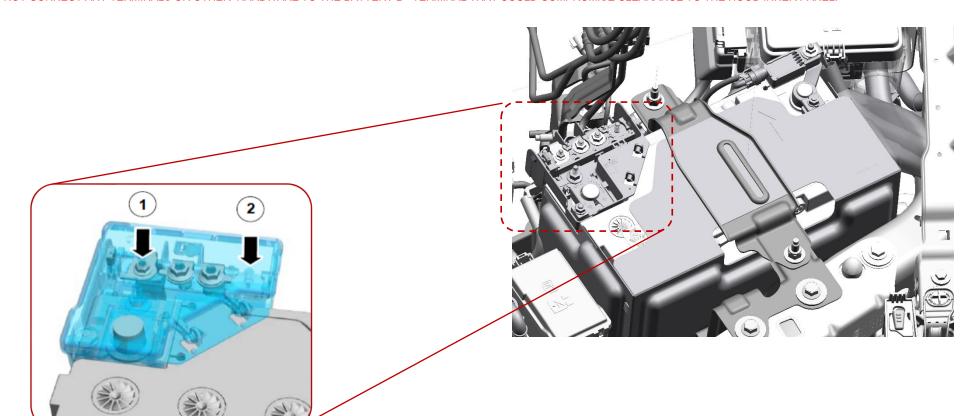
## **ELECTRICAL: CUSTOMER ACCESS CIRCUITS (B+ & GROUNDING)**

### **CUSTOMER ACCESS CIRCUITS**

B+ (HOT AT ALL TIMES): Any added circuits must be appropriately fused and connected to the positive battery terminal in the location shown.

CIRCUIT GROUNDING: Ground wires for added circuits must not be connected directly to the battery nor to any existing vehicle grounding points. A new ground location(s) must be established.

WARNING: DO NOT CONNECT ANY TERMINALS OR OTHER HARDWARE TO THE BATTERY B+ TERMINAL THAT COULD COMPROMISE CLEARANCE TO THE HOOD INNER PANEL.



|   | ITEM | DESCRIPTION                               |
|---|------|---|
| Γ | 1    | LOW TO MODERATE CURRENT AUXILIARY B+ FEED |
| Γ | 2    | HEAVY CURRENT AUXILIARY B+ FEED           |

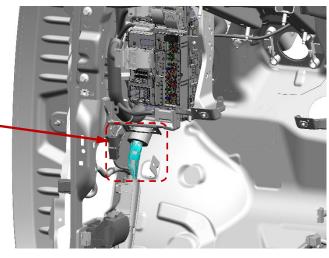
### **ELECTRICAL: CUSTOMER ACCESS RUN / START CIRCUITS**

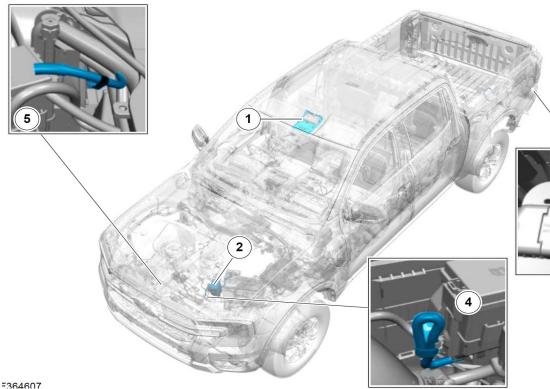
### **RUN / START CIRCUIT**

When installing auxiliary equipment that is active with RUN / START condition, a relay connected to B+must be installed. That relay can then be driven by a run / start feed (Green wire-10A fuse) from the underhood fuse box. The terminal should then be connected to the relay input.

NOTE: CAN INSTALL A SWITCH BETWEEN THE FUSE AND RELAY.

HIGH BEAM - BLUNT CUT WIRE - GY / BN PARK LAMPS - BLUNT CUT WIRE - VT/ GN





| ITEM | DESCRIPTION   |
|------|---|
| 1    | AUXILIARY SWITCH PACK   |
| 2    | AULXILIARY FUSE BOX (WITH RELAYS) – POSITION B  |
| 3    | WIRING CIRCUIT LOCATED NEAR TO TRAILER TOWING ELECTRICAL CONNECTOR POINT – POSITION C |
| 4    | WIRING CIRCUIT LOCATED NEAR AUXILIARY FUSE BOX = POSITION A                           |
| 5    | WIRING CIRCUIT LOCATED NEAR RADIATOR SUPPORT PANEL                                    |

NOTE: CIRCUITS FROM THE AUXILIARY FUSE BOC ARE POWERED DURING THE RUN/START CONDITION. ALL OTHER WIRING IS NOT CONNECTED AT EITHER END.

# Body Builders Layout Book **RANGER**

FORD CO-PILOT360™ TECHNOLOGY

2024

MODEL YEAR

#### Ford Co-Pilot360

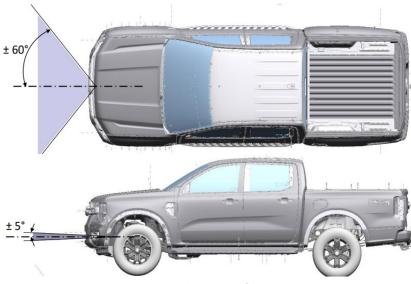
Ford Co-Pilot360 Technology is a collection of advanced driver-assist features designed to help drivers feel confident and in command on the road. These smart features can help drivers be more aware of their surroundings, provide alerts about surprises on the road and help to avoid potential collisions while navigating the road ahead. This brand represents the growing collection of Ford driver-assist features, available in branded packages or individually, on select vehicles across the Ford lineup.

#### AVAILABILITY:

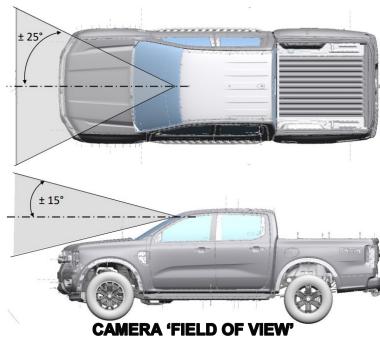
- Optional on XL 101A
- Standard on XLT and LARIAT
- · Order code 67G

#### INCLUDES:

- · Auto High Beams
- · BLIS (Blind Spot Information System) with Cross-Traffic Alert and Trailer Coverage
- · Lane-Keeping System (incl. Lane-Keeping Aid, Lane-Keeping Alert and Driver Alert System)
- · Pre-Collision Assist with Automatic Emergency Braking (AEB), Pedestrian Detection and Forward Collision Warning with Dynamic Brake Support (std. on all models)
- Rear View Camera with dynamic hitch assist (std. on all models)



### **RADAR 'FIELD OF VIEW'** (Radar Zone CAD File: FNA7396672)



(Camera Zone CAD File: FNA7396533)



2024 MODEL YEAR