TOWN OF CROWN POINT
HIGHWAY DEPARTMENT

TANDEM PLOW TRUCK MANUAL

SPECIFICATION PROPOSAL

Data Code	Description	Weight Front	Weight Rear
Price Level			
PRL-23T	WESTERN STAR 4700 PRL-23T (EFF:01/21/20)		
Data Version			
DRL-018	SPECPRO21 DATA RELEASE VER 018		
Vehicle Configuration			
001-450	4700 SET-FORWARD FRONT AXLE CHASSIS	9,100	6,570
004-221	2021 MODEL YEAR SPECIFIED		
002-003	SET FORWARD AXLE - TRUCK		
019-006	TRAILER TOWING PROVISION AT END OF FRAME	10	10
003-001	LH PRIMARY STEERING LOCATION		
General Service			
AA1-002	TRUCK CONFIGURATION		
AA6-001	DOMICILED, USA 50 STATES (INCLUDING CALIFORNIA AND CARB OPT-IN STATES)		
A85-011	CONSTRUCTION SERVICE		
A84-1GM	GOVERNMENT BUSINESS SEGMENT		
AA4-003	DRY BULK COMMODITY		
AA5-002	TERRAIN/DUTY: 100% (ALL) OF THE TIME, IN TRANSIT, IS SPENT ON PAVED ROADS		
AB1-008	MAXIMUM 8% EXPECTED GRADE		
AB5-001	SMOOTH CONCRETE OR ASPHALT PAVEMENT - MOST SEVERE IN-TRANSIT (BETWEEN SITES) ROAD SURFACE		
995-1A5	WESTERN STAR VOCATIONAL WARRANTY		
A66-99D	EXPECTED FRONT AXLE(S) LOAD : 20000.0 lbs		

Data Code	Description	Weight Front	Weight Rear
A68-99D	EXPECTED REAR DRIVE AXLE(S) LOAD : 46000.0 lbs		
A63-99D	EXPECTED GROSS VEHICLE WEIGHT CAPACITY : 66000.0 lbs		
Truck Service			
AA3-018	FRONT PLOW/END DUMP BODY		
A88-99D	EXPECTED TRUCK BODY LENGTH : 0.0 ft		
Engine			
101-2YB	DETROIT DD13 12.8L 470 HP @ 1625 RPM, 1900 GOV RPM, 1650 LB/FT @ 975 RPM		
Electronic Parameters			
79A-067	67 MPH ROAD SPEED LIMIT		
79B-000	CRUISE CONTROL SPEED LIMIT SAME AS ROAD SPEED LIMIT		
79G-010	20 MINUTES IDLE SHUTDOWN WITH CLUTCH AND SERVICE BRAKE OVERRIDE		
79K-001	PTO MODE ENGINE RPM LIMIT - 600 RPM		
79M-002	PTO MODE BRAKE OVERRIDE - SERVICE BRAKE APPLIED OR PARK BRAKE NOT APPLIED		
79N-001	PTO MODE CLUTCH OVERRIDE - CLUTCH ENABLED		
79P-001	PTO RPM WITH CRUISE SET SWITCH - 600 RPM		
79Q-001	PTO RPM WITH CRUISE RESUME SWITCH - 600 RPM		
79S-002	PTO MODE CANCEL VEHICLE SPEED - 6 MPH		
79T-001	PTO MODE RPM INCREMENT - 25 RPM		
79W-001	ONE REMOTE PTO SPEED		
79X-035	PTO SPEED 1 SETTING - 650 RPM		
80D-001	SOFT CRUISE CONTROL ENABLED		
80G-001	PTO MINIMUM RPM - 600		
80K-003	TEMPERATURE OVERRIDE BELOW 30 DEGREES AND ABOVE 65 DEGREES AMBIENT TEMPERATURE		
Engine Equipment			
99C-017	2016-2019 ONBOARD DIAGNOSTICS/2010 EPA/CARB/FINAL GHG17 CONFIGURATION		
99D-011	2008 CARB EMISSION CERTIFICATION - CLEAN IDLE (INCLUDES 6X4 INCH LABEL ON LOWER FORWARD CORNER OF DRIVER DOOR)		
13E-001	STANDARD OIL PAN		
105-001	ENGINE MOUNTED OIL CHECK AND FILL		
133-004	ONE PIECE VALVE COVER		

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014-108	SIDE OF HOOD AIR INTAKE WITH FIREWALL MOUNTED DONALDSON AIR CLEANER WITH Safety ELEMENT AND INSIDE/OUTSIDE AIR WITH SNOW DOOR	10	
124-1E1	DR 12V 200 AMP 28-SI QUADRAMOUNT PAD ALTERNATOR WITH REMOTE BATTERY VOLT SENSE		
292-236	(3) DTNA GENUINE, FLOODED STARTING, MIN 3000CCA, 555RC, THREADED STUD BATTERIES	-10	
290-1CD	BATTERY BOX WITH ALUMINUM COVER MOUNTED SHORT SIDE TO RAIL	45	10
282-003	SINGLE BATTERY BOX FRAME MOUNTED LH SIDE BACK OF CAB		
291-017	WIRE GROUND RETURN FOR BATTERY CABLES WITH ADDITIONAL FRAME GROUND RETURN		
289-012	NON-POLISHED DIAMOND PLATE BATTERY BOX COVER		
293-072	POSITIVE LOAD DISCONNECT WITH DASH MOUNTED CONTROL SWITCH	8	
306-019	LOW VOLTAGE BATTERY DISCONNECT AT 12.3 VOLTS FOR ISOLATED CIRCUITS WITH LOCAL ALARM		
180-100	EATON ADVANTAGE 15-1/2 INCH SELF ADJUSTING CLUTCH	-40	
183-008	TORQUE LIMITING CLUTCH BRAKE		
181-002	ZERK FITTING WITH EXTENSION HOSE AT CLUTCH RELEASE BEARING		
182-005	HYDRAULIC CLUTCH CONTROL		
107-044	BW MODEL BA-921 19.0 CFM SINGLE CYLINDER AIR COMPRESSOR WITH SAFETY VALVE		
131-013	AIR COMPRESSOR DISCHARGE LINE		
152-041	ELECTRONIC ENGINE INTEGRAL SHUTDOWN PROTECTION SYSTEM		
128-002	JACOBS COMPRESSION BRAKE		
016-1C2	RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH B-PILLAR MOUNTED VERTICAL TAILPIPE		
28F-002	ENGINE AFTERTREATMENT DEVICE, AUTOMATIC OVER THE ROAD REGENERATION AND DASH MOUNTED REGENERATION REQUEST SWITCH		
239-026	10 FOOT 06 INCH (126 INCH+0/-5.9 INCH) EXHAUST SYSTEM HEIGHT		
233-017	STANDARD CURVE BRIGHT UPPER STACK(S)		
237-1CR	RH CURVED VERTICAL TAILPIPE B-PILLAR MOUNTED ROUTED FROM STEP		

Data Code	Description	Weight Front	Weight Rear
23U-002	13 GALLON DIESEL EXHAUST FLUID TANK	35	10
30N-003	100 PERCENT DIESEL EXHAUST FLUID FILL		
23Y-001	STANDARD DIESEL EXHAUST FLUID PUMP MOUNTING		
23Z-001	POLISHED ALUMINUM DIAMOND PLATE DIESEL EXHAUST FLUID TANK COVER	20	10
43X-002	LH MEDIUM DUTY STANDARD DIESEL EXHAUST FLUID TANK LOCATION		
242-001	STAINLESS STEEL AFTERTREATMENT DEVICE/MUFFLER/TAILPIPE SHIELD		
273-036	BORG WARNER (KYSOR) REAR AIR ON/OFF ENGINE FAN CLUTCH		
276-002	AUTOMATIC FAN CONTROL WITH DASH SWITCH AND INDICATOR LIGHT, NON ENGINE MOUNTED		
110-068	DDC SUPPLIED ENGINE MOUNTED FUEL FILTER/FUEL WATER SEPARATOR WITH WATER-IN-FUEL INDICATOR		
118-001	FULL FLOW OIL FILTER		
266-057	1500 SQUARE INCH ALUMINUM RADIATOR		
267-006	MOUNTING FOR FIREWALL MOUNTED SURGE TANK		
103-039	ANTIFREEZE TO -34F, OAT (NITRITE AND SILICATE FREE) EXTENDED LIFE COOLANT		
171-007	GATES BLUE STRIPE COOLANT HOSES OR EQUIVALENT		
172-001	CONSTANT TENSION HOSE CLAMPS FOR COOLANT HOSES		
270-023	HDEP FIXED RATIO COOLANT PUMP AND RADIATOR DRAIN VALVE		
168-998	NO RADIATOR/OIL PAN GUARD	-5	
360-013	1350 ADAPTER FLANGE FOR FRONT PTO PROVISION	25	
138-005	PHILLIPS-TEMRO 1500 WATT/115 VOLT BLOCK HEATER		
166-005	PHILLIPS-TEMRO 300 WATT/115 VOLT OIL PREHEATER		
140-022	CHROME ENGINE HEATER RECEPTACLE MOUNTED UNDER LH DOOR		
134-001	ALUMINUM FLYWHEEL HOUSING		
155-076	DELCO 12V MOD 3.175-39MT+ STARTER WITH ENGINE ECU THERMAL PROTECTION AND INTEGRATED MAGNETIC SWITCH	-35	
Transmission			
342-445	EATON FULLER RTO-16908LL TRANSMISSION	70	20

Data Code	Description	Weight Front	Weight Rear
Transmission Equipment			
85P-998	NO REAR PTO TRANSMISSION RANGE		
353-072	BODY LIGHTING POWER WIRED TO CUSTOMER INTERFACE CONNECTOR WITH SEPARATE & COMBO STOP/TURN		
347-002	ALUMINUM CLUTCH HOUSING	-50	
362-1T6	CUSTOMER INSTALLED CHELSEA 489 SERIES PTO		
363-003	PTO MOUNTING, BOTTOM OF MAIN TRANSMISSION		
341-017	MAGNETIC PLUGS, ENGINE DRAIN, TRANSMISSION FILL AND DRAIN, AXLE(S) FILL AND DRAIN		
345-001	PAINTED SHIFT LEVER, SOLID LINKAGE		
370-015	WATER TO OIL TRANSMISSION COOLER, IN RADIATOR END TANK		
35T-003	SYNTHETIC TRANSMISSION LUBE		
Front Axle and Equipment			
400-1BB	DETROIT DA-F-20.0-5 20,000# FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE		
402-030	MERITOR 16.5X6 Q+ CAST SPIDER CAM FRONT BRAKES, DOUBLE ANCHOR, FABRICATED SHOES		
403-002	NON-ASBESTOS FRONT BRAKE LINING		
419-023	CONMET CAST IRON FRONT BRAKE DRUMS		
427-001	FRONT BRAKE DUST SHIELDS	5	
409-006	FRONT OIL SEALS		
408-001	VENTED FRONT HUB CAPS WITH WINDOW, CENTER AND SIDE PLUGS - OIL		
416-022	STANDARD SPINDLE NUTS FOR ALL AXLES		
405-003	HALDEX AUTOMATIC FRONT SLACK ADJUSTERS		
406-001	STANDARD KING PIN BUSHINGS		
536-055	TRW THP-60 POWER STEERING WITH RCH45 AUXILIARY GEAR	90	
539-003	POWER STEERING PUMP		
534-003	4 QUART POWER STEERING RESERVOIR		
533-001	OIL/AIR POWER STEERING COOLER		
40T-003	SYNTHETIC 40/50W FRONT AXLE LUBE		
Front Suspension			
620-068	23,000# FLAT LEAF FRONT SUSPENSION	120	
619-004	GRAPHITE BRONZE BUSHINGS WITH SEALS - FRONT SUSPENSION		

Data Code	Description	Weight Front	Weight Rear
410-001	FRONT SHOCK ABSORBERS		
Rear Axle and Equipment			
420-059	RT-46-164P 46,000# R-SERIES TANDEM REAR AXLE		630
421-430	4.30 REAR AXLE RATIO		
424-001	IRON REAR AXLE CARRIER WITH STANDARD AXLE HOUSING		
386-067	RPL25SD MERITOR MAIN DRIVELINE	40	40
388-039	RPL20 MERITOR INTERAXLE DRIVELINE		
452-006	DRIVER CONTROLLED TRACTION DIFFERENTIAL - BOTH TANDEM REAR AXLES		30
878-023	(1) INTERAXLE LOCK VALVE, (1) DRIVER CONTROLLED DIFFERENTIAL LOCK FORWARD-REAR AND REAR-REAR AXLE VALVE		
87A-005	INDICATOR LIGHT FOR EACH INTERAXLE LOCKOUT SWITCH		
87B-008	INDICATOR LIGHT FOR EACH DRIVER CONTROLLED TRACTION DEVICE SWITCH		
423-020	MERITOR 16.5X7 Q+ CAST SPIDER CAM REAR BRAKES, DOUBLE ANCHOR, FABRICATED SHOES		
433-002	NON-ASBESTOS REAR BRAKE LINING		
434-011	BRAKE CAMS AND CHAMBERS ON FORWARD SIDE OF DRIVE AXLE(S)		
451-023	CONMET CAST IRON REAR BRAKE DRUMS		
425-002	REAR BRAKE DUST SHIELDS		10
440-006	REAR OIL SEALS		
426-109	WABCO TRISTOP D-IBV LONGSTROKE 2-DRIVE AXLE SPRING PARKING CHAMBERS		
428-003	HALDEX AUTOMATIC REAR SLACK ADJUSTERS		
41T-002	CURRENT AVAILABLE SYNTHETIC 75W-90 REAR AXLE LUBE		
Rear Suspension			
622-286	TUFTRAC 46,000# REAR SPRING SUSPENSION		490
621-055	TUFTRAC STANDARD RIDE HEIGHT		
431-003	AXLE CLAMPING GROUP		
624-028	56 INCH AXLE SPACING		
623-006	FORE/AFT AND TRANSVERSE CONTROL RODS		
439-002	REAR SHOCK ABSORBERS - TWO AXLES (TANDEM)		40
Brake System			
490-100	WABCO 4S/4M ABS		

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871-001	REINFORCED NYLON, FABRIC BRAID AND WIRE BRAID CHASSIS AIR LINES		
904-001	FIBER BRAID PARKING BRAKE HOSE		
412-001	STANDARD BRAKE SYSTEM VALVES		
432-003	RELAY VALVE WITH 5-8 PSI CRACK PRESSURE, NO REAR PROPORTIONING VALVE		
480-086	BW AD-9SI BRAKE LINE AIR DRYER WITH HEATER		
479-006	AIR DRYER MOUNTED OUTBOARD ON RH RAIL		
460-007	ALUMINUM AIR BRAKE RESERVOIRS	-15	-15
607-006	CLEAR FRAME RAIL 36 INCHES FROM BACK OF CAB INSIDE/OUTBOARD AND BELOW RH FRAME RAIL		
477-016	BW DV-2 AUTO DRAIN VALVE WITHOUT HEATER TO WET TANK; DRAIN VALVE CABLES ON ALL OTHER TANKS		
Trailer Connections			
914-025	AIR CONNECTIONS TO END OF FRAME WITH GLAD HANDS FOR TRUCK AND DUST COVERS		
296-010	PRIMARY CONNECTOR/RECEPTACLE WIRED FOR SEPARATE STOP/TURN, ABS CENTER PIN POWERED THROUGH IGNITION		
303-025	SAE J560 7-WAY PRIMARY TRAILER CABLE RECEPTACLE MOUNTED END OF FRAME		
1AZ-998	NO TRAILER RECEPTACLE BRACKET		
Wheelbase & Frame			
545-555	5550MM (219 INCH) WHEELBASE		
546-1B2	1/2X3.64X11-7/8 INCH STEEL FRAME (12.7MMX301.6MM/0.5X11.88 INCH) 120KSI	460	200
547-034	PARTIAL INNER FRAME REINFORCEMENT AT FRONT SUSPENSION	195	-5
548-803	BODY COMPANY INSTALLED ADDITIONAL FRONT FRAME REINFORCEMENT FOR SNOW PLOW		
552-028	1525MM (60 INCH) REAR FRAME OVERHANG		
55W-005	FRAME OVERHANG RANGE: 51 INCH TO 60 INCH	10	-60
549-002	24 INCH INTEGRAL FRONT FRAME EXTENSION	135	-10
AC8-99D	CALC'D BACK OF CAB TO REAR SUSP C/L (CA) : 137.28 in		
AE8-99D	CALCULATED EFFECTIVE BACK OF CAB TO REAR SUSPENSION C/L (CA) : 134.28 in		
AE4-99D	CALC'D FRAME LENGTH - OVERALL : 330.2		
ZF1-99D	FRAME HEIGHT TOP FRONT UNLADEN : 45.36 in		

Data Code	Description	Weight Front	Weight Rear
ZF2-99D	FRAME HEIGHT TOP FRONT LADEN : 41.73 in		
ZF3-99D	FRAME HEIGHT TOP REAR UNLADEN : 44.73 in		
ZF4-99D	FRAME HEIGHT TOP REAR LADEN : 42.13 in		
FSS-0LH	CALCULATED FRAME SPACE LH SIDE : 37.52 in		
FSS-0RH	CALCULATED FRAME SPACE RH SIDE : 177.19 in		
AM6-99D	CALC'D SPACE AVAILABLE FOR DECKPLATE : 137.78 in		
553-001	SQUARE END OF FRAME		
559-001	STANDARD WEIGHT ENGINE CROSSMEMBER		
561-001	STANDARD CROSSMEMBER BACK OF TRANSMISSION		
562-001	STANDARD MIDSHIP #1 CROSSMEMBER(S)		
572-001	STANDARD REARMOST CROSSMEMBER		
565-002	HEAVY DUTY SUSPENSION CROSSMEMBER		
568-001	STANDARD WEIGHT REAR SUSPENSION CROSSMEMBER		
Chassis Equipment			
556-1E5	14 INCH PAINTED STEEL BUMPER		
574-001	BUMPER MOUNTING FOR SINGLE LICENSE PLATE		
586-015	FRONT ANTI-SPRAY CAB MOUNTED MUDFLAPS		
551-007	GRADE 8 THREADED HEX HEADED FRAME FASTENERS		
44Z-002	EXTERIOR HARNESSES WRAPPED IN ABRASION TAPE		
Fuel Tanks			
204-156	100 GALLON/378 LITER ALUMINUM FUEL TANK - LH	20	
218-006	25 INCH DIAMETER FUEL TANK(S)		
215-005	PLAIN ALUMINUM/PAINTED STEEL FUEL/HYDRAULIC TANK(S) WITH PAINTED BANDS		
212-007	FUEL TANK(S) FORWARD		
664-001	PLAIN STEP FINISH		
205-001	FUEL TANK CAP(S)		
122-1K3	DAVCO 487 FUEL/WATER SEPARATOR WITH ESOC	15	
216-020	EQUIFLO INBOARD FUEL SYSTEM		
202-016	HIGH TEMPERATURE REINFORCED NYLON FUEL LINE		
213-001	INSULATION FOR FUEL LINES	2	

	Data Code	Description	Weight Front	Weight Rear
Tires				
	093-0TB	MICHELIN XZY-3 425/65R22.5 20 PLY RADIAL FRONT TIRES	196	
	094-2A7	MICHELIN XDS2 11R22.5 16 PLY RADIAL REAR TIRES		192
Hubs				
	418-060	CONMET PRESET PLUS PREMIUM IRON FRONT HUBS		
	450-060	CONMET PRESET PLUS PREMIUM IRON REAR HUBS		
Wheels				
	502-091	ACCURIDE 29374A 22.5X12.25 10-HUB PILOT 4.75 INSET 10-HAND ALUMINUM DISC FRONT WHEELS	-8	
	505-1M9	ALCOA LVL ONE 88565X 22.5X8.25 10-HUB PILOT HD 10-HAND ALUMINUM DISC REAR WHEELS		-160
	524-002	POLISHED FRONT WHEELS; INSIDE AND OUTSIDE		
	525-001	POLISHED REAR WHEELS; OUTSIDE OF OUTER WHEELS ONLY		
	50T-998	NO FRONT AXLE WHEEL/HUB COVER		
	496-011	FRONT WHEEL MOUNTING NUTS		
	497-011	REAR WHEEL MOUNTING NUTS		
	498-011	NYLON WHEEL GUARDS FRONT AND REAR ALL INTERFACES		
Cab Exterior				
	829-1A8	110 INCH BBC STEEL CONVENTIONAL CAB		
	82A-023	WESTERN STAR PAINTED ALUMINUM CAB SKIRT		
	650-044	AIR CAB MOUNTS WITH CHECK VALVE		
	705-056	STAINLESS STEEL SILL PLATES WITH RACEWAY	5	
	648-002	NONREMOVABLE BUGSCREEN MOUNTED BEHIND GRILLE		
	667-001	FRONT FENDERS		
	754-001	2 INCH FENDER EXTENSIONS	5	
	678-034	LH AND RH EXTERIOR GRAB HANDLES WITH RUBBER INSERTS AND RH INTERIOR GRAB HANDLE MOUNTED TO A POST		
	646-008	STATIONARY BRIGHT FINISH GRILLE		
	65X-003	CHROME HOOD MOUNTED AIR INTAKE GRILLE		
	640-008	GALVANEALED STEEL SEVERE SERVICE CAB		

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644-006	FIBERGLASS HOOD WITH ACCESS HATCHES	10	
690-007	HOOD LINER INSULATION WITH SINGLE FIREWALL INSULATION		
727-012	DUAL HADLEY SD-978 26 INCH RECTANGULAR AIR HORNS		
726-001	SINGLE ELECTRIC HORN		
728-002	DUAL HORN SHIELDS		
657-1AG	DOORS AND IGNITION KEYED THE SAME		
575-001	REAR LICENSE PLATE MOUNT END OF FRAME		
327-064	DUAL AMBER LED CLASS I STROBE LIGHTS WITH STAINLESS STEEL BRACKETS ABOVE CAB DOORS	20	
312-031	SINGLE RECTANGULAR H4 HALOGEN HEADLIGHTS WITH BRIGHT BEZELS		
302-022	LED MARKER LAMPS		
314-824	WIRING AND SWITCH FOR CUSTOMER FURNISHED SNOW PLOW LAMPS WITH DUAL CONNECTIONS AT BUMPER		
294-001	INTEGRAL STOP/TAIL/BACKUP LIGHTS		
300-015	STANDARD FRONT TURN SIGNAL LAMPS		
744-1DH	DUAL AERO BRIGHT FINISH HEATED DUAL AXIS 1-PIECE MOTORIZED MIRRORS WITH LIGHTS, LH AND RH REMOTE AND INTEGRAL CONVEX MIRRORS	20	
797-002	CAB MOUNTED MIRRORS		
796-001	102 INCH EQUIPMENT WIDTH		
743-1AX	DUAL BRIGHT FINISH HEATED CONVEX MIRRORS WITH MANUAL ADJUSTMENT AND DUAL AXIS FOR 1-PIECE PRIMARY MIRRORS		
74A-001	RH DOWN VIEW MIRROR		
729-001	STANDARD SIDE/REAR REFLECTORS		
677-054	RH AFTERTREATMENT SYSTEM CAB ACCESS WITH PLAIN DIAMOND PLATE COVER		
764-002	STAINLESS STEEL EXTERIOR SUN VISOR	28	
768-046	17.5X35 INCH TINTED REAR WINDOW		
661-006	TINTED DOOR GLASS		
654-011	RH AND LH ELECTRIC POWERED WINDOWS	4	
663-023	2-PIECE ROPED-IN HEATED WIPER PARK SOLAR GREEN GLASS WINDSHIELD		
659-026	2 GALLON WINDSHIELD WASHER RESERVOIR WITH FLUID LEVEL INDICATOR, MOUNTED UNDER CAB, WITH REMOTE FILL		
Cab Interior			
707-1D0	GRAY VINYL BASE INTERIOR		

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70K-005	BLACK HARD TRIM		
706-048	PREMIUM LEFT HAND DOOR TRIM WITH CHERRY ACCENT		
708-048	PREMIUM RIGHT HAND DOOR TRIM WITH CHERRY ACCENT		
772-007	BLACK MATS WITH DOUBLE INSULATION		
785-007	DASH MOUNTED ASH TRAY AND LIGHTER, DRIVER SIDE		
691-001	FORWARD ROOF MOUNTED CONSOLE		
697-012	14"X7.75" DOCUMENT POUCH MOUNTED ON BACK WALL BETWEEN SEATS		
693-025	LH AND RH DOOR MAP POCKETS		
741-015	(2) COAT HOOKS ON BACKWALL OF CAB		
742-032	(1) DOUBLE CUP HOLDER WITH CELL PHONE HOLDER LH OR RH DASH		
680-034	TWO-TONE CHARCOAL UPPER/COOL GRAY LOWER SOFT TOUCH WING DASH WITH BLACK DRIVER SIDE COSMETIC UNDER DASH COVER		
720-003	5 LB. FIRE EXTINGUISHER	10	
700-023	HEATER, DEFROSTER AND AIR CONDITIONER WITH CONSTANT TEMPERATURE CONTROL AND COSMETIC COVER		
701-016	HVAC DUCTING WITH FOAM MAIN FRESH AIR FILTER		
703-005	MAIN HVAC CONTROLS WITH RECIRCULATION SWITCH		
170-045	STANDARD HEATER PLUMBING WITH BALL SHUTOFF VALVES AT SUPPLY LINES ONLY		
130-041	VALEO HEAVY DUTY A/C REFRIGERANT COMPRESSOR		
698-001	RADIATOR MOUNTED AIR CONDITIONER CONDENSER		
702-002	BINARY CONTROL, R-134A		
739-002	ADDITIONAL CAB SIDEWALL INSULATION	60	10
285-033	AUTOMATIC SELF-RESET CIRCUIT BREAKERS/FUSES IN DASH POWER DISTRIBUTION BOXES AND FUSES IN AUXILIARY POWER DISTRIBUTION BOXES		
324-075	DOOR ACTIVATED DOME LIGHT, UNDER DASH LIGHT AND LH AND RH DOOR MOUNTED COURTESY LIGHTS		
655-001	CAB DOOR LATCHES WITH MANUAL DOOR LOCKS		
722-028	TRIANGULAR REFLECTORS KIT WITHOUT FLARES SHIPPED LOOSE IN CAB	10	

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756-1DD	BASIC HIGH BACK AIR SUSPENSION DRIVER SEAT WITH 1 CHAMBER AIR LUMBAR, INTEGRATED CUSHION EXTENSION AND REAR CUSHION TILT		
760-1DC	BASIC HIGH BACK NON SUSPENSION PASSENGER SEAT		
759-007	DUAL DRIVER SEAT ARMRESTS, NO PASSENGER SEAT ARMRESTS	4	
758-1AA	GRAY VINYL DRIVER SEAT COVER		
761-1AA	GRAY VINYL PASSENGER SEAT COVER		
763-003	3 POINT DRIVER AND PASSENGER SEAT BELT RETRACTORS		
532-002	ADJUSTABLE TILT AND TELESCOPING STEERING COLUMN		
540-045	4-SPOKE 18 INCH (450MM) LEATHER WRAPPED STEERING WHEEL WITH SWITCHES		
765-002	DRIVER AND PASSENGER INTERIOR SUN VISORS		
Instruments & Controls			
185-002	NON-ADJUSTABLE SUSPENDED PEDALS		
106-002	ELECTRONIC FOOT ACCELERATOR		
870-002	BRIGHT ARGENT FINISH GAUGE BEZELS		
732-047	FIGURED CHERRY WOODGRAIN ULTRA GLOSS FINISH DRIVER INSTRUMENT PANEL		
734-047	FIGURED CHERRY WOODGRAIN ULTRA GLOSS FINISH CENTER INSTRUMENT PANEL		
486-001	LOW AIR PRESSURE INDICATOR LIGHT AND AUDIBLE ALARM		
840-002	2 INCH PRIMARY AND SECONDARY AIR PRESSURE GAUGES		
198-024	FILTERMINDER DASH MOUNTED AIR RESTRICTION GAUGE	2	
721-021	87 DB TO 112 DB SELF-ADJUSTING BACKUP ALARM		3
149-015	ELECTRONIC CRUISE CONTROL WITH CONTROLS ON STEERING WHEEL SPOKES		
156-007	KEY OPERATED IGNITION SWITCH AND INTEGRAL START POSITION; 4 POSITION OFF/RUN/START/ACCESSORY		
811-041	ICU4ME DRIVER MESSAGE CENTER WITH GRAPHICAL DISPLAY, BLACK FACE GAUGES, DIAGNOSTICS AND DATA LINKED		
160-038	HEAVY DUTY ONBOARD DIAGNOSTICS INTERFACE CONNECTOR LOCATED BELOW LH DASH		
844-001	2 INCH ELECTRIC FUEL GAUGE		

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845-011	FUEL FILTER RESTRICTION INDICATOR		
148-085	EMISSIONS LIMITED IDLE ADJUST		
4C0-010	CUSTOMER SPECIFIED SWITCH ACTUATORS FOR EXTRA SWITCHES		
44Y-002	CUSTOMER INTERFACE CONNECTOR LOCATED BETWEEN SEATS WITH BLUNTCUTS		
856-001	ELECTRICAL ENGINE COOLANT TEMPERATURE GAUGE		
854-001	ENGINE OIL TEMPERATURE GAUGE		
864-001	2 INCH TRANSMISSION OIL TEMPERATURE GAUGE		
867-004	ELECTRONIC OUTSIDE TEMPERATURE SENSOR DISPLAY IN DRIVER MESSAGE CENTER		
372-063	(1) DASH MOUNTED PTO SWITCH WITH INDICATOR LAMP FOR CUSTOMER INSTALLED PTO	10	
852-002	ELECTRIC ENGINE OIL PRESSURE GAUGE		
746-115	AM/FM/WB WORLD TUNER RADIO WITH BLUETOOTH AND USB AND AUXILIARY INPUTS, J1939	10	
747-002	ROOF/OVERHEAD CONSOLE MOUNTED RADIO		
750-004	(4) RADIO SPEAKERS IN CAB		
753-021	AM/FM ANTENNA MOUNTED ON LH FRONT A-PILLAR	2	
748-019	COBRA 29 WX ST FACTORY INSTALLED CB RADIO WITH WEATHERBAND	5	
749-001	ROOF/OVERHEAD CONSOLE CB RADIO PROVISION		
752-017	MULTI-BAND AM/FM/WB/CB LH MIRROR MOUNTED ANTENNA SYSTEM		
810-042	ELECTRONIC MPH SPEEDOMETER WITH SECONDARY KPH SCALE, WITH ODOMETER		
817-001	STANDARD VEHICLE SPEED SENSOR		
812-001	ELECTRONIC 3000 RPM TACHOMETER		
813-1B4	VT-HU CONNECTIVITY PLATFORM HARDWARE		
8D1-002	2 YEARS DETROIT CONNECT BASE PACKAGE (VIRTUAL TECHNICIAN, DETROIT CONNECT PORTAL ACCESS) FOR VT-HU CONNECTIVITY PLATFORM		
162-020	IDLE SHUTDOWN OVERRIDE, DDEC 5/6 AMBIENT AIR TEMPERATURE SENSOR		
329-022	EIGHT EXTRA SWITCHES IN DASH		
4C1-019	HARDWIRE SWITCH #1,ON/OFF/ON MOMENTARY,10 AMPS IGNITION WIRED TO CUSTOMER INTERFACE CONNECTOR		

Data Code	Description	Weight Front	Weight Rear
4C2-004	HARDWIRE SWITCH #2,ON/OFF LATCHING, 20 AMPS BATTERY WIRED TO CUSTOMER INTERFACECONNECTOR		
4C3-004	HARDWIRE SWITCH #3,ON/OFF LATCHING, 20 AMPS BATTERY WIRED TO CUSTOMER INTERFACECONNECTOR		
4C4-004	HARDWIRE SWITCH #4,ON/OFF LATCHING, 20 AMPS BATTERY WIRED TO CUSTOMER INTERFACECONNECTOR		
4C5-004	HARDWIRE SWITCH #5,ON/OFF LATCHING, 20 AMPS BATTERY WIRED TO CUSTOMER INTERFACECONNECTOR		
4C6-004	HARDWIRE SWITCH #6,ON/OFF LATCHING, 20 AMPS BATTERY WIRED TO CUSTOMER INTERFACECONNECTOR		
4C7-004	HARDWIRE SWITCH #7,ON/OFF LATCHING, 20 AMPS BATTERY WIRED TO CUSTOMER INTERFACECONNECTOR		
4C8-004	HARDWIRE SWITCH #8,ON/OFF LATCHING, 20 AMPS BATTERY WIRED TO CUSTOMER INTERFACECONNECTOR		
482-001	BW TRACTOR PROTECTION VALVE		
883-001	TRAILER HAND CONTROL BRAKE VALVE		
836-015	DIGITAL VOLTAGE DISPLAY INTEGRAL WITH DRIVER DISPLAY		
660-008	SINGLE ELECTRIC WINDSHIELD WIPER MOTOR WITH DELAY		
304-060	MARKER LIGHT SWITCH INTEGRAL WITH HEADLIGHT SW WITH HEADLIGHT/MRKR LT INTERRUPTER SWITCHES ON STEERING WHEEL & DASH SW FOR CUSTOMER FURNISHED SNOWPLOW LTS		
882-004	TWO VALVE PARKING BRAKE SYSTEM WITH WARNING INDICATOR		
299-039	SELF CANCELING TURN SIGNAL SWITCH, HEADLAMP HIGH/LOW AND FLASH, WASH/WIPE/INTERMITTENT		
298-036	PACIFIC INSIGHT ELECTRONIC FLASHER		
Design			
065-000	PAINT: ONE SOLID COLOR		
Color			
980-5E7	CAB COLOR A: L0789EY OMAHA ORANGE ELITE EY		
96J-001	CAB INTERIOR PAINTED SAME AS CAB COLOR		
986-020	BLACK, HIGH SOLIDS POLYURETHANE CHASSIS PAINT		

Data Code	Description	Weight Front	Weight Rear
964-993	BUMPER PAINTED SAME AS CHASSIS		
963-006	FENDER, UNDER CAB AND INTERIOR CAB FLOOR UNDERCOATING		

Certification / Compliance

996-001	U.S. FMVSS CERTIFICATION, EXCEPT SALES CABS AND GLIDER KITS		

Secondary Factory Options

998-001	CORPORATE PDI CENTER IN-SERVICE ONLY		
95M-998	NO CUSTOMER FURNISHED MATERIAL SPECIFIED		
999-014	DEALER HAS BEEN ADVISED OF AND ACCEPTED RESPONSIBILITY FOR MODIFICATIONS DUE TO POSSIBLE PTO/CHASSIS INTERFERENCE		

Raw Performance Data

AE4-99D	CALC'D FRAME LENGTH - OVERALL : 330.2		
AE8-99D	CALCULATED EFFECTIVE BACK OF CAB TO REAR SUSPENSION C/L (CA) : 134.28 in		
AM6-99D	CALC'D SPACE AVAILABLE FOR DECKPLATE : 137.78 in		

Sales Programs

NO SALES PROGRAMS HAVE BEEN SELECTED

TOTAL VEHICLE SUMMARY

Weight Summary

	Weight Front	Weight Rear	Total Weight
Factory Weight+	10653 lbs	8025 lbs	18678 lbs
Dealer Installed Options	0 lbs	0 lbs	0 lbs
Total Weight+	10653 lbs	8025 lbs	18678 lbs

Dealer Installed Options

		Weight Front	Weight Rear
2222	PARTS AND SERVICE MANUALS	0	0

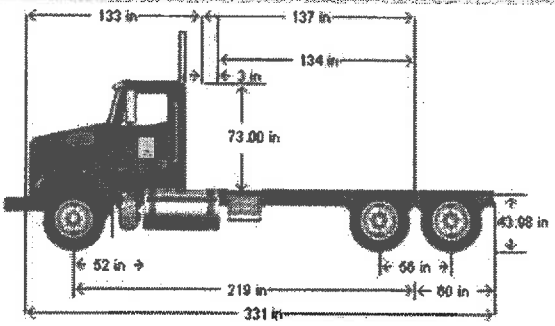
Total Dealer Installed Options	0 lbs	0 lbs

(+) Weights shown are estimates only.

If weight is critical, contact Customer Application Engineering.

(***) All cost increases for major components (Engines, Transmissions, Axles, Front and Rear Tires) and government mandated requirements, tariffs, and raw material surcharges will be passed through and added to factory invoices.

DIMENSIONS



VEHICLE SPECIFICATIONS SUMMARY - DIMENSIONS

Model 4700SF
Wheelbase (545) ..... 5550MM (219 INCH) WHEELBASE
Rear Frame Overhang (552) ..... 1525MM (60 INCH) REAR FRAME OVERHANG
Fifth Wheel (578) ..... NO FIFTH WHEEL
- Mounting Location (577) ..... NO FIFTH WHEEL LOCATION
- Maximum Forward Position (in) 0
- Maximum Rearward Position (in) 0
- Amount of Slide Travel (in) 0
- Slide Increment (in) 0
- Desired Slide Position (in) 0.0

Cab Size (829) ..... 110 INCH BBC STEEL CONVENTIONAL CAB
Sleeper (682) ..... NO SLEEPER BOX/SLEEPERCAB
Exhaust System (016) ..... RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH B-PILLAR MOUNTED VERTICAL TAILPIPE

TABLE SUMMARY - DIMENSIONS

Dimensions	Inches
Bumper to Back of Cab (BBC)	133.2
Bumper to Centerline of Front Axle (BA)	52.0
Min. Cab to Body Clearance (CB)	3.0
Back of Cab to Centerline of Rear Axle(s) (CA)	137.3
Effective Back of Cab to Centerline of Rear Axle(s) (Effective CA)	134.3
Back of Cab Protrusions (Exhaust/Intake) (CP)	2.0
Back of Cab Protrusions (Side Extenders/Trim Tab) (CP)	0.0
Back of Cab Protrusions (CNG Tank)	0.0
Back of Cab Clearance (CL)	3.0
Back of Cab to End of Frame	197.3
Cab Height (CH)	73.0
Wheelbase (WB)	218.5
Frame Overhang (OH)	60.0
Overall Length (OAL)	330.5
Rear Axle Spacing	56.0
Unladen Frame Height at Centerline of Rear Axle	44.0

Performance calculations are estimates only. If performance calculations are critical, please contact Customer Application Engineering.

GVWR

VEHICLE SPECIFICATIONS SUMMARY - GVWR

Model	4700SF
Cab Size (829)	110 INCH BBC STEEL CONVENTIONAL CAB
Expected Front Axle(s) Load (lbs)	20000.0
Expected Pusher Axle(s) Load (lbs)	0.0
Expected Rear Axle(s) Load (lbs)	46000.0
Expected Tag Axle(s) Load (lbs)	0.0
Expected GVW (lbs)	66000
Expected GCW (lbs)	0.0
Front Axle (400)	DETROIT DA-F-20.0-5 20,000# FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE
Front Suspension (620)	23,000# FLAT LEAF FRONT SUSPENSION
Front Hubs (418)	CONMET PRESET PLUS PREMIUM IRON FRONT HUBS
Front Disc Wheels (502)	ACCURIDE 29374A 22.5X12.25 10-HUB PILOT 4.75 INSET 10-HAND ALUMINUM DISC FRONT WHEELS
Front Tires (093)	MICHELIN XZY-3 425/65R22.5 20 PLY RADIAL FRONT TIRES
Front Brakes (402)	MERITOR 16.5X6 Q+ CAST SPIDER CAM FRONT BRAKES, DOUBLE ANCHOR, FABRICATED SHOES
Steering Gear (536)	TRW THP-60 POWER STEERING WITH RCH45 AUXILIARY GEAR
Rear Axle (420)	RT-46-164P 46,000# R-SERIES TANDEM REAR AXLE
Rear Suspension (622)	TUFTRAC 46,000# REAR SPRING SUSPENSION
Rear Hubs (450)	CONMET PRESET PLUS PREMIUM IRON REAR HUBS
Rear Disc Wheels (505)	ALCOA LVL ONE 88565X 22.5X8.25 10-HUB PILOT HD 10-HAND ALUMINUM DISC REAR WHEELS
Rear Tires (094)	MICHELIN XDS2 11R22.5 16 PLY RADIAL REAR TIRES
Rear Brakes (423)	MERITOR 16.5X7 Q+ CAST SPIDER CAM REAR BRAKES, DOUBLE ANCHOR, FABRICATED SHOES
Pusher / Tag Axle (443)	NO PUSHER OR TAG AXLE
Pusher / Tag Suspension (626)	NO PUSHER OR TAG SUSPENSION
Pusher / Tag Hubs (449)	NO PUSHER OR TAG HUBS
Pusher/Tag Disc Wheels (509)	NO PUSHER/TAG DISC WHEELS
Pusher / Tag Tires (095)	NO PUSHER/TAG TIRES
Pusher / Tag Brakes (456)	NO PUSHER/TAG BRAKES

TABLE SUMMARY - GVWR

	Front	Rear 1	Rear 2
Axle Component Weight Ratings			
Axles	20000	23000	23000
Suspension	23000	23000	23000
Hubs	23000	26000	26000
Brakes	20000	23000	23000
Wheels	22000	32200	32200
Tires	22800	24020	24020
Power Steering	22000	N/A	N/A
GAWR (per axle)	20000	23000	23000
GAWR (per axle system)	20000		46000
Expected Load (per axle system)	20000		46000
GVWR due to Frame	90000		
GVWR due to Transmission	300000		
Vehicle GVWR Summary			
Calculated GVWR	66000		
Expected GVWR	66000		
All weights displayed in pounds			

Performance calculations are estimates only. If performance calculations are critical, please contact Customer Application Engineering.

SPECIFICATIONS FOR A HENDERSON ONE-WAY SNOW PLOW

GENERAL:

This specification shall describe **a One-Way Snow Plow** or approved equal. This unit shall also consist of two adjustable slotted trip assemblies, rolled moldboard and continuous seam welding. Bidders must submit with their proposal complete specifications on the unit they propose to furnish.

MINIMUM MOLDBOARD REQUIREMENTS:

Height of moldboard at nose end is 40", height of moldboard at discharge end is 63"
Cutting path 116" with a cutting edge length of 11'
10 ga Steel rolled moldboard with nine (9) ½"x 3-1/2" one-piece flame cut ribs. 1/4" Nose Plate **Full Welded Moldboard.**Two-position attack angle adjustment on moldboard for flexability of use with Carbide or Standard cutting edges(45 degrees for standard cutting edges, 30 degrees for carbides cutting edges)
Moldboard height measures from the road surface to inside of radius.
Gusseted 6"x 4" x 3/4"bottom angle, 2-1/2"x 2-1/2"x3/8" top angle
Two adjustable slotted trip compression spring assemlies having 9 active coils.5" outer dimension and 3/4" stock. Center Roller mechanism to enhance trip performance is reqiured.
Adjustable stabalizing arm with safety shear pin having two upper mounting and eight center positions, made from 2-3/4" outer tube with 3/8" wall and 2" solid inner tube.
Two adjustable cast Mushroom shoes, moldboard wear shoe on discharge end and nose are required.Safety Chain to secure moldboard to the drive frame to limit forward movement during attack angle alterations, or in the event the telescopic brace failure.

PUSH FRAME:

95" Push Frame shall be a minumum 6"x6"x1/2" angle enclosed with 1/2" Plate (3) Slotted trip lugs are fabricated from 1-1/4" thick plate. Two 5"x5" x1/4" wall structural tube members. Base push plate is 8"x33-1/2"x1 hr. Push frame shoe attachment legs to be ½' plate 10" high x10" wide gusseted providing 4 nonalligned attachment points.
ALL WELDS ON MOLDBOARD AND PUSH FRAME TO BE CONTINUOUS WELD SKIP WELDS NOT ACCEPTABLE.

PAINT:
All surfaces are high-pressure cleaned and degreased with phosphate solution prior to having a Powered Coated Finish. Moldboard Orange, Pushframe Black

Meets: _____
Exceptions: _____

SPECIFICATIONS FOR A HENDERSON POWERTILT PIN WING HITCH (HWH)

GENERAL:

This specification shall describe a **POWERTILT PIN WING HITCH**. Bidders must submit with their proposal complete specifications and sales literature on the unit they propose to furnish, notating any deviations from these outlined specifications.

MINIMUM BASE HITCH REQUIREMENTS:

- Power Tilt design.
- Pin hitch with connection points for 30.5" centers
- 3-point reinforced lift arm.
- Heavy duty tubular frame construction.
- Integrated cheek plate design
- Front mount pump mount capable
- Integrated wing system base mount.
- Designed for use with a Severe Duty leveling wing and patrol wing systems.
- *Chassis frame data sheet and plow type required at time of order.

MINIMUM HITCH REQUIREMENTS:

- The main hitch frame shall consist of (2) outer vertical frame members and (3) horizontal frame members.
- The vertical uprights shall be fabricated of no less than 4" x 3" x .375w structural tube. These vertical uprights shall tie ahead of the lower horizontal bottom cross tube and upper secondary horizontal cross tube, and into the top horizontal cross tube.
- The top horizontal cross tube shall be fabricated from no less than 4" x 4" x .38w structural square tube.
- The lower horizontal bottom cross tube shall be fabricated from no less than 7" x 4" x .375w structural tube. This tube will also provide the base mounting components for the wing system mast. This tube shall be further supported to the vertical uprights by .38" gussets.
- Located on the rear side of the lower horizontal bottom cross tube shall be (4) ¾" ears flame cut to accept a 1.5" pin.
- The upper secondary horizontal cross tube shall be fabricated from no less than 7" x 4" x .375w structural tube. This tube will also provide the base mounting components for the wing system mast. This tube shall be further supported to the vertical uprights by ½" plate gussets which will also act as the lock plate for the removable pins allowing for the tilt release of the hitch.
- Located on the front side of the top horizontal cross tube shall be (4) lift arm mounting ears for mounting and supporting the plow hitch lift arm. The center (2) lift arm pivot ears shall be fabricated of no less than ½" plate. These plates shall be flame cut as to provide contact on a minimum of (3) sides of the top horizontal cross support tube. 3/8" gussets shall be utilized to further support the (2) center lift arm pivots.

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- The (2) lift arm outer support pivot ears shall be fabricated from no less than ½" plate. These supports will attach to the outer lift arm supports for reducing torsional loads on the lift arm when the front plow is in the carrying position.
- The lower front side of the hitch shall be a 6" x 4" x .75" angle which will provide the mounting surface for the lower pin hitch attachment ears, and will also provide the termination point of the outer vertical uprights. This angle shall extend beyond the vertical uprights.
- Located just above the lower front side angle shall be a ¾" x 3" flat which will increase the bearing surface on the front side of the hitch attachment ears.
- The hitch attachment ear plates shall be fabricated from no less than 5/8" plate and have a series of (4) holes for allowing adjustment in the plow hitch mounting height. The attachment ears shall be designed as to contact the lower hitch angle on a minimum of (2) sides. Placement of the ears shall be done so to provide 30.5" centers.
- The chassis mounting side of the hitch shall consist of 5/8" thick cheek plates. The bottom leading edge of the cheek plates shall be flame cut to accept a 1.5" pin for the main hitch attachment. This pivot shall include a .75" thick x 3" diameter doubler plate for increased durability at this hinge point.
- Located on the top side of the cheek plate kit shall be a full width horizontal cross tube. The cross tube shall be fabricated with no less than 4" x 4" x .38w structural square tube.
- (2) ½" cylinder mount ears shall be located on the top horizontal cheek plate cross tube. These mounts shall be designed as to contact the cross tube on a minimum of 3 sides.
- The hitch lift arm shall be telescopic tube-in-tube design. The outer lift arm shall be fabricated from 4" x 4" x .38w square tube. The hitch side of the tube shall include an integral reinforcing bushing designed to accept the 1" hinge pin. Located on the bottom side of the outer lift arm tube shall be (2) ¾" ears for pinning to the hitch lift arm cylinder. The left and right sides of the out lift arm shall include the outer lift arm supports. The main outer lift arm and lift arm supports shall pin to the main hitch lift arm attachment ears.
- The inner lift arm shall be fabricated from 3" x 3" x .38" square tube. The tube shall include a series of pin holes to allow for lift arm length adjustment. The end of the lift arm shall terminate with a ½" lift chain plate. The lift chain plate shall include slotted chain keepers for (2) lift chains.
- The hitch lift cylinder shall be a 4"-10", 2" double acting nitrided cylinder. Chrome plated rods will not be accepter due to their ability to flake and peel. The lift cylinder shall have a loaded U-CUP seal on the rod seal, and capped T seal on the piston seal.
- The lift cylinder shall pin to the lift arm and hitch by 1" pins with clip.
- The hitch shall be designed in a manner in which removal of the (2) locking pins will allow the lift cylinder to tilt actuate the hitch forward, allowing access to the chassis engine.

MINIMUM PAINT REQUIREMENTS:

- All steel surfaces are to be high pressure washed to remove slag, splatter, oxide and oil residue.
- The hitch system shall be powder coated black.

YES_____ NO_____

Exceptions_____

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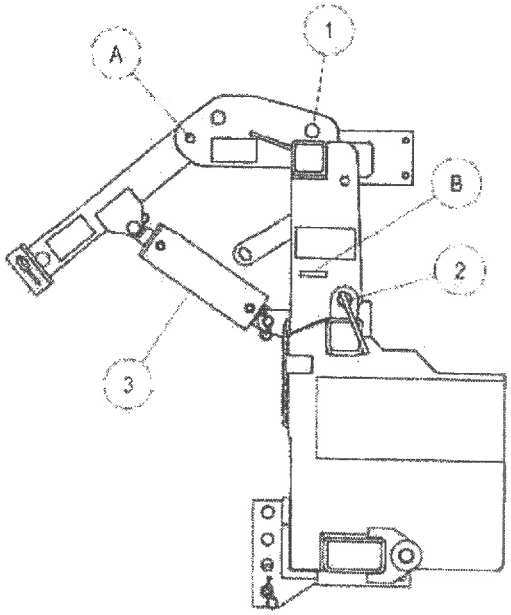
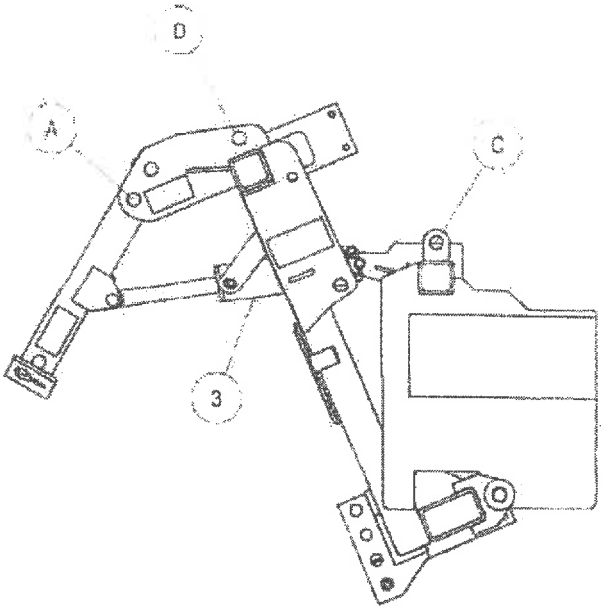
TO TILT HITCH FORWARD FOR ENGINE ACCESS:

1) REMOVE PIN (ITEM 1) FROM STORAGE LOCATION ON HITCH AND INSERT INTO HOLE (A).
2) REMOVE PINS (ITEM 2) FROM BOTH SIDES OF HITCH AND STOW IN RETAINERS (B).
3) SLOWLY EXTEND CYLINDER (ITEM 3) TO TILT HITCH FORWARD.



TO TILT HITCH BACK TO PLOWING POSITION:

1) RETRACT CYLINDER (ITEM 3) RETURNING HITCH TO UPRIGHT POSITION.
2) INSERT PINS (ITEM 2) INTO HOLE (C) ON BOTH SIDES OF HITCH.
3. REMOVE PIN FROM HOLE (A) AND RETURN TO STORAGE LOCATION (D).



HITCH SHOWN IN TILTED POSITION.

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SPECIFICATIONS FOR A HENDERSON
HEAVY DUTY LEVELING WING – STRAIGHT REAR MASTS

GENERAL:

This specification shall describe a **Heavy Duty Leveling Wing**. This unit shall consist of six hydraulic cylinders for complete control of moldboards heel and toe. Break formed moldboards shall be one piece and continuous seam welded. Bidders must submit with their proposal complete specifications on the unit they propose to furnish.

	YES	EXCEPTIONS
FRONT WING MASTS:		
Wing mast bolts to front mounted plow hitch for ease of removal	____	_____
Masts are fabricated from 8" x 18.4#/ft. structural I-beam.	____	_____
3 ½" x 1 ½" x 34" stroke double acting cylinders. Shall be reaved to provide not less than 68" of front slide travel. Cylinders shall have a nitrided cylinder tube.	____	_____
Benching capability is 68"	____	_____
REAR WING MASTS:		
Rear masts shall consist of a minimum 12" I beams x 22 lb/ft and 12" structural channel x 25.0 lb/ft, joined together on two sides by ¼" steel plate.	____	_____
Total post box section shall be 52 lb/ft and an R.B.M. of not less than 1,690,000 inch pounds.	____	_____
The rear masts shall be adjustable in height and readily removable without disturbing the hydraulic reservoir, valves, and controls.	____	_____
Rear mast attachment shall be a boxed rectangular weldment of structural channel and 7 gauge sheet steel, which includes a cross member at the top of the chassis frame rails from not less than a 10" structural channel x 15.3 lb/ft.	____	_____
A removable panel for inspection and service of the rear control cylinder shall be included in the rear beam.	____	_____

Rear wing cylinders shall be not less than a 3 ½" x 1 ½" x 34" stroke double acting type located within the boxed rectangular weldment at the removable rear beams. Cylinders shall have a nitrided cylinder tube.

Brace control cylinders shall be not less than 3 ½" x 1 ½" x 43" stroke double acting type, located outside of the rear support beam. Cylinders shall have a nitrided cylinder tube.

The rear of the leveling wings shall be supported by two (2) extra heavy duty telescopic wing braces (non-tripping). Shafts shall be 2 3/8" diameter rounds and tubing shall be not less than 3" in outside diameter, with ¼" wall thickness bottom brace to have compression spring.

RESERVOIR:

Reservoir shall be not less than 40 gallons and mounted on rear wing post support behind chassis cab.

Reservoir shall be made from 7 gauge steel and equipped with a filling strainer, baffle plate, breather vent, and an oil level/temperature sight gauge.

PAINT:

All metal surfaces are to be cleaned to remove slag, splatter, oxide, and oil residue.

All surfaces are high-pressure cleaned and degreased with phosphate solution before being primed and finish painted.

All surfaces are high-pressure cleaned and degreased with phosphate solution prior to painting. Moldboard is primed with a high-quality catalyzed primer and then finished with Highway Orange enamel paint. Mast assembly and mounting components are powder coat painted black.

SPECIFICATIONS FOR A HENDERSON
HEAVY DUTY LEVELING WING

GENERAL:

This specification shall describe a **Heavy Duty Leveling Wing**. Break formed moldboard shall be one piece and continuous seam welded. Bidders must submit with their proposal complete specifications on the unit they propose to furnish.

MINIMUM MOLDBOARD REQUIREMENTS:	**YES**	**EXCEPTIONS**
Moldboard height shall be 29" at intake / 39" discharge	____	_____
Molboard cutting edge length shall be 11', overall moldboard length is one foot longer	____	_____
11' x 1/2" x 8" C1090 one piece AASHO center punched cutting edge	____	_____
Cutting edge is bolted to a minimum 5" x 3-½" x 3/4" structural angle.	____	_____
7 gauge break formed moldboard with eight (8) flame cut ribs for extra strength and rigidity. Six (6) ribs are of 3/8" steel, the two drive ribs are ½" steel.	____	_____
Continuous welded one-piece moldboard	____	_____
Top angle is a 2 ½" x 2 ½" x 3/8" structural angle. Wing moldboard is further reinforced by two (2) intermediate full length horizontal braces of 3 ½" x 3 ½" x ½" structural angles.	____	_____

PAINT:

All metal surfaces are to be cleaned to remove slag, splatter, oxide, and oil residue.	____	_____
All surfaces are high-pressure cleaned and degreased with phosphate solution prior to painting. Moldboard is then finished with Highway Orange Powdered Coated paint.	____	_____

SPECIFICATIONS FOR A HENDERSON REAR DISCHARGE
AR 400 STEEL MULTI-PURPOSE ALL SEASON BODY

GENERAL

This specification shall describe a **FLAT FLOOR REAR DISCHARGE** combination dump/spreader body or equal. Bidders must submit with their bid complete specifications on the unit they propose to furnish.

1.	**MINIMUM BODY REQUIREMENTS**	**COMPLIANCE**
1.01	Capacity to be 13.5 cubic yards struck without sideboards/ 17.2 cubicyards with sideboards	☐ Yes ☐ No
1.02	Inside length 14'	☐ Yes ☐ No
1.03	The inside of the body shall be 86" wide to maximize capacity and lower the center of gravity of the unit.	☐ Yes ☐ No
1.04	Side height of 44 inches. Tailgate height of 56" on 44" sides. Headsheet height of 60 inches with internal doghouse.	☐ Yes ☐ No
2.	**SIDES & HEADSHEET**	**☐ Yes ☐ No**
2.01	One piece sides constructed of AR 400 steel, 200,000 PSI tensile strength.	☐ Yes ☐ No
	Boxed formed top rails constructed of 10ga steel and be of dirt shedding design.	
2.02	Sides to be reinforced with (1) horizontal fully welded side brace construted of 10ga steel. Horizontal bracing to be of dirt shedding design.	☐ Yes ☐ No
2.03	Lower rubrail to be constructed of 10g steel and be of dirt shedding design.	☐ Yes ☐ No
2.04	Headsheet and one-piece sides to be 3/16 AR 400 steel, 200,000 PSI tensile strength. NO EXCEPTIONS	☐ Yes ☐ No
2.05	Headsheet shall be vertical. Headsheets which are sloped to accommodate the hoist are **NOT ACCEPTABLE**.	☐ Yes ☐ No
2.06	2" wide side board pockets set for 10" Boards center board tab	☐ Yes ☐ No
2.07	17" x 5" x ¼" 201SS rear corner posts are tied into a ¼" formed channel on the front and rear lower side of bolster..	☐ Yes ☐ No
3.	**CONVEYOR/FLOOR**	
3.01	Floor Construced of 1/4" AR400 with 5" round floor to side radius.	☐ Yes ☐ No
3.02	12.5" truck frame to body floor height for lower center of gravity and lower mounting height.	☐ Yes ☐ No
3.03	¼" SS formed inner sill which also forms the conveyor chain guard. 7 gauge SS formed outer longsills.	☐ Yes ☐ No
3.04	1/4" AR400, (190,000 PSI yield , 200,000 PSI tensile strength, Brinnell Hardness of 400), conveyor bed floor.	☐ Yes ☐ No
3.05	Formed 3/8" thick tie plate to fully extend between the left and right side of the body, located at the rear of the unit. This tie plate will provide additional structural support at the rear of the body to prevent sagging at the rear corner posts.	☐ Yes ☐ No
3.06	2" diameter drive and idler shafts with 8 tooth sprockets. Drive sprockets are double keyed with ½" keys to shaft. Sprockets shall be heat treated to 50 Rockwell C hardness.	☐ Yes ☐ No
3.07	Conveyor driven by a 25:1 planetary gearcase and piston motor driving rear shaft.	☐ Yes ☐ No
3.08	28" wide conveyor.	☐ Yes ☐ No
3.09	D667K pintle chain (24,500 lb. tensile/strand).	☐ Yes ☐ No
3.10	1/2" X 1-1/2" conveyor crossbars spaced on every link.	☐ Yes ☐ No
3.11	The rear apron shall have a bolt on cover plate which allows for easy	

Product features are based on published information at the time of publication. Product features are subject to change without notice. (10/28/2010csm)

	access to gearcase.	
4.	**SPINNER CHUTE ASSEMBLY:**	
4.01	Spinner assembly must be adjustable left to right, front to back, and up and down to assure accurate placement of material on spinner disc to facilitate control of spread pattern.	☐ Yes ☐ No
4.02	Rear spinner baffle is fixed for protection of chassis undercarriage	☐ Yes ☐ No
4.03	, 20" diameter poly spinner disc	☐ Yes ☐ No
4.04	SS Quick Connects	☐ Yes ☐ No
4.05	Spinner hydraulic motor shall mount directly on top of spinner disc. Motor shall be enclosed in a removeable material shedding protective cover. Bottom mount motor or drive shaft with bearings not acceptable.	☐ Yes ☐ No
5.	**TAILGATE:**	
5.01	3/16 AR 400 tailgate sheet, 200,000 PSI tensile	☐ Yes ☐ No
5.02	Full perimeter boxing with all horizontal edges sloped outward.	☐ Yes ☐ No
5.03	Tailgate must be double acting (NO EXCEPTIONS)	☐ Yes ☐ No
5.04	Tailgate shall be seven panel design with (2) vertical braces and (2) horizontal braces.	☐ Yes ☐ No
5.05	Flush mount, 1/2" flame cut tailgate pivots	☐ Yes ☐ No
5.06	Heavy duty offset hinge plates, 1" flame cut	☐ Yes ☐ No
5.07	3/4" latch hooks with 3/8" latch plates	☐ Yes ☐ No
5.08	1-1/4" hot rolled upper and lower pins	☐ Yes ☐ No
5.09	7 gauge 9" x 24" rear feedgate	☐ Yes ☐ No
5.10	The tailgate shall have Rear Feed Gate	☐ Yes ☐ No
5.11	Single brake chamber air tailgate latches with overcenter linkage. Pivot shafts include stainless steel bushings to eliminate seizing	☐ Yes ☐ No
6.	**HOIST:**	
6.01	Front mounted telescopic hoist with small internal doghouse (maximum 12" deep).	☐ Yes ☐ No
6.02	Single cylinder, trunnion mount (inverted cylinder not acceptable).	☐ Yes ☐ No
6.03	N.T.E.A. class 30.	☐ Yes ☐ No
6.04	SA stage cylinder with 5" first stage diameter Wear and corrosion resistant nitrided cylinder tubes.	☐ Yes ☐ No
6.05	Minimum two-year cylinder warranty	☐ Yes ☐ No
6.06	Connecting pivots to have replaceable greaseless composite bushings.	☐ Yes ☐ No
6.07	5 degree oscillating cylinder collar	☐ Yes ☐ No
7.	**REAR HINGE ASSEMBLY:**	
7.01	6" x 8" x 1/2" structural angle	☐ Yes ☐ No
7.02	2" Stainless Steel hinge pins connecting to 2-1/2" hinge blocks using replaceable greaseless composite bushings for a minimal pin-to-bushing clearance.	☐ Yes ☐ No
8.	**LIGHT PACKAGE:**	
8.01	Rubber mounted, shock resistant stop/turn/tail light in each rear corner post. Highly visible, yet recessed for protection, led Amber Flashing light and led Reverse light. Four red rear, two side mounted red rear reflectors, and two side mounted amber front reflectors. Includes a one piece sealed wiring harness	☐ Yes ☐ No

8.02	Rubber mounted, shock resistant I.C.C. 3-light cluster, for mounting in a supplied fabricated light bar	☐ Yes ☐ No
9.	**PAINT PREPARATION:**	
9.01	All surfaces are high pressure cleaned & phosphated	☐ Yes ☐ No
9.02	Natural	☐ Yes ☐ No
10.	**ADDITIONAL EQUIPMENT:**	
10.01	Conveyor cover in 3/16" AR400 steel	☐ Yes ☐ No
10.02	SS Underbody Pan	☐ Yes ☐ No
10.03	Cabshield 22"x90" Intergral Cabshield with 4 light holes 2 forward 2 sideways (4) LED Amber Flashing Lights lights to be boxed in, 12" ss Grab Handle Driver Side	☐ Yes ☐ No
10.04	Pull Out Ladder with 2 Grip struts steps with 2 SS Horizontal Mount 44" Grab Handles, 2 interior steps welded driver side front corner	☐ Yes ☐ No
10.05	2 hooks for chains	☐ Yes ☐ No
10.06	SS Spring Loaded Shovel Holder	☐ Yes ☐ No
10.07	**Electric Tarp system with Dual Alluminum Arms Asphalt Rated Tarp 30 Degree elbows**	☐ Yes ☐ No
10.08	2 Mud Flaps before tires on Antisway SS Bracket	☐ Yes ☐ No
10.09	2 Mud Flaps behind tirea on SS quick removable bracket	☐ Yes ☐ No
10.10	Pin on Asphalt Lip,	☐ Yes ☐ No
10.11	Screens opening set for sand	☐ Yes ☐ No
10.12	Pintle Plate 3/4" thick, Glad Hands, D Rings, Electrical Connections	Yes No
	25 ton swivel Pintle Hook, and Chipper Bar Lights to be recessed	
10.13	Vibco Vibrator with mounting plate	Yes No
10.14	3 work lights 1 Rear of Wing and 2 Rear of Body all led	☐ Yes ☐ No
10.15	Body Up Swith, Power Smart Distribution Panel	Yes No
10. 16	18"X18"X24" Highly Polished Tool Box with SS Mounting Brackets	Yes No
10.17	Body to be painted Black	Yes No

Product features are based on published information at the time of publication. Product features are subject to change without notice. (10/28/2010csm)

Hydraulics & Plumbing;

Pump; YES EXCEPTIONS

Power for hydraulics will come from a front engine mounted tandem pump with Electric Clutch (Commercial or approved equal) Plumbed to supply the plow and body functions.

Hoses; ____ ____

All suction & return shall meet or exceed a rating of SAE 100R4. Pressure lines shall meet or exceed a rating of SAE100R2. All hoses shall be routed in such a way as not to interfere with or come in contact with exhaust, drive shaft or any potential hazards All lines routed under or in the chassis frame will be with held coated steel supports, plastic ties will not be accepted. All hoses shall use "JIC" fittings "NO EXCEPTIONS". All hydraulic lines front and rear of chassis to be SS tubing leaving customer with short hoses as required. SS Quick Connect for Plow, Wing, and Spinner

Controls; ____ ____

All valve control actuation shall be accomplished via proportionately balance pneumatic over hydraulic air controllers and cylinders.Control levers shall be booted,and shall include chrome stick fitted with palm size ends.Included shall be a secondary filter,regulator and lubricator.The plow controls shall be located on a pedestal mounted pivoting console,which adjust to accommodate either the driver or wingman operation.The dump body control shall be air-operated on a separate pedestal near the driver.

Salter controls; ____ ____

There shall be a Freedom II Controller, control valve located between the seats in the cab conveniently in reach for the operator. There shall be hydraulic lines run the end of the body for operating the salter ending in SS quick disconnects.

Valve Bank; ____ ____

Valve assembly shall be a fully proportional "stack type" and have a minimum capacity of 35 gpm at 2500psi. The valve shall be mounted in the rear wing mast. Five sections shall be provided for the operation of the plow equipment & dump body. There shall be an in tank return line filter, sight / temp gauge & a low oil light mounted in the cab.