

Introduction / Comments:

Install Instructions - Ford Ranger

Note:

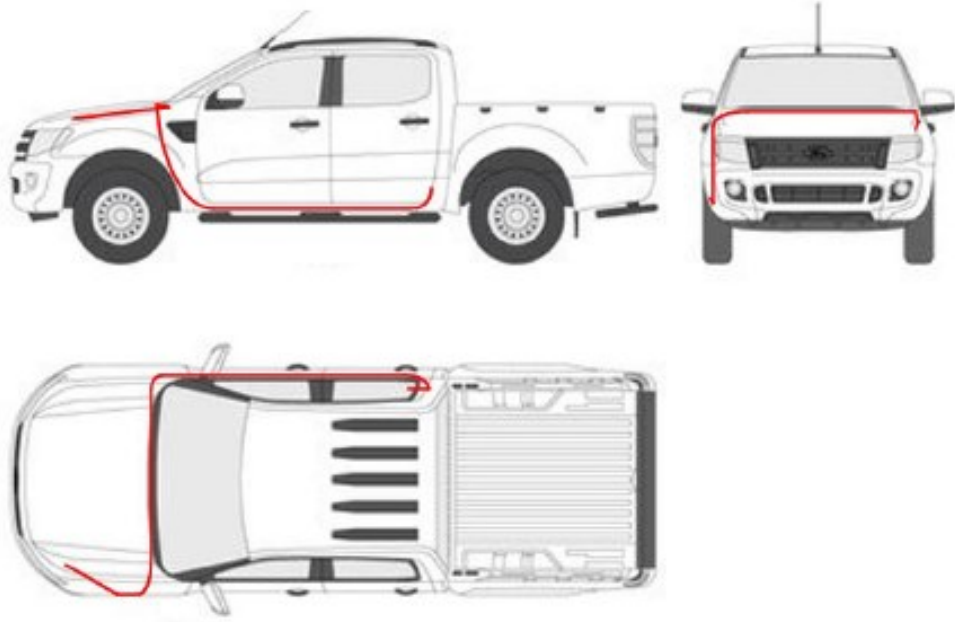
Read all instructions prior to installation. Review the Adrian Steel **GENERAL PRECAUTIONS PAGES (56638)** before attempting installation. Only personnel familiar with using electrical best practices should perform this install. Reference **ELECTRICAL BEST PRACTICES MANUAL (54479)** before trying installation.



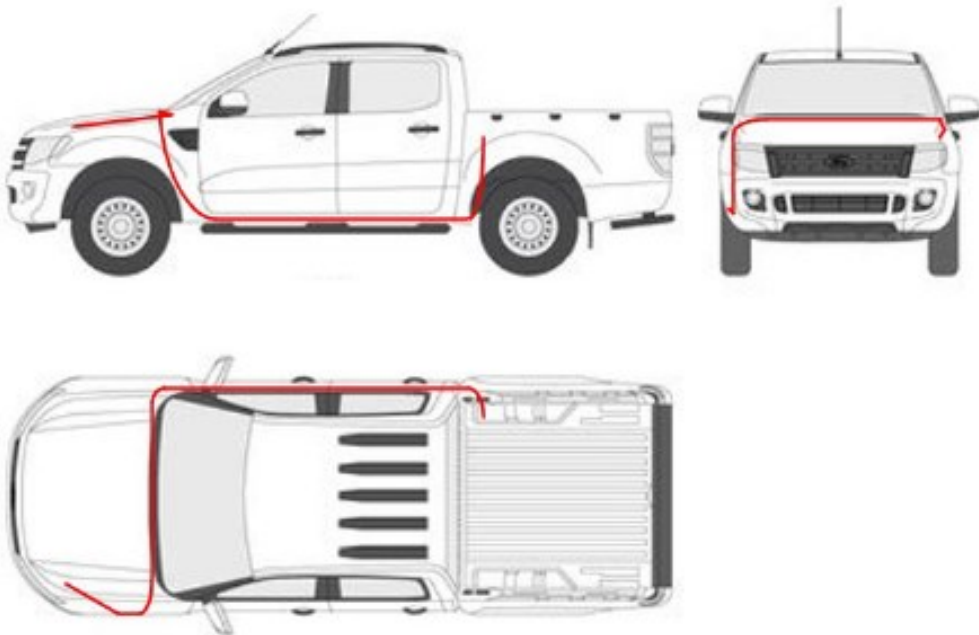
Inverter Installation

Ford Ranger

Cab Mounted:



Bed Mounted:



Review Order Drawing for Inverter placement.

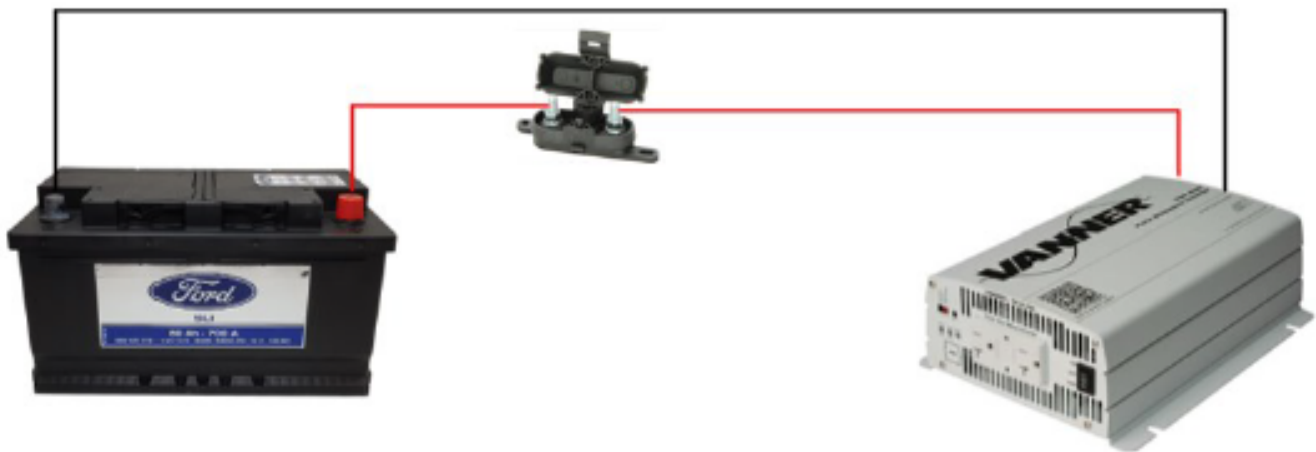
Disconnect the negative battery cable before beginning work

General Routing & Sub-Assembly: Pages 4 - 7.

Cab Mounted Installation (for kit 71992): Pages 8 - 9.

Bed Mounted Installation (for kit 71994): Page 10- 11.

Switch & Timer: Pages 12-14



- Locate the fuseholder, fuseholder bracket, and the following fasteners:

(2) FAS0025

(2) FAS0029

(2) FAS0641

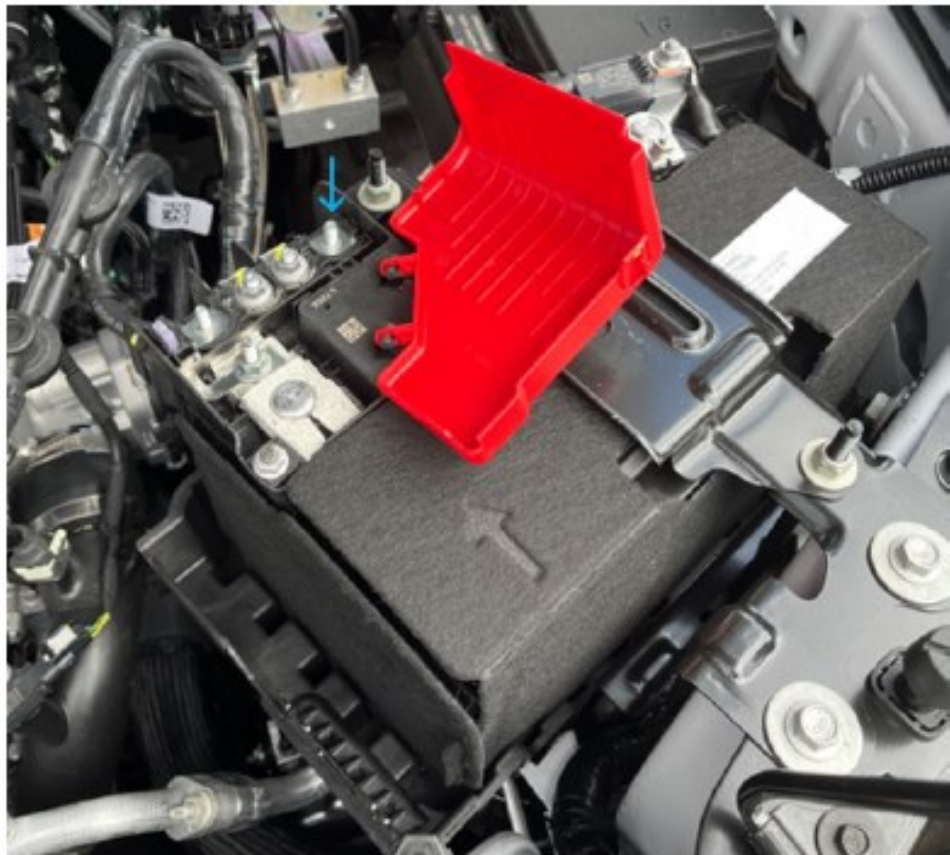
- Mount the fuseholder to the bracket using FAS0025 & FAS0029.

- Mount the bracket in the location shown below, using FAS0641. Fasteners should pass through the sheet metal, not the rubber seal.



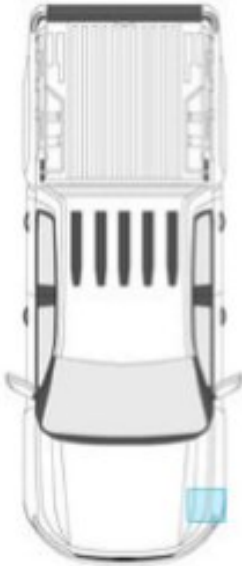
□ Locate the short red cable. Install onto the 5/16" stud shown below. Route the other end to the fuse-holder and secure.

DO NOT INSTALL THE FUSE AT THIS TIME.



• Notch the cover to allow it to close w/ the cable passing through.

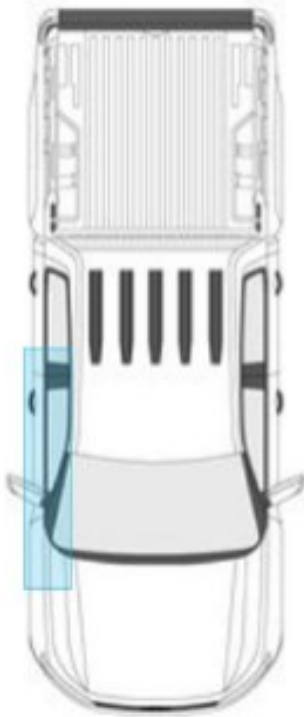
- Locate the OEM ground, next to the battery. Connect the black cable and re-secure the OEM nut.



- Connect the long red cable to the other end of the fuseholder and route across the cowl, securing to the OEM harness.



- Drop down the wheel well area to beneath the passenger-side floor.



- Secure the cables below the vehicle using the provided cable clamps & FAS0641 screws.

****Cab Mounted Option is for kit 71992****

- Place the mount behind the passenger seat.
2.25" away from the stepwell trim, slid forward against the seat base mount.



- Use a paint marker and mark the forward four holes.
- Note: The first aid kit will be installed OVER-TOP of this mount, using the same two fastening points.
- Remove the plate and drill.

****Cab Mounted Option is for kit 71992****

- Before installing the plate, mount the inverter to the plate using the provided 1/4" fasteners:
 - (4) FAS0018
 - (4) FAS0055
- Secure the plate and the first aid kit to the vehicle.
 - (4) FAS0018
 - (4) FAS0052 (plusnuts)
- Behind the seat belt stud, drill the two locations shown. Drill from above.



- Route the cables between the seat and plate. Connect the cables to the Inverter.

Bed Mounted Option is for kit 71994

- Drill the cable passthrough in the locations shown, the 1st low channel away from the wheel well. Route the black inverter cables up the drilled holes in the bed.
- Mount the inverter to the shelf wall as shown in the Figure below (and also shown in the order drawing) using the provided 1/4" fasteners and plusnuts.
 - (4) FAS0018
 - (4) FAS0052
- Connect the GND wire to the bolt in the bed frame, shown in the below Figure. Connect all battery cables and the GND wire to the inverter.
- Use provided edge clips (59713) to secure loose wiring from GND wire.

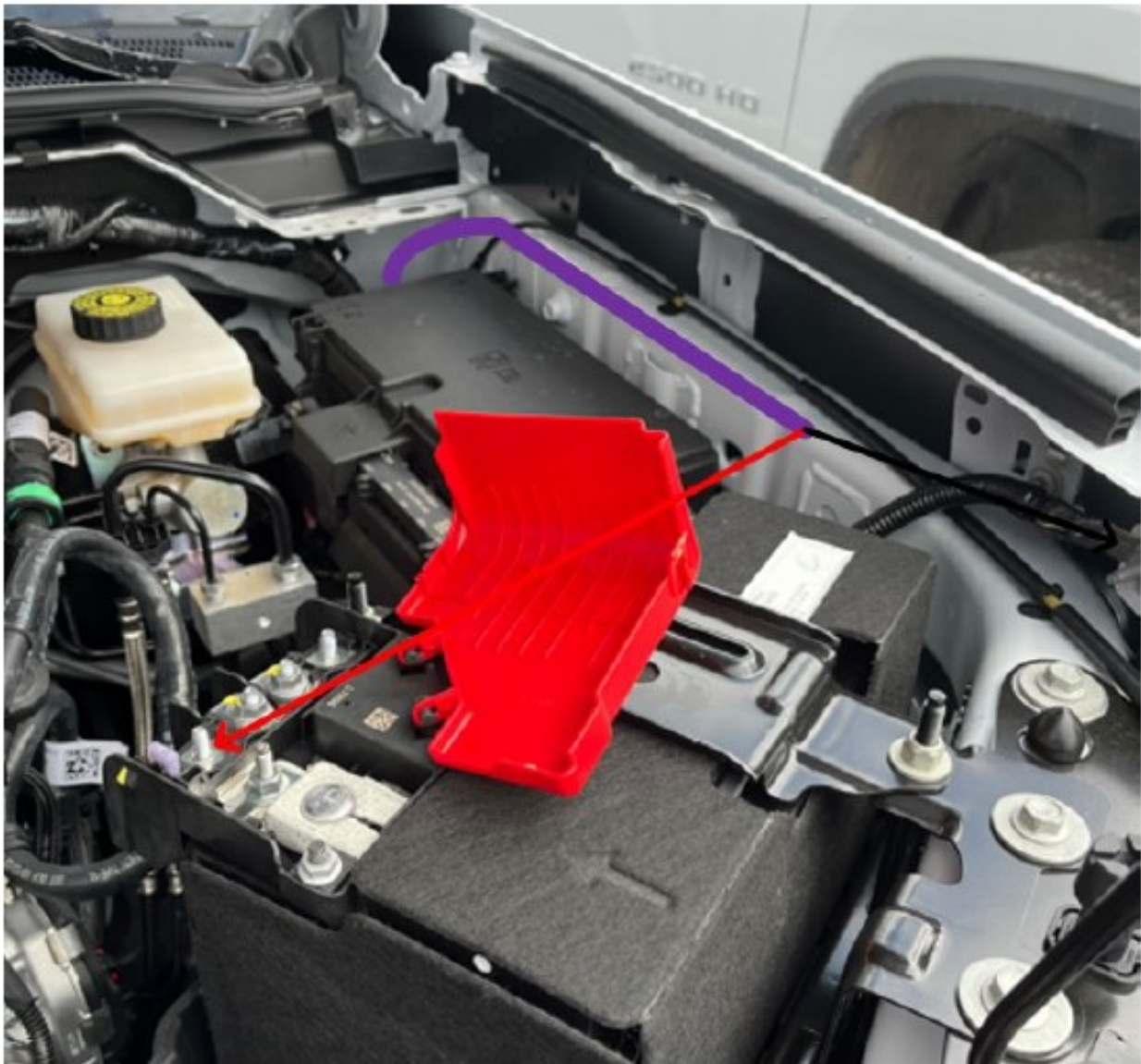


****Bed Mounted Option is for kit 71994****

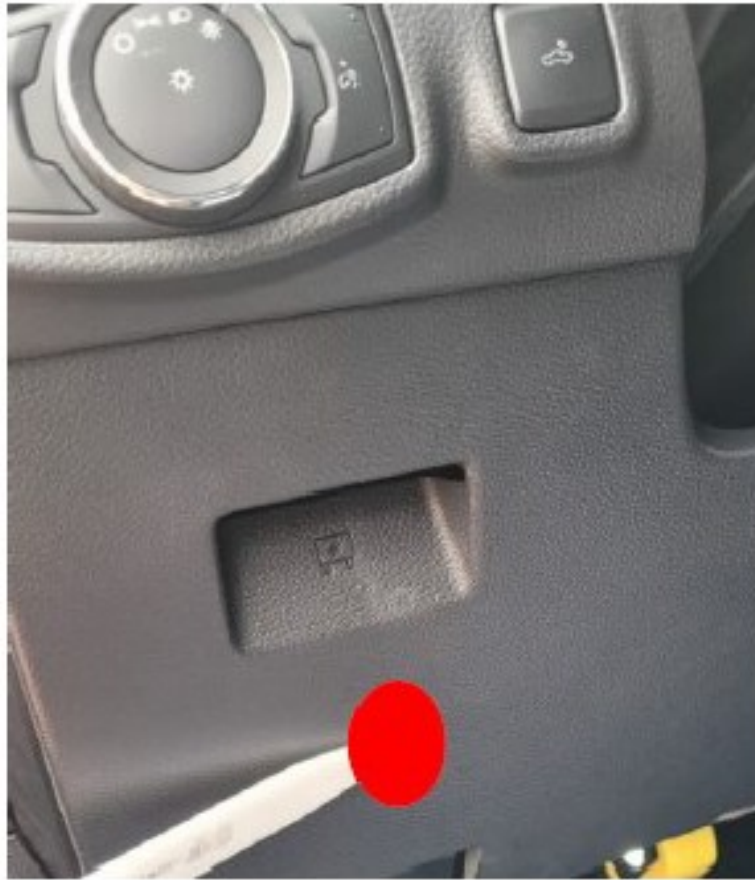
- Secure the power strip onto the right topper door shelving using the provide fasteners. The top of the power strip will be aligned with the top of the shelf.
 - (4) FAS0010
 - (4) FAS0013
- Once plugged in, route the power strip harness along the side of the bed taut. Use provided edge clips to secure power strip harness as shown below.



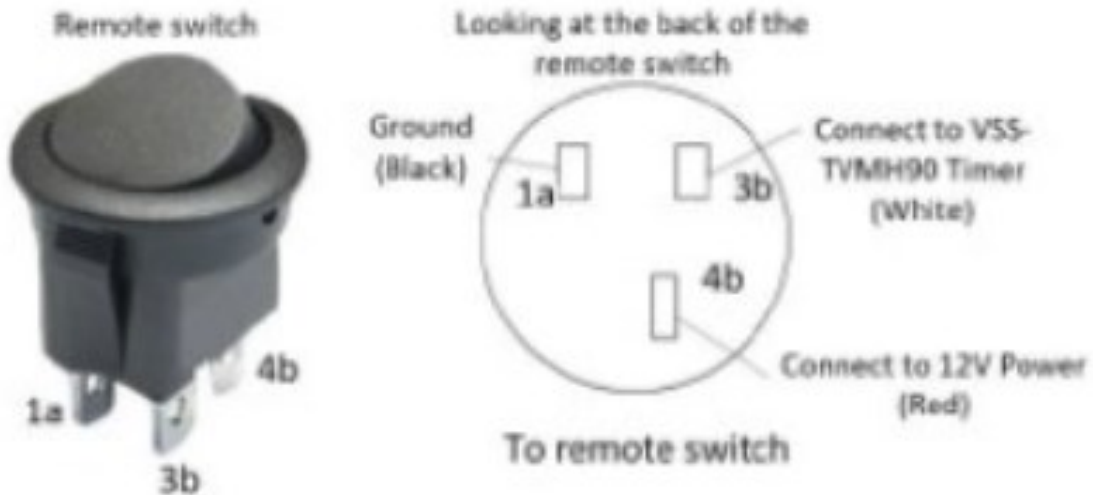
- From inside the cab, locate the firewall grommet. Drill a small hole (or cut an X) to allow the timer harness to pass through.
- Pass the red & black ring terminals through to the engine bay. The timer & spade connectors will remain in the cab.
- Connect the black ring terminal to the same ground location as the inverter power cable.
- Install the red wire onto the 1/4" stud. Do not insert the fuse into the fuseholder at this time.



- Hole placement for dash switch, located below the headlamp switch.



- Pull the spade connectors through the hole and connect to the switch as shown:



- Secure the timer behind the dash, away from driver controls.
- Connect the orange wire and route to the inverter. Strip the end and press into position 1.
- Under the hood, insert the timer fuse & Inverter megafuse.

INSTALLATION IS COMPLETE

PURCHASED COMPONENT KEY FEATURES

DESCRIPTION OF REQUIREMENTS

DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)

LOAD/RATING REQUIREMENT

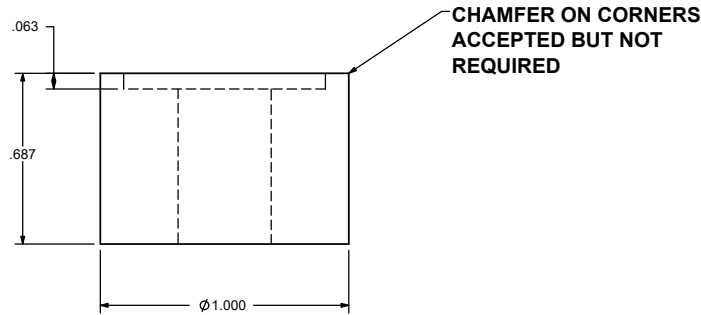
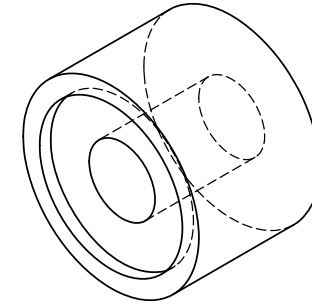
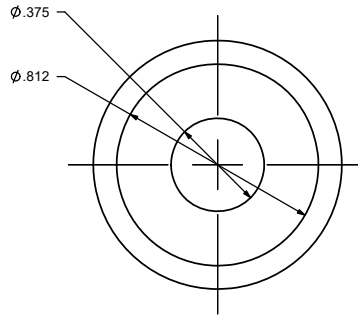
MATERIAL REQUIREMENT

1010 STEEL

PACKAGING REQUIREMENT

OTHER REQUIREMENTS

FINISH: ZINC COATED



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Sheet 1 of 1

TOLERANCES & INSPECTION

UNLESS OTHERWISE SPECIFIED

ALL BEND ANGLES ARE 90 DEGREES

ALL DIMENSIONS ARE IN INCHES.

REFERENCE DIMENSIONS (X.XXX)
DO NOT REQUIRE INSPECTION

FEATURES	HOLES/SLOTS	ANGLES
0.0 = ± .125	0.0 = ± .062	0° = ± 2°
0.00 = ± .062	0.00 = ± .031	0.0° = ± 1°
0.000 = ± .031	0.000 = ± .015	

Material Thickness: per ASTM Std.
Weld Callouts per AWS

RELEASE & REVISIONS

INITIAL ECN: **3808**

CURRENT ECN: **22408**

ECN DESCRIPTION:

UPDATE THE MATERIAL USED

REVISED BY: **BCB**

PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER
MID-STATE BOLT & NUT CO INC
REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE)
(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMMODITY ITEM.)

NO

PART / PRODUCT IDENTIFICATION



ADRIAN STEEL®

ADRIAN STEEL COMPANY
906 JAMES STREET, ADRIAN, MI 49221

REVISION LEVEL

D

MAT'L USED: **1010**

DESIGNED BY: **JLC**

DESCRIPTION: **SPACER, FLR, 1010, 11/16 ZP**

WEIGHT (Lbs.): **0.11**

SEGMENT CODE: **FAS**

PART NUMBER: **03927-2**

PART NUMBER

13905-0

ITEM DESCRIPTION: WIRE TIE, NYLON 40Lb, 8.5" BLACK



MANUFACTURER: WAYTEK, INC. or equivalent
MANUFACTURERS PART NUMBER: 21093M or 21093C

SPECIFICATIONS: STANDARD CABLE TIE
 BLACK, NYLON
 8-1/2" LONG
 TENSILE STRENGTH: 40.0 LBS
 21093M = 1,000 quantity
 21093C = 100 quantity

SPECIAL NOTES: PART NUMBER IS BLACK.

SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!

PURCHASED PRODUCT DATA SHEET (PPDS)

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ADRIAN STEEL
VAN AND PICKUP EQUIPMENT

906 JAMES STREET
ADRIAN, MI 49221
517-265-6194
WWW.ADRIANSTEEL.COM



WHEN INSTALLING EQUIPMENT IN OR ON VEHICLES CHECK FOR FUEL TANKS, FUEL LINES, CONTROL LINES AND ELECTRICAL WIRING BEFORE DRILLING! ALWAYS USE DRILL BITS WITH INTEGRAL STOPS WHENEVER POSSIBLE!

DRAWN BY
MDG

DATE DRAWN
10/26/2006

ECN NUMBER
18021

ECN DATE
11/13/2015

PART WEIGHT
0.01 LBS.

REV. LEVEL
D

PART NUMBER
13905-0

PART NUMBER

26618-0

ITEM DESCRIPTION: SILICONE, 1oz. TUBE



SPECIFICATIONS: SU5005 RTV SILICONE
1oz. TUBE
CLEAR OR EQUIVALENT
SELF PIERCING CAP

SPECIAL NOTES:

SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!

PURCHASED PRODUCT DATA SHEET (PPDS)

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CAUTION

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DRAWN BY
JLC

DATE DRAWN
7/21/2001

ECN NUMBER
16551

ECN DATE
7/22/2014

PART WEIGHT
0.02 LBS.

REV. LEVEL
C

PART NUMBER
26618-0

PART NUMBER

26618-0

ITEM DESCRIPTION: SILICONE, 1oz. TUBE



SPECIFICATIONS: SU5005 RTV SILICONE
1oz. TUBE
CLEAR OR EQUIVALENT
SELF PIERCING CAP

SPECIAL NOTES:

SUPPLIED BY: THIS ITEM IS ADRIAN AVAILABLE!

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DRAWN BY
JLC

DATE DRAWN
7/21/2001

ECN NUMBER
16551

ECN DATE
7/22/2014

PART WEIGHT
0.02 LBS.

REV. LEVEL
C

PART NUMBER
26618-0

PURCHASED COMPONENT KEY FEATURES

DESCRIPTION OF REQUIREMENTS

DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)

N/A

LOAD/RATING REQUIREMENT

N/A

MATERIAL REQUIREMENT

N/A

PACKAGING REQUIREMENT

N/A

OTHER REQUIREMENTS

Input Voltage: 12VDC 10.5V - 16.5V **Continuous Output Power:** 700w (+/-3%) **Output Voltage:** 100/110/115/120 VAC (+/-5%)
(Dip Switch Selectable)

Output Waveform: Pure Sign Wave
(THD<5%@ normal load)

Operating Temp: -25C to approx. 40C

Safety Standard: Certified UL 458

(UL only for GFCI)

SURGE RATING 150% OF CONTINUOUS POWER FOR 3 SECONDS

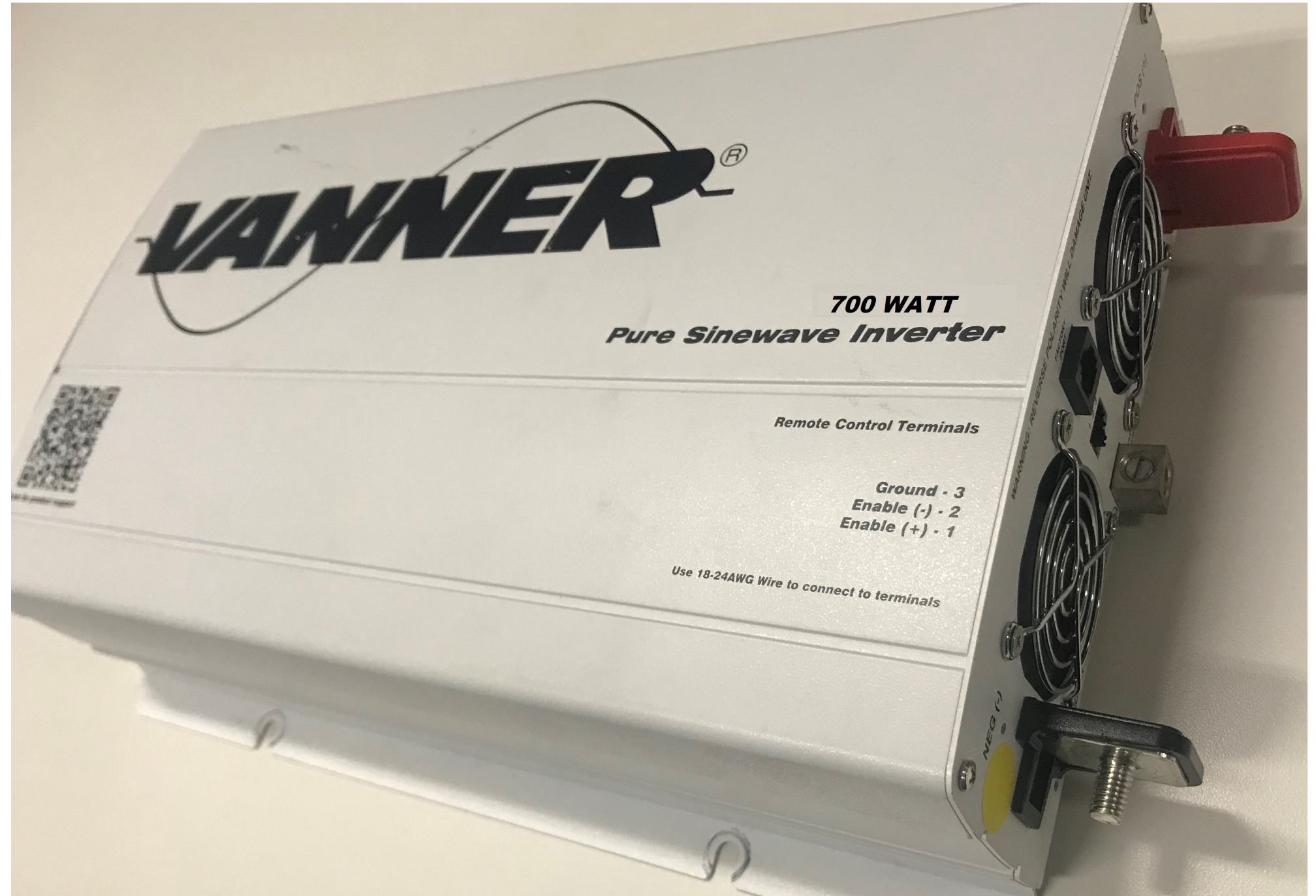
EMC STANDARDS FCC CLASS B:

TS400, TS700, TS1000, AND TS1500

FCC CLASS A: TS2000 AND TS3000

EFFICIENCY 90%–93%

STANDBY RECOVERY FIVE SECONDS



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TOLERANCES & INSPECTION

UNLESS OTHERWISE SPECIFIED

ALL BEND ANGLES ARE 90 DEGREES

ALL DIMENSIONS ARE IN INCHES.

REFERENCE DIMENSIONS (X.XXX)
DO NOT REQUIRE INSPECTION

FEATURES	HOLES/SLOTS	ANGLES
0.0 = ± .125	0.0 = ± .062	0° = ± 2°
0.00 = ± .062	0.00 = ± .031	0.0° = ± 1°
0.000 = ± .031	0.000 = ± .015	

Material Thickness: per ASTM Std.
Weld Callouts per AWS

RELEASE & REVISIONS

INITIAL ECN: **22984**

CURRENT ECN: **22984**

ECN DESCRIPTION:

ADD PPDS

REVISED BY: **MJF**

PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER

Vanner

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER

TS12-700

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE)
(NOTE: DIMENSIONS AND FEATURES MAY VARY FOR A COMODITY ITEM.)

NO

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Sheet 1 of 1

PART / PRODUCT IDENTIFICATION



ADRIAN STEEL®

ADRIAN STEEL COMPANY
906 JAMES STREET, ADRIAN, MI 49221

REVISION LEVEL

A

MAT'L USED:

DESIGNED BY: **MJF**

DESCRIPTION:

INV TS12-700

WEIGHT (Lbs.): **6**

SEGMENT CODE: **EIN**

PART NUMBER: **56904**

PURCHASED COMPONENT KEY FEATURES

DESCRIPTION OF REQUIREMENTS

DIMENSIONAL REQUIREMENTS (AS SHOWN ON DRAWING)

N/A

LOAD/RATING REQUIREMENT

N/A

MATERIAL REQUIREMENT

N/A

PACKAGING REQUIREMENT

N/A

OTHER REQUIREMENTS

700W Cable kit for Ford Ranger, cab mounted.

Includes switch & timer assembly.



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TOLERANCES & INSPECTION

UNLESS OTHERWISE SPECIFIED

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REFERENCE DIMENSIONS (X.XXX)
DO NOT REQUIRE INSPECTION

FEATURES	HOLES/SLOTS	ANGLES
0.0 = ± .125	0.0 = ± .062	0° = ± 2°
0.00 = ± .062	0.00 = ± .031	0.0° = ± 1°
0.000 = ± .031	0.000 = ± .015	

Material Thickness: per ASTM Std.
Weld Callouts per AWS

RELEASE & REVISIONS

INITIAL ECN: 27380

CURRENT ECN: 27380

ECN DESCRIPTION:

Release.

REVISED BY: N/A

PURCHASED COMPONENT

REFERENCED SUPPLIER AND/OR MANUFACTURER

Vanner

REFERENCED SUPPLIER AND/OR MANUFACTURER PART NUMBER

D021204

COLOR (ONLY LIST IF COLOR SPECIFIC)

COMODITY ITEM (Y/N) (YES = ALL DIMENSIONS AND NOTES ARE REFERENCE)
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Sheet 1 of 1

PART / PRODUCT IDENTIFICATION



ADRIAN STEEL

ADRIAN STEEL COMPANY
906 JAMES STREET, ADRIAN, MI 49221

REVISION LEVEL

A

MAT'L USED:

DESIGNED BY: A. Bussing

DESCRIPTION:

KIT CBL 0.7KW, CAB RA

WEIGHT (Lbs.): 10.0

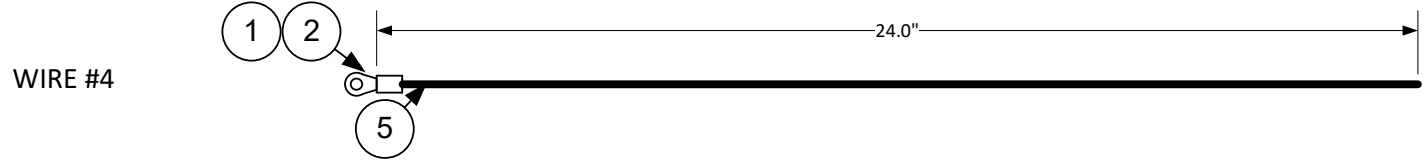
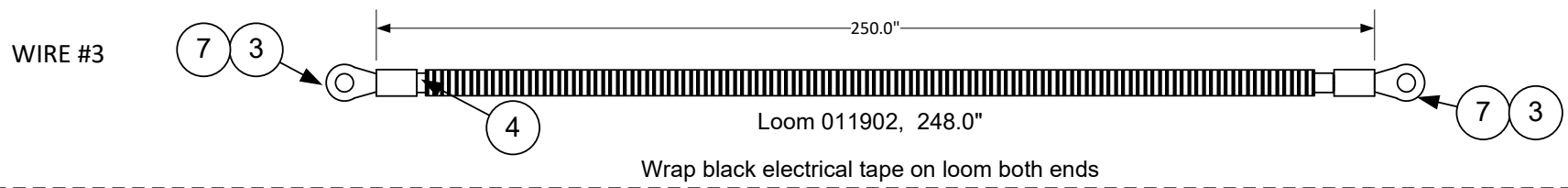
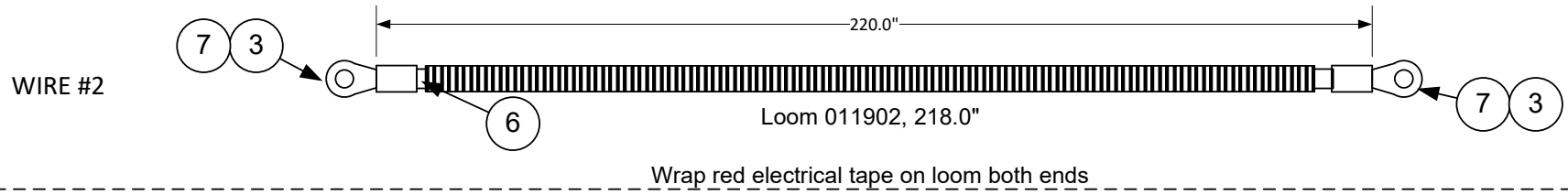
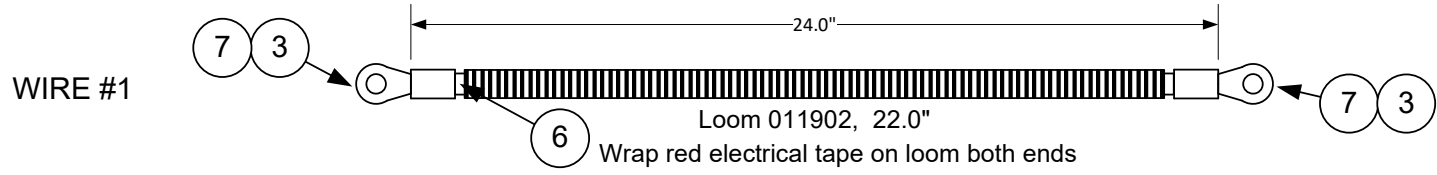
SEGMENT CODE: EIN

PART NUMBER: 71993

ITEMS IN BAG: 03199
 QTY 1, #012992 FUSE HOLDER
 QTY 1, #013914 200A FUSE
 QTY 6, #017053 CABLE CLAMP
 QTY 5, #013131 CABLE TY
 QTY 1, #D021208 TIMER RANGER 2024+

QTY 1, #021210 M6 FLANGE NUT

REVISIONS			
REV	DESCRIPTION	DATE	REA/ECO



Notes:
 Each cable to have wire number as listed marked on both ends of wires, exterior of loom behind tape, harness suppliers discretion on materials used

SCALE: NONE	REA/ECO NO.: 5490	TOL. UNLESS OTHERWISE NOTED .x ± .025 .xx ± .015 .xxx ± .005	
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		CHK/DATE	TITLE: DWG, HARNESS, TS 1000/1500, 20.8', SW/TVM, RANGER 2024+
		DRAWING/ PART NO. D921204	SHEET 1 OF 2
			REV A

This page for Adrian Steel
ONLY

REVISIONS			
REV	DESCRIPTION	DATE	REA/ECO
	see sheet 1		

Part Number	Description	Quantity	Balloon
D021204	HARNESS, TS 1000/1500, 20.8', SW/TVM, RANGER 2024+	0	5490
010705	LUG, 8 AWG, RING TONGUE, UNINSULATED, 5/16 STUD	1	1
011902	LOOM, 1/2" I.D., NYLON, BLACK, HI-TEMP, SPLIT	40.67	
012573	HEATSHRINK, ADHESIVE, .375 ID, BLK	0.08	2
012575	HEATSHRINK, ADHESIVE, .75 ID, BLK	0.5	3
012992	FUSEHOLDER, BUSSMANN, AMG 100-300 AMPS	1	
013132	CABLE TY 6/6 NYLON 15.5"L X 0.18" W, BLACK, 50LB	10	
013942	CABLE, 2 AWG, SGX, SAE J1127, BLACK	20.83	4
013943	CABLE, 2 AWG, SGX, SAE J1127, RED	20.33	5
013944	CABLE, 8 AWG, GXL, SAE J1128, DARK GREEN	2	6
015481	LUG, 2 AWG, RING TONGUE, SEALED, 5/16 STUD	4	7
015696	BOX, SHIPPING, 16 X 16 X 6	1	
015789	GROMMET, .875ID X 1.625OD, 1/16"PT, 1.250PHD	2	
016184	LUG, 2 AWG, RING TONGUE, SEALED, 1/4 STUD	2	8
016444	TAPE VINYL PLASTIC ELECTRICAL, RED	0	
017053	CLAMP, 2 CABLE, 1.0 ID, 3/4" W, .406 DIA MNT, STL	6	
021210	NUT, M6 X 1.0MM, FLANGE, SERR, SS	1	
02424	TAPE VINYL PLASTIC ELECTRICAL, BLACK	0	
D021205	LABEL, SPEC, D021204	0	
D08320	LABEL 3.00"X4.00" SILVER (BLANK)	1	
D021208	HARNESS, TVM, SWITCH, RANGER 2024	1	
D921204	DWG, HRNS, TS1000/1500, 20.8', SW/TVM, RANGER 2024+	0	

SCALE: NONE

REA/ECO NO.: 5490

TOL. UNLESS
OTHERWISE NOTED

.x ± .025
.xx ± .015
.xxx ± .005

VANNER
INCORPORATED

HILLIARD, OHIO USA

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DRNDATE
MEO
5/8/24

CHKDATE

TITLE: DWG, HARNESS, TS 1000/1500, 20.8',
SW/TVM, RANGER 2024+

DRAWING/
PART NO. D921204

SHEET
2 OF 2

REV
A