

MAINTENANCE

GENERAL MAINTENANCE All Models and all hinges, latches, etc. should be periodically lubricated for maximum efficiency and longevity. We recommend checking and tightening all fittings on hay beds at least monthly depending on usage, as well as grease all greaseable pivot points. Check the hydraulic fluid weekly depending on usage. Pivot points with set screws may work loose and should be inspected weekly on Arm Beds.

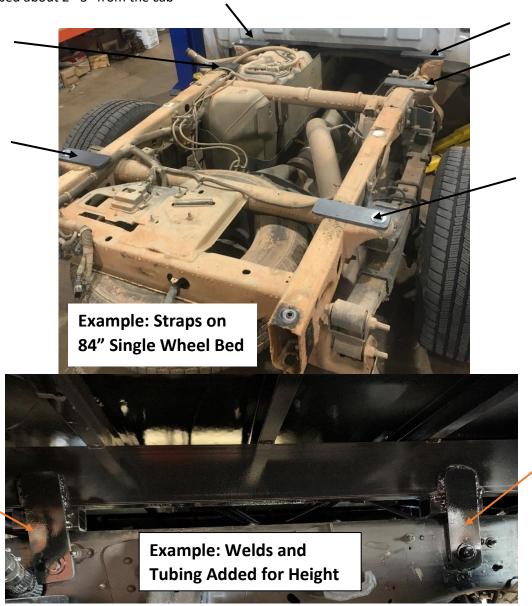
TOOLBOXES It is recommended that you maintain the seals of the toolboxes on your Crownline Truck Bed by checking the bulb weatherstripping on the box every three months. Ensure that the weatherstripping is affixed to the inner rim of the box and that it is not cracked or that you have dirt build up. Cracking and dirt build up can cause leaking and damage to contents in the bed.

Our hay beds are designed to carry and haul hay, other uses may result in damage to the bed not covered under the warranty.

RECOMMENDED INSTALLATION GUIDE

(This is based on 3/8" material for straps and 5/8" bolts)

- 3 straps per side recommended for 84"-102" Single Wheel Beds
- 4 straps per side recommended for 103"-118"
- 1 strap per side from bed's rear bumper to the chassis (truck frame). This will keep the bumper/hitch from shifting during loads
- Every strap should have a penetrating weld around mounting straps on the truck bed not the chassis (truck frame)
- Warning: Check chassis (truck frame) manufacturer requirements for safe welding on truck chassis. Electronics components can be damaged during the welding process. Unhook all batteries.
- Height of bed can be adjusted by ordering taller longsills (runners) on bed or tubing with a minimum of ¼" thick
 walls
- Tighten the 5/8" bolts to the truck frame, taking care not to pinch any wires or lines inside the frame
- Should set bed about 2"-3" from the cab





Bed Harness Color Identification for Direct Hardwiring to Vehicle

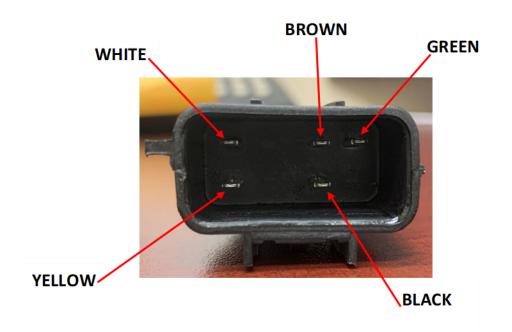
YELLOW WIRE: LEFT TURN

BLACK WIRE: BACK UP

GREEN WIRE: RIGHT TURN WHITE WIRE: GROUND

BROWN WIRE: RUNNING/MARKER/CLEARANCE

TAKE THE BRAKE WIRE AND WIRE IT TO THE YELLOW AND THE GREEN







SPECS PAGE

(LIFTING CAPACITY 3,000 LB. BALE WITH UPGRADED 3.5" CYLINDER AND FLOW VALVE)

(LIFTING CAPACITY 2,750 LB. BALE)

RECOMMENDED SERVICE INTERVALS:

- 1. Warranty Valid if only ATF fluid is used (Appx. 6 Quarts to Pressurize)
 - 2. Grease 4 hinges monthly during feeding season
 - 3. Check hydraulic ATF fluid weekly with spikes in "UP" position.

HYDRAULIC PUMP: KTI

DOUBLE ACTING POWER-UP / POWER-DOWN
3 QUARTS
3200 PSI
2.0 GPM
SAE #6 PORT, HORIZONTAL MOUNT
HANDHELD PENDANT W/ 15' REMOVAL CORD AND START SOLENOID

HYDRAULIC CYLINDER:

3" BORE 12" STROKE 1.250"- ROD DIA. INLINE- PORT ORIENTATION

SPIKES:

CROSSHOLE SPEAR 3,000 LBS 1.625"- DIA. 48"- LENGTH

GOOSENECK BALL:

2 5/16" CLASS 4 HITCH RATING WELDED ON

RECEIVER HITCH:

2" X 2" CLASS 4 HITCH RATING

Spike Measurements:

18" Between Spikes 42" Tall When in "UP" Position Over 90° Angle Down





SPECS PAGE

(LIFTING CAPACITY 2,500 LB. BALE)

RECOMMENDED SERVICE INTERVALS:

- 1. Warranty Valid if only ATF fluid is used (Appx. 14 Quarts to Pressurize)
 - 2. Grease 4 hinges monthly during feeding season
 - 3. Check hydraulic ATF fluid weekly

HYDRAULIC PUMP: KTI

ENGINE DRIVEN AVAILABLE (NEED MAKE, MODEL, VIN, FUEL TYPE)

DOUBLE ACTING POWER-UP / POWER-DOWN

3 QUARTS

2800 PSI

2.0 GPM

SAE #6 PORT, HORIZONTAL MOUNT

HANDHELD PENDANT W/ 15' REMOVAL CORD AND START SOLENOID

HYDRAULIC CYLINDERS:

3.00" BORE Non-Rephasing X2

2 REPHASING CYLINDERS

2.75" BORE

2.50" BORE

GOOSENECK BALL:

2 5/16"

CLASS 4 HITCH RATING

WELDED ON

RECEIVER HITCH:

2" X 2"

CLASS 4 HITCH RATING

SQUEEZE ARM MEASUREMENTS:

WHEN CLOSED: 2' APART WHEN OPEN: 8' APART





SPECS PAGE

MOTOR:

1800 RPM

GEARBOX (TRANSMISSION):

RATIO 26:1

LINEAR ACTUATOR:

4" STROKE 12 VDC VOLTAGE 0.27"/SEC SPEED 330 LBS FORCE

AUGER:

6" WITH ADJUSTABLE COVER (FEED FLOW RATE)

1800/26: 69.2 RPM 69.2/60: 1.15 Rev/Sec

1.15 x 3.5 lbs./Rev= 4.025 lbs. per second

S32 and S22 Feeder Measurements:

71 ¼" Length 43" Tallest Point S32= 32" Wide S22= 22" Wide

S42 Feeder Measurements:

72 ¼" Length 43" Tallest Point 42" Wide



TROUBLESHOOTING

HAY BED PUMP:

MAKE SURE POWER AND GROUND WIRES ARE HOOKED UP CORRECTLY THROUGH BREAKER TO THE MOTOR.

IF ONE FUNCTION WORKS OR SOUNDS LIKE MOTOR IS BUILDING PRESSURE BUT NOTHING IS HAPPENING, CHECK SOLENOIDS. TAKE OFF THE POST, PLACE SCREWDRIVER IN AND PRESS FUNCTIONS. IF IT MAGNETIZES, SOLENOIDS ARE GOOD. ALSO CHECK ON THE REGULATOR MAKE SURE IT IS OPEN. LASTLY VERIFY THE BED PLUMBING IS CORRECT.

MUST PURGE AIR FROM THE HYDRAULIC SYSTEM UPON START UP BY CYLCING THE HAY BED TO A POSITION ALLOWING THE PUMP TO PUSH AIR OUT OF THE SYSTEM FOR 15-30 SECONDS.

IF BALE JERKS AS IT LETS A BALE DOWN, MAY NEED TO ADJUST THE REGULATOR VALVE (ARM BED) AFTER INSPECTING CORRECT FLOW INSTALLED CORRECTLY. TURN ALL THE WAY OFF AND ADJUST IN .25 TURN INTERVALS UNTIL OPERATION IS NORMAL, SET LOCK NUT, IT COMES FROM THE FACTORY PRESET ½ TURN FROM OFF.

IF ARMS ARE NOT SYCHRONIZING OPEN OR ONE WON'T OPEN AS FAR AS SUPPOSE TO, MAKE SURE CYLINDERS ARE INSTALLED ON THE CORRECT SIDES AND HOSES ARE HOOKED UP ACCORDING TO THE DIAGRAMS.

- 1. TEST VOLTS AT MOTOR
- 2. VERIFY TIGHT ELECTRICAL CONNECTIONS FROM THE BATTERY TO THE FUSE THEN TO THE MOTOR FOLLOWED BY THE GROUND CONNECTIONS TO THE PUMP
- 3. VERIFY ATF FLUID IS CORRECT
- 4. VERIFY POWER ON THE SOLENOID WHEN PRESSING ANY BUTTON ON THE CONTROL PENDANT
- 5. IF THE MOTOR RUNS BUT NOTHING MOVES, NEXT VERIFY THE COILS WORK BY MAGNETIZING A SCREWDRIVER
- 6. IF ALL THE PREVIOUS ITEMS FAIL EXCEPT YOU DO HAVE POWER AND GOOD CONNECTIONS REMOVE THE MOTOR COVER
- 7. IF THERE IS NO WATER DAMAGE TO THE MOTOR CONTACT KTI FOR NEXT STEPS. at: service@ktihydraulicsinc.com or call: (949) 752-8818

TOOLBOXES:

IF THERE IS STANDING WATER IN TOOLBOXES, DEALERS ARE AUTHORIZED TO DRILL TWO .6" DIAMETER HOLES IN EACH BOX.

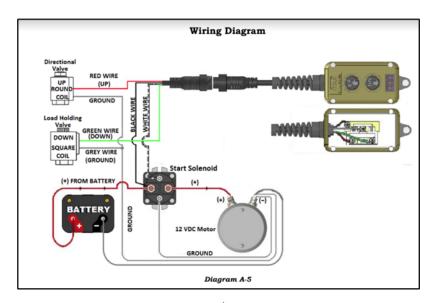
FEEDERS:

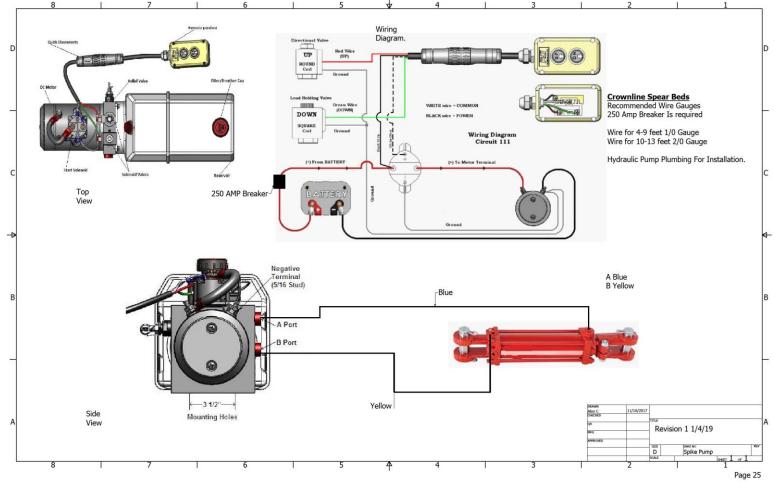
COUNTER: PRIOR TO 2021: WIRE INTO TERMINALS 2 & 6, FOR BACKLIGHT TO WORK 5VDC HAS TO BE APPLIED TO TERMINAL 5 AND GROUND SUPPLY TO TERMINAL 6. IF THE COUNTER IS NOT COUNTING, TAKE A PAPER CLIP AND HAVE IT TOUCH TERMINAL 2 & 6. IF IT MAKES A COUNT, THE PROBLEM IS NOT WITH COUNTER. 2021 AND NEWER WILL WIRE INTO TERMINALS 1 AND 3. SEE DIAGRAMS.

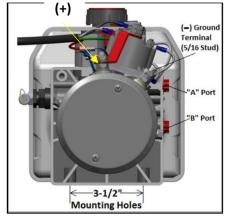
MAGNET: WAVE THE MAGNET IN FRONT OF SENSOR; TO SEE IF THE SENSOR IS BAD OR IF THE SENSOR NEEDS TO BE MOVED CLOSER TO THE MAGNET. IF FEED IS KNOCKING THE MAGNET LOOSE, WILL NEED TO PUT A BARRIER IN PLACE.

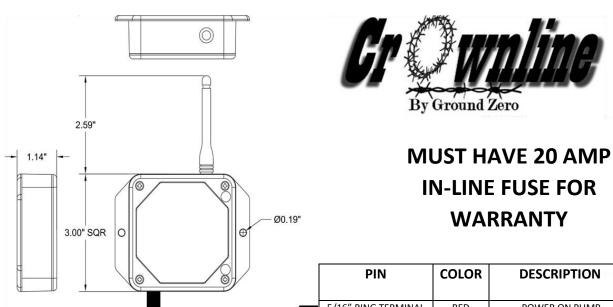
SOLENOID: MAKE SURE YOU ARE GETTING POWER ON BOTH SIDES OF THE SOLENOID. ADJUST AUGER COVER UP OR DOWN IN 1/4" INTERVALS UNTIL FEEDER FLOW RATE IS ACHIEVED.

FOR ANY OTHER TROUBLESHOOTING PROBLEMS, WE REQUIRE A MINIMUM OF 4 PICTURES EITHER TEXT OR EMAIL ALONG WITH PROOF OF PURCHASE AND PICTURE OF SERIAL NUMBER STICKER.

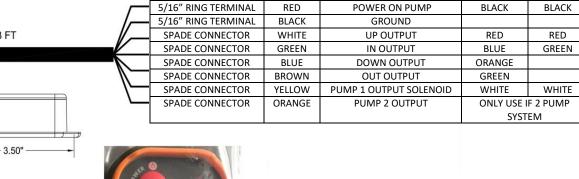








3 FT





*DOWN AND OUT TIE INTO THE COIL PACK LEAVE THE JUMPER TIE TOGETHER.

ARM

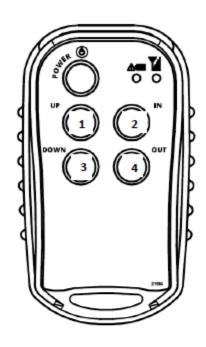
BED

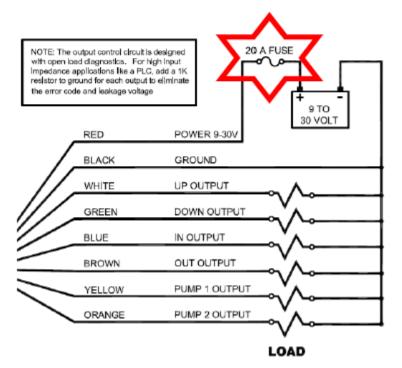
SPIKE

BED



BUTTON 1	UP FUNCTION	WHITE		
BUTTON 2	IN FUNCTION	GREEN		
BUTTON 3	DOWN FUNCTION	BLUE		
BUTTON 4	OUT FUNCTION	BROWN		
YELLOW WIRE FOR A 2 PUMP SYSTEM ONLY ATTACH TO PUMP #2				





RECEIVER ERROR CODE CHART

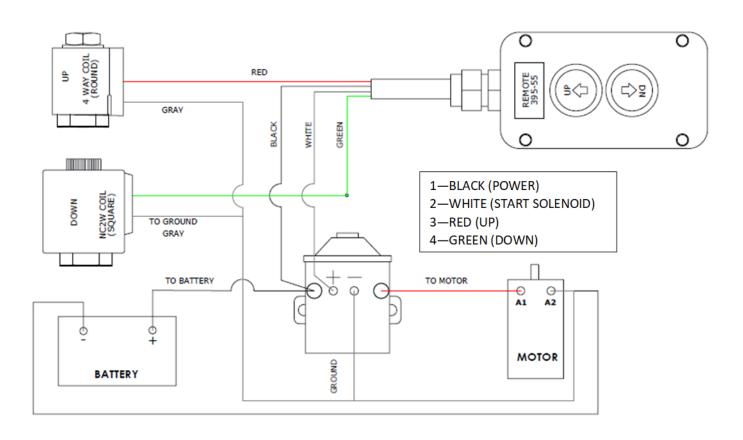
1120211211211011000220111111				
ERROR CODE	PROBABLE CAUSE			
1	RF COMMUNICATION PROBLEM			
2	LOW BATTERY			
3	UP OUTPUT ERROR			
4	DOWN OUTPUT ERROR			
5	IN OUTPUT ERROR			
6	OUT OUTPUT ERROR			
7	PUMP 1 OUTPUT ERROR			
8	PUMP 2 OUTPUT ERROR (IF ENABLED)			

ERROR CODE NUMBER IS THE NUMBER OF RED LIGHT BLINKS BETWEEN EVERY PAUSE.

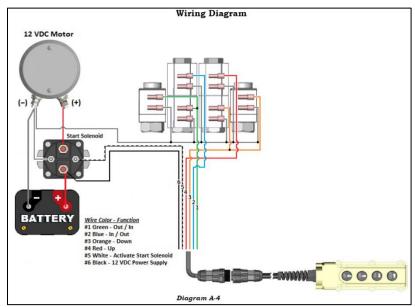
REV. A 2020

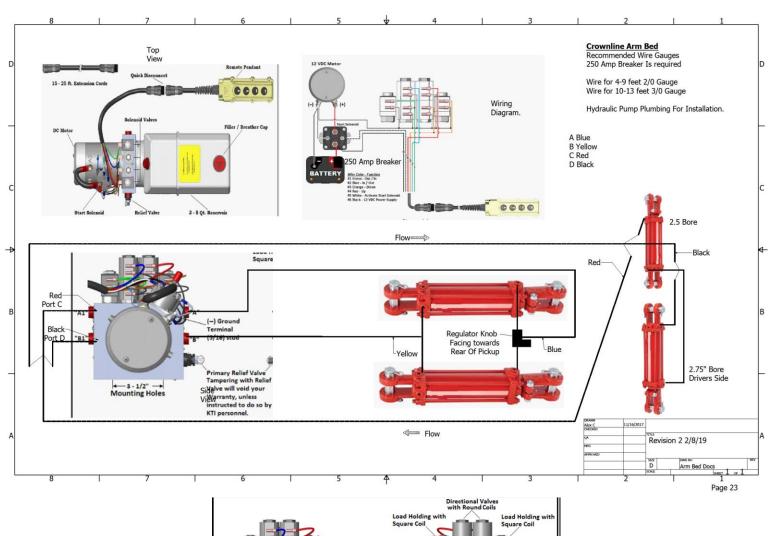


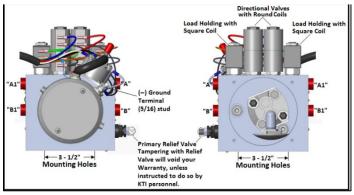
SPIKE BED PUMP



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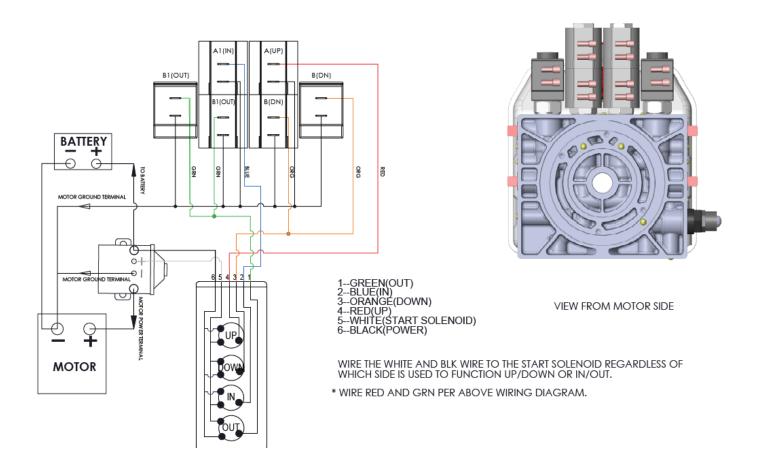






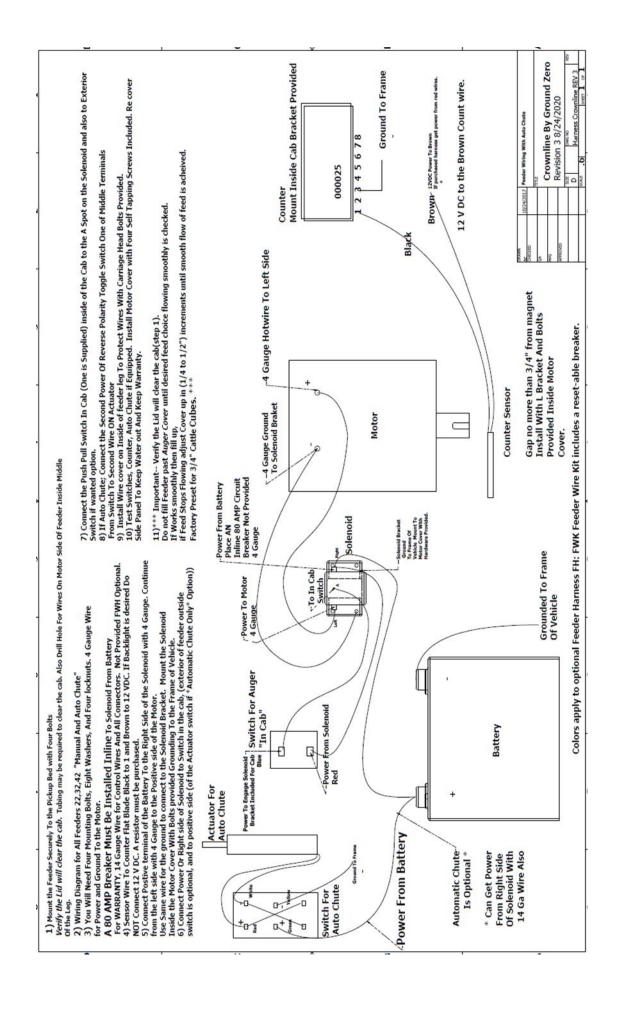


ARM BED PUMP

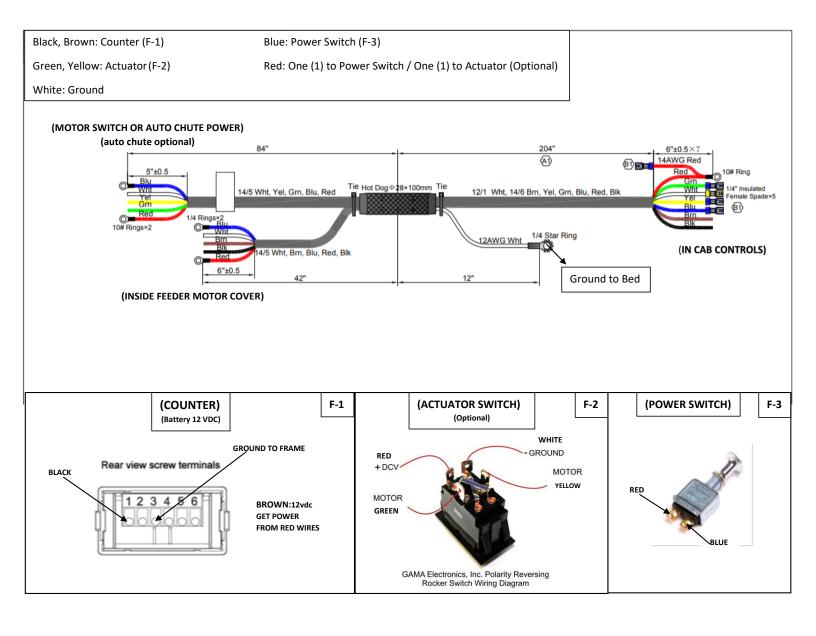


REV. A 2020

2021-CURRENT COUNTER WIRING



2021-CURRENT COUNTER WIRING DIAGRAM



Ground Zero Shelters, Co. Truck Beds Manufacturer's Limited Warranty

Standard Distributor:

MANUFACTURER'S LIMITED WARRANTY ON TRUCK BED PRODUCTS MANUFACTURED BY GROUND ZERO SHELTERS, CO. ALSO KNOWN AS GZ HEREAFTER AND SOLD UNDER THE "CROWNLINE BY GZ" LABEL ARE SUBJECT TO SPECIFIC AND LIMITED WARRANTIES AS FOLLOWS:

Ground Zero Shelters, Co. warrants that each Crownline by GZ truck bed, bulkhead, and stake rack bought and used by the original purchaser under normal use in the Continental United States will be free from defects in materials and workmanship for one (1) year following the original purchase, subject to the requirements, exclusions, and limitations stated below which will be strictly applied. For warranty registration please fill out and email or mail in the registration form at the bottom.

TO VALIDATE YOUR WARRANTY

In order to validate this Limited Warranty, the GZ customer must complete the warranty card with in thirty (30) days of purchase. IF WARRANTY REGISTRATION IS NOT COMPLETED, ALL EXPRESS WARRANTIES CONTAINED IN THIS LIMITED WARRANTY SHALL BE NULL AND VOID.

(1) YEAR LIMITED WORKMANSHIP WARRANTY

Subject to the requirements, exclusions, and limitations stated below, the structure of the Crownline by GZ truck bed is warranted to the original retail purchaser against defects in materials and workmanship by GZ, arising from normal use for one (1) year from the date of purchase.

(1) YEAR LIMITED FINISH WARRANTY

GZ warrants its finishes to be consistent with industry standards for one (1) year after the date of original retail purchase, with the exception of "normal use" limitations set forth below and of deterioration due to use, physical damage, or exposure, such as chipping, scratching, fading, cracks in caulk seams, road salt, tar, or pressure washing. Rust streaking originating from areas where it is virtually impossible to achieve total paint or powder coat coverage, i.e. behind rub rails or where two or more metals adjoin, are consistent with industry standards and not covered. Any repairs made will be done so with liquid paint.

NORMAL USE, NO REPAIRS, ALTERATIONS, OR TRANSFERS

This Limited Warranty covers only defects in original components which arise from normal use and does not apply if the truck bed is subjected to negligence, accident, abuse, misuse, overload, corrosive materials, improper installation, lack of proper maintenance, has been repaired or altered without the prior written consent of GZ, or is transferred from the original chassis of installation. Normal wear items, including but not limited to lights and doors, will not be replaced due to wear.

TRANSPORTATION COST EXCLUDED

Transportation of any truck bed to and/or from the distributor or any approved repair facility shall be the responsibility of the truck bed owner. GZ shall not be liable for any such costs.

PRIOR WRITTEN CONSENT REQUIRED AND RETURN OF DEFECTIVE PARTS REQUIRED

No reimbursement will be made to any dealer or owner for repairs made without the prior written consent of GZ. Any defective part(s) must be sent by prepaid freight to GZ in order to qualify for replacement or reimbursement under this Limited Warranty.

OTHER EXCLUSIONS

This Limited Warranty applies exclusively to the above-described truck beds, bulkheads, and stake racks manufactured by GZ. Any other products manufactured by GZ are specifically excluded from this warranty. GZ expressly disclaims and excludes any responsibility or liability for any materials or workmanship related to the installation of a truck bed onto a vehicle chassis by any other person or company, including any incidental or consequential damages or contingent liabilities arising there from. Authorized repairs do not extend the term of this Limited Warranty.

LIMITATIONS

THE SOLE RESPONSIBILITY OF GZ UNDER THIS LIMITED WARRANTY SHALL BE TO REPAIR AND REPLACE PARTS AT THE CROWNLINE BY GZ TRUCK BED FACTORY; HOWEVER, UNDER UNUSUAL CIRCUMSTANCES WITH PRIOR WRITTEN APPROVAL AND AT GZ'S DISCRETION, A REASONABLE ALLOWANCE MAY BE MADE FOR REPAIR OFF SITE BY AN AUTHORIZED CROWNLINE BY GZ TRUCK BED DISTRIBUTOR OR BY ANOTHER CROWNLINE BY GZ APPROVED PERSON(S) OR COMPANY. ALL OTHER OBLIGATIONS OR LIABILITIES, INCLUDING INCIDENTAL OR CONSEQUENTIAL DAMAGES OR CONTINGENT LIABILITIES ARISING OUT OF THE FAILURE OF ANY PARTS TO OPERATE PROPERLY, ARE HEREBY EXCLUDED, INCLUDING BUT NOT LIMITED TO ANY DAMAGES RESULTING FROM LOSS OF USE,

INCONVENIENCE, LOSS OF TIME, COMMERCIAL LOSS, OR ANY OTHER TYPE OF DAMAGES, GENERAL OR SPECIFIC, FORESEEN OR UNFORESEEN, UNLESS APPLICABLE STATE LAW PROVIDES OTHERWISE.

DISCLAIMERS

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER EXPRESSED WARRANTIES AND REPRESENTATIONS. GZ MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH RESPECT TO CROWNLINE BY GZ TRUCK BEDS WHETHER AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER. NO ONE, INCLUDING AN AUTHORIZED CROWNLINE BY GZ TRUCK BEDS DISTRIBUTOR, IS AUTHORIZED TO MAKE FURTHER OR ADDITIONAL WARRANTIES ON BEHALF OF GZ ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR INTENDED USE ARE LIMITED TO WARRANTY PERIODS STATED ABOVE, UNLESS ANY APPLICABLE STATE LAW PROVIDES OTHERWISE.

DISPUTES UNDER THIS LIMITED WARRANTY

Any and all disputes and claims of any kind and nature whatsoever arising under this Limited Warranty, shall be handled as provided in any agreement of purchase and sale for the product.

If such agreement does not include an express provision relating to the handling of disputes and claims, then the following terms shall apply to this Limited Warranty: This Limited Warranty shall be deemed to have been made in the State of Oklahoma (without regard to the conflict of law principals of the *State*), including all matters of construction, validity, and performance regardless of the location of the product. You expressly waive any and all right to jury trial regarding any dispute hereunder. You hereby irrevocably submit to the exclusive jurisdiction and venue of courts sitting in State of Oklahoma, You hereby irrevocably waive, and hereby agree not to assert by way or motion, defense, or otherwise, any claim that you are not subject personally to the jurisdiction of such courts, that the Product or any other property of yours is exempt or immune from attachment or execution, that any action brought under this Limited Warranty is brought in an inconvenient forum, that the venue of the action is improper or that this Limited Warranty cannot be enforced by any such courts.

REQUIRED WARRANTY CLAIM PROCEDURE

In order to validate this Limited Warranty, you must complete the warranty registration form no later than thirty (30) days following the purchase of your Crownline by GZ truck bed. IF THIS WARRANTY IS NOT COMPLETED BY THE THIRTIETH DAY AFTER PURCHASE OF THE TRUCK BED, ALL EXPRESS WARRANTIES CONTAINED IN THIS LIMITED WARRANTY SHALL BE NULL AND VOID EXCEPT AS PROHIBITED BY LAW.

Within five (5) days after discovering a problem with your Crownline by GZ truck bed, return your truck bed for inspection to the Crownline by GZ Truck Bed dealer where you bought your truck bed.

If your dealer cannot repair the problem free of charge and you want to file a claim under this Warranty and within ten (10) days of your discovery of the defect, your local dealer must send a Limited Warranty Claim form to GZ by fax or email, together with all required information.

GZ will acknowledge such receipt of claim in writing, to the dealer and to the claimant. GZ will respond as soon as possible, but no later than thirty (30) days after receipt of the claim. Any defective part(s) must be sent by prepaid freight to GZ, in order to qualify the claimant for replacement under this Limited Warranty. ALL DEFECTIVE PARTS MUST BE RETURNED TO GZ WITHIN 30 DAYS FROM DATE OF Crownline by GZ APPROVAL TO QUALIFY FOR REPLACEMENT.

GZ will not reimburse any claimant for any adjustment or repair of a Crownline by GZ truck bed without prior written approval by GZ. GZ reserves the right to not pay unreasonable costs for replacement or repair defects in Crownline by GZ truck beds and may, at GZ's discretion, establish a reasonable reimbursement for any authorized work performed under the terms of this Limited Warranty. GZ, MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES AND THERE ARE NO OTHER WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS LIMITED WARRANTY.

For questions or comments, please direct your correspondence to the address below.

Email: products.crownline@gmail.com

Inquiries regarding the above warranty should be sent to:

Ground Zero Shelters, CO. Warranty

Mailing Address:

4600 Independence Perry, OK 73077 580-336-1351

Physical Address:

1300 W HWY 77

Perry, OK 73077

Crownline by Ground Zero

REGISTRATION FORM

Today's Date:					
Customer's Information					
First name:	Middle:	Last:			
Address:					
Home phone no.:		Cell phone no.:			
Email:					
	Produc	t Information			
Type of Product:		•			
Serial Number:					
Vehicle: Make, Model, Year, Last	8 of VIN:				
	PLEASE PROVID	E PROOF OF PURCHASE			
	_	nail within 30 days) <u>mail.com</u> ATTN: Warranty Form)			
		Independence Perry, OK 73077			
The above information is true to	the best of my knowledge	2.			
signature		Date			

The **Scorpion** Truck **Bed Liner** sprayed onto your vehicle is warranted to be free of defects in materials for the life of your vehicle. This **warranty** does not cover gouges, scratches, or punctures. 1year adhesion.