



Body Builders Layout Book

RANGER

2019
MODEL YEAR

CHANGE CONTROL INDEX

LTRS	REVISIONS				
ORIGINATOR	CHECKER	ENGR APP	MATL APP		
CHKB34-1B347-AA-00-FNA-ECN/1			INITIAL RELEASE		
RELEASED			20180921		
FTSI	RWAGNE43	DATOVSKI	--		





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WARNING:
During the production and servicing of these vehicles, due care should be taken to avoid damaging of safety or emissions related systems such as the braking system, fuel lines, sensors, catalysts, etc. through contacting them while working on adjacent areas of the vehicle. Inadvertent damage can also occur due to adjacent welding/cutting operations, people standing near/on unprotected systems while performing other tasks.



RANGER MODEL LINEUP

SUPER CAB / CREW CAB / PICKUP BOX DELETE (1)

Cab Style/ Drive	Engine	Max. GVWR (lbs.)	Max. Payload (lbs.) (2)	Max. OPT/ARC Weight (lbs.) (3)	Max. GAWR (lbs.) (4)		Base Curb Weight (lbs.) (5)		
					Front	Rear	Front	Rear	Total
SuperCab 4X2	2.3L EcoBoost	6050	1860	1117	2885	3500	2368	1777	4145
SuperCab Box Delete 4X2	2.3L EcoBoost	6050	2080	N/A (See IVM)	3130	3500	2395	1527	3922
SuperCab 4X4	2.3L EcoBoost	6050	1650	908	3108	3370	2544	1810	4354
CrewCab 4X2	2.3L EcoBoost	6050	1770	1068	2930	3500	2377	1855	4232
CrewCab 4X4	2.3L EcoBoost	6050	1560	859	3130	3370	2554	1887	4441

Notes:

(1) Pickup box delete available with Super Cab 4x2 only.

(2) Load rating represents maximum allowable weight of people,cargo and body equipment and is reduced by optional equipment weight.

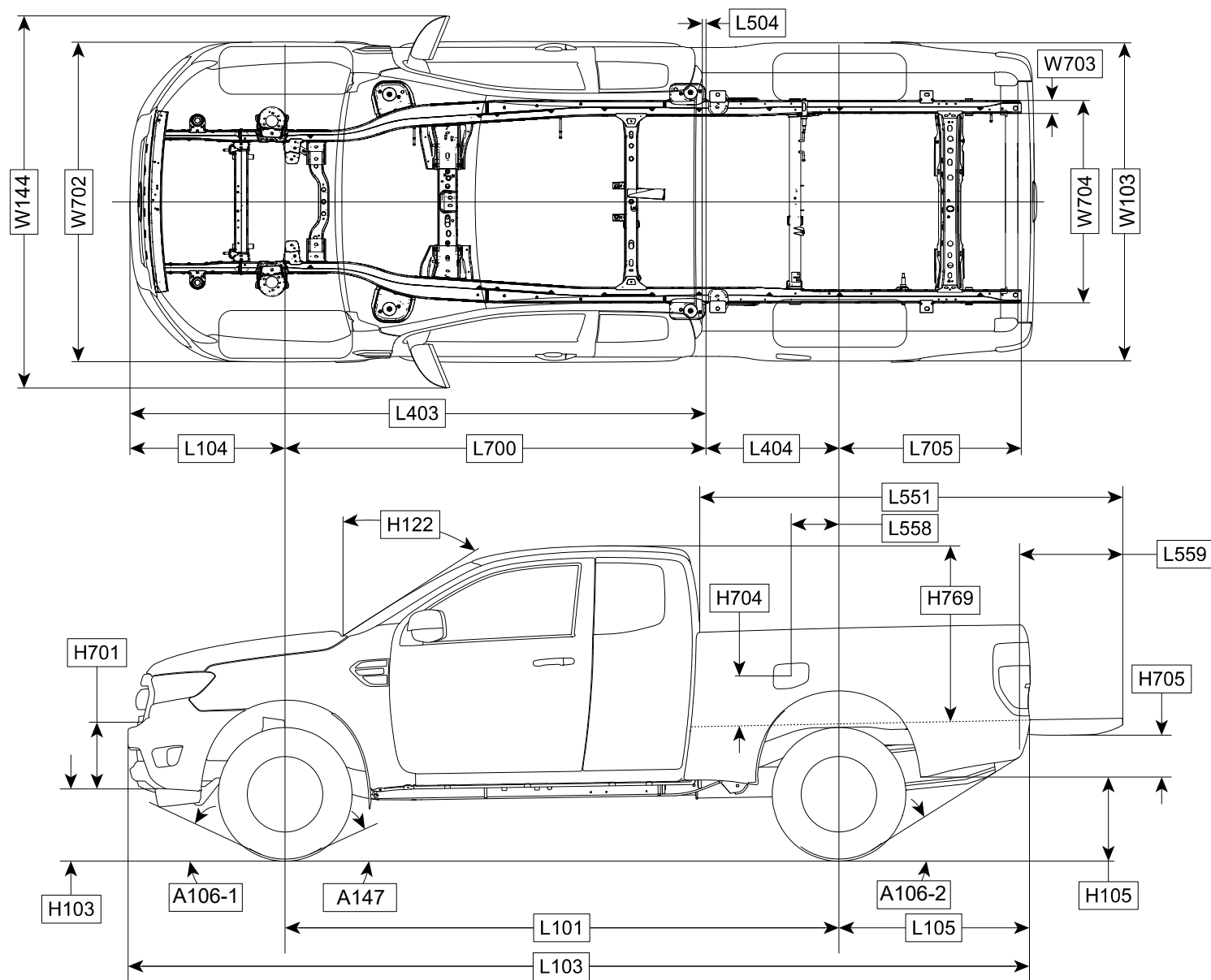
(3) OPT/ARC Weight is the maximum allowable weight of regular production options (OPT) and aftermarket equipment (Accessory Reserve Capacity) above standard equipment for each configuration.Please also refer to footnote 5.

(4) 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).

(5) Base Curb Weights shown above are for truck models with standard equipment. Please also refer to footnote 3.

RANGER DIMENSIONAL DATA SUPER CAB / CREW CAB



(Cont'd next page)



RANGER DIMENSIONAL DATA SUPER CAB / CREW CAB (Cont'd)

CHASSIS

CODE	DESCRIPTION	Super Cab		Crew Cab	
		4x2	4x4	4x2	4x4
H103	BOTTOM OF FRONT BUMPER VALANCE TO GROUND @ CURB (BASE TIRE)	293.9 [11.57]	295.1 [11.62]	293.7 [11.56]	294.9 [11.61]
H105	BOTTOM OF REAR BUMPER VALANCE TO GROUND @ CURB (BASE TIRE)	502.2 [19.77]	519.4 [20.45]	501.1 [19.73]	518.3 [20.41]
A106-1	APPROACH ANGLE @ CURB (DEGREES)	27.9	28.7	27.9	28.7
A106-2	DEPARTURE ANGLE @ CURB (DEGREES) (TAKEN AT BOTTOM OF BUMPER)	25.2	25.4	25.2	25.4
A147	RAMP BREAKOVER ANGLE @ CURB (DEGREES)	22.7	21.5	22.7	21.5
L101	WHEELBASE	3220 [126.8]			
L103	VEHICLE LENGTH	5355 [210.8]			
L104	FRONT OVERHANG (NO LICENSE PLATE BRACKET)	910 [35.8]			
L105	REAR OVERHANG	1225 [48.2]			
L403	FRONT OF BUMPER TO BACK OF CAB	3335 [131.30]		3635 [143.11]	
L404	CAB TO \varnothing OF REAR AXLE	795 [31.30]		495 [19.49]	
L700	\varnothing OF FRONT AXLE TO BACK OF CAB	2425 [95.47]		2725 [107.28]	
L705	\varnothing OF REAR AXLE TO REAR END OF FRAME	1046 [41.18]			
W703	FRAME RAIL WIDTH	83.2 [3.28]			
W704	REAR FRAME WIDTH	1184.2 [46.62]			

PICKUP BODY

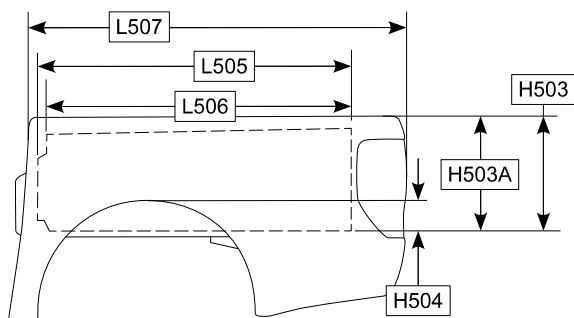
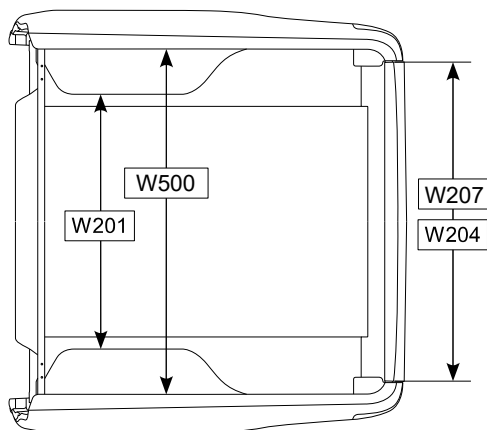
CODE	DESCRIPTION	Super Cab	Crew Cab
NOMINAL CARGO BODY SIZE		6.0 FT	5.0 FT
H704	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO CL OF FUEL FILLER DOOR	257 [10.12]	
H705	REAR BUMPER HEIGHT WITH TAILGATE CLOSED	266 [10.47]	
H769	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO TOP OF CAB @ \varnothing OF REAR AXLE	1017 [40.04]	
L504	CAB TO PICKUP BOX	16.6 [0.65]	
L551	BOX OVERALL LENGTH TO OPEN TAILGATE (MINIMUM)	2468 [97.17]	2168 [85.35]
L558	\varnothing OF REAR AXLE TO \varnothing OF FUEL FILLER DOOR	267 [10.51]	
L559	LENGTH OF OPEN TAILGATE FRONT END OF BOX FLOOR SAME AS F150	626 [24.65]	

CAB

CODE	DESCRIPTION	Super Cab	Crew Cab
H122	WINDSHIELD ANGLE (DEGREES)	57	
H701	FRONT BUMPER HEIGHT W/ VALENCES	464 [18.27]	464 [18.27]
W103	VEHICLE BODY WIDTH (MAX W/O MIRRORS)	1861 [73.3]	
W144	VEHICLE WIDTH (MAX W/ STANDARD MIRRORS)	2179 [85.8]	
W702	FRONT BUMPER WIDTH	1827 [71.93]	

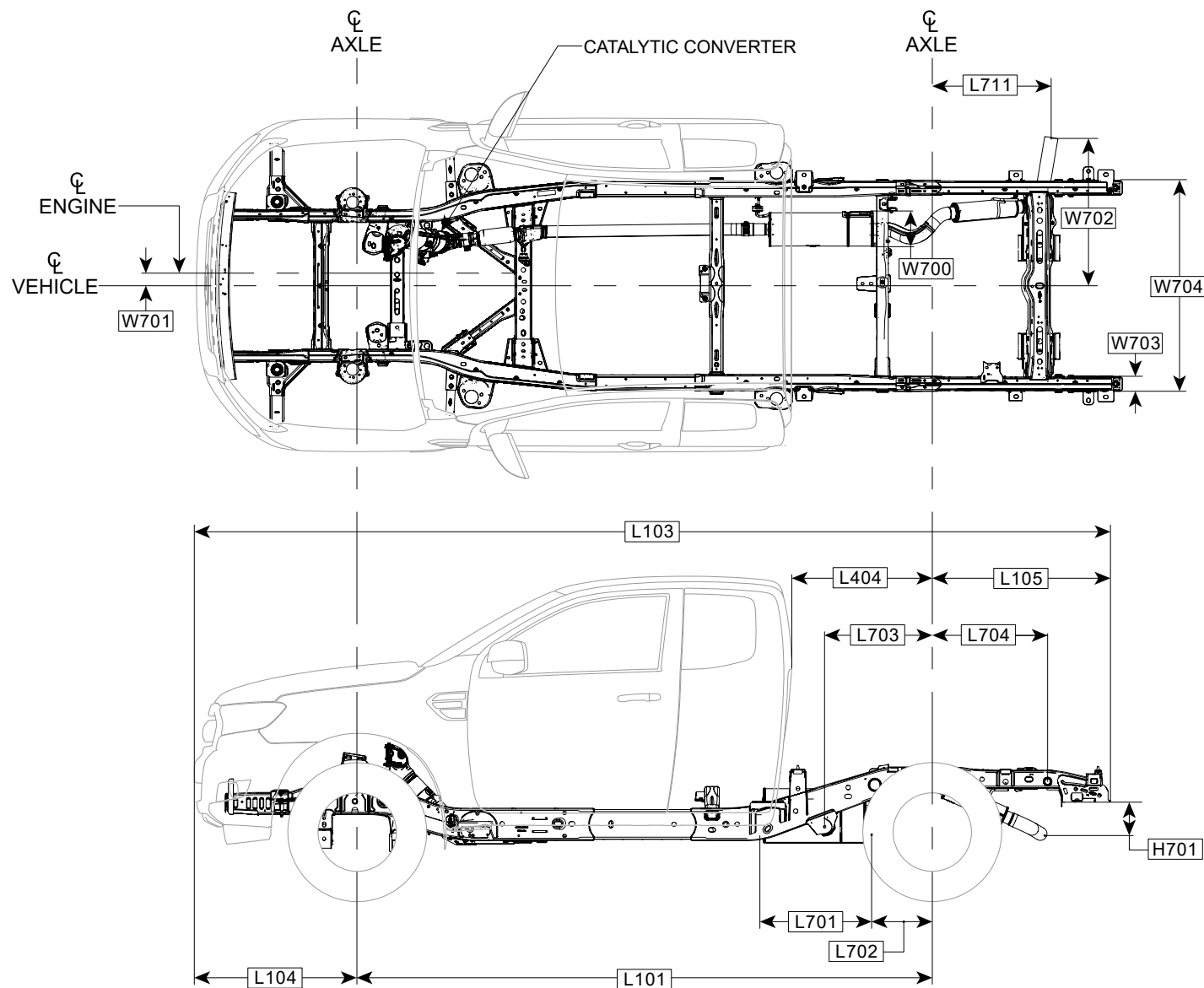
NOTES — [] DIMENSIONS ARE INCHES.

RANGER DIMENSIONAL DATA PICKUP BOX



CODE	DESCRIPTION	Super Cab 6ft Box	Crew Cab 5ft Box
H503	CARGO BODY HEIGHT W/ MOLDING	529 [20.8]	531 [20.9]
H503A	CARGO BODY HEIGHT WITHOUT MOLDING @ CL OF REAR AXLE	522 [20.55]	524 [20.63]
H504	WHEELHOUSE HEIGHT WITH MOLDING	139 [5.47]	139 [5.47]
L505	CARGO BODY LENGTH @ FLOOR	1848 [72.8]	1550 [61.0]
L506	CARGO BODY LENGTH @ TOP (BELT)	1777 [70.0]	1479 [58.2]
L507	CARGO BODY OVERALL LENGTH (INCLUDES TAILGATE HANDLE BEZEL & BADGE)	1985 [78.15]	1685 [66.34]
W201	CARGO WIDTH AT WHEELHOUSE	1138 [44.8]	1138 [44.8]
W204	REAR OPENING WIDTH @ TOP (BELT)	1410 [55.5]	1410 [55.5]
W207	REAR OPENING WIDTH AT FLOOR	1408 [55.4]	1408 [55.4]
W500	EXPOSED CARGO WIDTH	1560 [61.4]	1560 [61.4]
V5	CARGO VOLUME - LITERS [C U.FT.]	1466 [51.8]	1225 [43.3]

RANGER DIMENSIONAL DATA SUPERCAB BOX DELETE



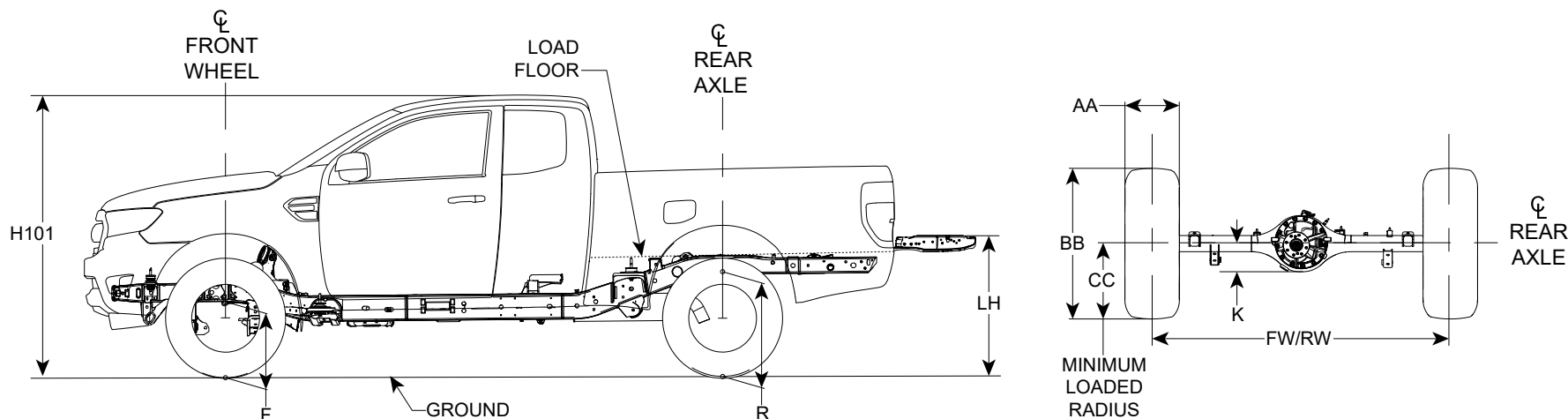


RANGER DIMENSIONAL DATA SUPERCAB BOX DELETE (Cont'd)

CODE	DESCRIPTION	SUPER CAB
		4x2
H701	C/L OF OUTLET PIPE TO BOTTOM OF FRAME	262 [10.31]
L101	WHEELBASE	3220 [126.8]
L103	OVERALL LENGTH	5355 [210.83]
L104	FRONT OVERHANG	910 [35.8]
L105	REAR OVERHANG	1225 [48.23]
L404	BACK OF CAB TO C/L OF REAR AXLE	794.6 [31.28]
L701	MUFFLER LENGTH	583 [22.95]
L702	MUFFLER REAR TO C/L REAR AXLE	356.3 [14.03]
L703	REAR SPRING FRONT EYE TO C/L REAR AXLE	590 [23.23]
L704	C/L REAR AXLE TO C/L REAR SPRING SHACKLE BRACKET	719 [28.31]
L711	C/L OF REAR AXLE TO C/L OF EXHAUST PIPE	645.6 [25.42]
W700	MUFFLER CROSS SECTION	274.9 [10.82]
W701	DISTANCE BETWEEN C/L ENGINE / VEHICLE	0
W702	END OF TAILPIPE TO C/L VEHICLE FROM OUTLET PIPE END TIP	833 [32.80]
W703	FRAME RAIL WIDTH	83.2 [3.28]
W704	REAR FRAME RAIL WIDTH	1184.2 [46.62]

NOTES — [] DIMENSIONS ARE INCHES.

RANGER AXLE / TIRE / VEHICLE HEIGHT DATA SUPER CAB / CREW CAB



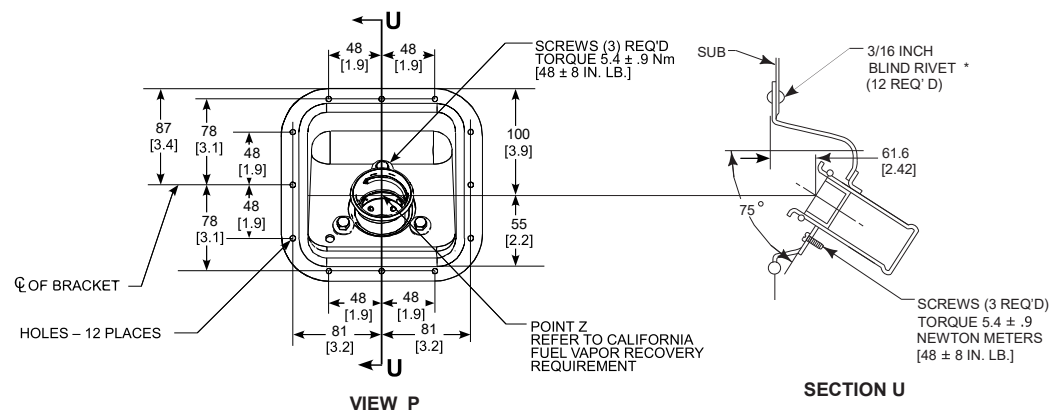
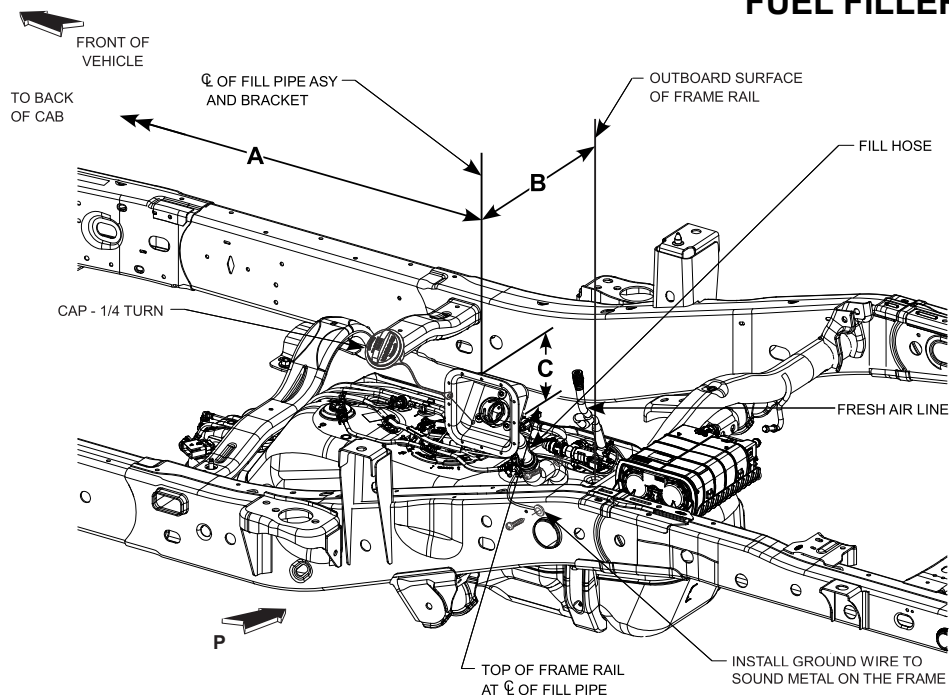
Model	WB inches	GVWR pounds	Base Tire	F Height @ Front Wheel to Bottom of Frame (1)(2) mm [in]		R Height @ Rear Wheel to Bottom of Frame (1)(2) mm [in]		LH (1)(2) mm [in]		H101 (1)(2) mm [in]		K mm [in]	AA mm [in]	BB mm [in]	CC mm [in]	W102-1 FW mm [in]	W102-2 RW mm [in]
				Height @ Base Curb Weight	Loaded Height @ Spring Rating	Height @ Base Curb Weight	Loaded Height @ Spring Rating	Empty	Loaded	Empty	Loaded						
Super Cab 4X2	126.8	6050	255/65R17	435.8 [17.15]	410.7 [16.16]	626.5 [24.66]	530.2 [20.87]	840.2 [33.07]	707.5 [27.85]	1797 [70.74]	1731 [68.14]	138.7 [5.46]	265 [10.43]	730 [28.74]	348.7 [13.72]	1560 [61.41]	1560 [61.41]
Super Cab 4X4	126.8	6050	255/65R17	438.9 [17.27]	413.6 [16.28]	639.9 [25.19]	545.9 [21.49]	858.9 [33.81]	729.7 [28.72]	1807 [71.14]	1742 [68.58]	138.7 [5.46]	265 [10.43]	732 [28.81]	350.4 [13.79]	1560 [61.41]	1560 [61.41]
Crew Cab 4X2	126.8	6050	255/65R17	435.4 [17.14]	410.6 [16.16]	625.6 [24.62]	529.4 [20.84]	839.0 [33.03]	706.4 [27.81]	1806 [71.10]	1737 [68.38]	138.7 [5.46]	265 [10.43]	730 [28.74]	347.9 [13.69]	1560 [61.41]	1560 [61.41]
Crew Cab 4X4	126.8	6050	255/65R17	438.5 [17.26]	413.5 [16.27]	639.0 [25.15]	545.1 [21.46]	857.7 [33.76]	728.6 [28.68]	1816 [71.49]	1748 [68.81]	138.7 [5.46]	265 [10.43]	731 [28.77]	349.6 [13.76]	1560 [61.41]	1560 [61.41]

(1) The Height Data shown represents dimensions of a base/standard vehicle with no options. Actual height may vary due to production tolerances.

(2) Vehicle ride heights are given at tire minimum loaded radius.

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RANGER SUPER CAB BOX DELETE FUEL FILLER PIPE INSTALLATION



Important – Fuel fill hose as standard to suit a mounting position 40 inch from Vehicle centerline (for 80" wide Second Unit Body). Fill hose has paint Mark on it which indicates where hose should be cut for mounting position 36" from vehicle centerline (for 72" wide SUB)
The fuel hose is formed and cannot be changed.
The fresh air line tube end must be above fuel filler, VC min 11 inch
Install ground wire to sound metal on the frame
The fuel evaporative emission control equipment is certified to be in Compliance with the Federal and California Vehicle Emission Standards, Any alterations to systems or components and their location could void Compliance. System includes but not limited to:
*Fuel tank, Fuel fuller, Metering Unit, Lines including purge control solenoids & Canister

NO ALTERATION OF THE FUEL SYSTEM IS RECOMMENDED.

MODEL	WHEELBASE	
SUPER CAB	3220 [126.8]	
FUEL FILLER CUP LOCATION		
∇A	MIN	280 [11.0]
	MAX	330 [13.0]
∇B	MIN	327 [12.9]
	MAX	429 [16.9]
∇C	MIN	267 [10.5]
	MAX	392 [11.5]
FRESH AIR LINE		
∇C	MIN	280 [11.0]

NOTES:

▽ TORQUE ALL WORM GEAR DRIVEN HOSE CLAMPS TO 4.8 ± 8 NEWTON METERS [43 ± 7 IN. LB.]

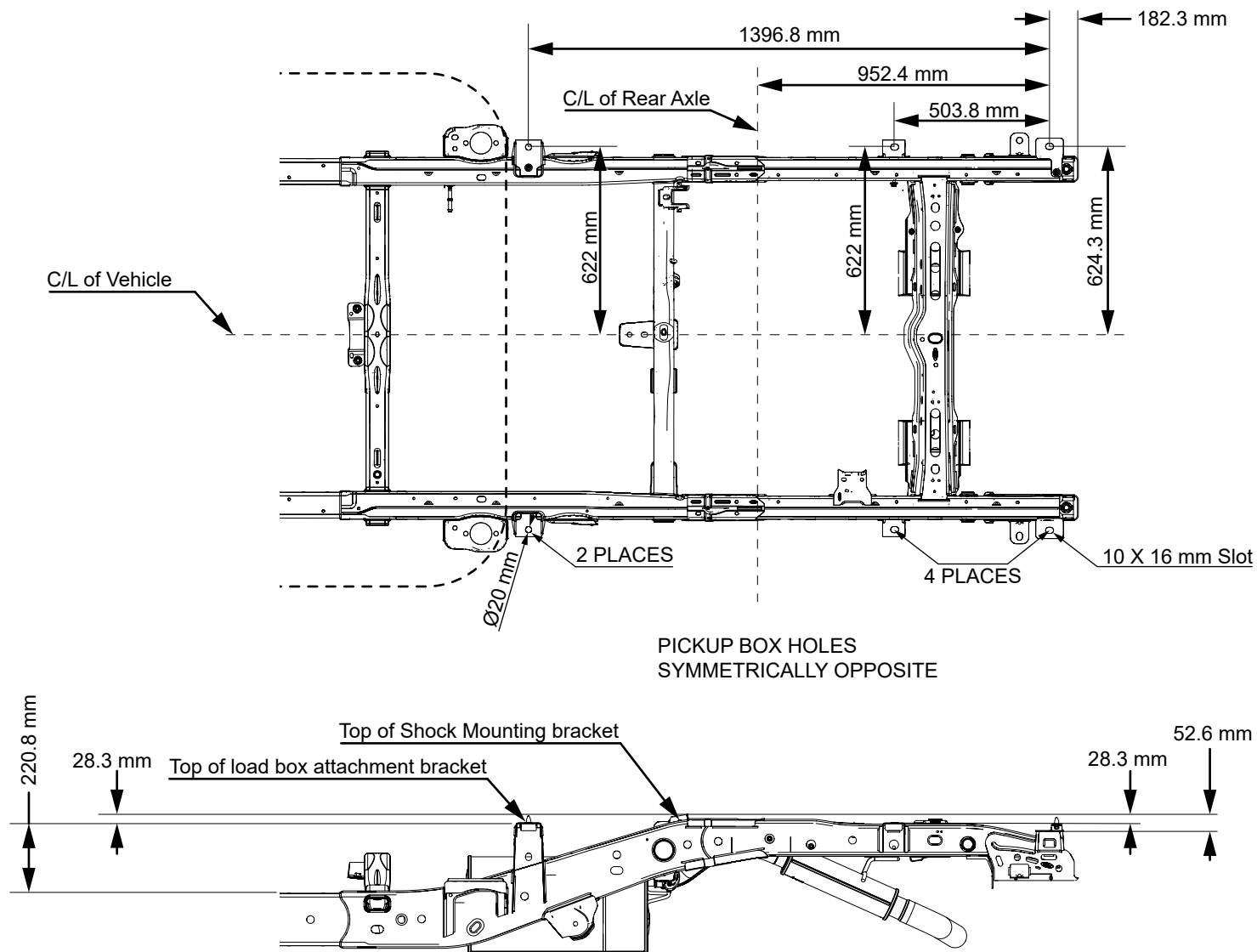
[] DIMENSIONS ARE INCHES

* NOT SUPPLIED BY FORD MOTOR COMPANY

CRITICAL CONTROL ITEM

Use the scuff guards, tie wraps, and clamps provided in the dunnage kit. Do not extend the fuel fill system outboard of the second unit body.

RANGER PICKUP BOX DELETE FRAME DATA





RANGER WHEEL & TIRE DATA

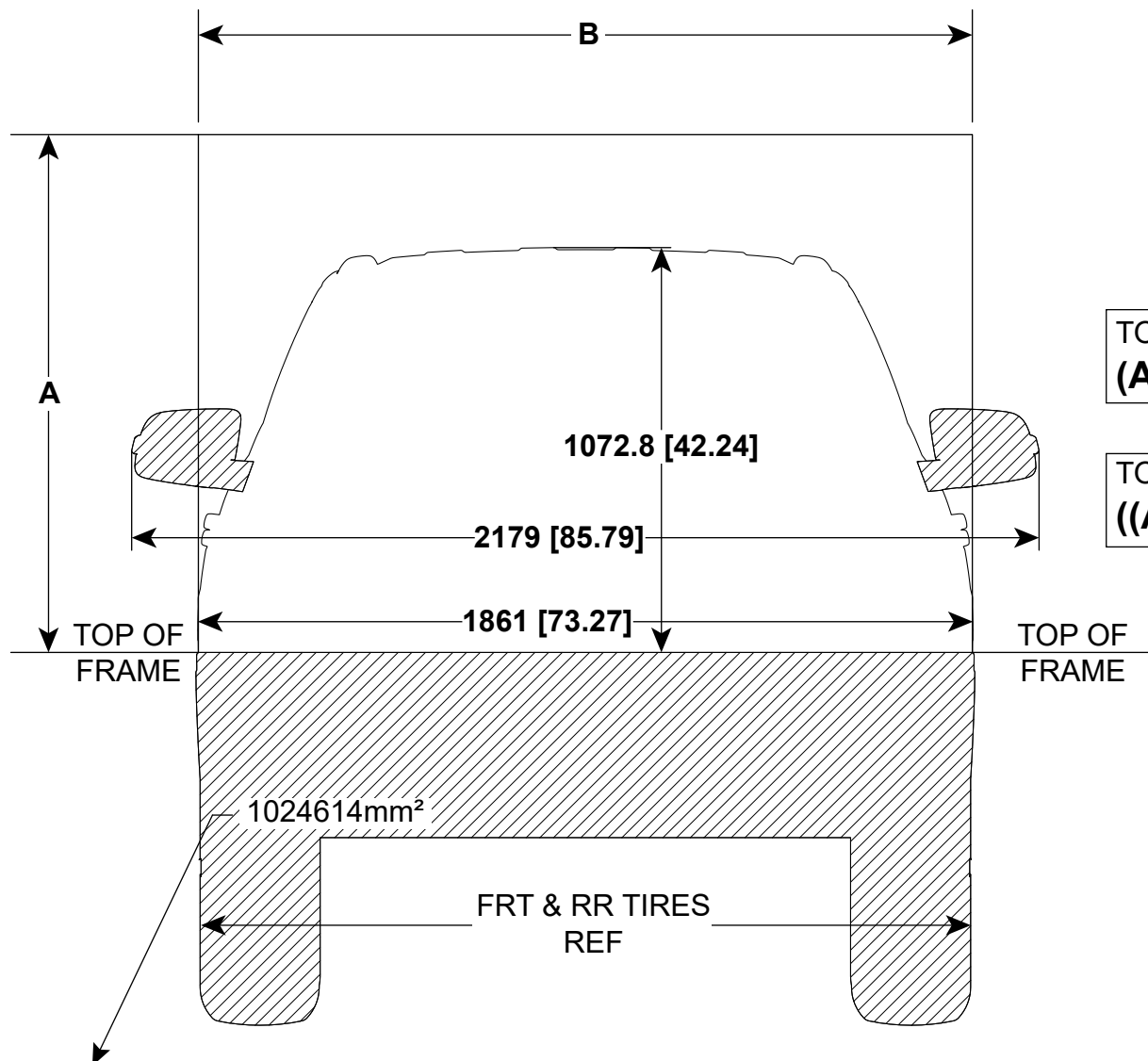
WHEEL DATA

Wheel Type	Wheel Size (in.)	Offset (mm)	No. of Studs	Bolt Circle Diameter (in.)/(mm)	Maximum Wheel Capacity Load (lbs.)
Silver-Painted Steel (64A)	16 X 7	55 mm	6	5.5/139.7	1620
Silver-Painted Aluminum (64Y)	17 X 8	55 mm	6	5.5/139.7	
Magnetic-Painted Aluminum (64D)	17 X 8	55 mm	6	5.5/139.7	
Chrome-like PVD Aluminum (64P)	17 X 8	55 mm	6	5.5/139.7	
Chrome-like PVD Aluminum (64F)	18 X 8	55 mm	6	5.5/139.7	
Machined Aluminum with Magnetic-painted pockets (64J)	18 X 8	55 mm	6	5.5/139.7	
Machined Aluminum with Stealth-Gray-painted pockets (649)	18 X 8	55 mm	6	5.5/139.7	

TIRE DATA

Size (Road Tyres)	Rim Width [in]	Measured Section Width [in]	Measured Static Loaded Radius [in]
255/70R16 111T A/S BSW	7	10.07	13.5
255/65R17 110T A/S BSW	8	10.47	13.59
255/65R17 110T A/T BSW	8	10.55	13.57
265/65R17 112T A/T OWL	8	10.64	13.42
265/60R18 110T A/S BSW	8	10.69	13.69
265/60R18 110T A/T BSW	8	10.72	13.46
265/60R18 110T A/T OWL	8	10.72	13.46
LT265/65R17 109T A/T OWL	8	10.71	14.44

RANGER FRONT SURFACE AREA WORKSHEET



A = BOX HEIGHT IN INCHES

B = BOX WIDTH IN INCHES

TO FIND FRONT SURFACE AREA IN SQ INCHES
 $(A \times B) + 1719.8 =$

TO FIND FRONT SURFACE AREA IN SQ FEET
 $((A \times B) / 144) + 11.94 =$

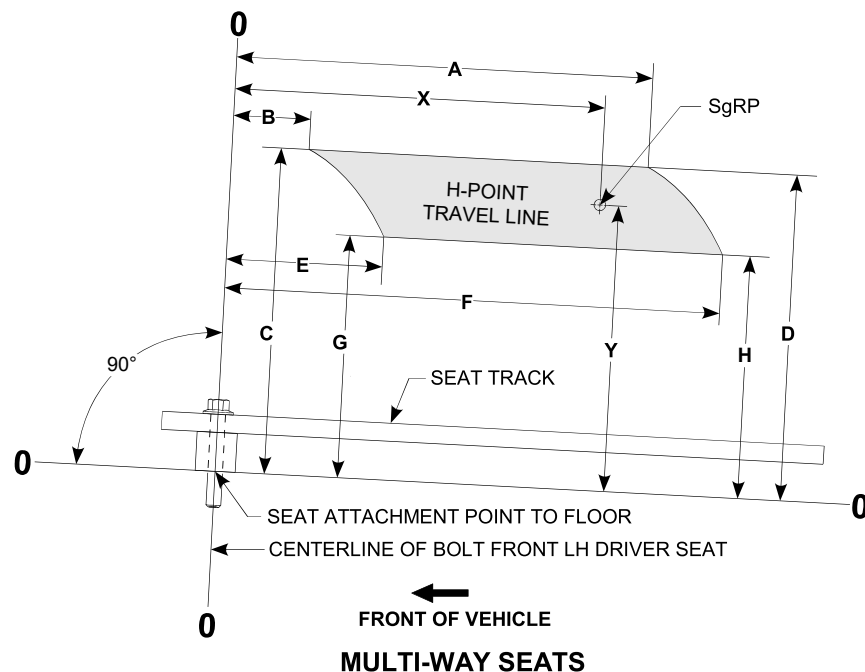
BELOW FRAME SHADED AREA EQUALS
 $1024614 \text{ mm}^2 / (25.4 \times 25.4) = 1588.2 \text{ SQ.IN.}$
 $1588.2 / (12 \times 12) = 11.03 \text{ SQ.FT.}$

MIRROR SHADED AREA EQUALS
 $(42458 \times 2) \text{ mm}^2 / (25.4 \times 25.4) = 131.6 \text{ SQ.IN.}$
 $131.6 / (12 \times 12) = 0.91 \text{ SQ.FT.}$

TOTAL SHADED AREA EQUALS
 $1109530 \text{ mm}^2 / (25.4 \times 25.4) = 1719.8 \text{ SQ.IN.}$
 $1719.8 / (12 \times 12) = 11.94 \text{ SQ.FT.}$

NOTES — [] DIMENSIONS ARE INCHES.

RANGER SEAT TRACK & H-POINT DATA



SEAT TRAVEL DATA										
Seat Model	Seat Dimensions								SgRP Location	
	A	B	C	D	E	F	G	H	X	Y
4-Way Seat	280.2 [11.03]	26.2 [1.03]	311.5 [12.26]	309.8 [12.20]	88.7 [3.49]	342.7 [13.49]	250 [9.84]	248.2 [9.77]	294.3 [11.59]	279.3 [11.00]
8-Way Seat	281.4 [11.08]	24.5 [0.96]	311.2 [12.25]	309.4 [12.18]	87.1 [3.43]	343.9 [13.54]	249.6 [9.83]	247.9 [9.76]	294.3 [11.59]	279.3 [11.00]
Seat Track Angle To Top Of Frame = 4.5°										

NOTES — [] DIMENSIONS ARE INCHES.



**RANGER
PICKUP BOX DELETE
MAXIMUM UNLOADED VEHICLE WEIGHT (UVW)**

PICKUP BOX DELETE

Model / Cab	Drive	Engine	Maximum UVW (pounds)
SuperCab	4x2	2.3 L	5060

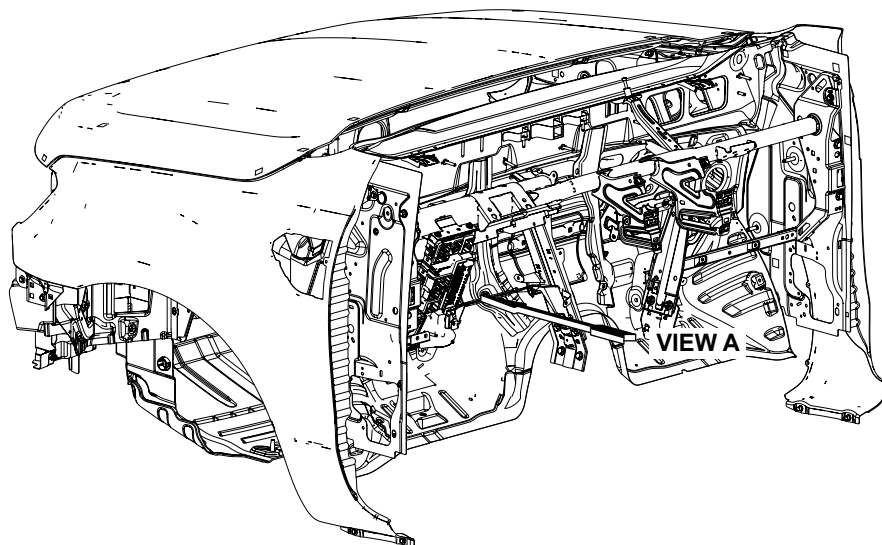
RANGER CHMSL CIRCUIT

When Equipment is mounted that blocks the factory CHMSL, An auxiliary CHMSL must be fitted.

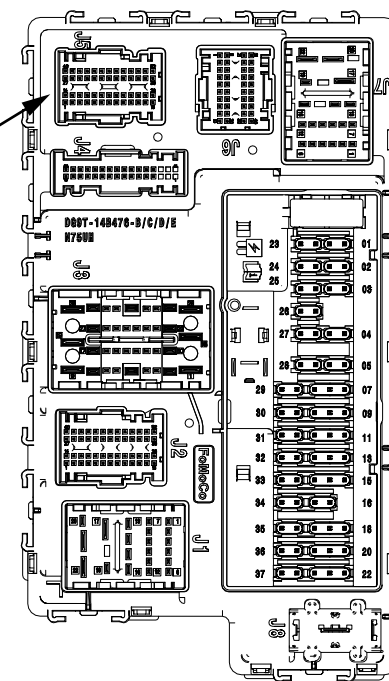
Trim Level	Circuit Type	Max Current (1)	Factory CHMSL Load	Circuit Reserve Capacity with Factory CHMSL (2)
XL/XLT	PWM	1.70A	1.06A	0.64A
Lariat	Non-PWM	1.70A	0.20A	1.50A

Notes:

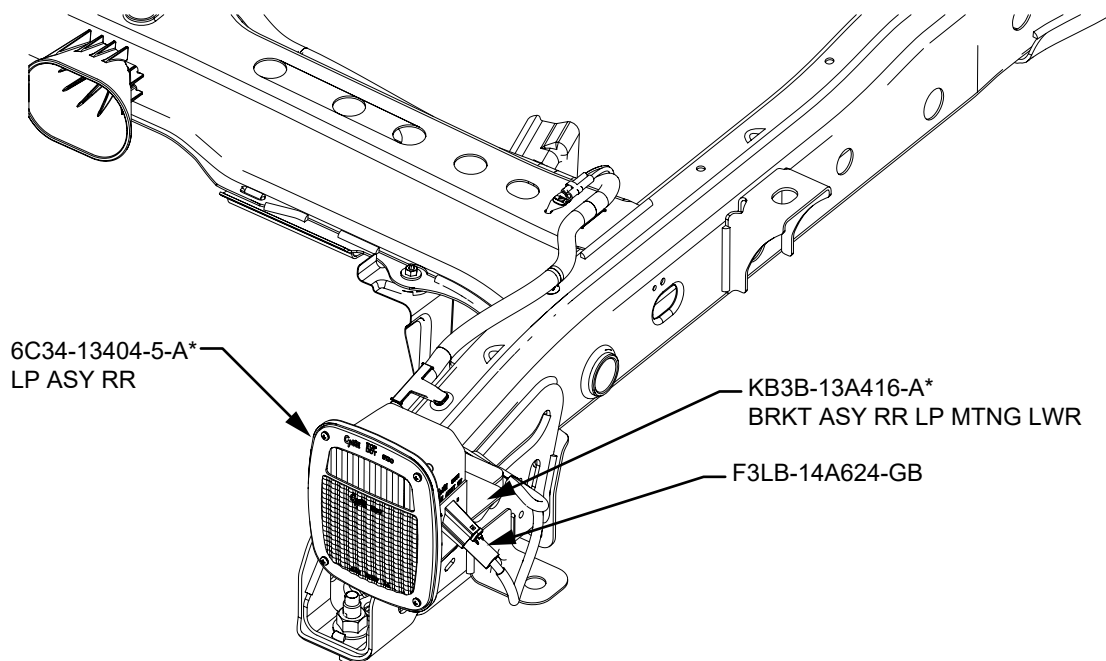
- (1) - The Maximum current load for the circuit must not be exceeded
- (2) - If auxiliary CHMSL exceeds the reserve capacity, the factory CHMSL must be disconnected.



CHMSL CIRCUIT
BCM (LH UNDER DASH)
CONNECTOR 5, PIN 13
WIRE COLOR : YE/GY



RANGER ELECTRICAL WIRING BOX DELETE TAIL LAMPS



Tail Lamp Pin Out				
Function	Pin#	Wire Color	Circuit Type	Max Current
Reverse	1	GN / BN	PWM	6.2A(1)
Park	3	RH: WH / OG LH: VT / GN	PWM	0.76A
Stop/Turn	4	RH: GN / OG LH: GY / OG	PWM	2.9A
Ground	2	BK	N/A	6.8A

(1) Combined load for RH and LH Lamps
Vehicle wiring connector F3LB-14A624-GB