



Body Builders Layout Book

E-SERIES

2019
MODEL YEAR

CHANGE CONTROL INDEX

LTRS	REVISIONS				
ORIGINATOR	CHECKER	ENGR APP	MATL APP		
CHKC24-1B347-AA-00-FNA-ECN/1			INITIAL RELEASE		
RELEASED			20180921		
FTSI	RWAGNE43	DATOVSKI	--		





E-SERIES INDEX

E-SERIES	Page
MODEL LINEUP _____	2
DIMENSIONAL DATA	
E-350 SUPER DUTY CUTAWAY 138" WB (SRW / DRW)_____	3-4
E-350/450 SUPER DUTY CUTAWAY 158" WB (SRW / DRW)_____	5-6
E-350/450 SUPER DUTY CUTAWAY 176" WB (DRW)_____	7-8
E-350 SUPER DUTY STRIPPED CHASSIS 138" WB (DRW)_____	9
E-350 SUPER DUTY STRIPPED CHASSIS 158" WB (DRW)_____	10
E-350/450 SUPER DUTY STRIPPED CHASSIS 176" WB (DRW)_____	11
AXLE / TIRE / WHEELHOUSE / VEHICLE HEIGHT DATA _____	12-13
GROUND CLEARANCE APPROACH & DEPARTURE ANGLES _____	14
BATTERY BOX LOCATIONS E-350/450 DUAL BATTERIES _____	15
& GASOLINE W/ AUXILIARY BATTERY	
FUEL FILLER PIPE _____	16
DIMENSIONAL DATA E-350 SUPER DUTY CUTAWAY 138" WB (SRW / DRW) _____	17
BACK OF CAB PROFILE DIMENSIONS CUTAWAY BODY SECTION "A" _____	18
FRONT SURFACE AREA WORKSHEET	
SRW CHASSIS CAB / CUTAWAY _____	19
DRW CHASSIS CAB / CUTAWAY _____	20
AFT-OF-AXLE FUEL TANK EVAPORATIVE EMISSIONS _____	21
CANISTER LOCATION CUTAWAY	
SEAT POSITION E-250/350/450 SUPER DUTY CUTAWAY _____	22
SEAT TRACK TRAVEL / H-POINT LOCATION _____	23

E-SERIES	Page
ELECTRICAL WIRING	
CHASSIS CIRCUITS_____	24
UPFITTER SWITCHES_____	25
CUSTOMER ACCESS CIRCUITS_____	26-28
STRIPPED CHASSIS_____	29
STRIPPED CHASSIS – REAR FRAME_____	30
TRAILER TOW WIRING_____	31-32
DUAL BATTERY SCHEMATICS_____	33-34
CUSTOMER ACCESS SCHEMATICS_____	35-41

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.



Body Builders Layout Book

2

E-SERIES

E-SERIES MODEL LINEUP

2019

MODEL YEAR

Model	WB (in.)	Engine/ Trans.	Maximum GVWR (lbs.)	Maximum Payload (lbs.)	Spring/GAWR (lbs.) ⁽¹⁾		Base Curb Weight (lbs.)		
					Front Range Min.-Max.	Rear	Front	Rear	Total
E-350 Cutaway	138 SRW	6.8L/6R140	10,050	5140	4200	6084	2939	1964	4903
		6.2L/6R140	10,050	5150	4050	6084	2928	1968	4896
	138 DRW	6.8L/6R140	11,500	6360	4050-4600	7800	2949	2187	5136
		6.2L/6R140	11,500	6420	4050-4600	7800	2920	2159	5079
		6.2L/6R140 ⁽²⁾	11,500	6270	4200-4600	7800	3001	2224	5225
	158 SRW	6.8L/6R140	10,050	5120	4200	6084	3022	1906	4928
6.2L/6R140		10,050	5190	4200	6084	2915	1937	4852	
E-350 Cutaway	158 DRW	6.8L/6R140	11,500	6280	4200-4600	7800	3056	2158	5214
		6.2L/6R140	11,500	6370	4050-4600	7800	2997	2130	5127
		6.8L/6R140	12,500	7280	4200-5000	8500	3045	2173	5218
		6.8L/6R140 ⁽²⁾	12,500	7280	4600-5000	8500	3045	2173	5218
		6.2L/6R140	12,500	7330	4050-5000	8500	3016	2147	5163
		6.2L/6R140 ⁽²⁾	12,500	7330	4600-5000	8500	3016	2147	5163
	176 DRW	6.8L/6R140	12,500	7260	4200-5000	8500	3133	2104	5237
		6.8L/6R140 ⁽²⁾	12,500	7260	4600-5000	8500	3133	2104	5237
		6.2L/6R140	12,500	7310	4200-5000	8500	3093	2089	5182
		6.2L/6R140 ⁽²⁾	12,500	7310	4600-5000	8500	3093	2089	5182
E-350 Stripped Chassis	138 DRW	6.8L/6R140	11,500	6870	4400-4600	7800	2421	2204	4625
		6.2L/6R140	11,500	6970	4200-4600	7800	2343	2178	4521
	158 DRW	6.8L/6R140	12,500	7820	4600-5000	8500	2480	2198	4678
		6.2L/6R140	12,500	7910	4600-5000	8500	2406	2175	4581
	176 DRW	6.8L/6R140	12,500	7760	4600-5000	8500	2535	2197	4732
		6.2L/6R140	12,500	7860	4600-5000	8500	2462	2178	4640
E-450 Cutaway	158 DRW	6.8L/6R140	14,200	8750	4600	9600	3042	2404	5446
		6.8L/6R140	14,500	9040	5000	9600	3039	2421	5460
		6.2L/6R140	14,000	8630	4400-5000	9600	3008	2361	5369
		6.2L/6R140 ⁽²⁾	14,000	8630	4600-5000	9600	3008	2361	5369
	176 DRW	6.8L/6R140	14,200	8720	4600	9600	3128	2349	5477
		6.8L/6R140	14,500	9030	5000	9600	3114	2356	5470
		6.2L/6R140	14,000	8610	4400-5000	9600	3078	2301	5470
		6.2L/6R140 ⁽²⁾	14,000	8610	4600-5000	9600	3078	2305	5470
E-450 Stripped Chassis	158 DRW	6.8L/6R140	14,500	9690	5000	9600	2531	2274	4805
		6.2L/6R140	14,000	9290	4600-5000	9600	2456	2254	4710
	176 DRW	6.8L/6R140	14,500	9640	5000	9600	2566	2292	4858
		6.2L/6R140	14,000	9230	4600-5000	9600	2490	2272	4762

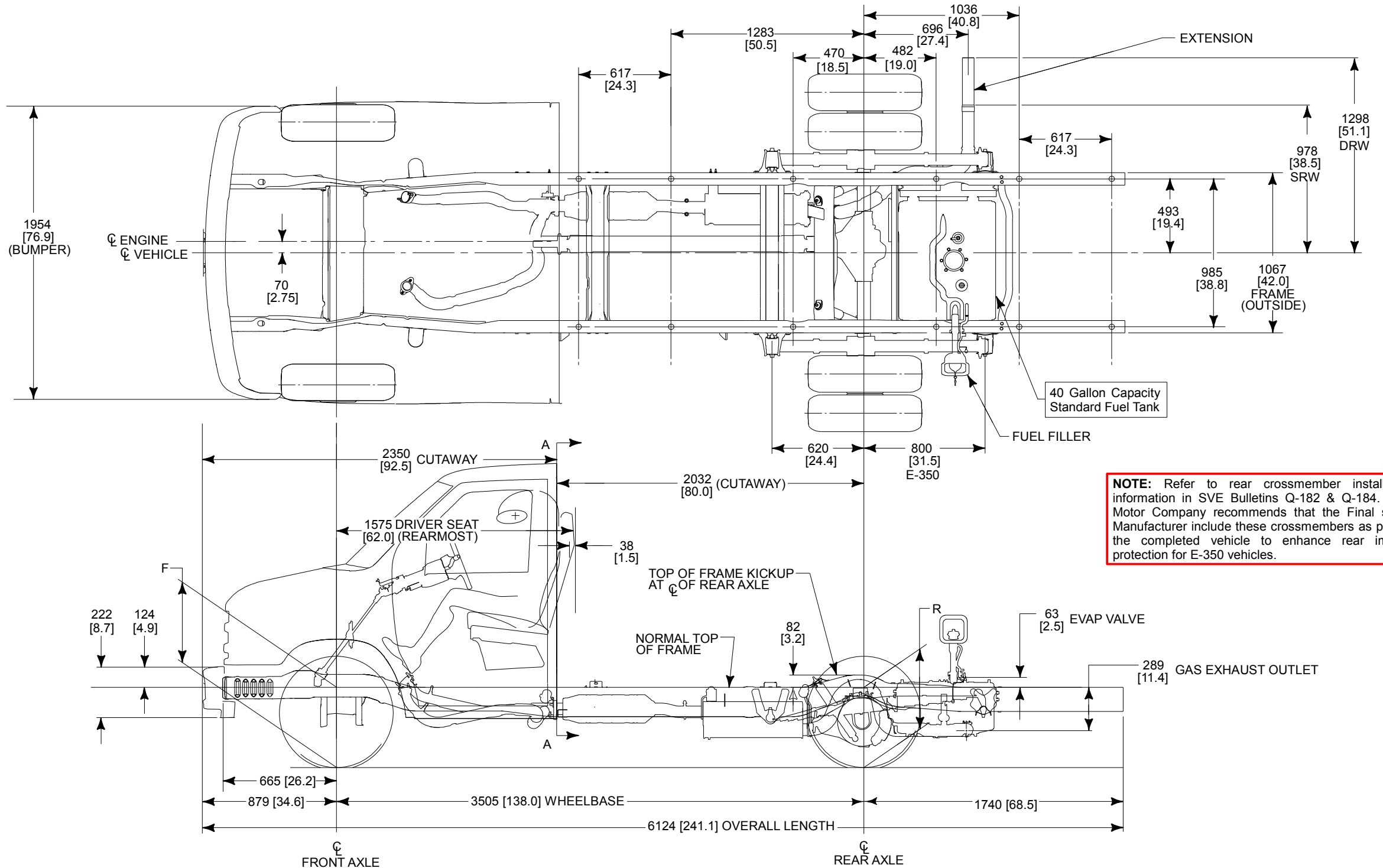
(1) Gross Axle Weight Rating is determined by the rated capacity of the minimum component of the axle system (axle, wheels, tires) of a specific vehicle. Front and rear GAWRs will, in all cases, sum to a number equal to or greater than the GVWR for the particular vehicle. Maximum loaded vehicle (including passengers, equipment and payload) cannot exceed the GVWR or GAWR (front or rear).

(2) Multi-Function School Activity Bus (MFSAB)/School Bus/Motorhome/Shuttle Bus.



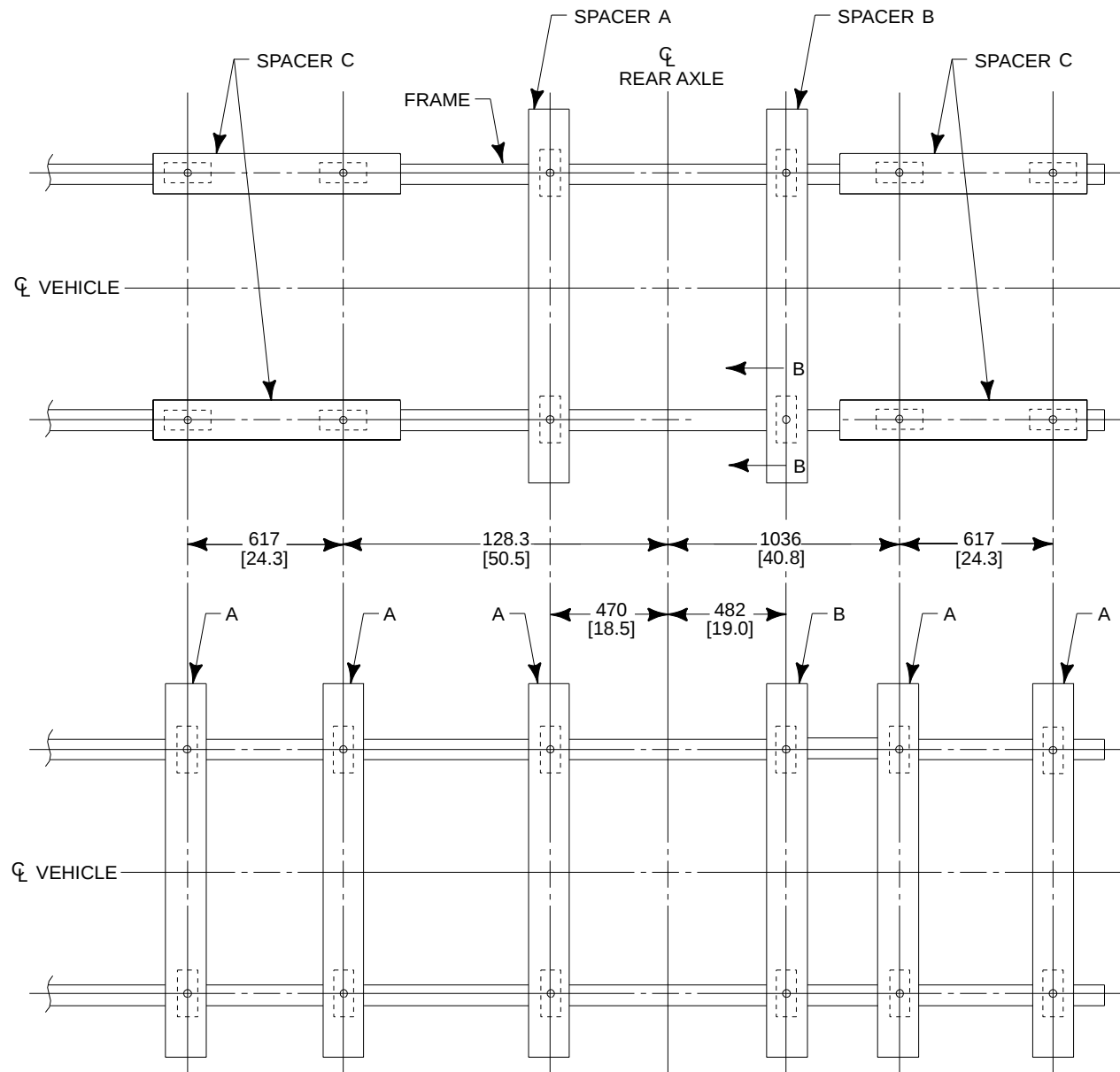
E-SERIES DIMENSIONAL DATA

E-350 SUPER DUTY CUTAWAY 138" WB (SRW / DRW)

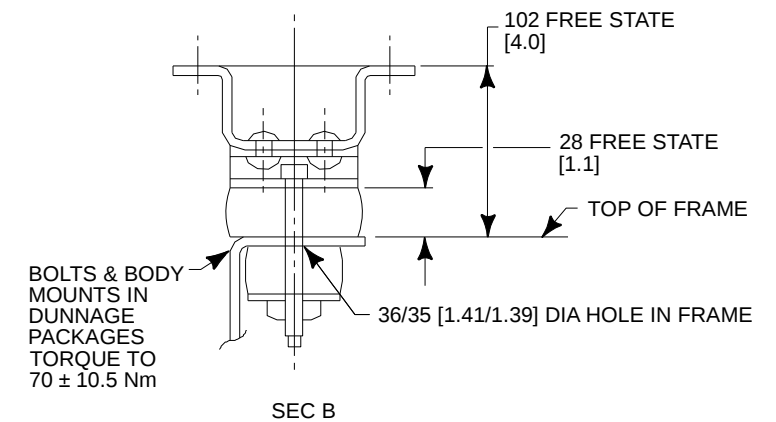
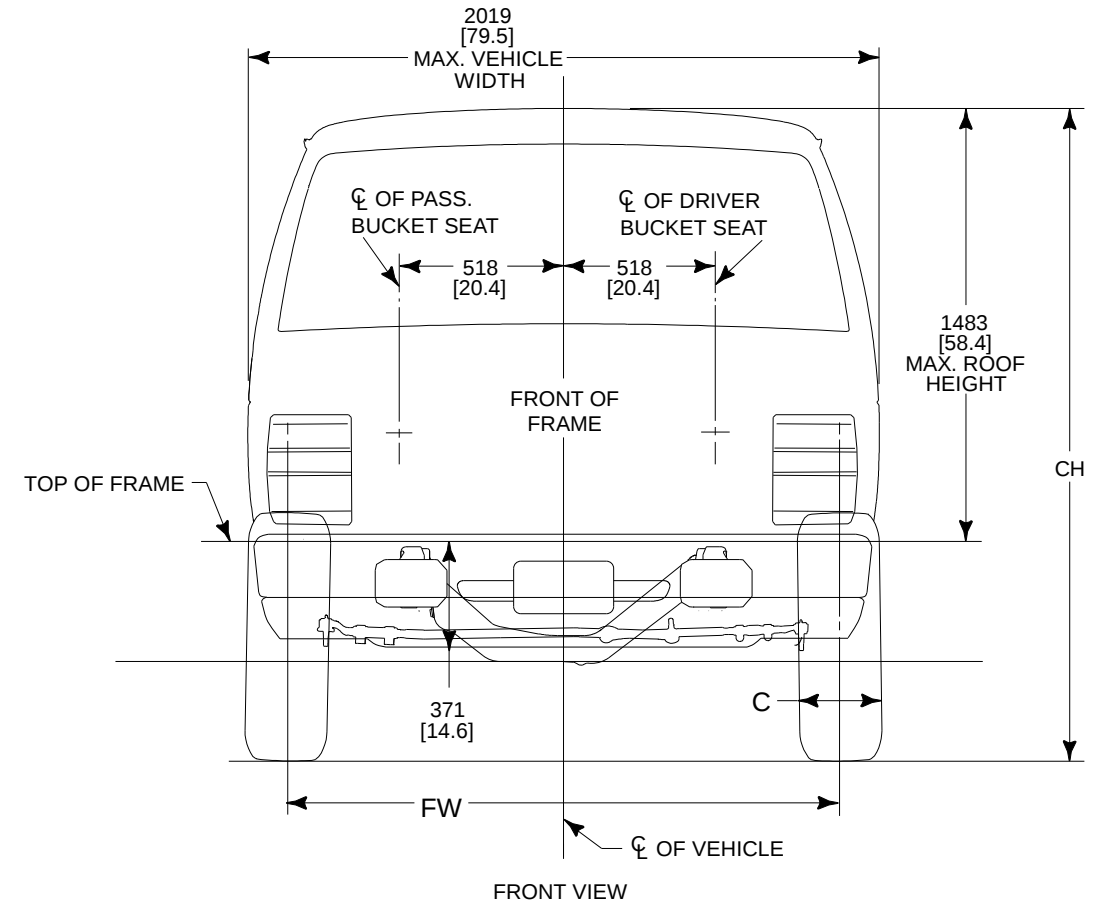


NOTE: Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

E-SERIES DIMENSIONAL DATA E-350 SUPER DUTY CUTAWAY 138" WB (SRW / DRW) (Cont'd)

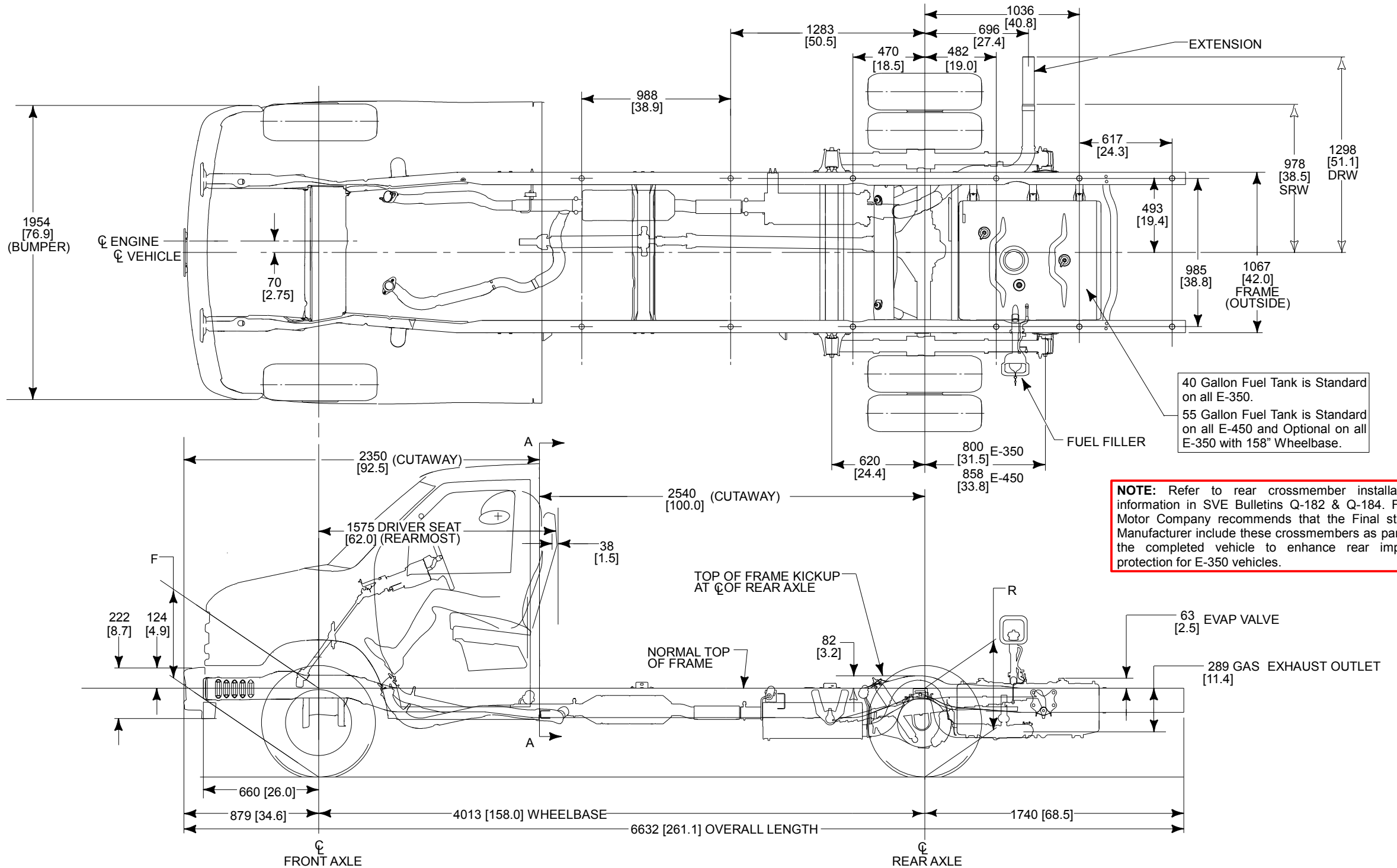


INCLUDES 6 LATERAL FRAME SPACERS WITH 12 BODY MOUNTS. USES SAME FRAME HOLES FOR LONGITUDINAL/LATERAL FRAME SPACER STANDARD SYSTEM.



NOTE — [] DIMENSIONS ARE INCHES.

E-SERIES DIMENSIONAL DATA E-350/450 SUPER DUTY CUTAWAY 158" WB (SRW / DRW)



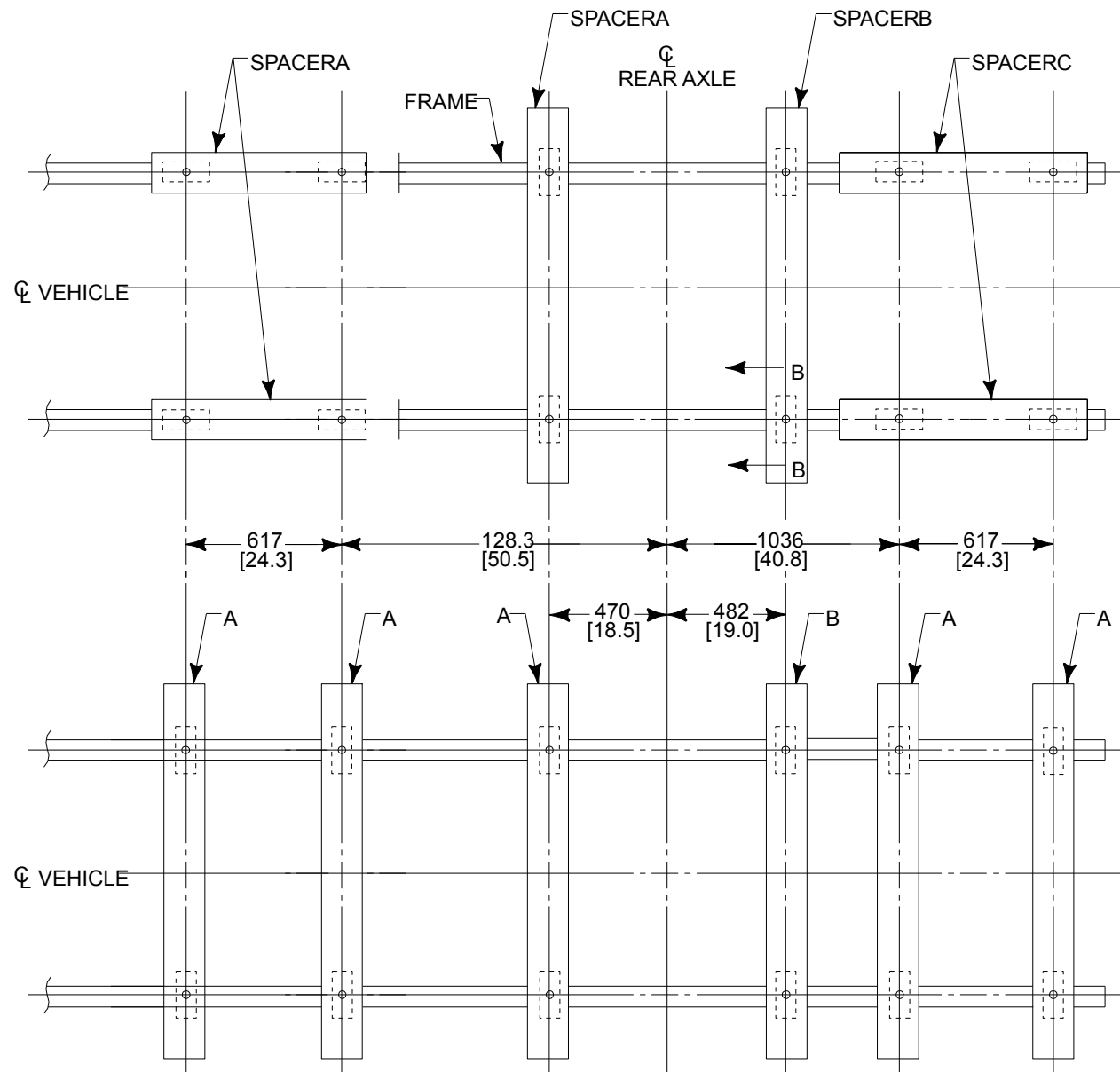
NOTES — [] DIMENSIONS ARE INCHES.
— FOR CA DIMENSION, SEE MODEL LINE UP.
(Cont'd next page)

E-SERIES DIMENSIONAL DATA

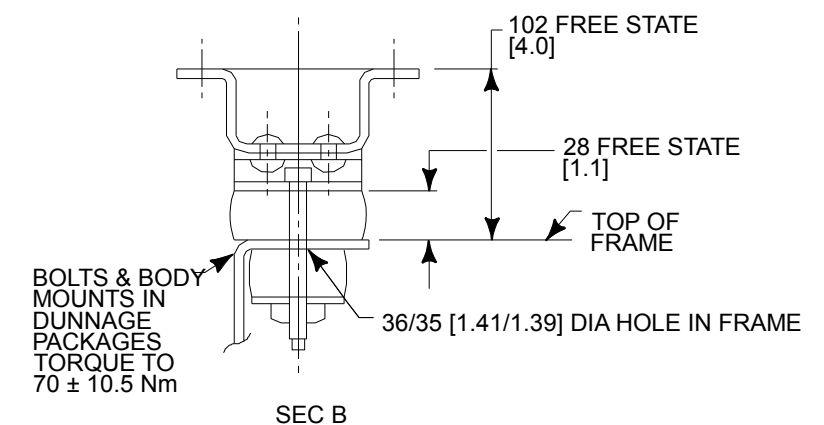
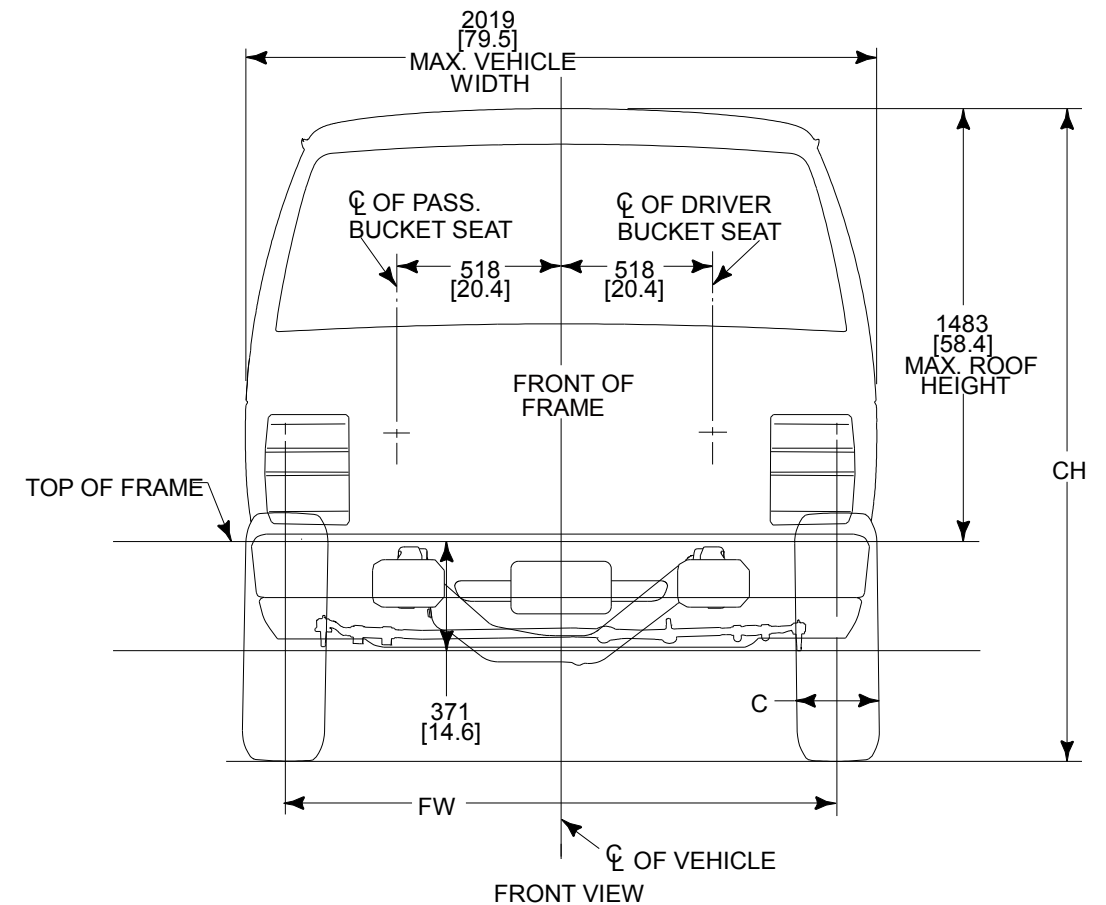
E-350/450 SUPER DUTY CUTAWAY 158" WB (DRW) (Cont'd)

2019

MODEL YEAR

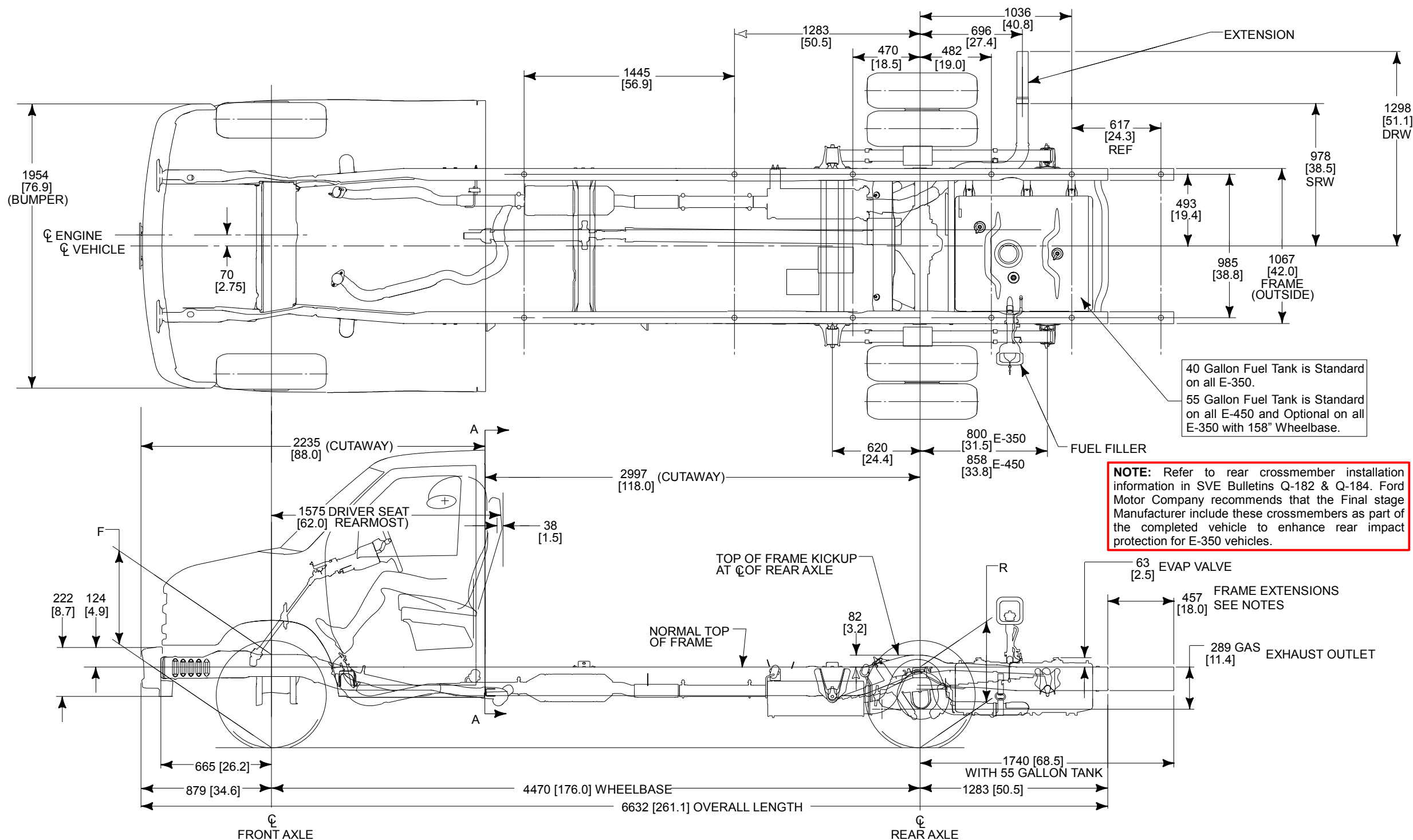


INCLUDES 6 LATERAL FRAME SPACERS WITH 12 BODY MOUNTS. USES SAME FRAME HOLES FOR LONGITUDINAL/LATERAL FRAME SPACER STANDARD SYSTEM.



NOTE — [] DIMENSIONS ARE INCHES.

E-SERIES DIMENSIONAL DATA E-350/450 SUPER DUTY CUTAWAY 176" WB (DRW)

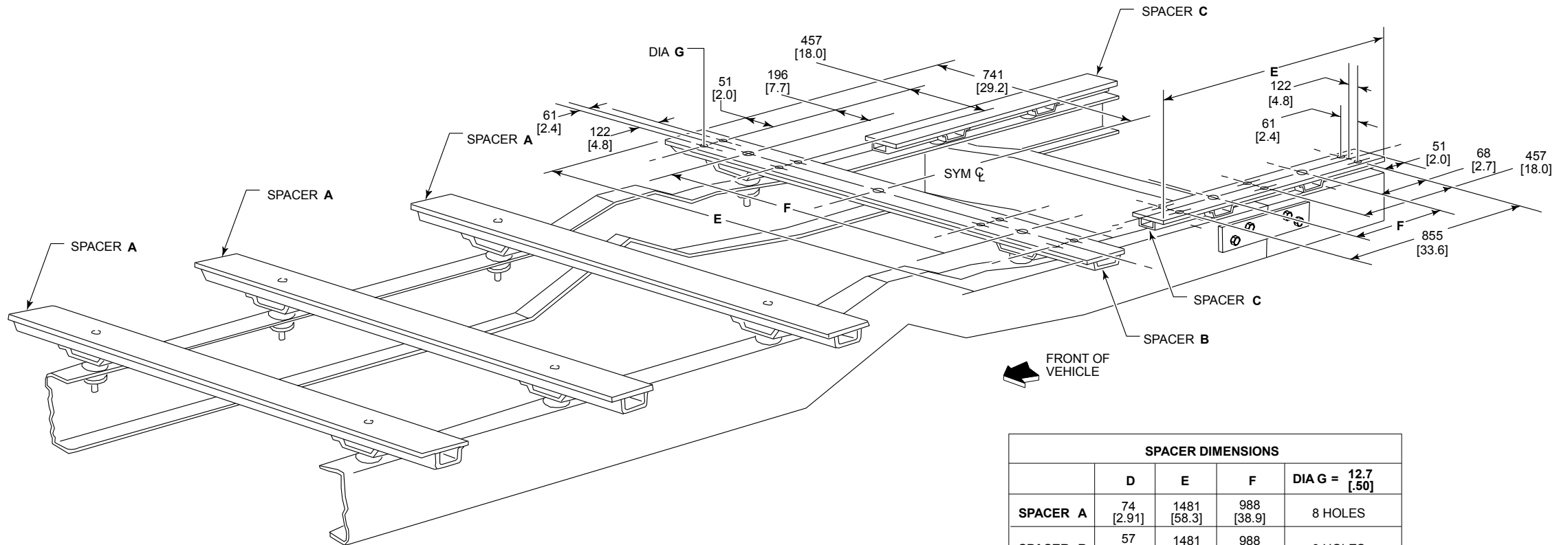


NOTE: Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

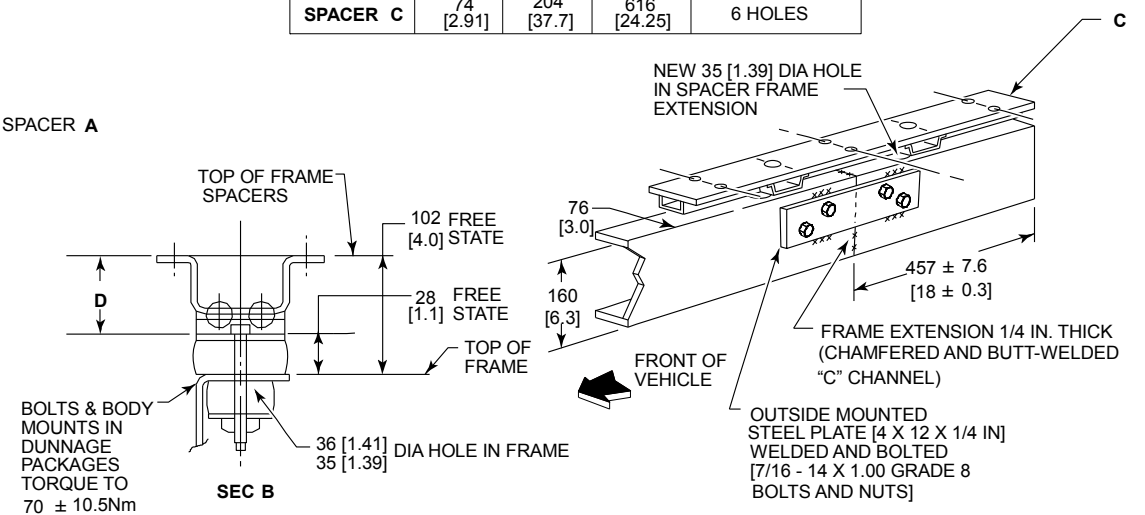
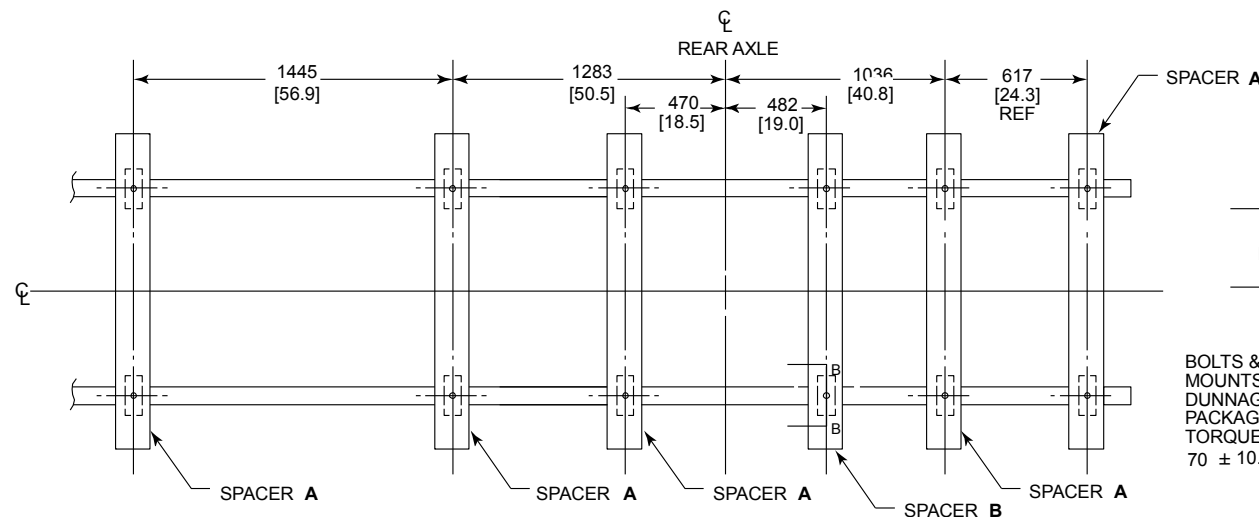
NOTES — [] DIMENSIONS ARE INCHES.
— FOR CA DIMENSION, SEE MODEL LINEUP.

(Cont'd next page)

E-SERIES DIMENSIONAL DATA E-350/450 SUPER DUTY CUTAWAY 176" WB (DRW) (Cont'd)



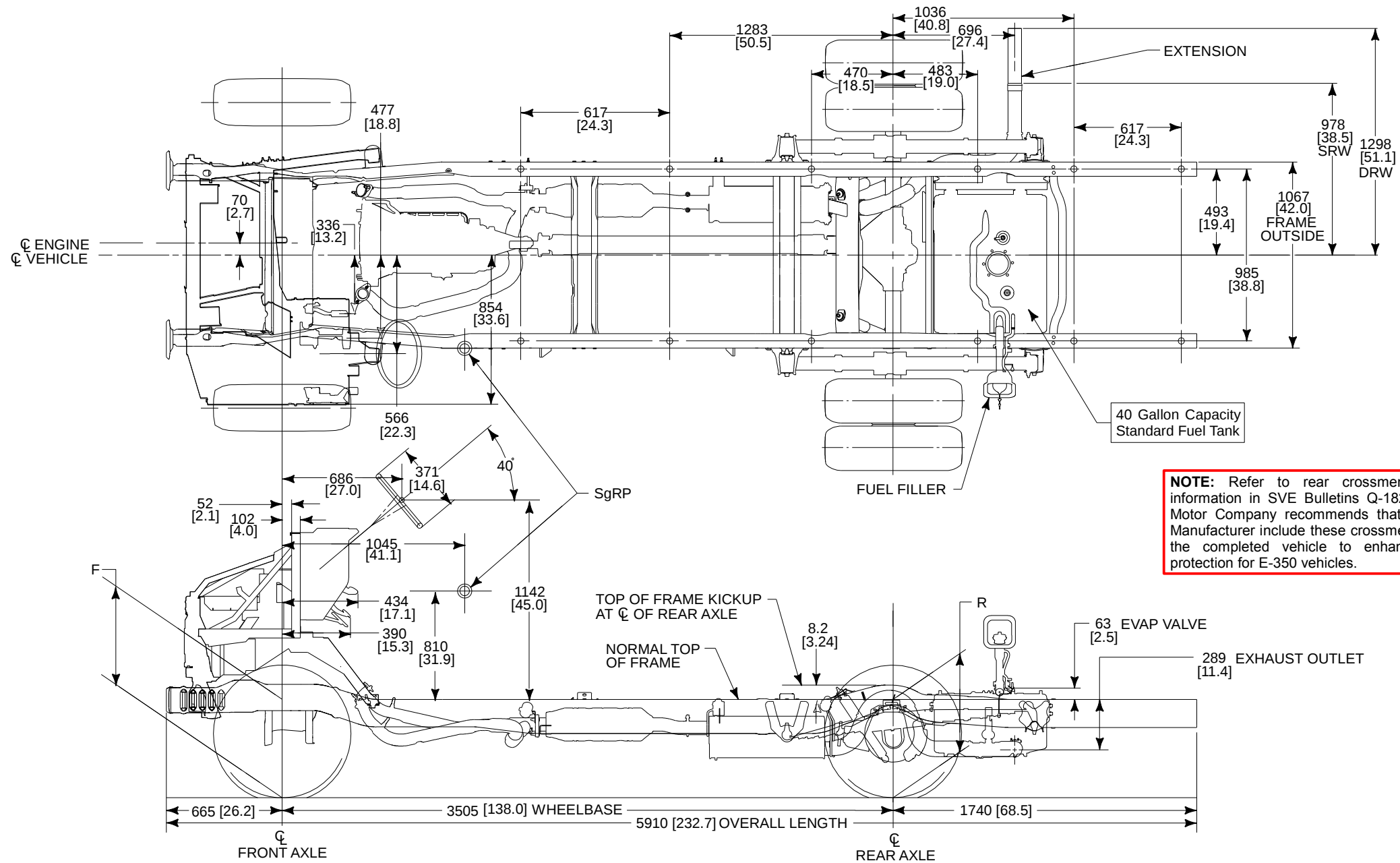
SPACER DIMENSIONS				
	D	E	F	DIA G = 12.7 [.50]
SPACER A	74 [2.91]	1481 [58.3]	988 [38.9]	8 HOLES
SPACER B	57 [2.26]	1481 [58.3]	988 [38.9]	8 HOLES
SPACER C	74 [2.91]	204 [37.7]	616 [24.25]	6 HOLES



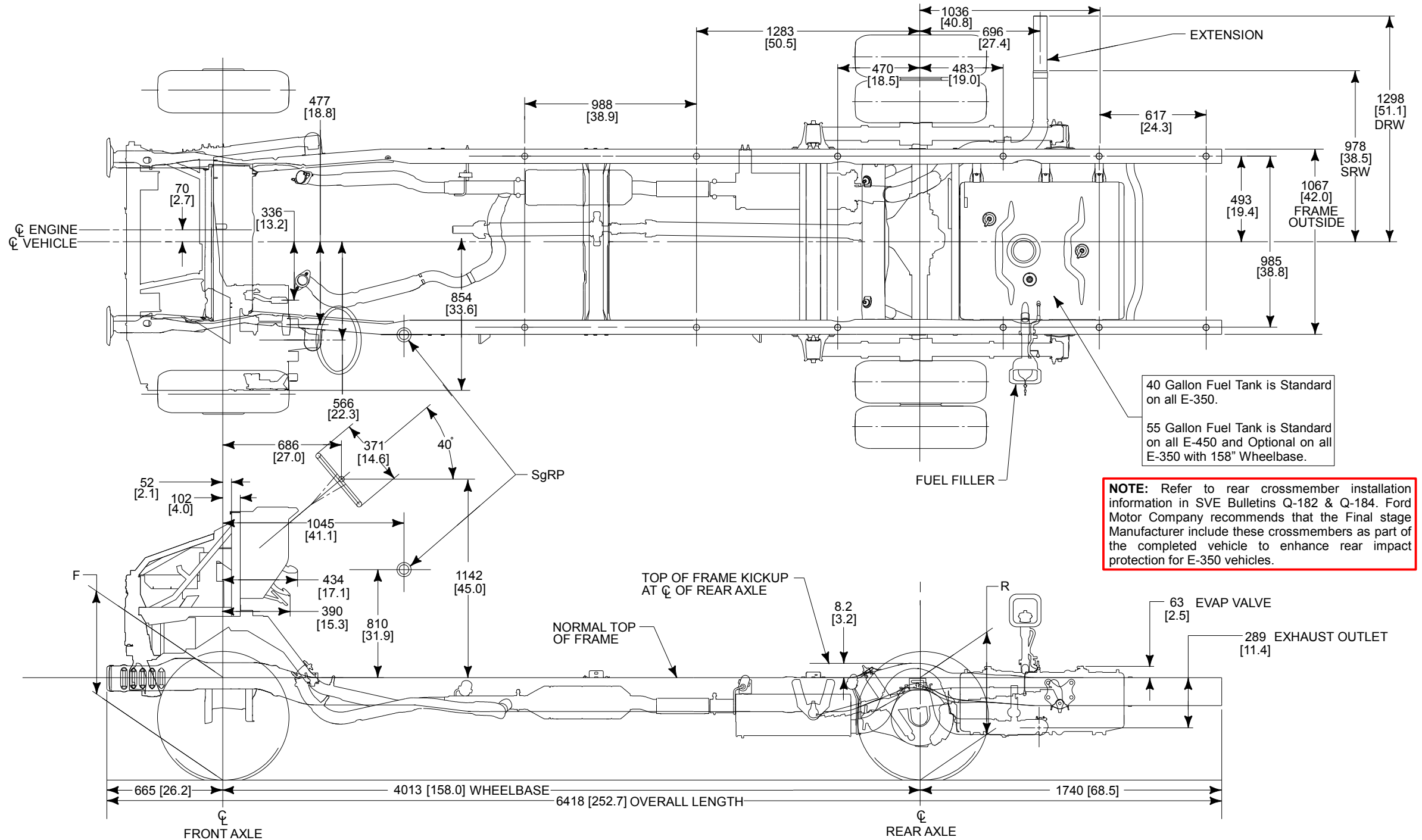
NOTE — [] DIMENSIONS ARE INCHES.

E-SERIES DIMENSIONAL DATA

E-350 SUPER DUTY STRIPPED CHASSIS 138" WB (DRW)



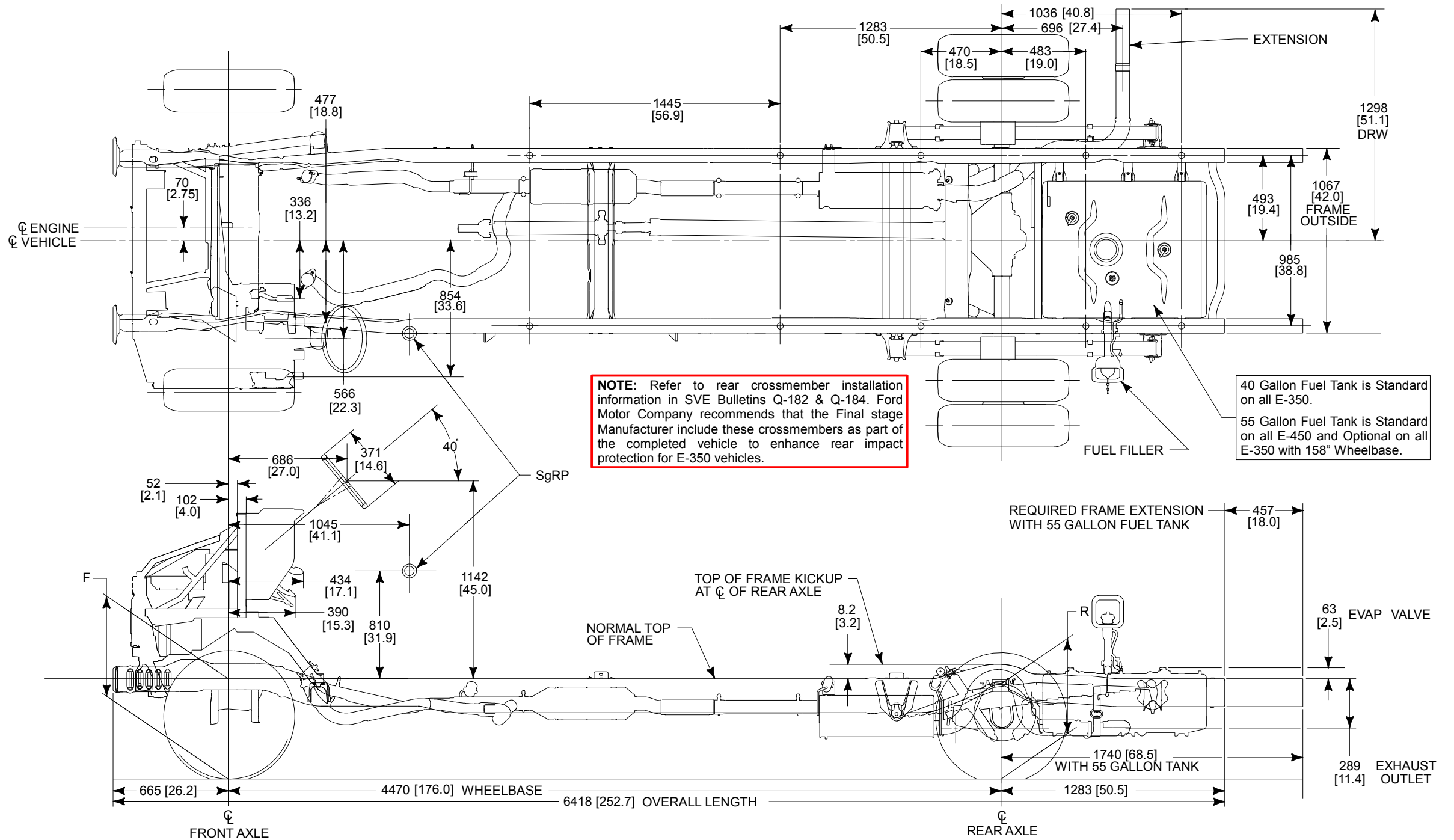
NOTE: Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.



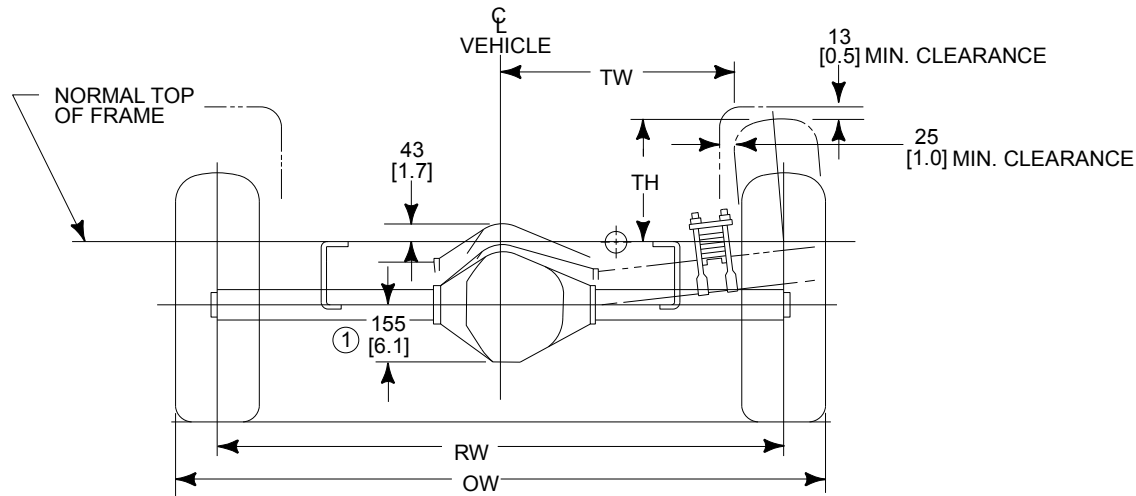
40 Gallon Fuel Tank is Standard on all E-350.

55 Gallon Fuel Tank is Standard on all E-450 and Optional on all E-350 with 158" Wheelbase.

NOTE: Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

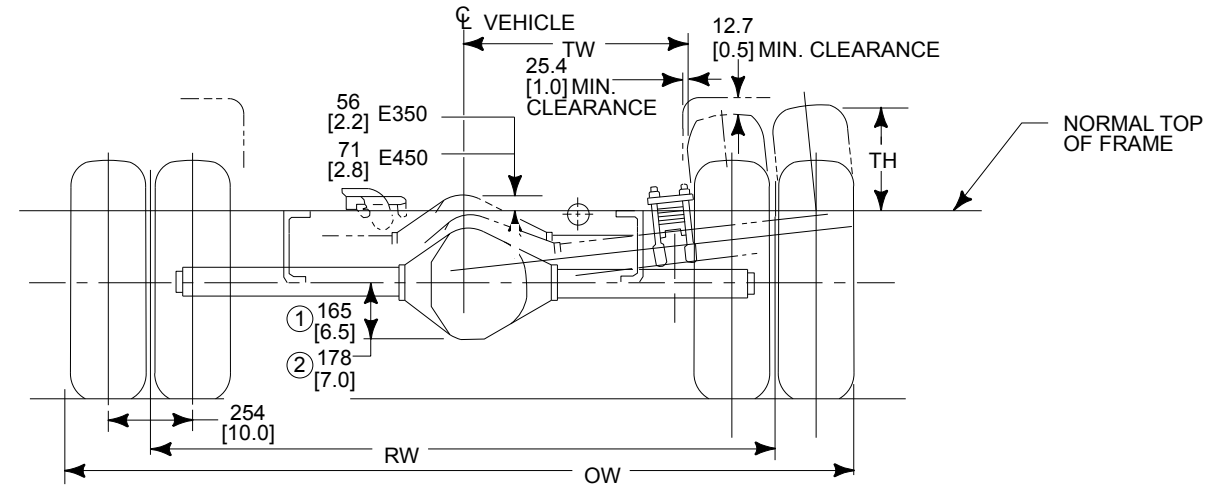


NOTE — [] DIMENSIONS ARE INCHES.



① 7800 LB AXLE USED AT 10,050 LB GVWR
CUTAWAY APPLICATIONS

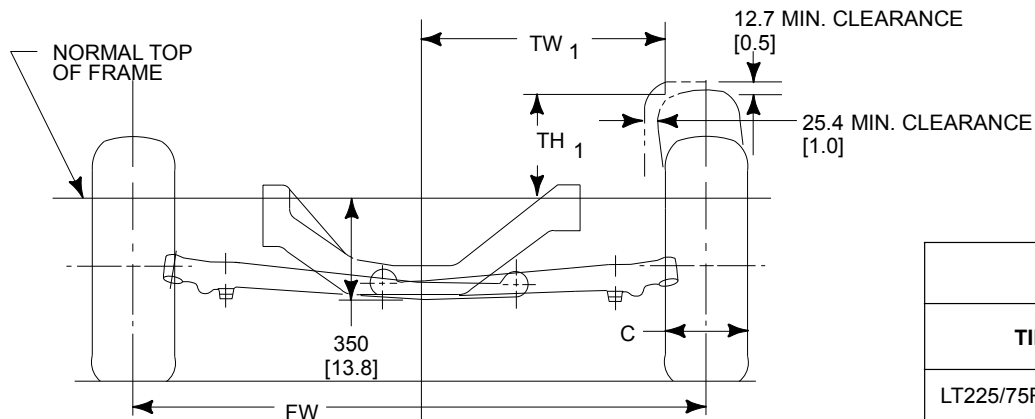
**REAR SUSPENSION (SRW)
REAR VIEW**



① 8500 LB AXLE USED AT 11,500, 12500 LB GVWR

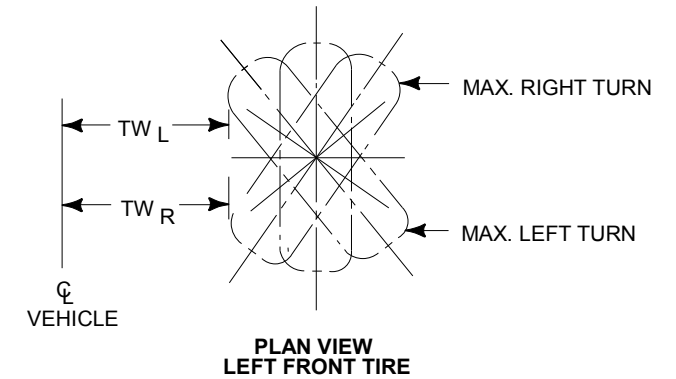
② 9600 LB AXLE USED AT 14,000, 14500 LB GVWR FOR E-450

**REAR SUSPENSION (DRW)
REAR VIEW**



**VEHICLE
FRONT SUSPENSION
FRONT VIEW**

FRONT SUSPENSION				
TIRE	TW ₁	TH ₁	TW _L	TW _R
LT225/75R16E	655 [25.8]	302 [11.9]	549 [21.6]	521 [20.5]
LT245/75R16E	655 [25.8]	320 [12.6]	549 [21.6]	521 [20.5]



**PLAN VIEW
LEFT FRONT TIRE**

TW = DISTANCE FROM ϕ OF VEHICLE TO SIDE OF TIRE IN MODIFIED JOUNCE.
TH = DISTANCE FROM NORMAL TOP OF FRAME TO TOP OF TIRE IN MODIFIED JOUNCE.

NOTE — [] DIMENSIONS ARE INCHES.
(Cont'd next page)



MODEL	WB inches	GVWR pounds	MINIMUM TIRE	FRONT GAWR MIN/MAX pounds	COMBINED FRONT SPRING CAPACITY RATE pounds	F HEIGHT AT FRONT AXLE (1)		REAR GAWR MAX pounds	COMBINED REAR SPRING CAPACITY RATE pounds	R HEIGHT AT REAR AXLE (1)		CH OVERALL HEIGHT OF VEHICLE (STANDARD SPRINGS) (1) mm [in]	
						BASE CURB WEIGHT mm [in]	LOADED mm [in]			BASE CURB WEIGHT mm [in]	LOADED mm [in]		
					STD SPRING	STD SPRING	STD SPRING		STD SPRING	STD SPRING	STD SPRING	CURB	LOADED
CUTAWAY													
E-350 SD	138	10,050 SRW	LT245/75R16E	4050/4200	4050/4200	577 [22.7]	528 [20.8]	6084	7810	652 [25.7]	576 [22.7]	2099 [82.6]	2040 [80.3]
		11,500 DRW	LT225/75R16E	4050/4600	4600	571 [22.5]	525 [20.7]	7800	8600	658 [25.9]	583 [23.0]	2098 [82.6]	2039 [80.3]
	158	10,050 SRW	LT245/75R16E	4200	4200	600 [23.6]	532 [21.0]	6084	7810	676 [26.5]	576 [22.7]	2121 [83.5]	2040 [80.3]
		11,500 DRW	LT225/75R16E	4050/4600	4050/4600	572 [22.5]	525 [20.7]	7800	8600	657 [25.9]	583 [23.0]	2094 [82.4]	2043 [80.4]
		12,500 DRW		4600/5000	4600/5000	591 [23.3]	523 [20.6]	8500	8600	664 [26.1]	582 [22.9]	2109 [83.0]	2034 [80.1]
	176	12,500 DRW	LT225/75R16E	4600/5000	5000	582 [22.9]	524 [20.6]	8500	8600	665 [26.1]	582 [22.9]	2100 [82.7]	2032 [80.0]
E-450 SD	158	14,000 DRW		LT225/75R16E	4600/5000	4600/5000	592 [23.3]	523 [20.6]	9600	9600	691 [27.2]	608 [23.9]	2118 [83.4]
		14,500 DRW	5000		5000	596 [23.5]	521 [20.5]	9600	9600	691 [27.2]	608 [23.9]	2121 [83.5]	2033 [80.1]
	176	14,000 DRW	4600/5000		4600/5000	586 [23.1]	521 [20.5]	9600	9600	692 [27.2]	608 [23.9]	2112 [83.1]	2042 [80.4]
		14,500 DRW	5000		5000	594 [23.4]	521 [20.5]	9600	9600	692 [27.2]	608 [23.9]	2116 [83.3]	2042 [80.4]
STRIPPED CHASSIS													
E-350 SD	138	11,500 DRW	LT225/75R16E	4200/4600	4600	608 [23.9]	524 [20.7]	7800	7800	657 [25.9]	583 [23.0]	—	—
	158	12,500 DRW		4600/5000	5000	618 [24.3]	523 [20.6]	8500	8500	664 [26.1]	582 [22.9]	—	—
	176	12,500 DRW		4600/5000	5000	616 [24.3]	523 [20.6]	8500	8500	664 [26.1]	582 [22.9]	—	—
E-450 SD	158	14,000 DRW	LT225/75R16E	4600/5000	5000	617 [24.3]	523 [20.6]	9500	9500	693 [27.3]	608 [23.9]	—	—
		14,500 DRW		5000	5000	624 [24.4]	521 [20.5]	9500	9500	693 [27.3]	608 [23.9]	—	—
	176	14,000 DRW		4600/5000	5000	—	522 [20.6]	9500	9500	—	577 [22.7]	—	—
		14,500 DRW		5000	5000	—	521 [20.5]	9500	9500	—	579 [22.8]	—	—

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

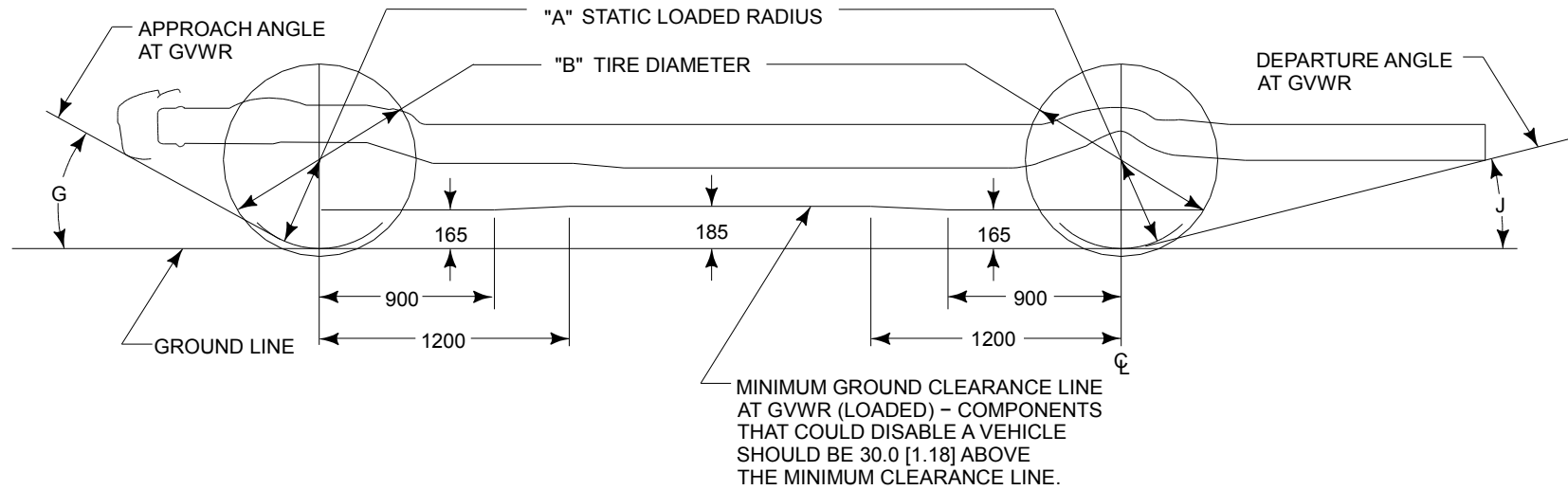
SRW - Single Rear Wheels

DRW - Dual Rear Wheels

NOTE — [] DIMENSIONS ARE INCHES.



E-SERIES GROUND CLEARANCE APPROACH & DEPARTURE ANGLES

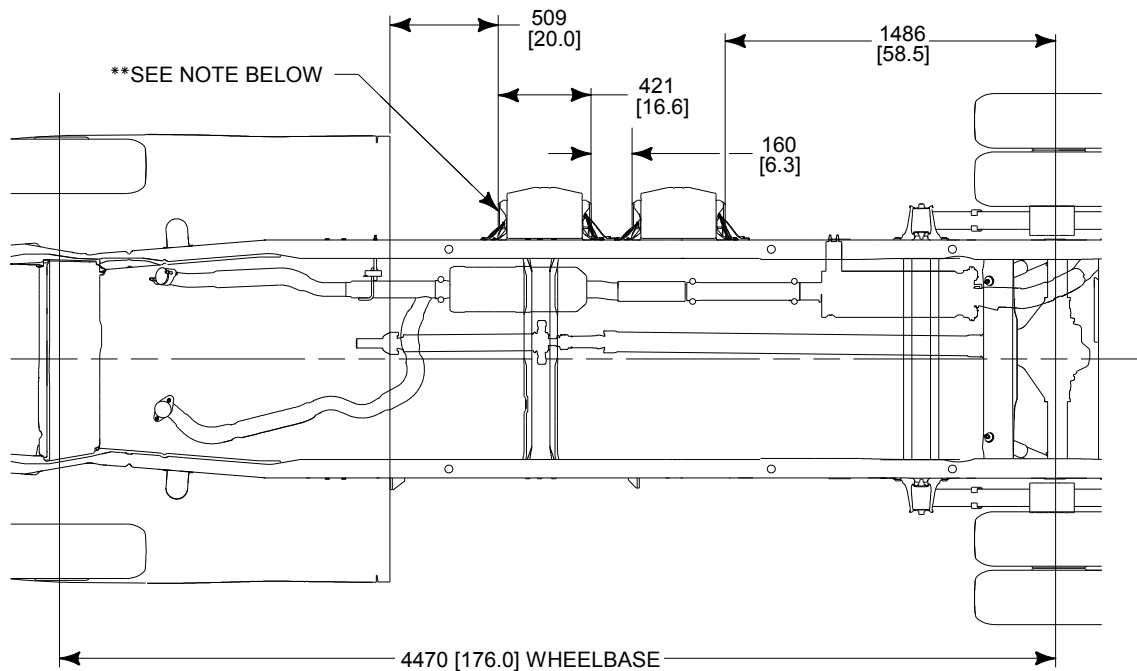
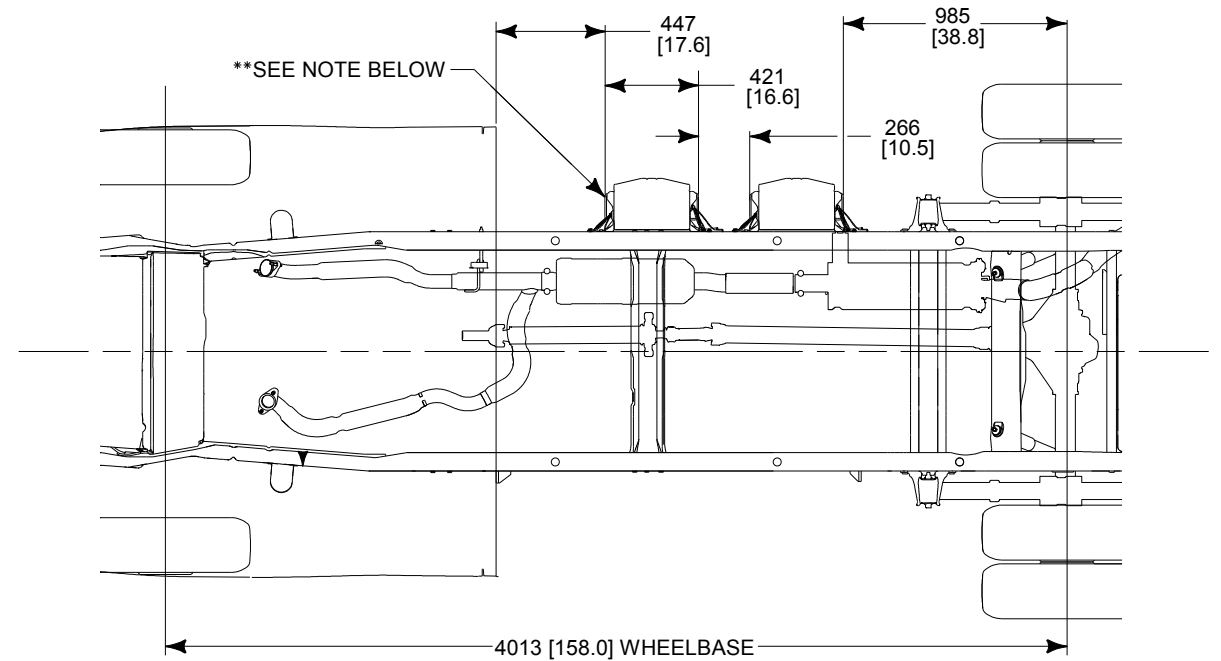
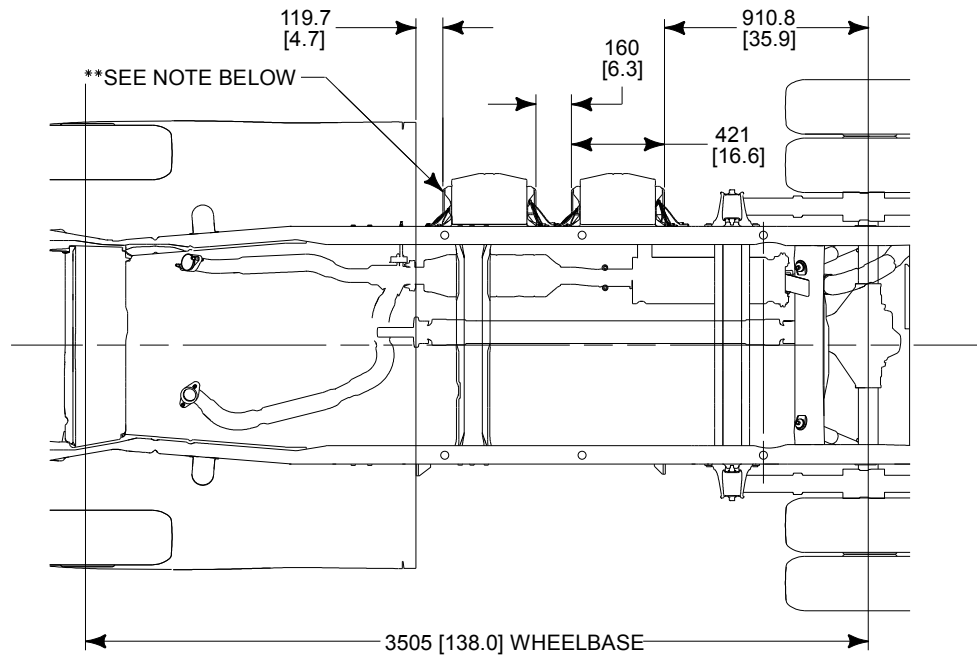


BASE VEHICLE LOADED

MODEL	TIRE SIZE	ALL SEASON TIRE DATA				TREAD WIDTH		OW	TH	TW	GROUND CLEARANCE					
		A	B	C		FW	RW	OVERALL WIDTH	STD	STD	G			J		
		STATIC LOADED RADIUS	MAX. DIAMETER	MAX. SECTION WIDTH	RIM WIDTH	FRONT	REAR	REAR	SPRING	SPRING	APPROACH ANGLE			DEPARTURE ANGLE		
											138" WB	158" WB	176" WB	138" WB	158" WB	176" WB
E-350 Cutaway SRW (Aft-of-Axle Fuel Tank)	LT245/75R16E	356 [14.0]	787 [31.0]	263 [10.3]	178 [7.0]	1763 [69.4]	1831 [72.1]	2094 [82.4]	307 [12.1]	710 [28.0]	21°	N/A	N/A	15°	N/A	N/A
E-350 Cutaway DRW	LT225/75R16E	346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1915 [75.4]	2405 [94.7]	329 [12.9]	684 [26.9]	22°	22°	22°	15°	15° ♦	20° ♦
E-450 Cutaway DRW		346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1974 [77.7]	2464 [97.0]	325 [12.8]	743 [29.2]	N/A	27°	27°	N/A	16° ♦	21° ♦
E-350 Stripped Chassis DRW		346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1915 [75.4]	2405 [94.7]	329 [12.9]	684 [26.9]	40°	33°	34°	21°	18°	24°
E-450 Stripped Chassis DRW		346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1974 [77.7]	2464 [97.0]	325 [12.8]	743 [29.2]	N/A	39°	35°	N/A	16° ♦	18° ♦

♦ 55-gallon tank and 18 inch frame extension

NOTE — [] DIMENSIONS ARE INCHES.



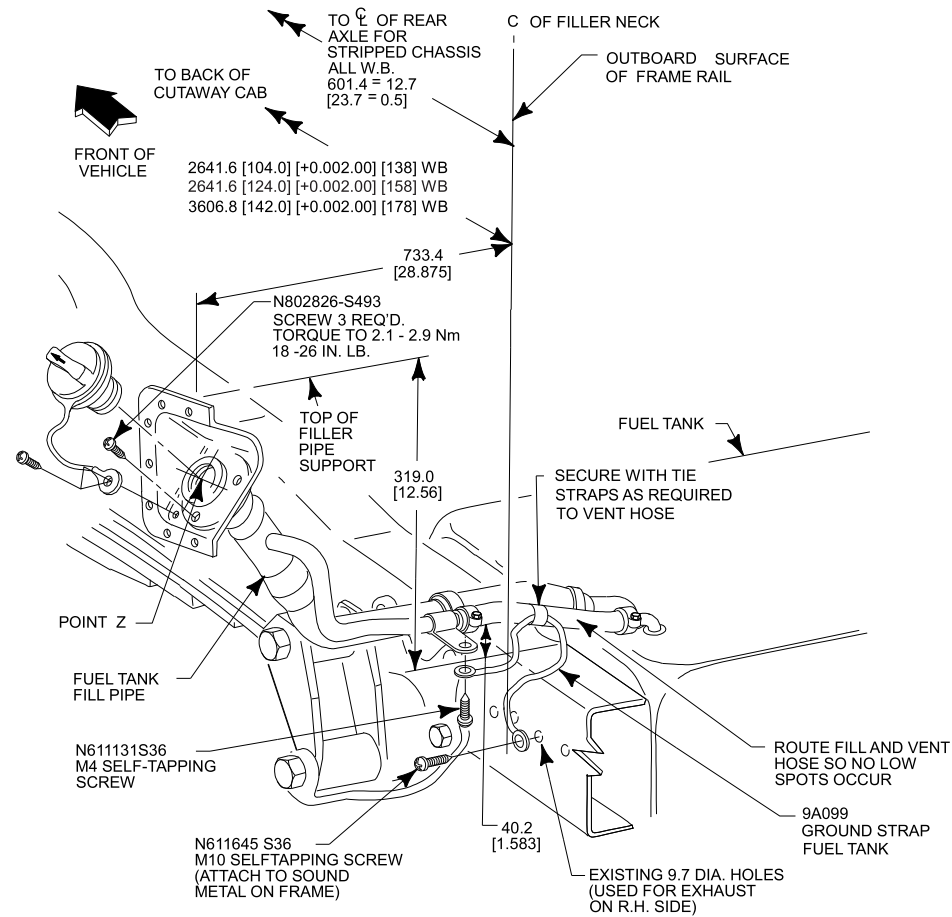
The guidelines below must be followed when repositioning the battery box

- Maintain attachment hole diameter of (12 mm)
- Maintain use of existing OEM bolts (M10)
- The battery box must NOT be packaged any lower in vehicle position than is provided by Ford
- All new frame holes must be at least 1x hole diameter away from all other holes & 1½ diameter away from the edge of a radius tangent
- Battery boxes may not be moved rearward of position provided by Ford

NOTES — [] DIMENSIONS ARE INCHES.

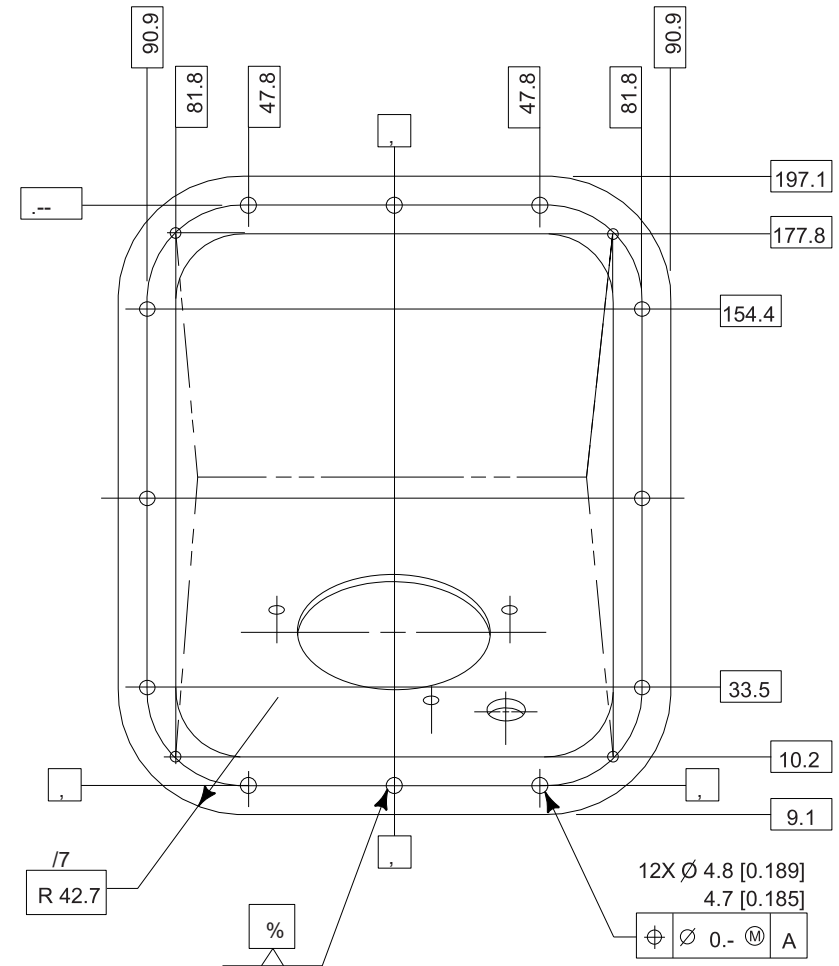
— ** PLACEMENT FOR GAS ENGINES
W/ AUXILIARY BATTERY OPTION.

E-SERIES FUEL FILLER PIPE



TORQUE ALL WORM GEAR DRIVEN
HOSE CLAMPS TO 2.9 -4.3 NM
25 -38 IN-LB

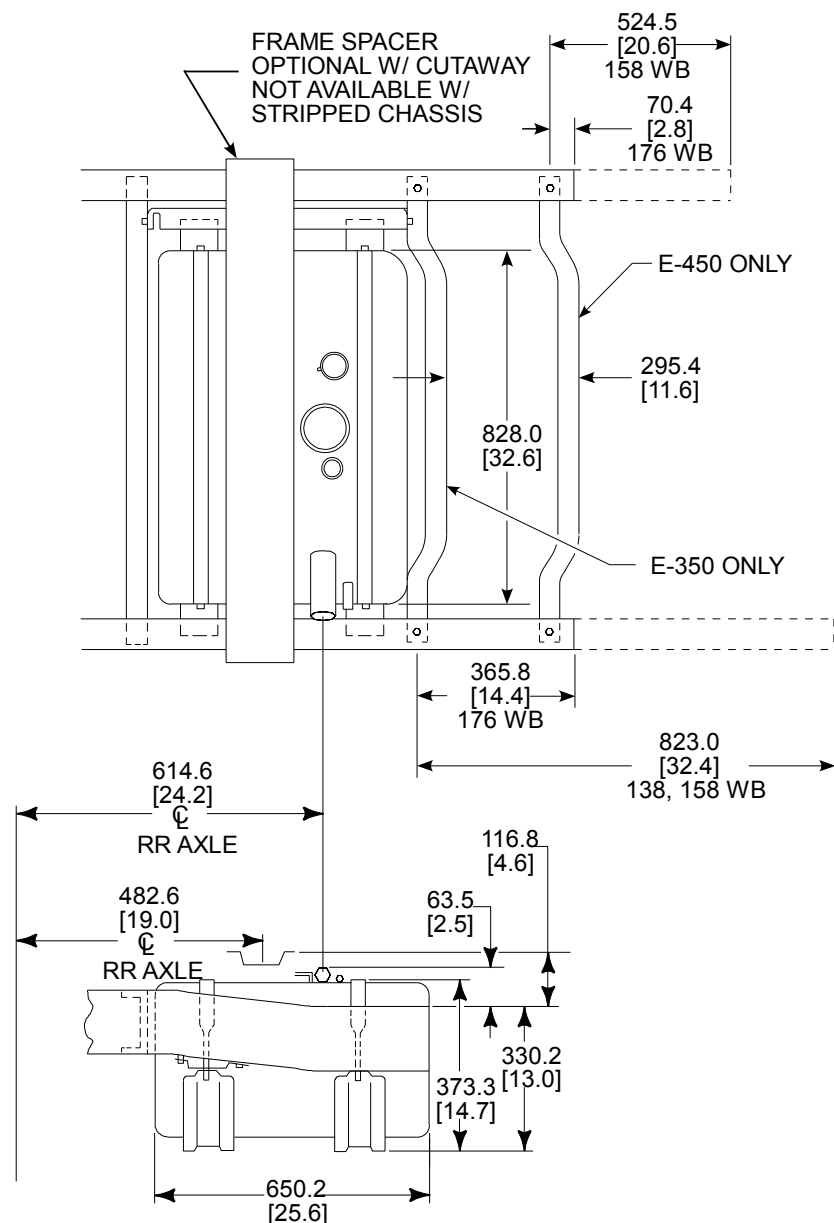
▽ CRITICAL CONTROL ITEM



NOTE — [] DIMENSIONS ARE INCHES.

E-SERIES DIMENSIONAL DATA

E-350 SUPER DUTY CUTAWAY 138" WB (SRW / DRW)



40 GALLON TANK

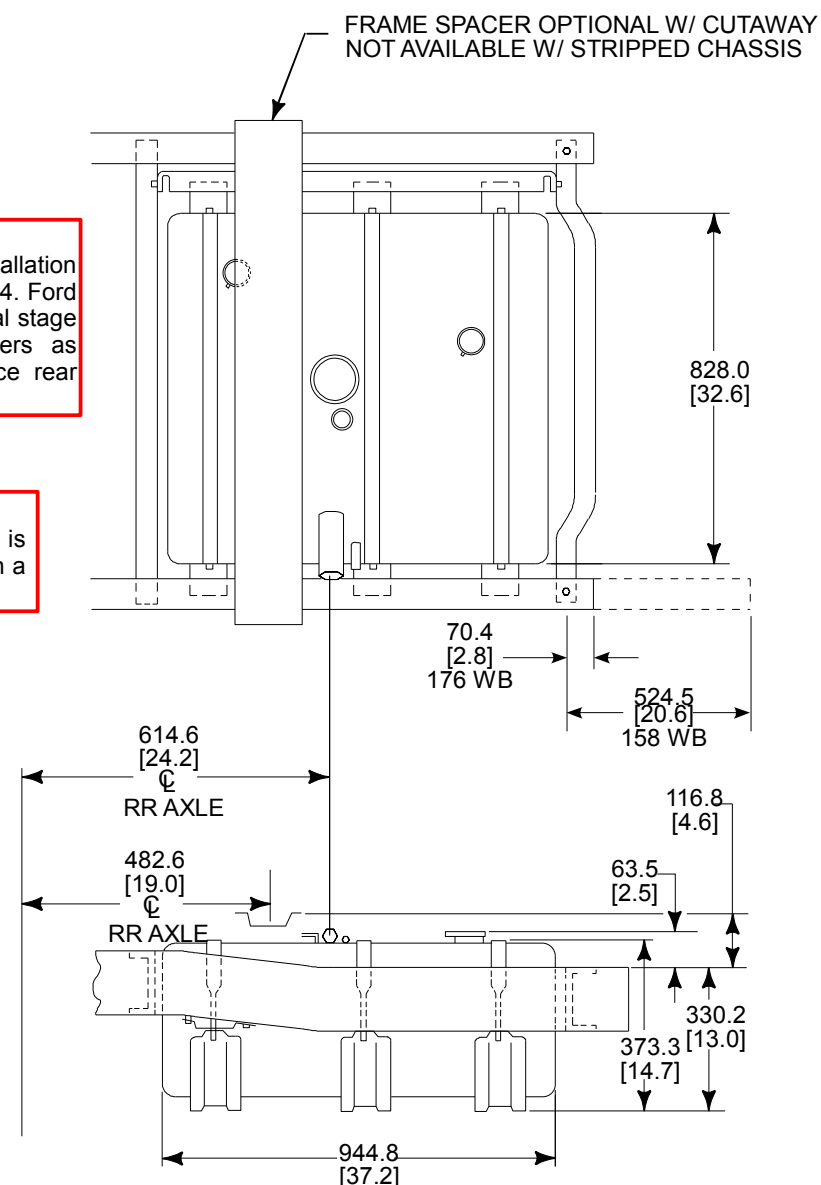
E-350: 138", 158", 176" WB
E-450: 158", 176" WB

NOTE:

Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

WARNING:

An 18" minimum frame extension is required on the 176" WB frame with a 55 gallon fuel tank.



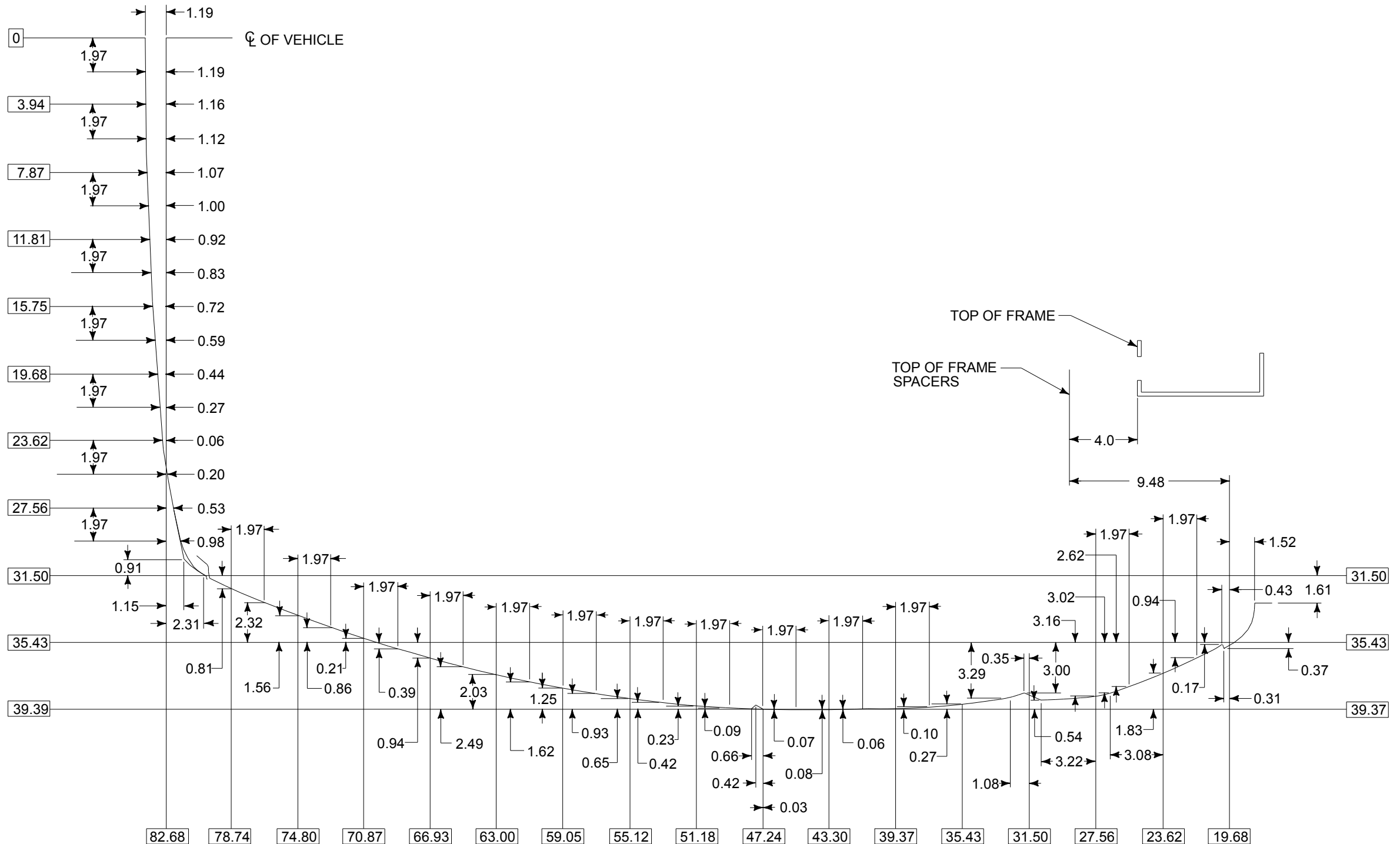
55 GALLON TANK

E-350: 158" WB
E-450: 158", 176" WB

NOTE — [] DIMENSIONS ARE INCHES.



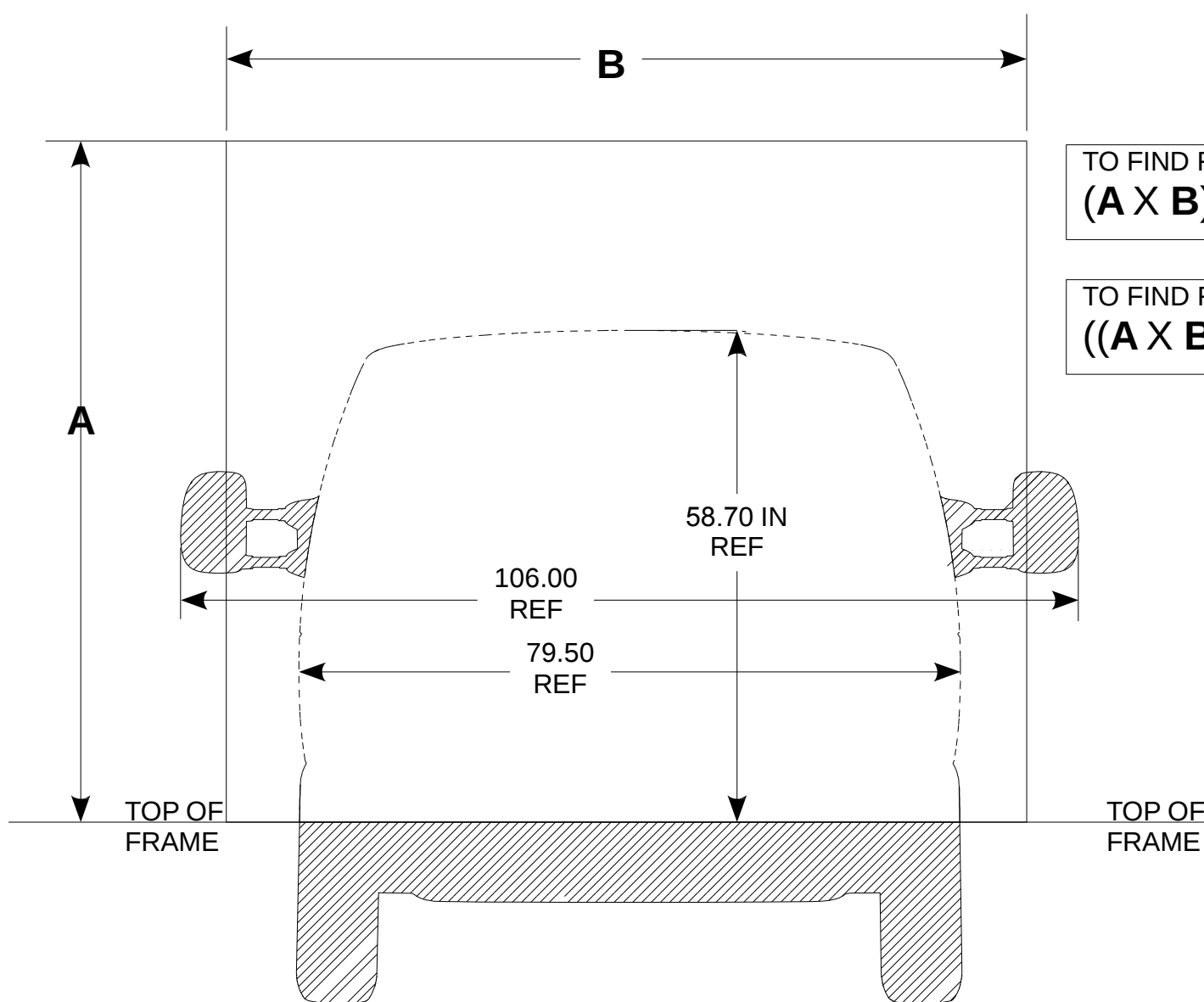
E-SERIES BACK OF CAB PROFILE DIMENSIONS CUTAWAY BODY SECTION "A"



NOTE — [] DIMENSIONS ARE INCHES.



E-SERIES - SRW FRONT SURFACE AREA WORKSHEET CHASSIS CAB / CUTAWAY



A = BOX HEIGHT IN INCHES

B = BOX WIDTH IN INCHES

TO FIND FRONT SURFACE AREA IN SQ INCHES
(A X B) + 1240.7 =

TO FIND FRONT SURFACE AREA IN SQ FEET
((A X B) / 144) + 8.62 =

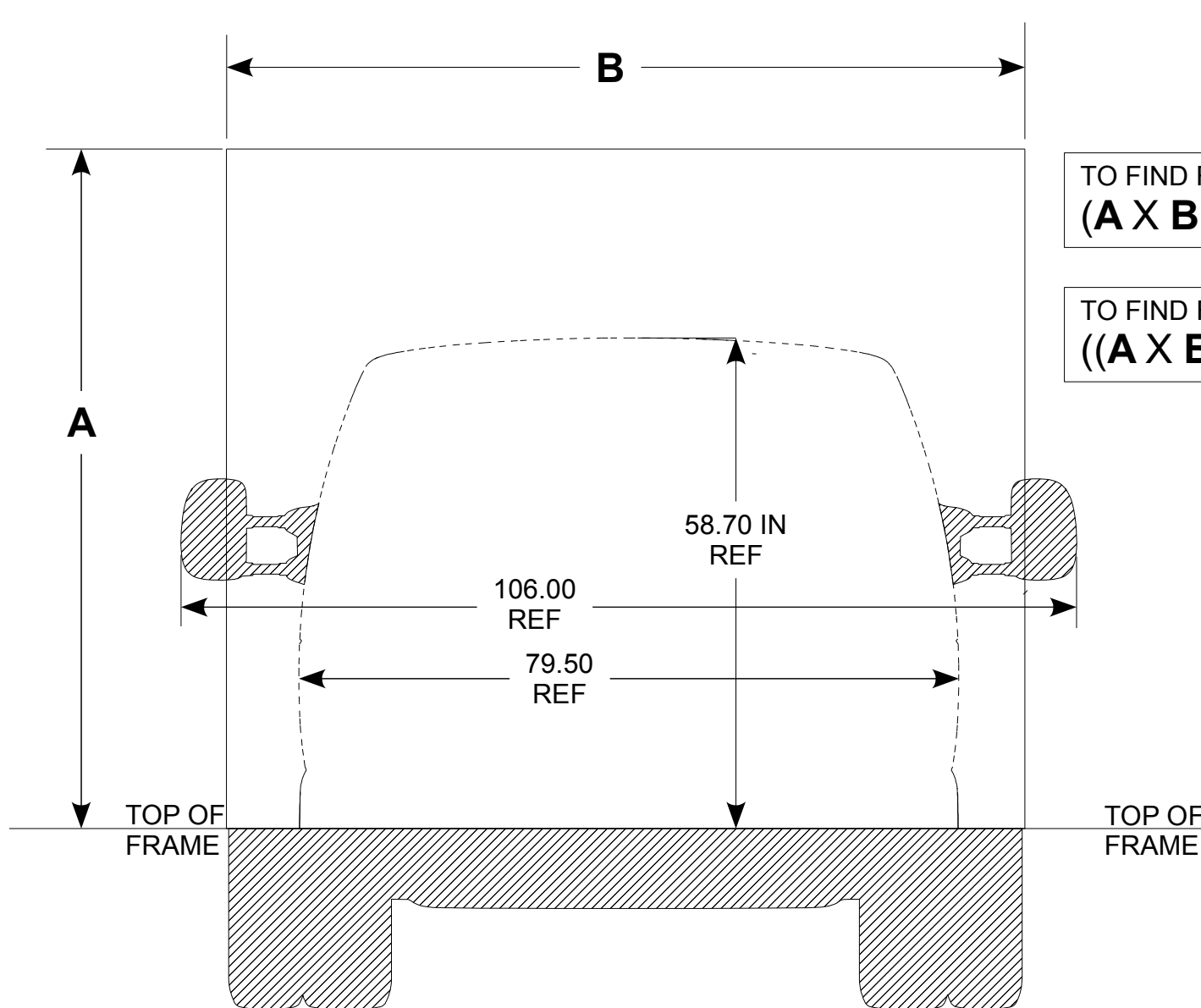
BELOW FRAME SHADED AREA EQUALS
624293 / (25.4 X 25.4) = 967.6560 SQ. IN.
967.6560 / (12 X 12) = 6.7198 SQ. FT.

MIRROR SHADED AREA EQUALS
(88087.6 X 2) / (25.4 X 25.4) = 273.0721 SQ. IN.
273.0721 / (12 X 12) = 1.8963 SQ. FT.

TOTAL SHADED AREA EQUALS
800468.2 / (25.4 X 25.4) = 1240.7281 SQ. IN.
1429.6698 / (12 X 12) = 8.6161 SQ. FT.

NOTE — DIMENSIONS ARE INCHES.

E-SERIES - DRW FRONT SURFACE AREA WORKSHEET CHASSIS CAB / CUTAWAY



A = BOX HEIGHT IN INCHES

B = BOX WIDTH IN INCHES

TO FIND FRONT SURFACE AREA IN SQ INCHES
(A X B) + 1632.1 =

TO FIND FRONT SURFACE AREA IN SQ FEET
((A X B) / 144) + 11.33 =

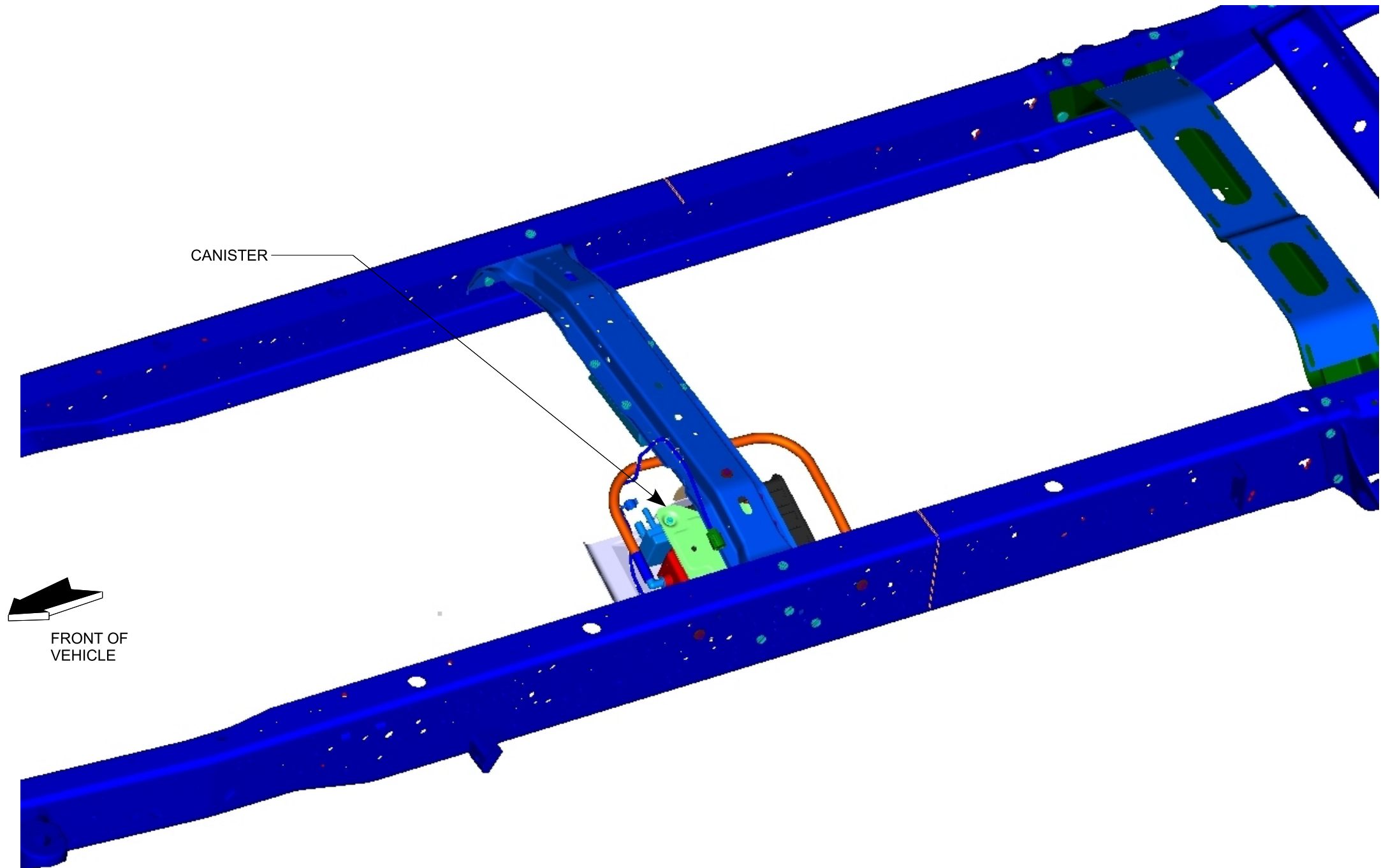
BELOW FRAME SHADED AREA EQUALS
876808.0 / (25.4 X 25.4) = 1359.0551 SQ. IN.
1359.0551 / (12 X 12) = 9.4379 SQ. FT.

MIRROR SHADED AREA EQUALS
(88087.6 X 2) / (25.4 X 25.4) = 273.0721 SQ. IN.
273.0721 / (12 X 12) = 1.8963 SQ. FT.

TOTAL SHADED AREA EQUALS
1052983.2 / (25.4 X 25.4) = 1632.1272 SQ. IN.
1632.1272 / (12 X 12) = 11.3342 SQ. FT.

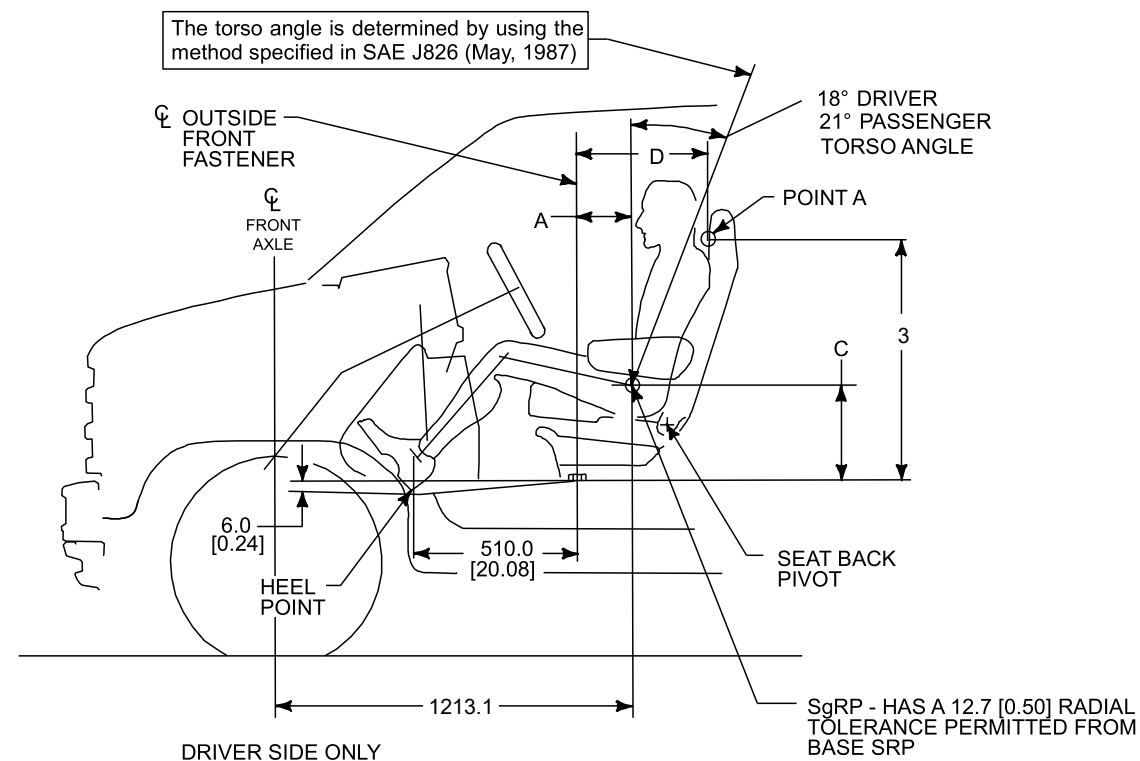
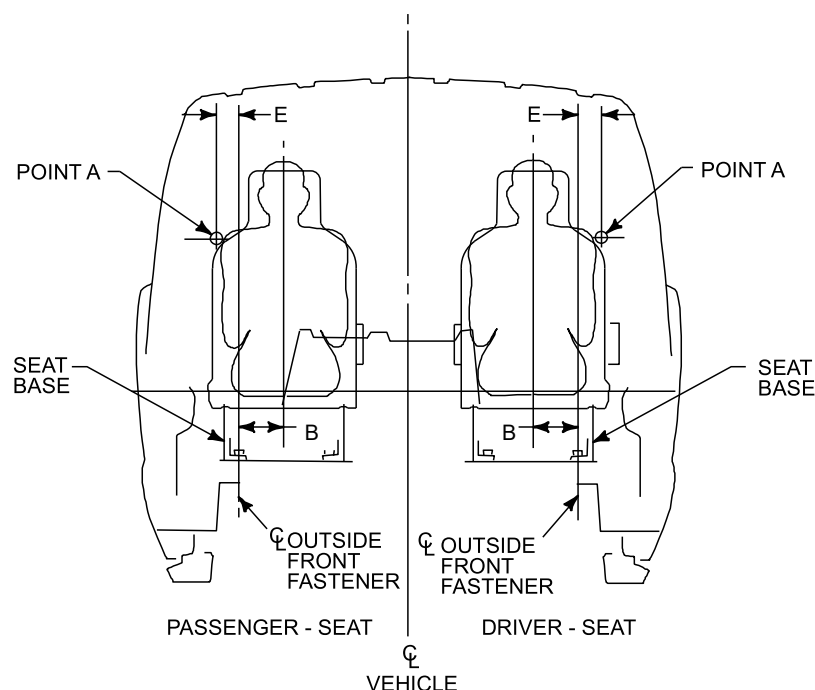
NOTE — DIMENSIONS ARE INCHES.

AFT-OF-AXLE FUEL TANK EVAPORATIVE EMISSIONS CANISTER LOCATION CUTAWAY



E-SERIES SEAT POSITION

E-250/350/450 SUPER DUTY CUTAWAY



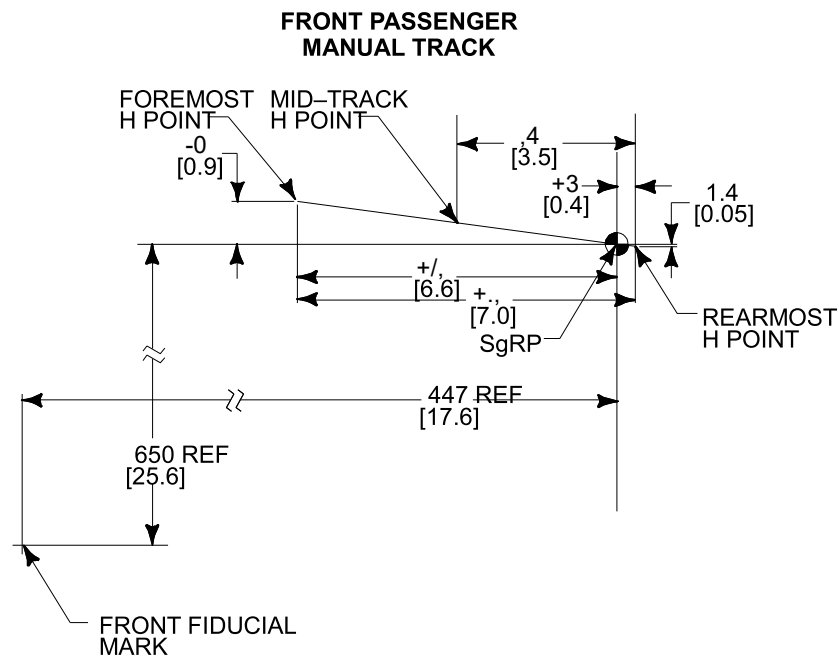
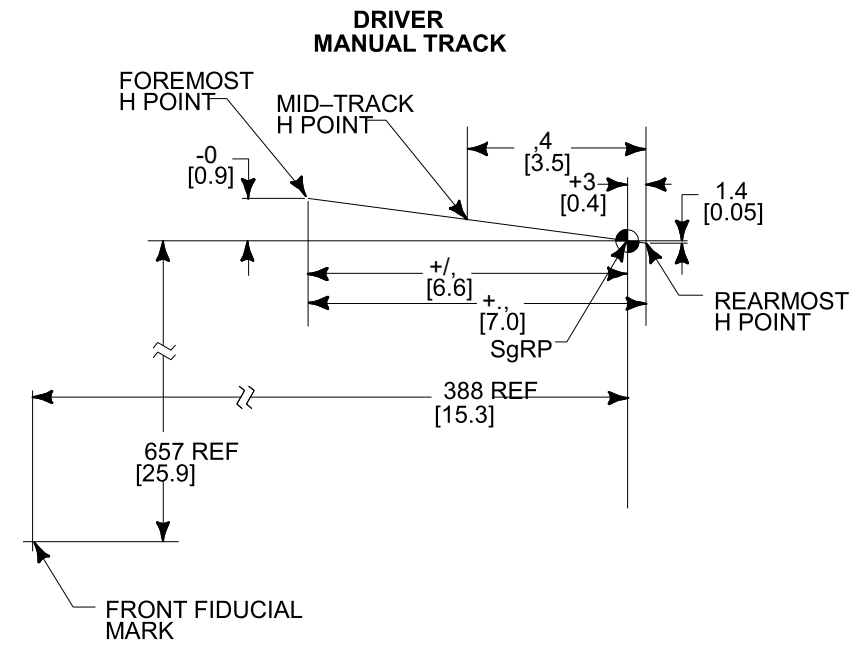
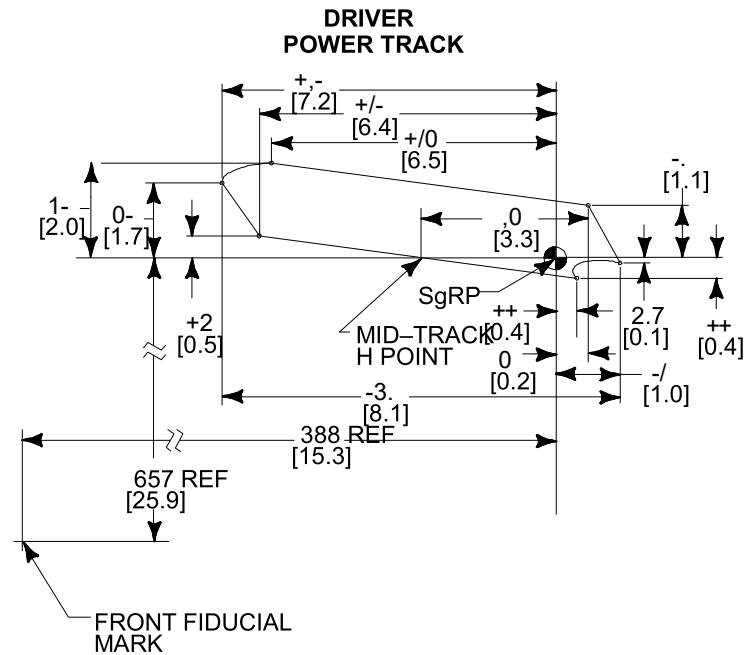
IMPORTANT:

The dimensions in this figure require the vehicle to be at Design Position. E-Series vehicles at Design Position will be level front to rear, and side to side, on the upper surface of the ribbed floor panel from the B-pillar rearward.

SRP INFORMATION (SEAT POSITION IS 10.0 mm [0.39] FORWARD OF REARMOST POSITION)				POINT A (SEAT POSITION IS AT THE MIDPOINT OF AVAILABLE TRAVEL)		
SEAT	A	%	C	D	E	F
DRIVER	217.8 [8.57]	105.0 [4.13]	384.2 [15.13]	356.0 [14.01]	67.0 [2.64]	937.4 [36.90]
PASSENGER	277.3 [10.92]	103.0 [4.06]	377.0 [14.84]	412.0 [16.22]	65.0 [2.56]	960.1 [37.80]

CODE	DESCRIPTION	DIMENSION
FRONT COMPARTMENT		
L34	MAXIMUM EFFECTIVE LEG ROOM – FRONT	1015 [40.0]
W3	SHOULDER ROOM – FRONT	1729 [68.1]
W5	HIP ROOM – FRONT	1667 [65.6]
W117	BODY WIDTH AT H-POINT	1996 [78.6]
H61	EFFECTIVE HEAD ROOM – FRONT	1070 [42.1]

NOTE — [] DIMENSIONS ARE INCHES.

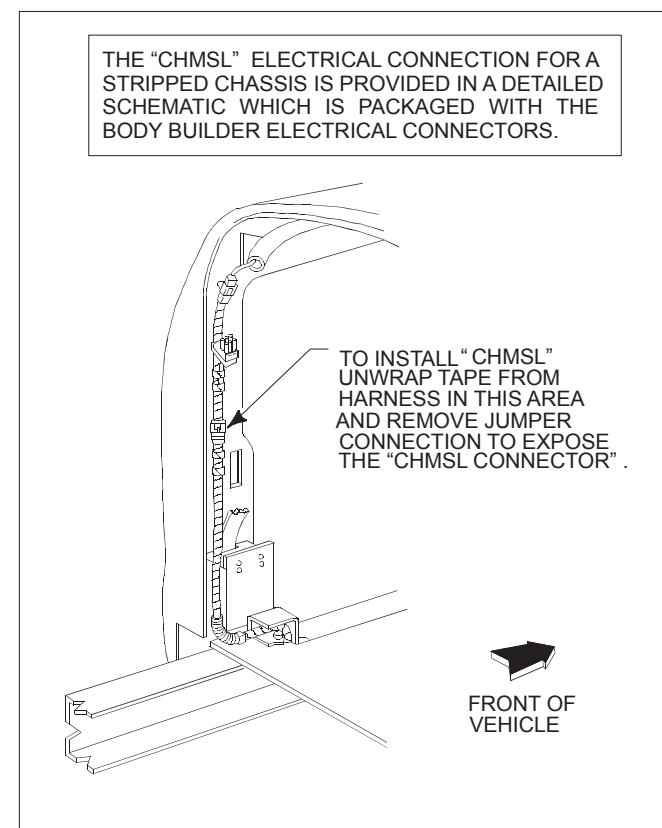


NOTES — [] DIMENSIONS ARE INCHES.

THIS SEAT INFORMATION IS PROVIDED TO ASSIST IN THE INSTALLATION OF SEATS OTHER THAN FORD INSTALLED SEATS AND TO HELP PRESERVE THE INTENDED PERFORMANCE OF THE SAFETY AND ERGONOMIC FEATURES OF THE E-SERIES. THE MID-TRACK H-POINT LOCATION MUST BE MAINTAINED IN ORDER TO COMPLY WITH F/CMVSS 208 AIRBAG REQUIREMENTS.

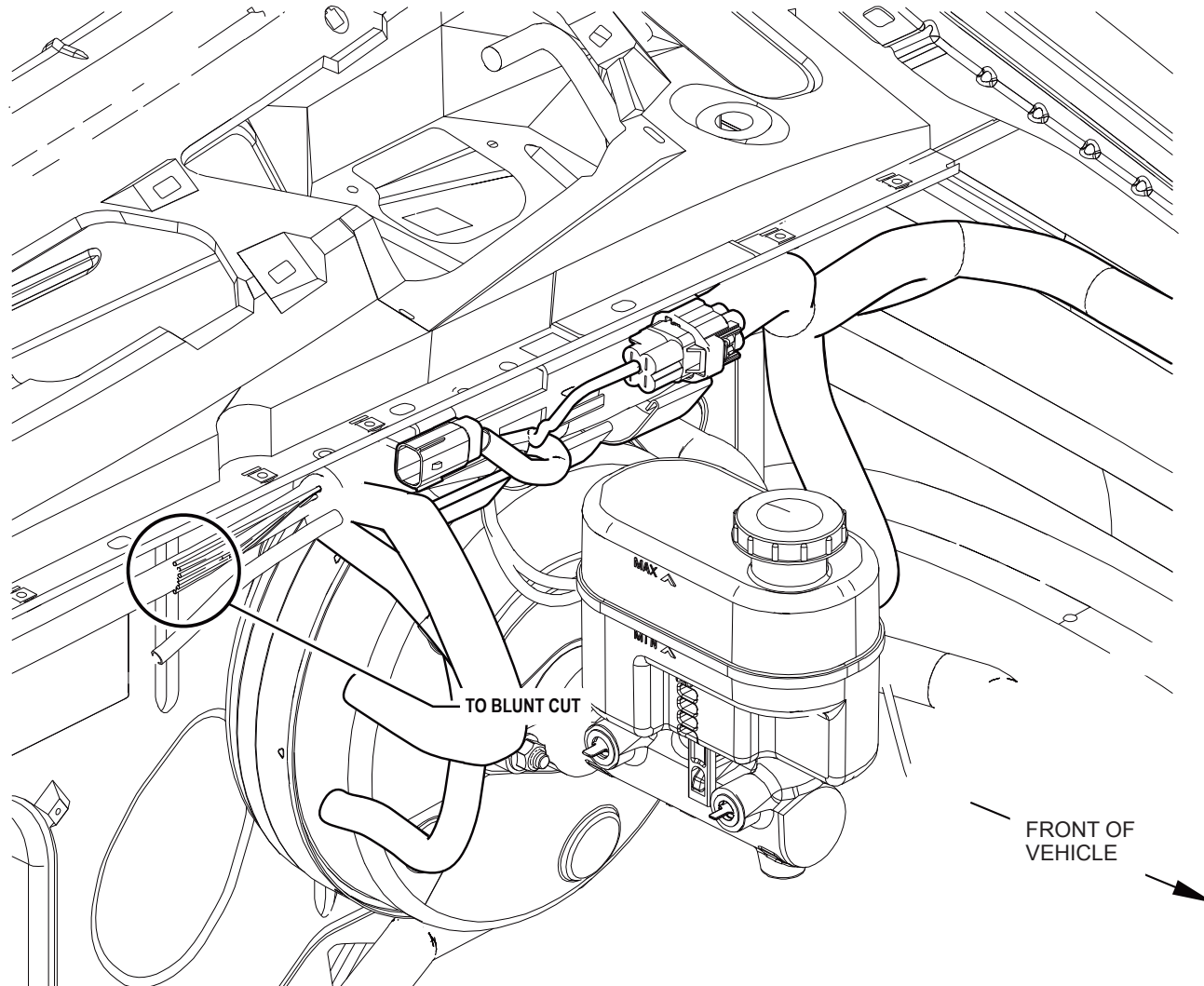
ELECTRICAL WIRING E-SERIES CHASSIS CIRCUITS

Circuit Number	Color Code	Wire Gauge	Functional Description
CAT 19	BU	12	Electric trailer brake controller to trailer
CAT 14	OG	10	Relay feed ignition run
SBB 18	YE-RD	12	Trailer brake controller or B+ feed
CAT 06	YE	18	Fused left hand stop/turn
CAT 09	GN	18	Fused right hand stop/turn
CAT 08	W	14	Ground
CLS 43	LG	18	Center high mount or lamp feed stop
CAT 17	BR	14	Relay feed marker lamps
CAT 03	GY-BN	12	Relay feed backup lamps
CAC 17	VT-GY	12	Customer pass-thru circuits
CAC 18	YE-GY	12	Customer pass-thru circuits
VLN 33	BK-LB	18	Courtesy lamps
CLN 09	YE-GN	18	Courtesy switch feed
CLS 18	GY-BN	18	Left stop/turn rear signal
CLS 19	VT-OG	18	Right stop/turn rear signal
GD116	BK-VT	16	Electric brake controller ground

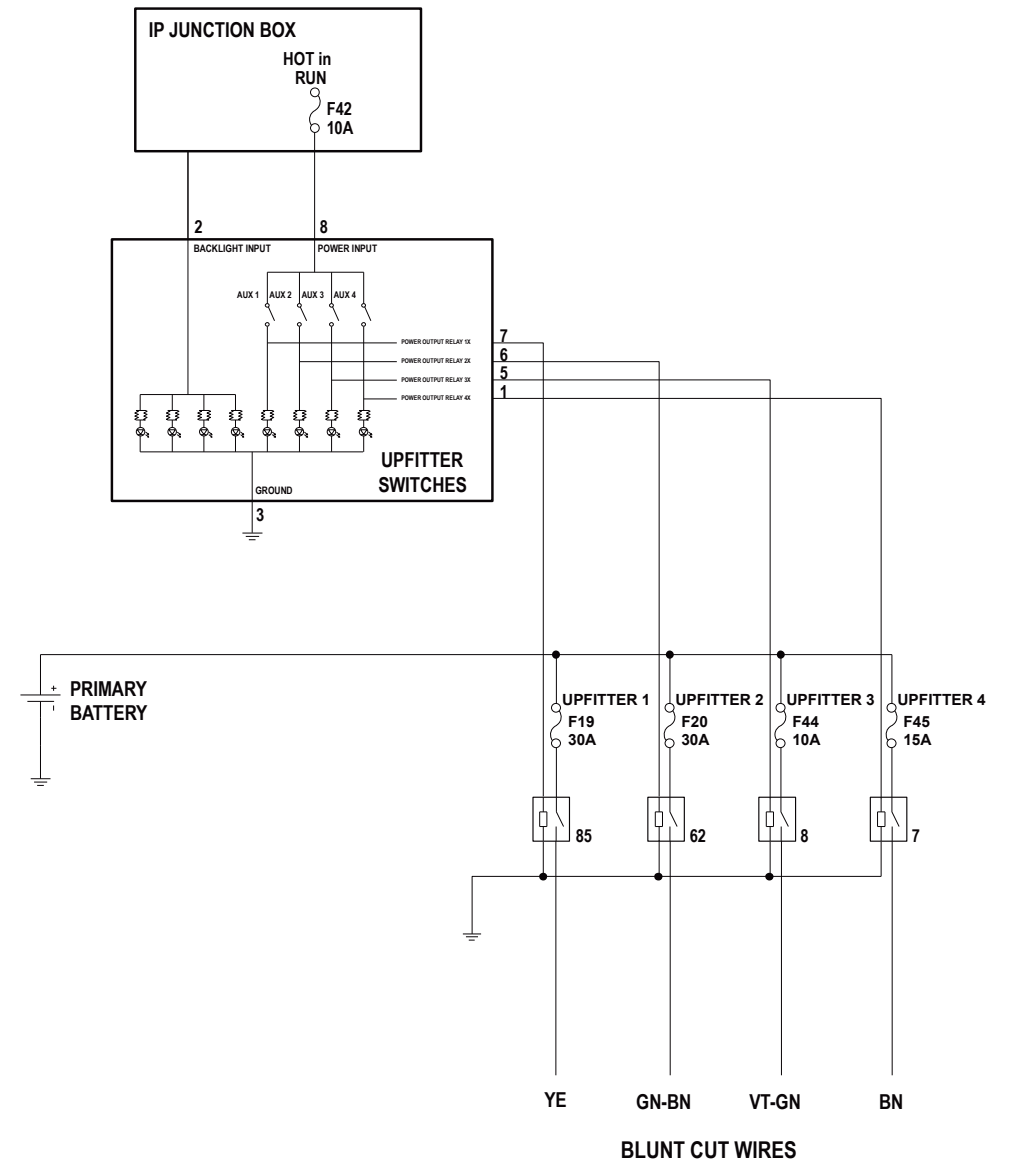


**E-SERIES SUPER DUTY
CUTAWAY / STRIPPED CHASSIS**

ELECTRICAL WIRING E-SERIES CHASSIS CIRCUITS



**CUSTOMER ACCESS (UPFITTER)
SCHEMATIC**

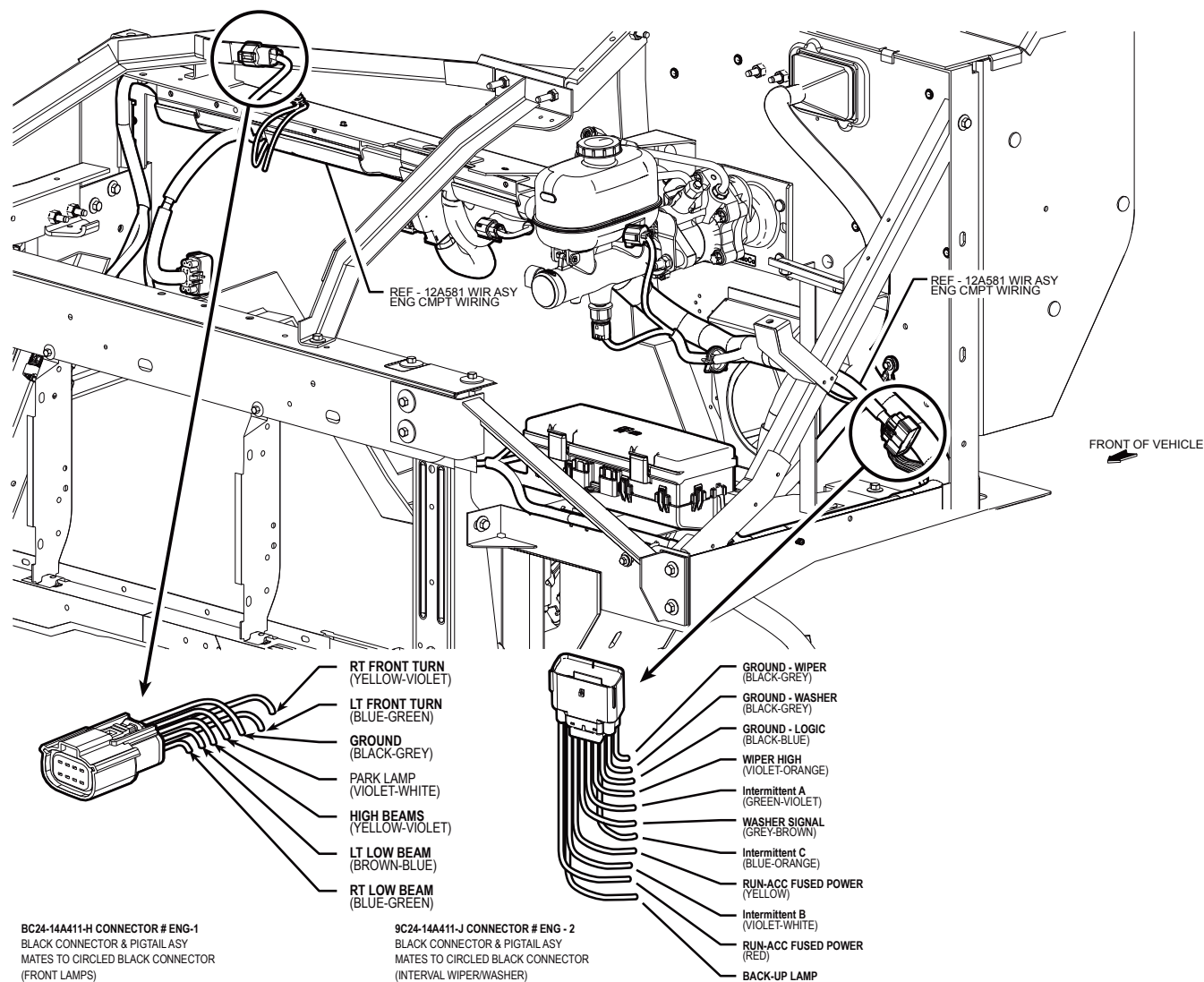


UPFITTER CIRCUITS				RECOMMENDED MAX ALLOWABLE WIRE LENGTH (FEET)				
Circuit Color	Code	Description	Max Continuous Load	18 AWG	16 AWG	14 AWG	12 AWG	10 AWG
BROWN	BN	UPFITTER 4	10A	25	35	60	-	-
VIOLET-GREEN	VT-GN	UPFITTER 3	7A	50	70	-	-	-
GREEN-BROWN	GN-BN	UPFITTER 2	21A	-	-	15	25	35
YELLOW	YE	UPFITTER 1	21A	-	-	15	25	35

Additional Notes: All recommended wire lengths are for direct feeds only. To compensate for connector and/or switch contact resistance, subtract the following from the recommended wire lengths:

1. Subtract 1 foot per connection for 14 awg or smaller diameter and 3 feet for 12 awg or larger diameter.
2. Subtract 3 feet per switch connection for all wire awgs.

ELECTRICAL WIRING E-SERIES CUSTOMER ACCESS CIRCUITS



BC24-14A411-H CONNECTOR # ENG-1
BLACK CONNECTOR & PIGTAIL ASY
MATES TO CIRCLED BLACK CONNECTOR
(FRONT LAMPS)

9C24-14A411-J CONNECTOR # ENG - 2
BLACK CONNECTOR & PIGTAIL ASY
MATES TO CIRCLED BLACK CONNECTOR
(INTERVAL WIPER/WASHER)

ENG-1 C11-F		RECOMMENDED MAX ALLOWABLE WIRE LENGTH (FEET)						
CIRCUIT COLOR	CODE	DESCRIPTION	CAV	MAX CONTINUOUS LOAD	18 AWG	16 AWG	14 AWG	10 AWG
BLACK-GREY	BK-GY	CLD23 GROUND	8	21A	-	-	-	-
VIOLET-WHITE	VT-WH	CLS30 PARK LAMP	1	See Note E	-	-	-	-
YELLOW-VIOLET	YE-VT	CLF08 HIGH BEAMS	2	10.2A	33	50	85	-
BROWN-BLUE	BN-BU	CLF04 LT LOW BEAM	3	4.3A	33	50	85	-
BLUE-GREEN	BU-GN	CLF05 RT LOW BEAM	7	4.3A	33	50	85	-
BLUE-GREEN	BU-GN	CLS21 LT FRONT TURN	6	2.2A	33	50	85	-
YELLOW-VIOLET	YE-VT	CLS25 RT FRONT TURN	5	2.2A	33	50	85	-

ENG-2 C22-B		RECOMMENDED MAX ALLOWABLE WIRE LENGTH (FEET)						
CIRCUIT COLOR	CODE	DESCRIPTION	CAV	MAX CONTINUOUS LOAD	18 AWG	16 AWG	14 AWG	10 AWG
GREY-BROWN	GY-BN	CRW07 WASHER SIGNAL	4	250 milliamperes**	20	-	-	-
VIOLET-ORANGE	VT-OG	CRW08 WIPER HIGH	6	250 milliamperes**	20	-	-	-
GREEN-VIOLET	GN-VT	CRW17 Intermittent A	5	250 milliamperes**	20	-	-	-
VIOLET-WHITE	VT-WH	CRW18 Intermittent B	2	250 milliamperes**	20	-	-	-
BLUE-ORANGE	BU-OG	CRW19 Intermittent C	10	250 milliamperes**	20	-	-	-
RED	RD	SBB49 RUN-ACC FUSED POWER	1	15A	-	-	30	-
YELLOW	YE	CBP45 RUN-ACC FUSED POWER	3	3A	20	-	-	-
BLACK-BLUE	BK-BU	GD114 GROUND - LOGIC	7	3A	20	-	-	-
BLACK-GREY	BK-GY	GD123 GROUND - WIPER	8	See Note K	-	-	30	-
BLACK-GREY	BK-GY	GD123 GROUND - WASHER	18	See Note K	-	-	30	-
BLUE-WHITE	BU-WH	CLS28 BACK-UP LAMP	9	See Note C	18	21	37	-

NOTE A: COMBINED LOAD < 5A
NOTE B: COMBINED LOAD WITH OTHER SWITCH ILLUMINATION < 2A
NOTE C: COMBINED LOAD WITH TRAILER TOW BACKUP < 10A
NOTE D: COMBINED LOAD < 14A
NOTE E: COMBINED LOAD < 10A
NOTE F: COMBINED LOAD WITH OTHER BATTERY SAVE / DEMAND LAMPS < 6A
NOTE H: COMBINED LOAD < 4.8A
NOTE J: COMBINED LOAD < 4.8A
NOTE K: COMBINED LOAD < 21A
NOTE L: WIRES HAVE LABELS
NOTE M: CONNECTOR VIEWS ARE MATING VIEWS, NOT WIRE ENTRY SIDE

* CCB08 is 18 AWG, CLS30 is 16 AWG

** Max total of < 1A

Additional Note:
All recommended wire lengths are for direct feeds only. To compensate for connector and/or switch contact resistance, subtract the following from the recommended wire lengths:
1. Subtract 1 foot per connection for 14 awg or smaller diameter and 3 feet for 12 awg or larger diameter.
2. Subtract 3 feet per switch connection for all wire awgs.

VIEW OF FRONT END ENGINE COMPARTMENT (LH SIDE)

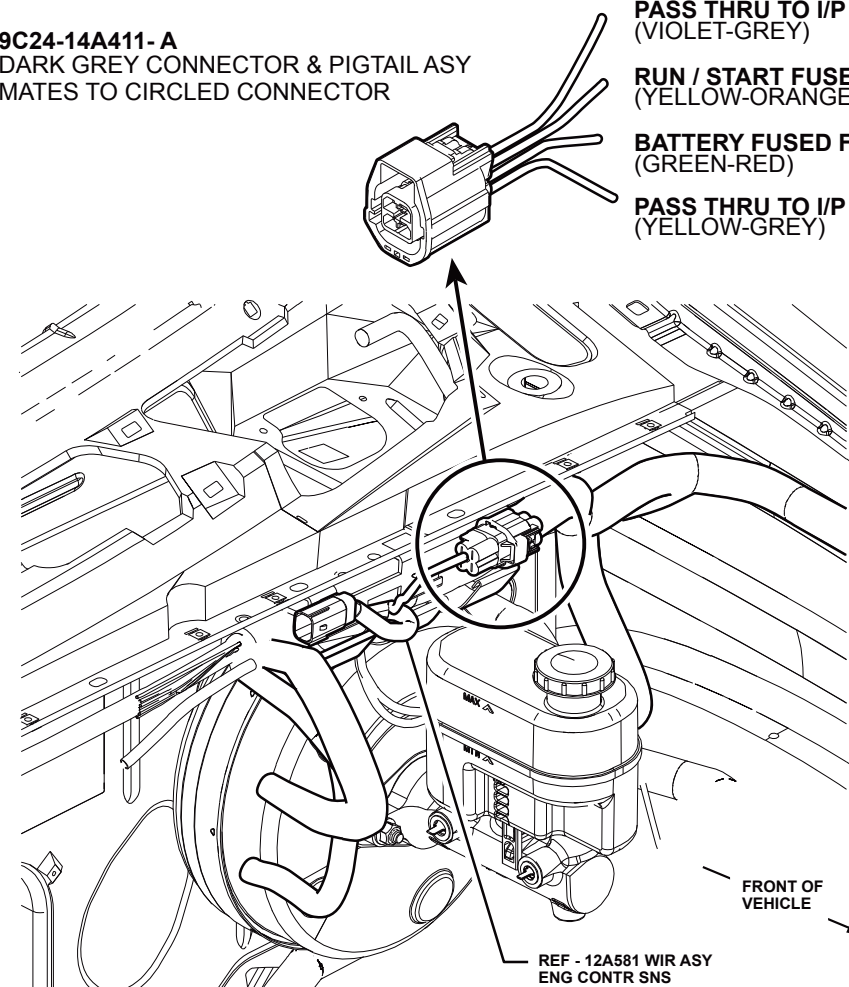
9C24-14A411-A
DARK GREY CONNECTOR & PIGTAIL ASY
MATES TO CIRCLED CONNECTOR

PASS THRU TO I/P
(VIOLET-GREY)

RUN / START FUSED FEED
(YELLOW-ORANGE)

BATTERY FUSED FEED
(GREEN-RED)

PASS THRU TO I/P
(YELLOW-GREY)



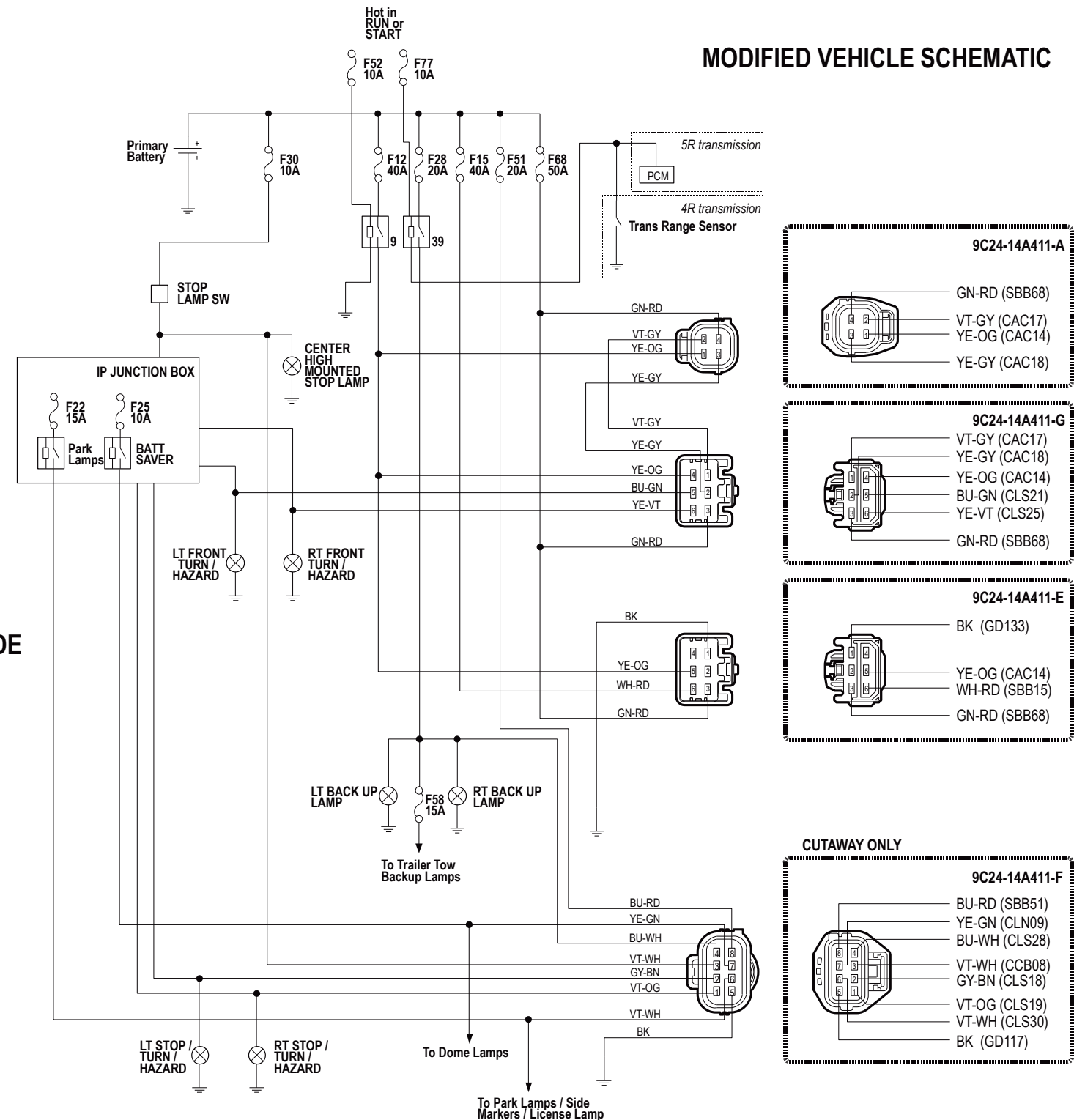
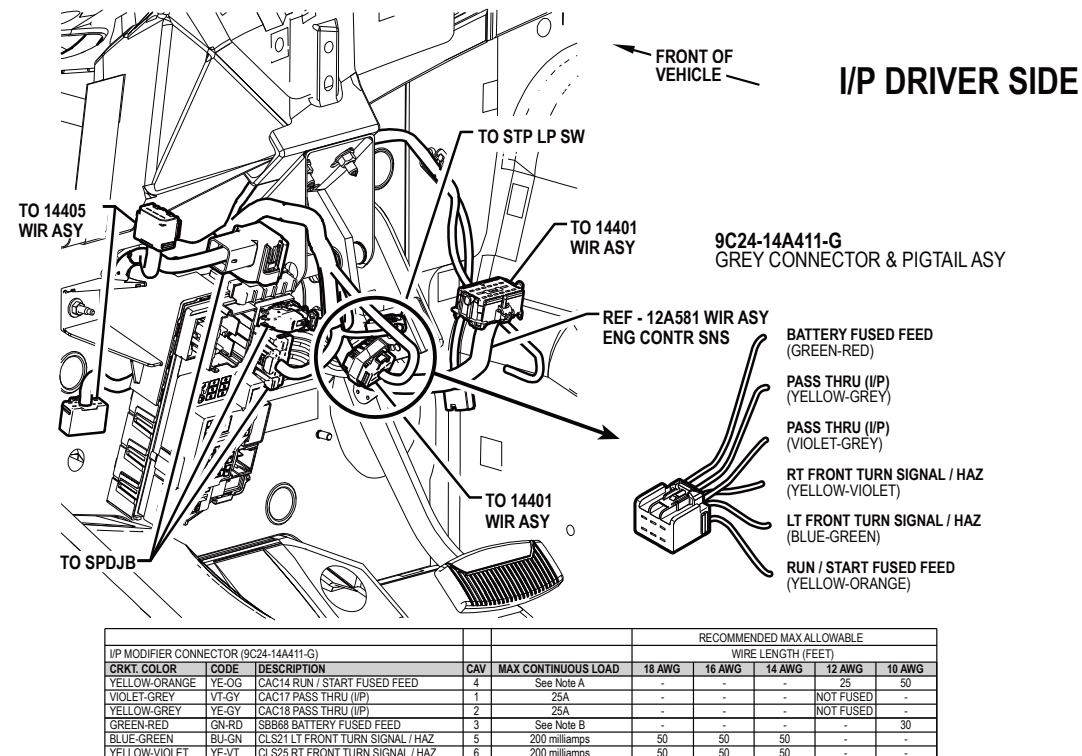
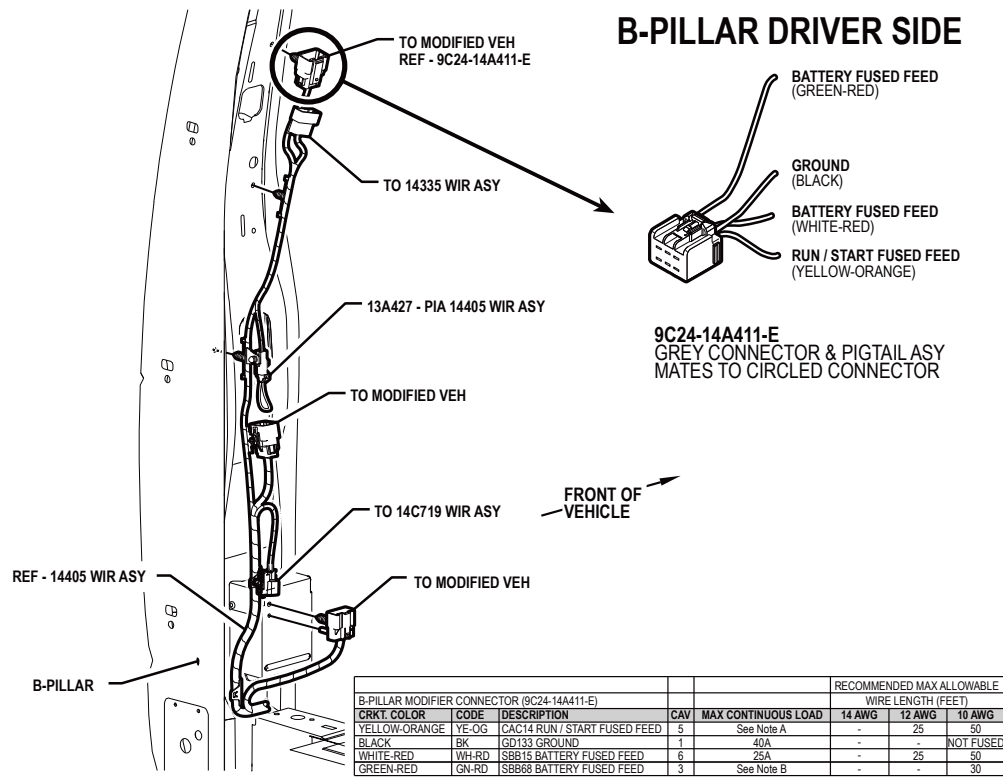
ENGINE MODIFIER CONNECTOR (9C24-14A411-A)				RECOMMENDED MAX ALLOWABLE WIRE LENGTH (FEET)			
CIRCUIT COLOR	CODE	DESCRIPTION	MAX CONTINUOUS LOAD	CAV	14 AWG	12 AWG	10 AWG
YELLOW-ORANGE	YE-OG	CAC14 RUN / START FUSED FEED	See Note A	1	-	28	45
VIOLET-GREY	VT-GY	CAC17 PASS THRU (I/P)	25A	2	-	NOT FUSED	-
YELLOW-GREY	YE-GY	CAC18 PASS THRU (I/P)	25A	3	-	NOT FUSED	-
GREEN-RED	GN-RD	SBB68 BATTERY FUSED FEED	See Note B	4	-	-	30

NOTE A: COMBINED LOAD < 25A
NOTE B: COMBINED LOAD < 35A
NOTE C: COMBINED LOAD WITH TRAILER TOW BACKUP < 10A
NOTE D: COMBINED LOAD < 14A
NOTE E: COMBINED LOAD < 4.8A WITH OTHER LT STOP/TURN CIRCUITS
NOTE F: COMBINED LOAD < 4.8A WITH OTHER RT STOP/TURN CIRCUITS
NOTE G: COMBINED LOAD < 10A WITH OTHER PARK LAMPS
NOTE H: COMBINED LOAD < 6A WITH OTHER BATTERY SAVER/DEMANDS LAMPS CIRCUITS
NOTE J: COMBINED LOAD < 5A WITH OTHER STOP LAMP CIRCUITS

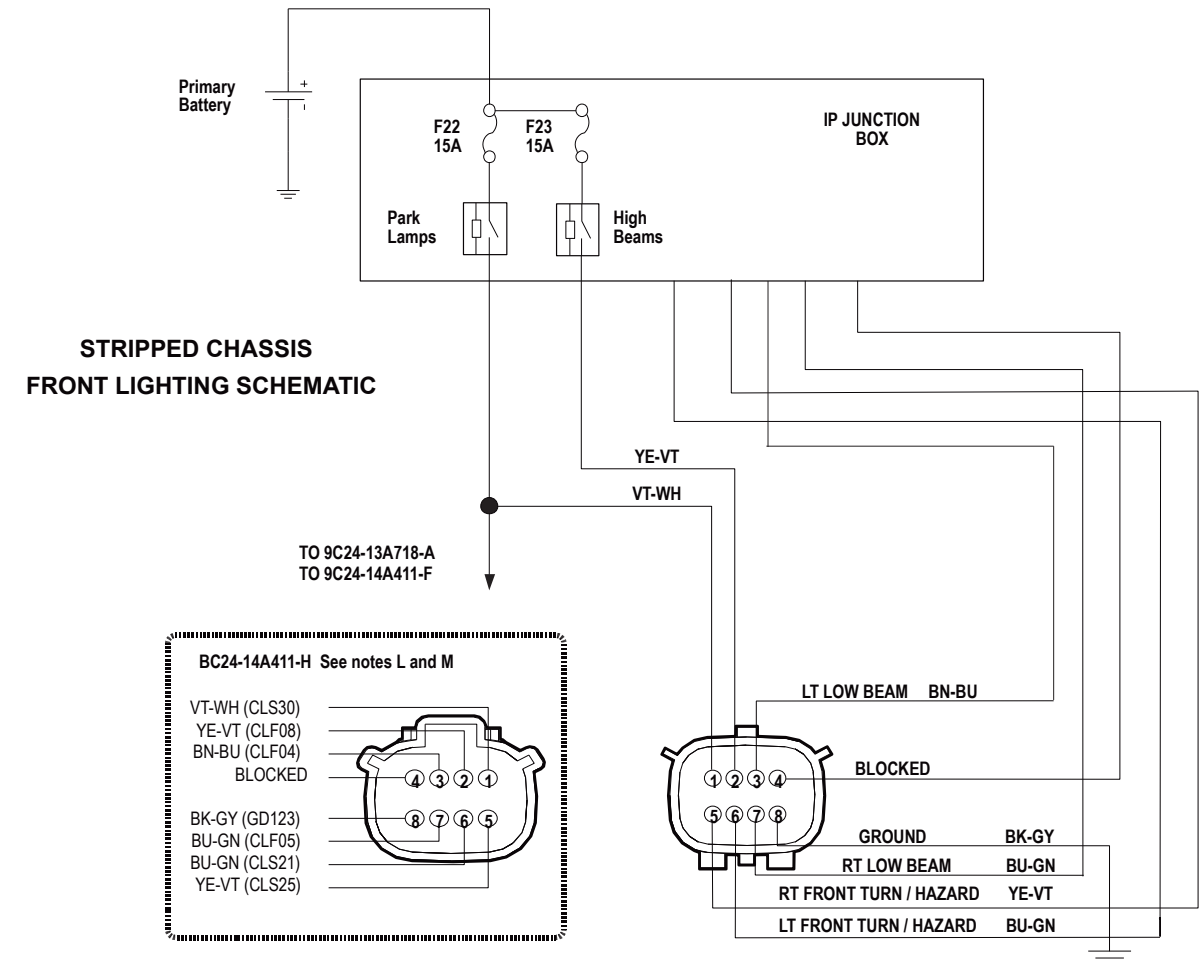
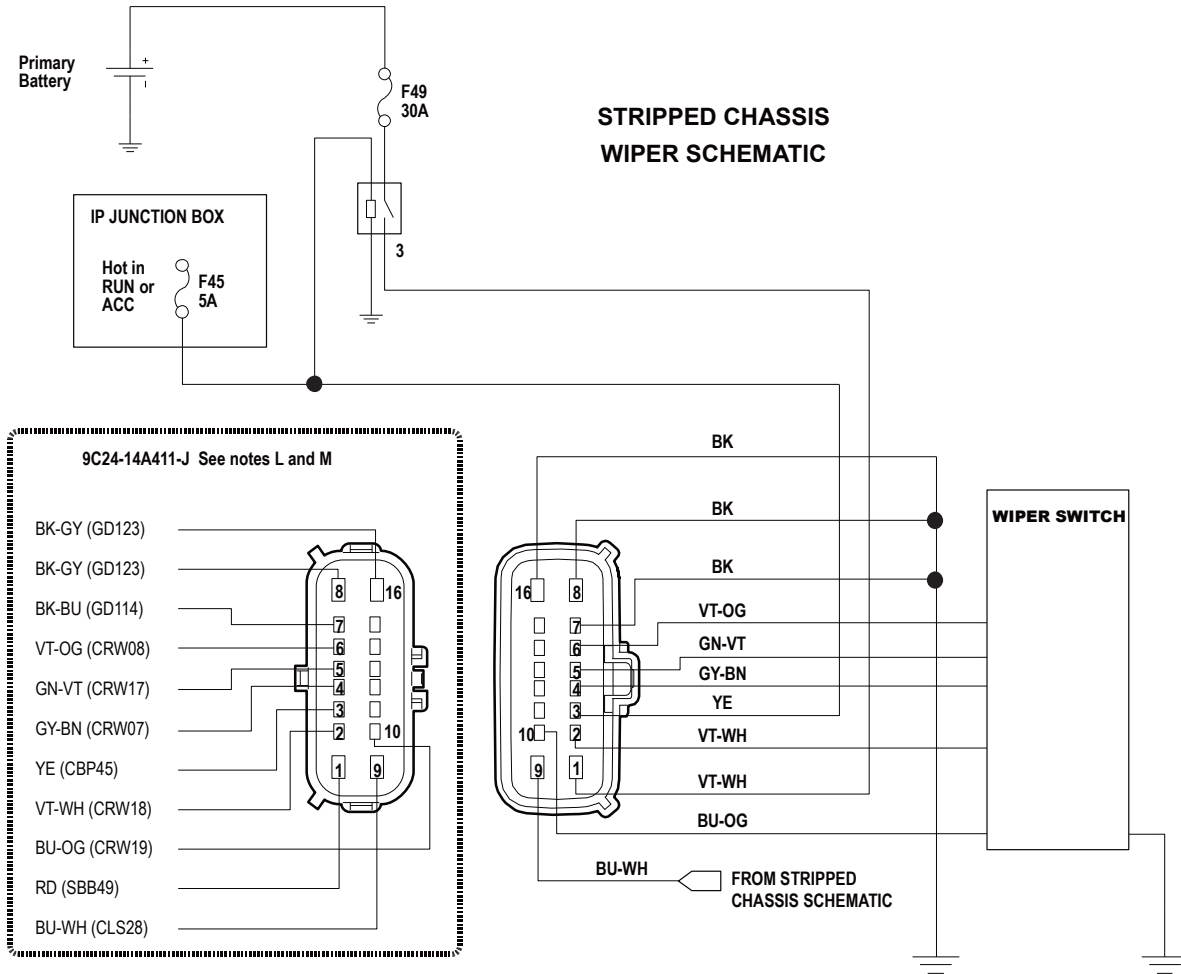
* CCB08 is 18 AWG, CLS30 is 16 AWG

Additional Note:
All recommended wire lengths are for direct feeds only. To compensate for connector and/or switch contact resistance, subtract the following from the recommended wire lengths:
1. Subtract 1 foot per connection for 14 awg or smaller diameter and 3 feet for 12 awg or larger diameter.
2. Subtract 3 feet per switch connection for all wire awgs.

ELECTRICAL WIRING E-SERIES CUSTOMER ACCESS CIRCUITS (Cont'd)

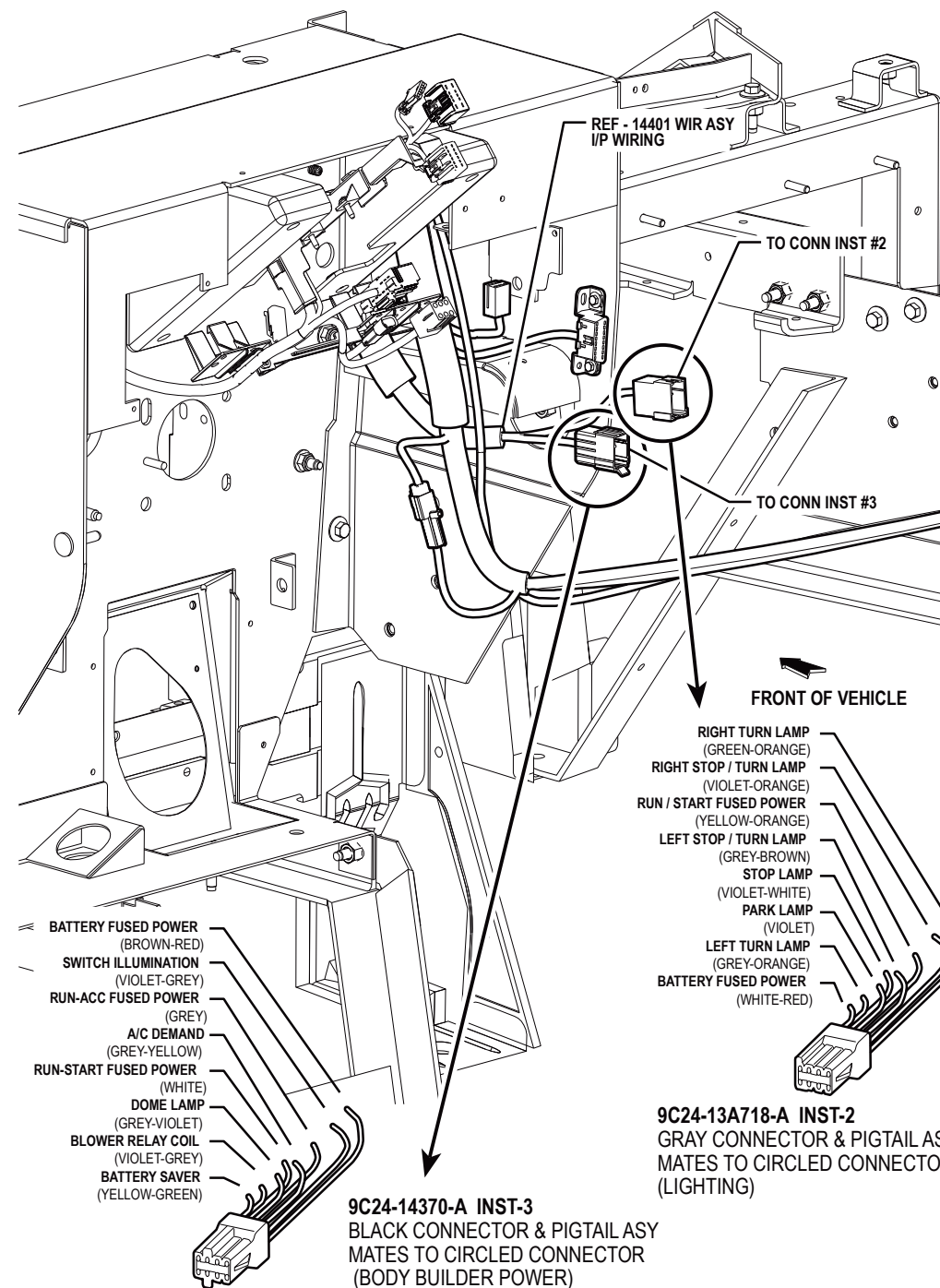
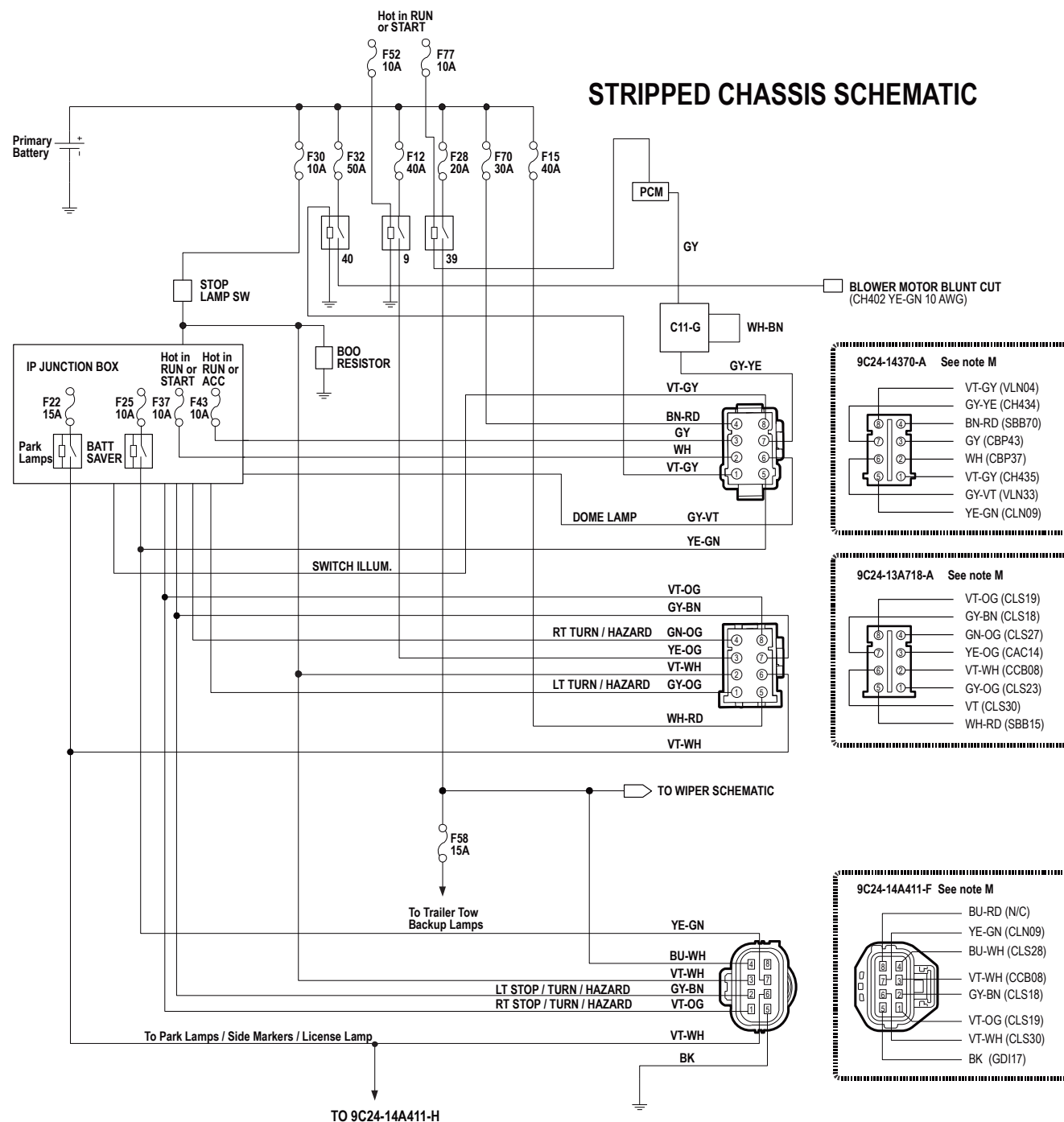


ELECTRICAL WIRING E-SERIES CUSTOMER ACCESS CIRCUITS (Cont'd)



ELECTRICAL WIRING E-SERIES STRIPPED CHASSIS

STRIPPED CHASSIS SCHEMATIC

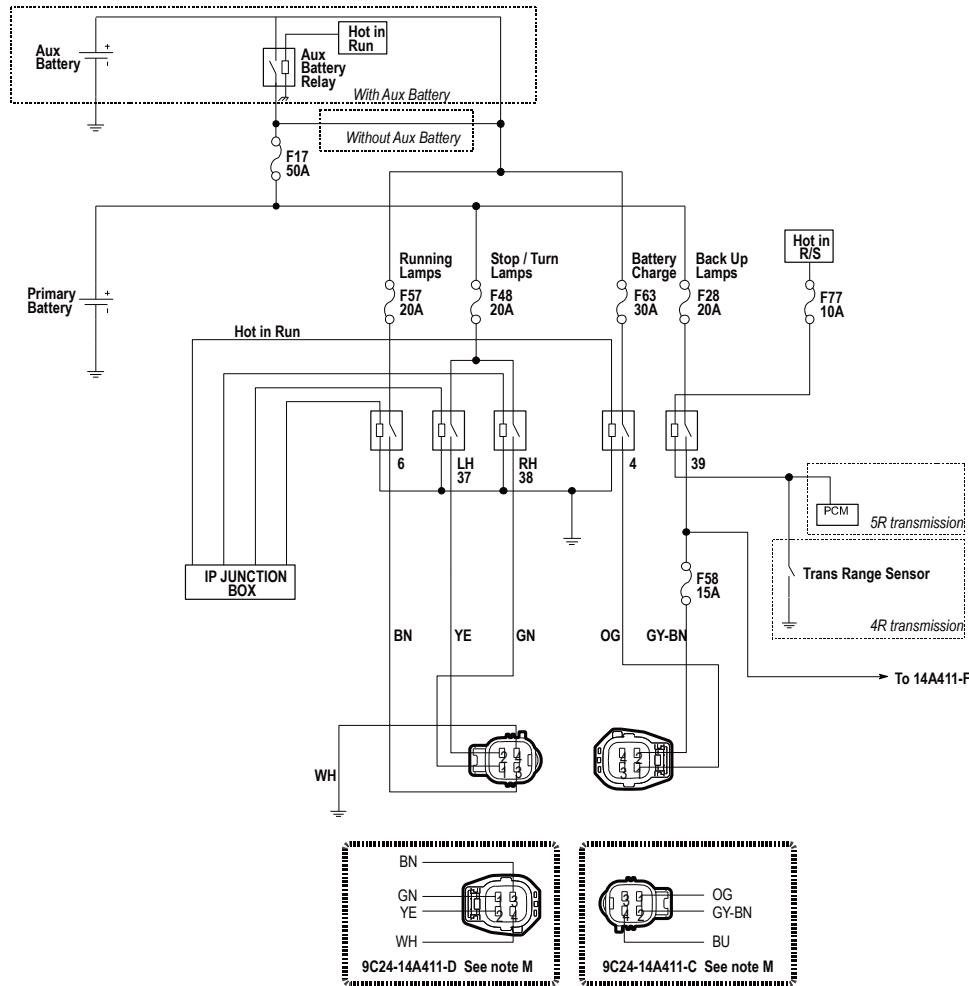


INST-2 C22-C				RECOMMENDED MAX ALLOWABLE WIRE LENGTH (FEET)					
CRKT. COLOR	CODE	DESCRIPTION	CAV	MAX CONTINUOUS LOAD	18 AWG	16 AWG	14 AWG	12 AWG	10 AWG
VIOLET-WHITE	VT-WH	CCB08 STOP LAMP	2	See Note A	33	50	85	-	-
GREY-ORANGE	GY-OG	CLS23 LEFT TURN LAMP	1	2.2A	33	50	85	-	-
GREEN-ORANGE	GN-OG	CLS27 RIGHT TURN LAMP	4	2.2A	33	50	85	-	-
GREY-BROWN	GY-BN	CLS18 LEFT STOP / TURN LAMP	7	See Note H	33	50	85	-	-
VIOLET-ORANGE	VT-OG	CLS19 RIGHT STOP / TURN LAMP	8	See Note J	33	50	85	-	-
YELLOW-ORANGE	YE-OG	CAC14 RUN / START FUSED POWER	3	25A	-	-	-	33	50
WHITE-RED	WH-RD	SBB15 BATTERY FUSED POWER	5	28A	-	-	-	33	50
VIOLET	VT	CLS30 PARK LAMP	6	See Note E	-	50	50	85	-

INST-3 C22-D					RECOMMENDED MAX ALLOWABLE					
IP CONNECTOR (9C24-14370-A)					WIRE LENGTH (FEET)					
CRKT. COLOR	CODE	DESCRIPTION	CAV	MAX CONTINUOUS LOAD	20 AWG	18 AWG	16 AWG	14 AWG	12 AWG	10 AWG
WHITE	WH	CBP37 RUN-START FUSED POWER	2	3A	33	50	85	-	-	-
GREY	GY	CBP43 RUN-ACC FUSED POWER	3	7A	33	50	85	-	-	-
GREY-YELLOW	GY-YE	CH434 A/C DEMAND	7	5A	-	-	NOT FUSED	-	-	-
VIOLET-GREY	VT-GY	CH435 BLOWER RELAY COIL	1	1A	33	50	85	-	-	-
YELLOW-GREEN	YE-GN	CLN09 BATTERY SAVER	5	See Note F	33	50	85	-	-	-
GREY-VIOLET	GY-VT	VLN33 DOME LAMP	6	3A	-	33	50	85	-	-
VIOLET-GREY	VT-GY	VLN04 SWITCH ILLUMINATION	8	See Note B	-	33	50	85	-	-
BROWN-RED	BN-RD	SBB70 BATTERY FUSED POWER	4	21A	-	-	-	33	50	85

ELECTRICAL WIRING

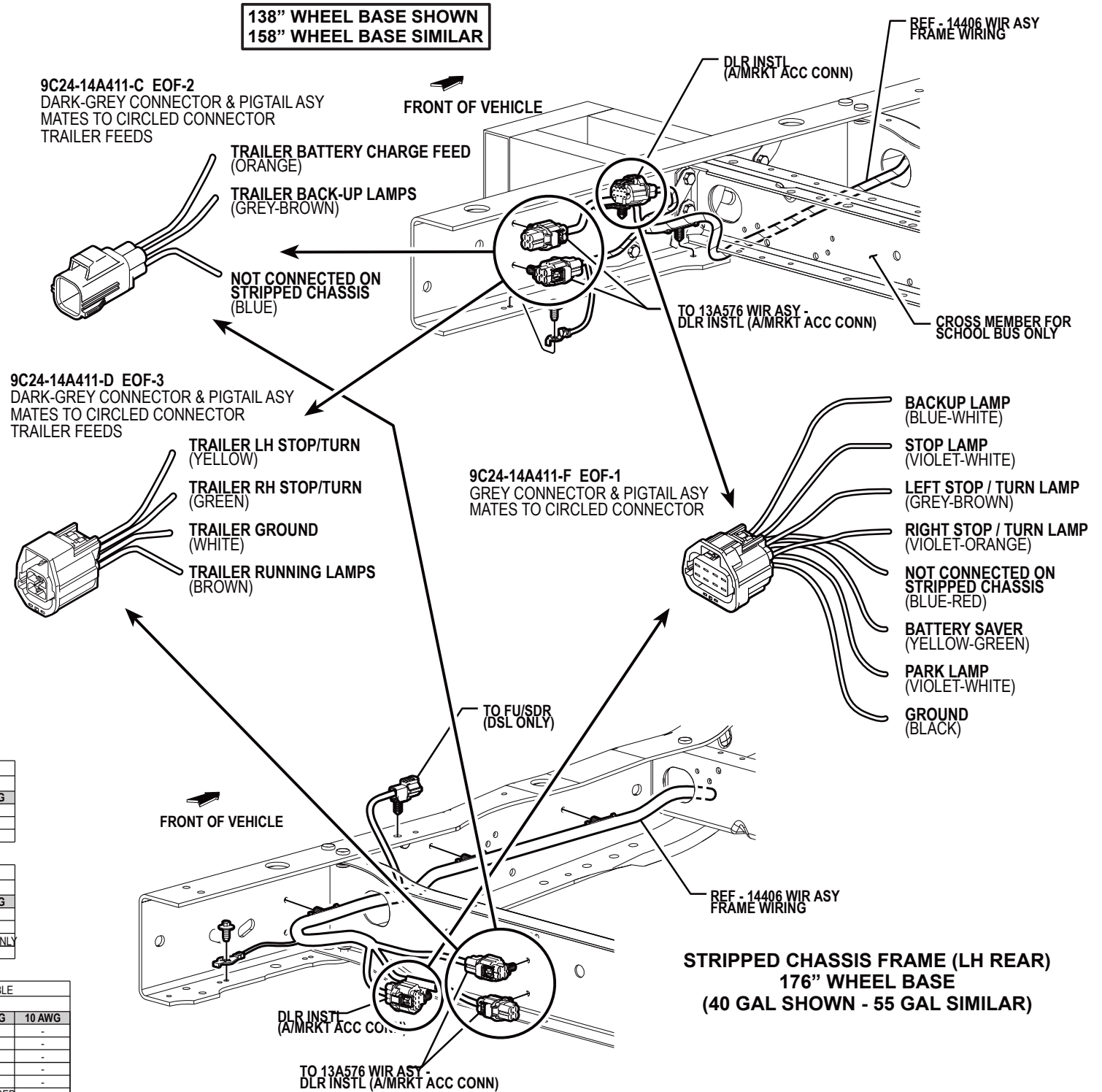
E-SERIES STRIPPED CHASSIS – REAR FRAME



E0F-2	C44-J				RECOMMENDED MAX ALLOWABLE			
FRAME MODIFIER CONNECTOR (9C24-14A411-C)					WIRE LENGTH (FEET)			
CRKT. COLOR	CODE	DESCRIPTION	CAV	MAX CONTINUOUS LOAD	16 AWG	14 AWG	12 AWG	10 AWG
BLUE	BU	NOT CONNECTED ON STRIPPED CHASSIS	4	N/A	-	-	-	-
ORANGE	OG	CAT14 TRAILER BATTERY CHARGE FEED	1	21A	-	-	20	35
GREY-BROWN	GY-BN	CAT03 TRAILER BACK-UP LAMPS	2	See Note C	50	50	50	50

E0F-3 C44-I				RECOMMENDED MAX ALLOWABLE				
FRAME MODIFIER CONNECTOR (9C24-14A411-D)				WIRE LENGTH (FEET)				
CRKT. COLOR	CODE	DESCRIPTION	CAV	MAX CONTINUOUS LOAD	16 AWG	14 AWG	12 AWG	10 AWG
YELLOW	YE	CAT06 TRAILER LH TURN / STOP LAMP	2	See Note D	30	50	50	50
GREEN	GN	CAT09 TRAILER RH TURN / STOP LAMP	1	See Note D	30	50	50	50
WHITE	WH	RAT08 TRAILER GROUND	4	40A	-	-	-	10 GA ONL
BROWN	BN	CAT17 TRAILER RUN LAMPS	3	14A	-	50	50	50

E0F-1 C44-H				RECOMMENDED MAX ALLOWABLE					
FRAME CONNECTOR (9C24-14A411-F)					WIRE LENGTH (FEET)				
CRKT. COLOR	CODE	DESCRIPTION	CAV	MAX CONTINUOUS LOAD	18 AWG	16 AWG	14 AWG	12 AWG	10 AWG
VIOLET-WHITE	VT-WH*	CCB08 STOP LAMP	3	See Note A	25	40	70	-	-
YELLOW-GREEN	YE-GN	CLN09 BATTERY SAVER	4	See Note F	40	55	90	-	-
GREY-BROWN	GY-BN	CLS18 LEFT STOP / TURN LAMP	2	See Note H	18	21	37	-	-
VIOLET-ORANGE	VT-OG	CLS19 RIGHT STOP / TURN LAMP	1	See Note J	18	21	37	-	-
BLUE-WHITE	BU-WH	CLS28 BACKUP LAMP	4	See Note C	18	21	37	55	-
BLACK	BK	GD117 GROUND	5	25A	-	-	-	NOT FUSED	-
VIOLET-WHITE	VT-WH*	CLS30 PARK LAMP	6	See Note E	-	50	85	-	-
BLUE-RED	BL-RD	NOT CONNECTED ON STRIPPED CHASSIS	8	N/A	-	-	-	-	-



**STRIPPED CHASSIS FRAME (LH REAR)
176" WHEEL BASE
(40 GAL SHOWN - 55 GAL SIMILAR)**

ELECTRICAL WIRING E-SERIES TRAILER TOW WIRING

FRAME (LH REAR) CUT-AWAY & STRIPPED CHASSIS 138" WHEEL BASE SHOWN 158" WHEEL BASE SIMILAR

9C24-14A411-C
BLACK CONNECTOR & PIGTAIL ASY
MATES TO CIRCLED CONNECTOR
TRAILER FEEDS

TRAILER BATTERY CHARGE FEED
(ORANGE)
TRAILER BACK-UP LAMPS
(GREY-BROWN)
TRAILER ELECTRIC BRAKE
(BLUE)

FRONT OF
VEHICLE

DLR INSTL
(A/MRKT ACC CONN)

REF - 14406 WIR ASY
FRAME WIRING

TO 13A576 WIR ASY -
DLR INSTL (A/MRKT ACC CONN)

CROSS MEMBER FOR
SCHOOL BUS ONLY

9C24-14A411-D
DARK GREY CONNECTOR & PIGTAIL
ASY MATES TO CIRCLED CONNECTOR
TRAILER FEEDS

TRAILER LH STOP/TURN
(YELLOW)
TRAILER RH STOP/TURN
(GREEN)
TRAILER GROUND
(WHITE)
TRAILER RUNNING LAMPS
(BROWN)

9C24-14A411-F
GREY CONNECTOR & PIGTAIL ASY
MATES TO CIRCLED CONNECTOR

BACKUP LAMP
(BLUE-WHITE)
STOP LAMP
(VIOLET-WHITE)
LEFT STOP / TURN LAMP
(GREY-BROWN)
RIGHT STOP / TURN LAMP
(VIOLET-ORANGE)
BATTERY FUSED POWER
(BLUE-RED)
BATTERY SAVER
(YELLOW-GREEN)
PARK LAMP
(VIOLET-WHITE)
GROUND
(BLACK)

TO FU/SDR
(DSL ONLY)

FRAME (LH REAR) CUT-AWAY & STRIPPED CHASSIS 176" WHEEL BASE (40 GAL SHOWN - 55 GAL SIMILAR)

DLR INSTL
(A/MRKT ACC CONN)

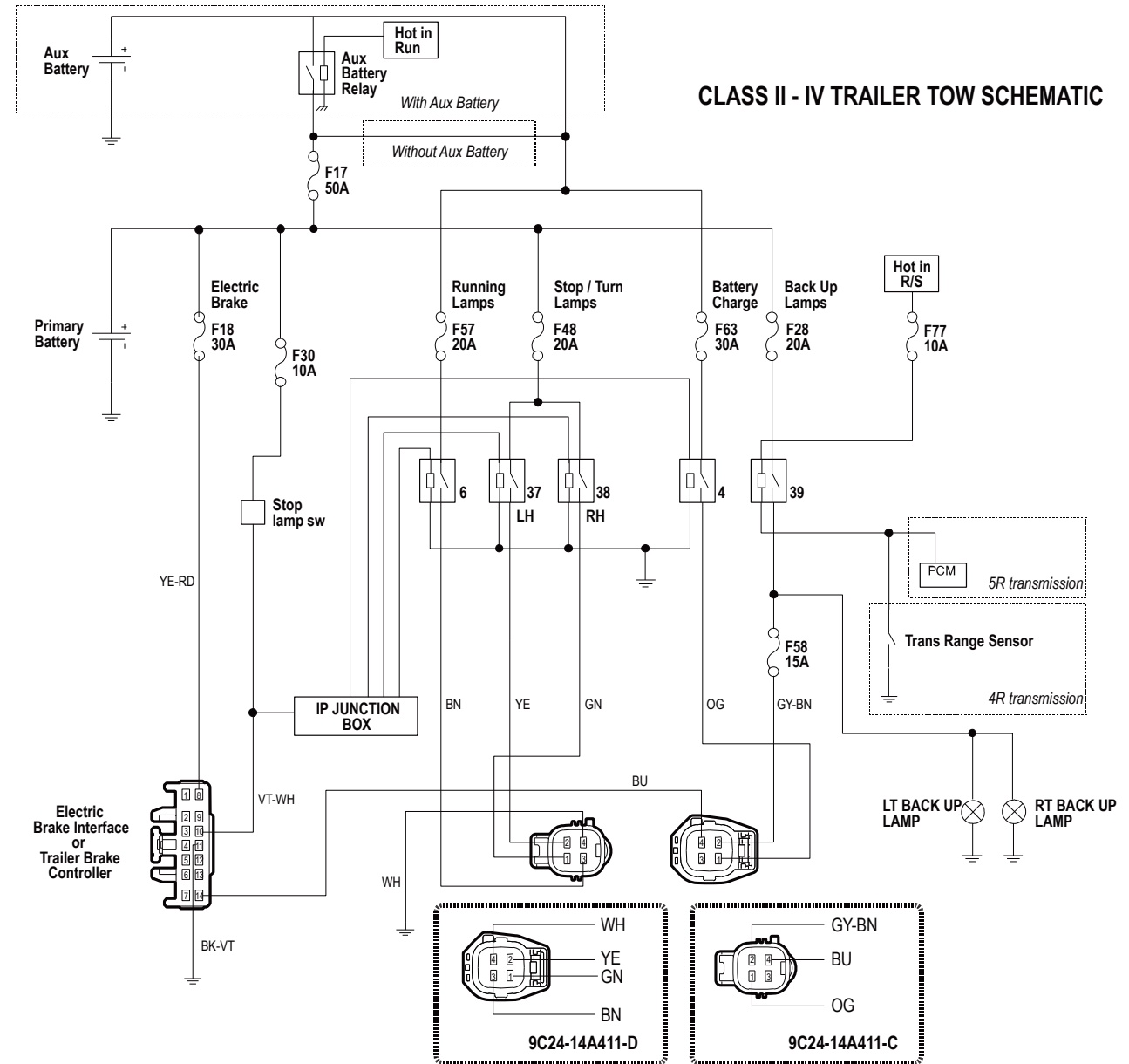
REF - 14406 WIR ASY
FRAME WIRING

TO 13A576 WIR ASY -
DLR INSTL (A/MRKT ACC CONN)

FRAME MODIFIER CONNECTOR (9C24-14A411-C)				RECOMMENDED MAX ALLOWABLE WIRE LENGTH (FEET)				
CRKT. COLOR	CODE	DESCRIPTION	CAV	MAX CONTINUOUS LOAD	16 AWG	14 AWG	12 AWG	10 AWG
BLUE	BU	CAT19 TRAILER ELECTRIC BRAKE	4	21A	-	-	50	50
ORANGE	OG	CAT14 TRAILER BATTERY CHARGE FEED	2	21A	-	-	20	35
GREY-BROWN	GY-BN	CAT03 TRAILER BACK-UP LAMPS	1	See Note C	50	50	50	50

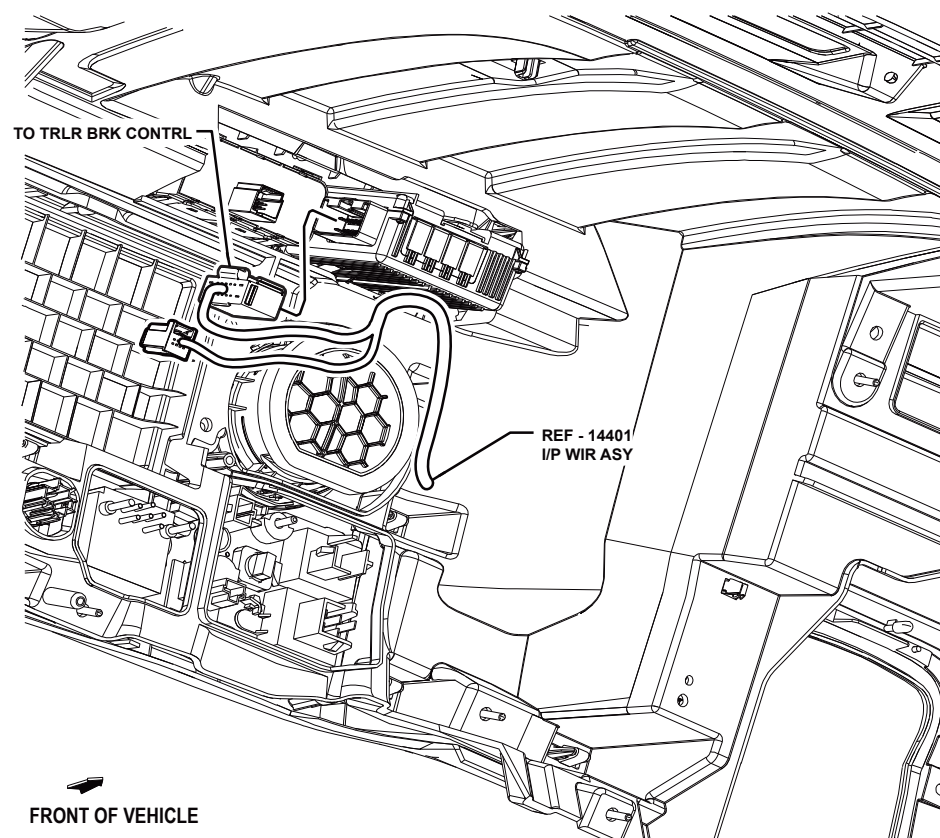
FRAME MODIFIER CONNECTOR (9C24-14A411-D)				RECOMMENDED MAX ALLOWABLE WIRE LENGTH (FEET)				
CRKT. COLOR	CODE	DESCRIPTION	CAV	MAX CONTINUOUS LOAD	16 AWG	14 AWG	12 AWG	10 AWG
YELLOW	YE	CAT06 TRAILER LH TURN / STOP LAMP	2	See Note D	30	50	50	50
GREEN	GN	CAT09 TRAILER RH TURN / STOP LAMP	1	See Note D	30	50	50	50
WHITE	WH	RAT08 TRAILER GROUND	4	40A	-	-	10 GA ONLY	-
BROWN	BN	CAT17 TRAILER RUNNING LAMPS	3	14A	-	50	50	50

FRAME MODIFIER CONNECTOR (9C24-14A411-F)				RECOMMENDED MAX ALLOWABLE WIRE LENGTH (FEET)				
CRKT. COLOR	CODE	DESCRIPTION	CAV	MAX CONTINUOUS LOAD	16 AWG	14 AWG	12 AWG	10 AWG
VIOLET-WHITE	VT-WH	CCB08 STOP LAMP	3	See Note J	25	40	70	-
YELLOW-GREEN	YE-GN	CLN09 BATTERY SAVER	7	See Note H	40	55	90	-
GREY-BROWN	GY-BN	CLS18 LEFT STOP / TURN LAMP	2	See Note E	18	21	37	-
VIOLET-ORANGE	VT-OG	CLS19 RIGHT STOP / TURN LAMP	1	See Note F	18	21	37	-
BLUE-WHITE	BU-WH	CLS28 BACKUP LAMP	4	See Note C	18	21	37	55
BLACK	BK	GD117 GROUND	5	25A	-	-	-	NOT FUSED
BLUE-RED	BU-RD	SBB51 BATTERY FUSED POWER	8	14A	-	10	15	22
VIOLET-WHITE	VT-WH	CLS30 PARK LAMP	6	See Note G	-	50	85	-

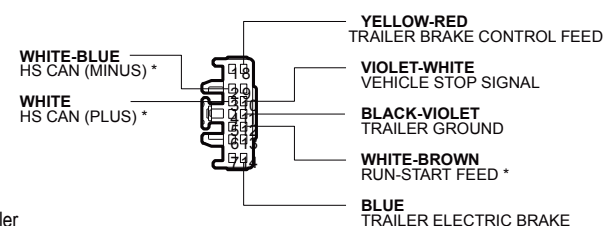


ELECTRICAL WIRING E-SERIES TRAILER TOW WIRING (Cont'd)

E-SERIES ELECTRIC BRAKE CONTROL



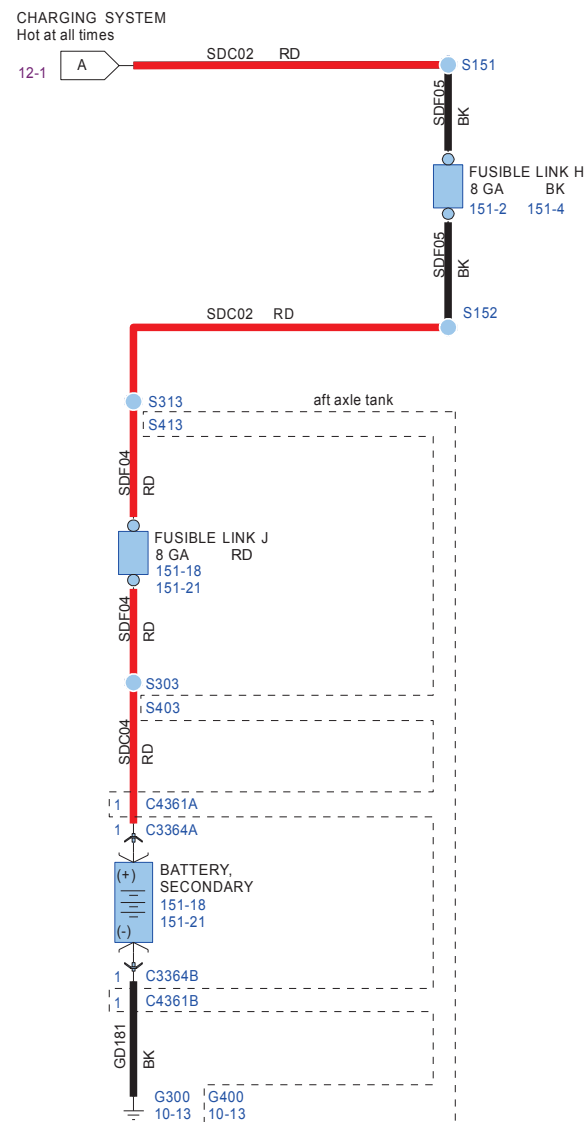
VEHICLE SIDE		
ELECTRONIC BRAKE CIRCUITS		
CRKT. COLOR	CODE	DESCRIPTION
BLUE	BU	TRAILER ELECTRIC BRAKE
YELLOW-RED	YE-RD	TRAILER BRAKE CONTROL FEED
VIOLET-WHITE	VT-WH	VEHICLE STOP SIGNAL
BLACK-VIOLET	BK-VT	TRAILER GROUND
WHITE-BLUE	WH-BU	HS CAN (PLUS) *
WHITE	WH	HS CAN (MINUS) *
WHITE-BROWN	WH-BN	RUN - START FEED *

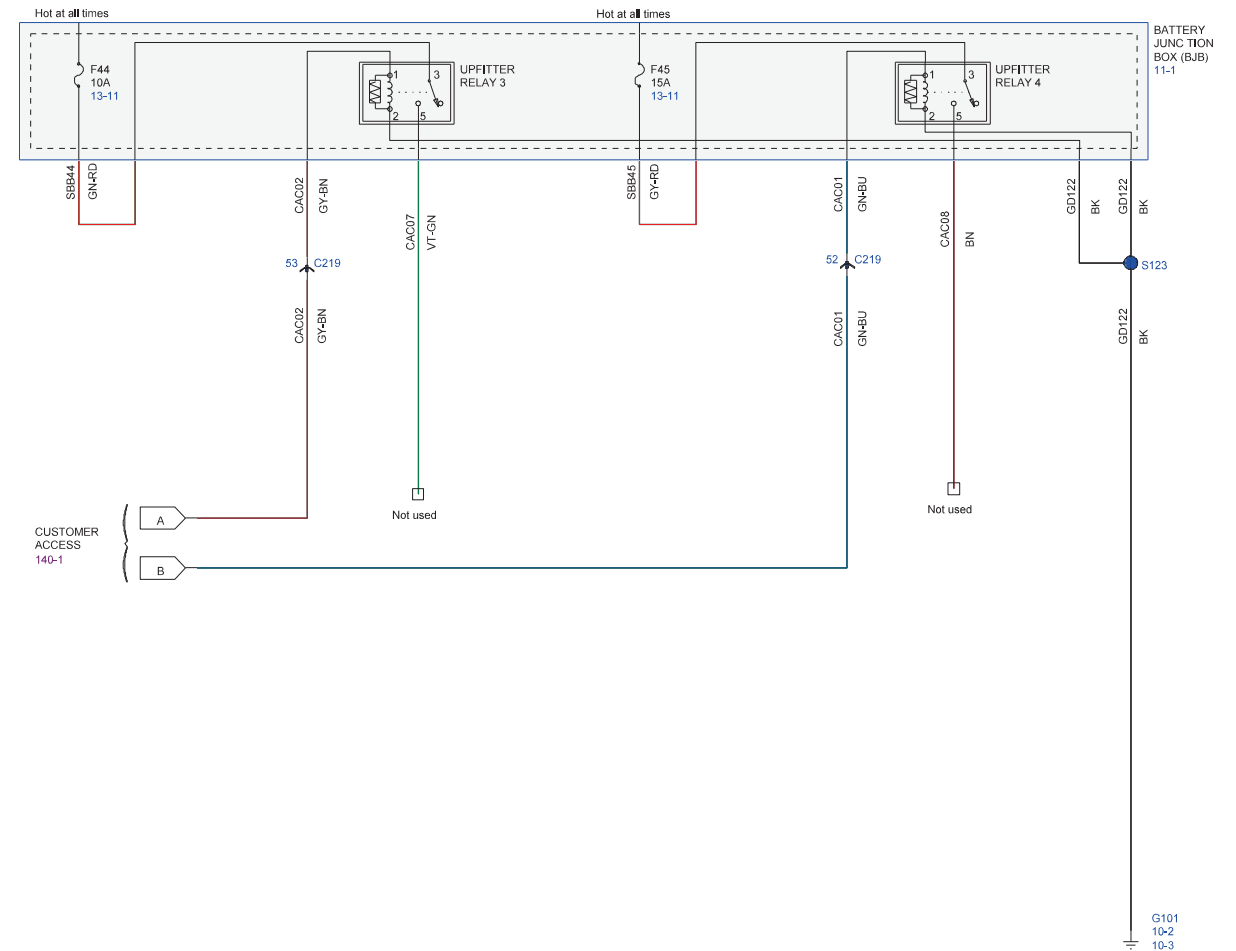
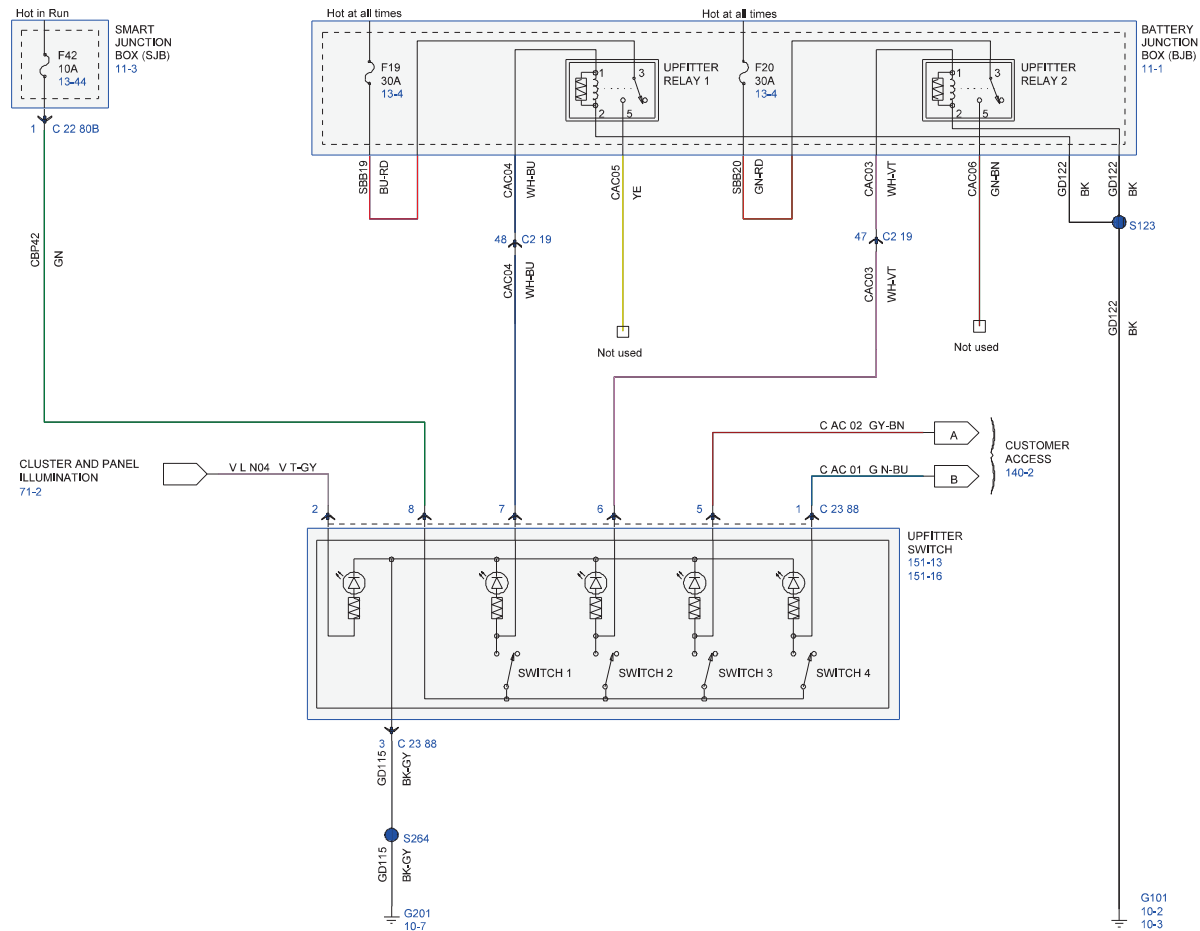


* Only for use with factory installed Trailer Brake Controller



ELECTRICAL WIRING E-SERIES DUAL BATTERY SCHEMATICS (Cont'd)

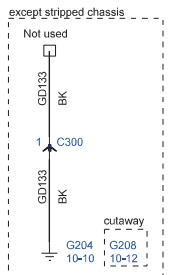
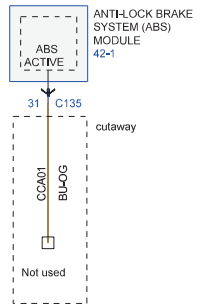
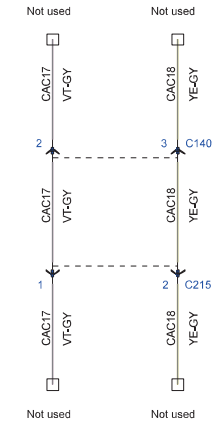
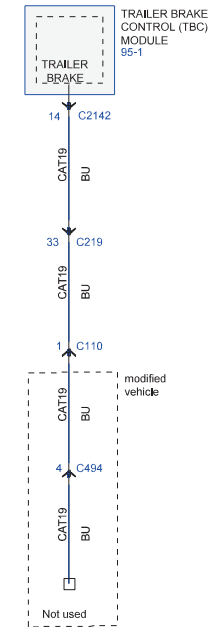
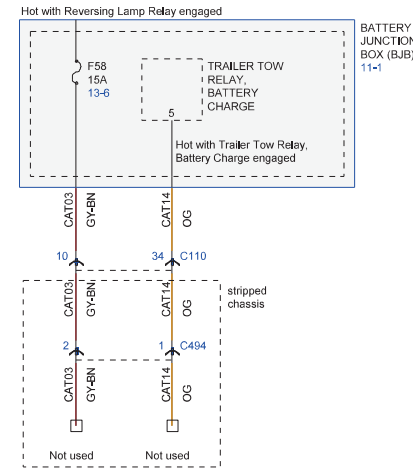
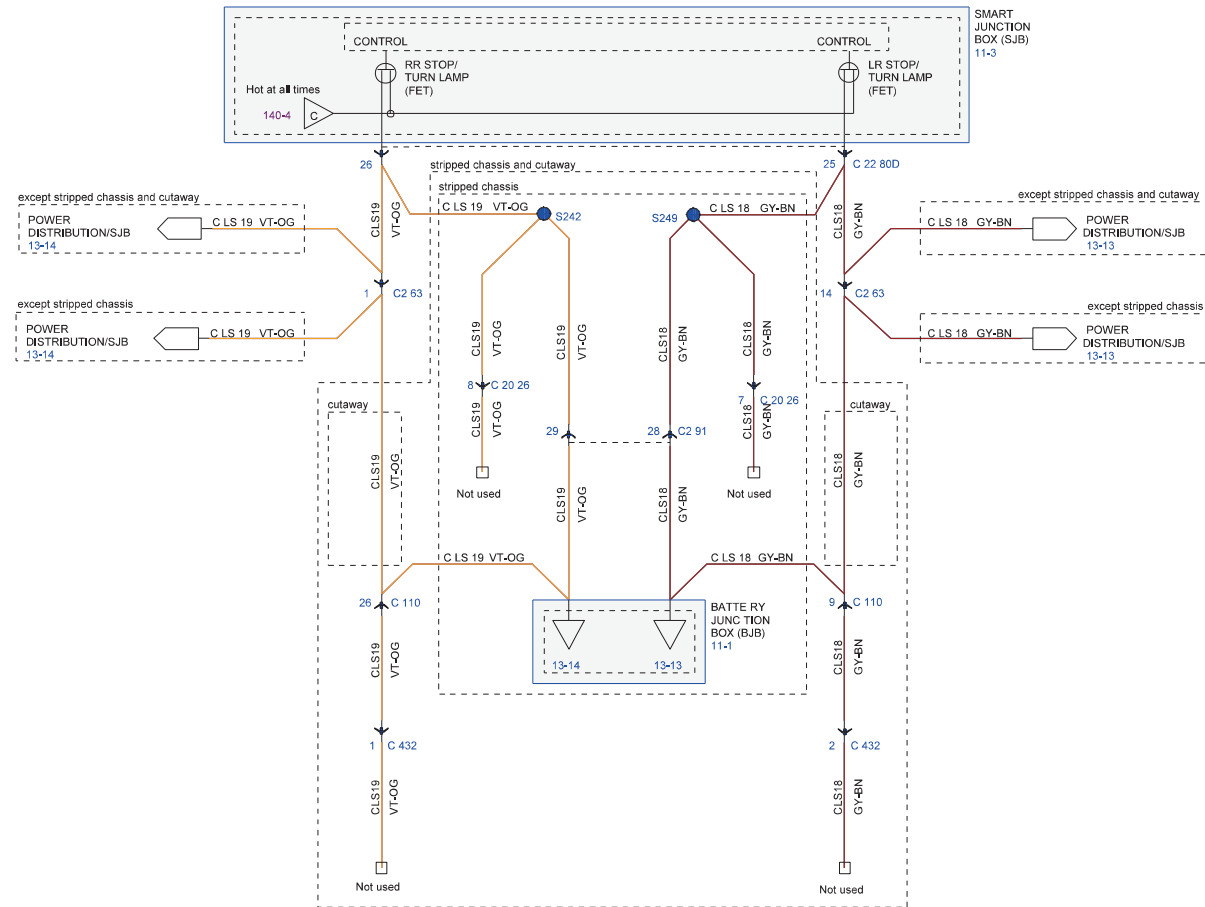








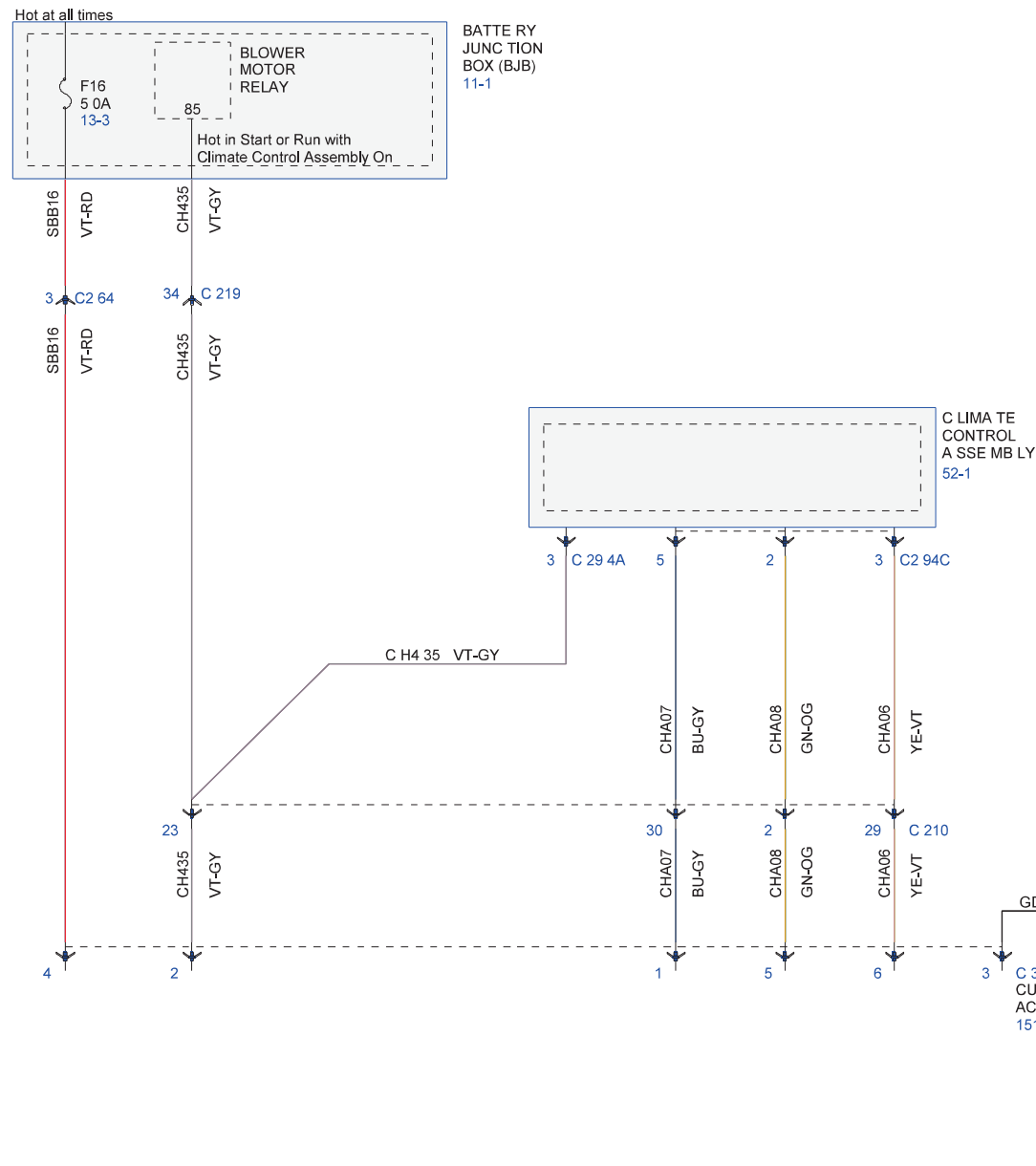
ELECTRICAL WIRING E-SERIES CUSTOMER ACCESS SCHEMATICS (Cont'd)



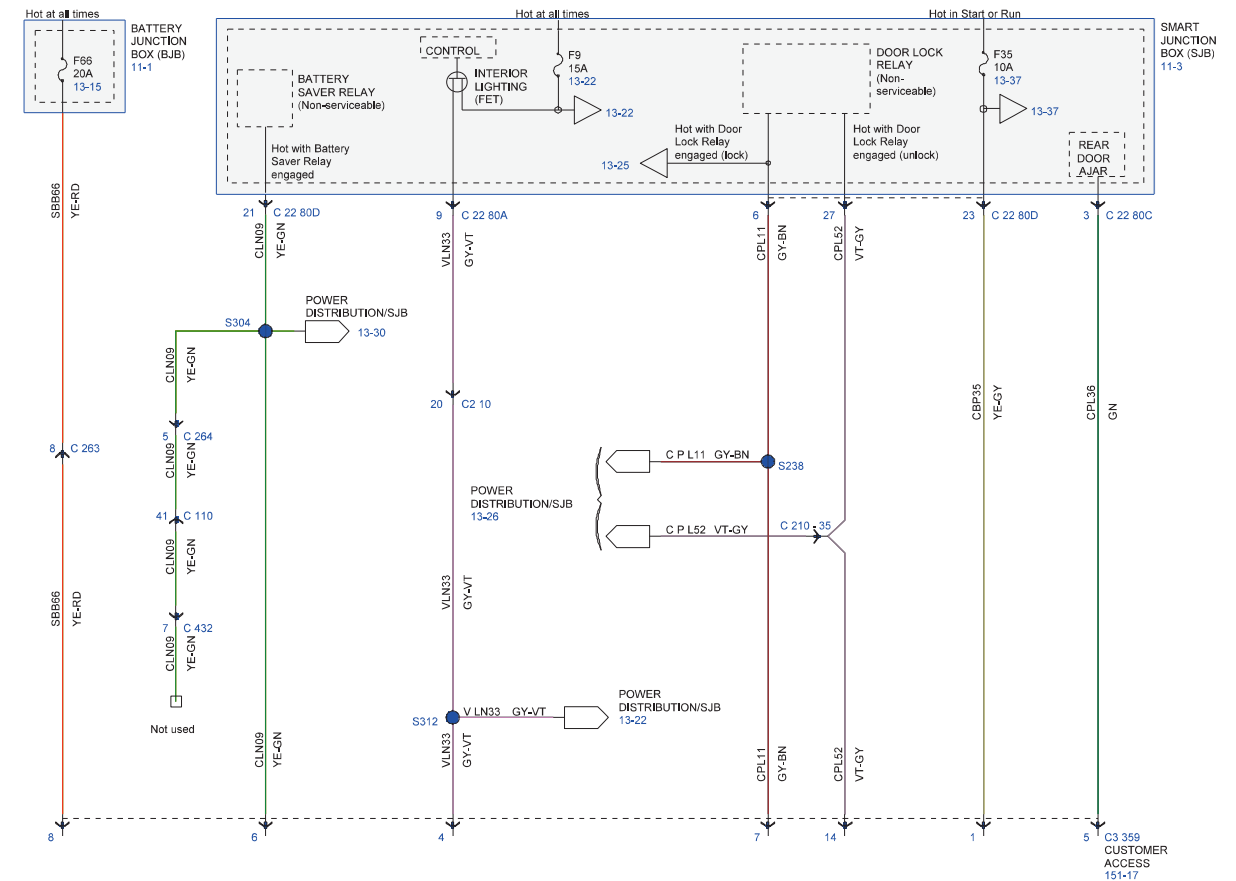
ELECTRICAL WIRING

E-SERIES CUSTOMER ACCESS SCHEMATICS (Cont'd)

CUTAWAY



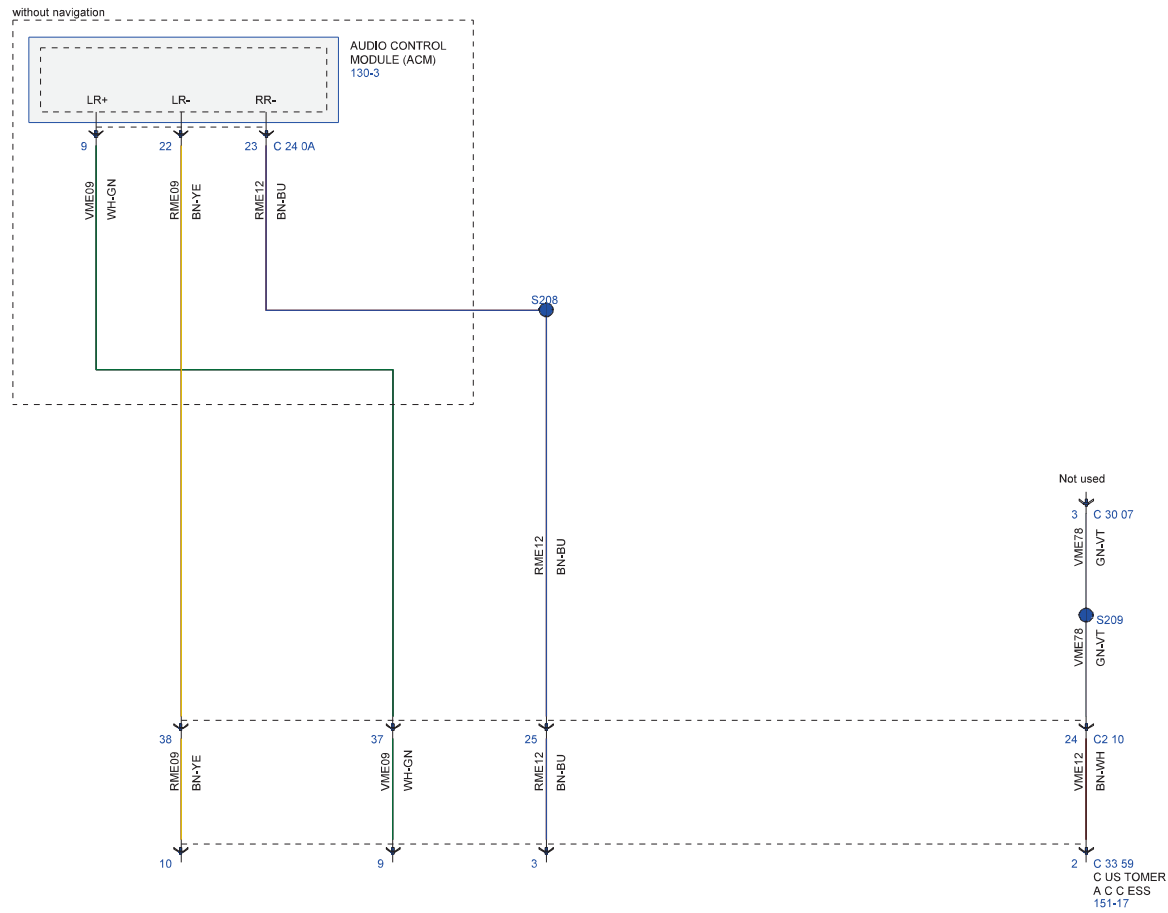
CUTAWAY



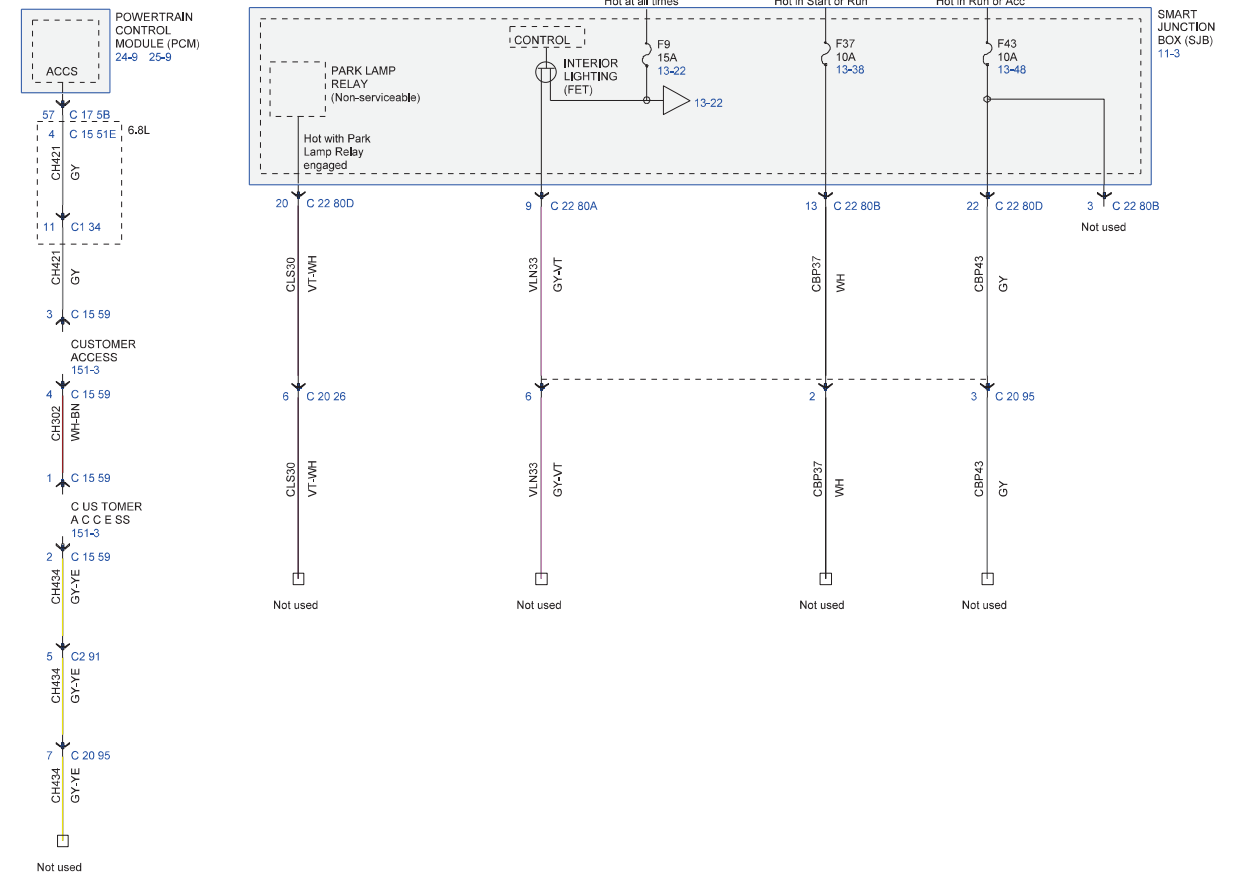
ELECTRICAL WIRING

E-SERIES CUSTOMER ACCESS SCHEMATICS (Cont'd)

CUTAWAY



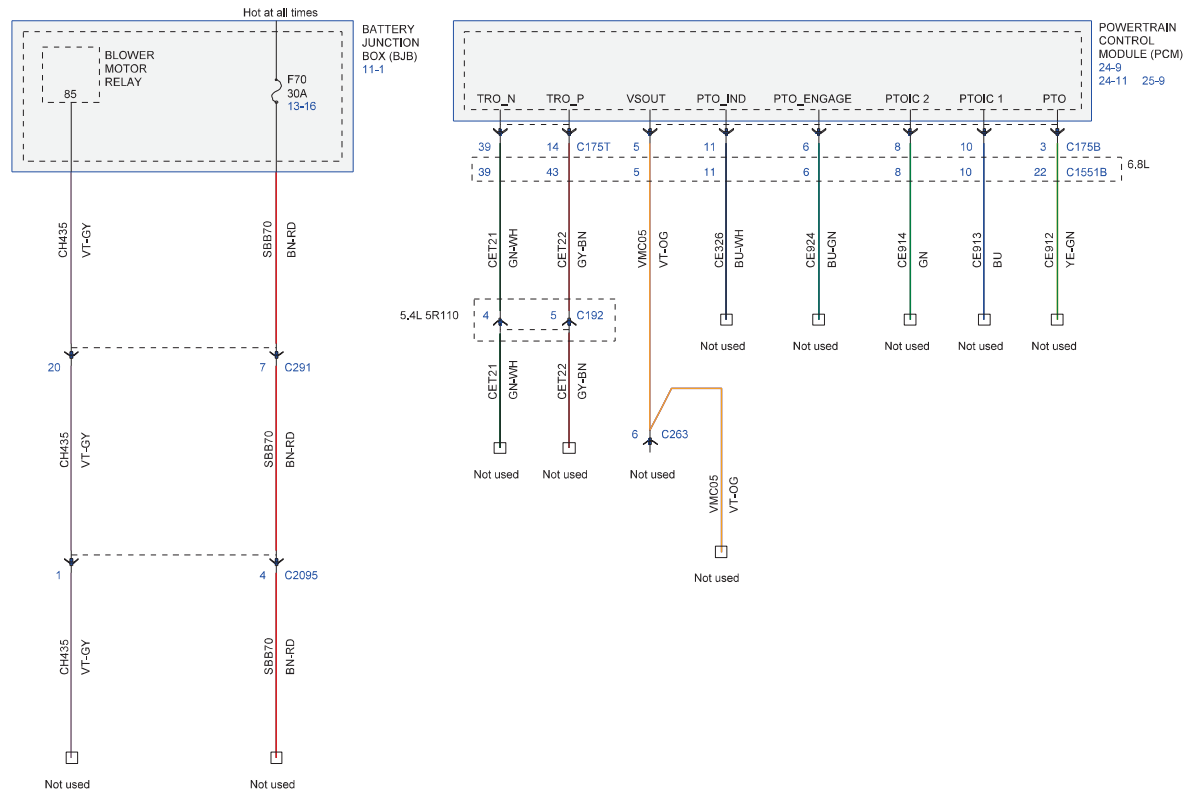
STRIPPED CHASSIS





ELECTRICAL WIRING E-SERIES CUSTOMER ACCESS SCHEMATICS (Cont'd)

STRIPPED CHASSIS



STRIPPED CHASSIS

