

MANKATO MACK SALES
P.O. Box 969
Jct. Hwy. 60 & 169 South
Mankato, Minnesota 56001
(507) 345-6225

February 1, 1994
MACKTRAQ Level: 93D
Ref.No.: HM100466.93D
Page: 1

CM

Customer: [Redacted]

Model: MACK RD688S
Total Quantity: 1

[Redacted]

Wheelbase	214 in	Engine	MACK E7-350-V-MAC, 350 HP
Platform	200 in	Transmission	T2090 9 SPEED
GVW Rating	55040#	Front Axle	18000# FAW18
GCW Rating	80000#	Rear Axle	38000# S38 4.42 Ratio
Clutch	CL798 15.5"	Suspension	38000# SS38
Cab	CA49	Front Tires	GOODYEAR-385/65R22.5
LH Fuel Tank	55 gal	Front Wheels	22.5x12.25 STEEL DISC (10-HOLE)
RH Fuel Tank	55 gal	Rear Tires	GOODYEAR-11R22.5
Gear Rd Spd	68.7 mph	Rear Wheels	22.5x8.25 STEEL DISC (10 HOLE)
@ 4.42 Rear Axle Ratio		Vehicle Type	STRAIGHT TRUCK WITH TRAILER
Est Total Dry Wt	17181#	Vehicle Use	SNOW PLOW. On/Off Hw

	Frt Wt	Rr Wt	List
CHASSIS BASE.	8173	7350	112016.00
Factory Options	1222	436	14663.00
Freight & Prep for Delivery			1125.00
Vendor Installed Factory Extras			0.00
TOTAL FACTORY	9395	7786	127804.00
Locally Installed Options			0.00
Bulldog Protection Plans.			0.00
TOTAL FACTORY & LOCAL	9395	7786	127804.00
Less Customer Discount from List.			67819.55
SELLING PRICE (Excluding Taxes/Fees/Trade).			59984.45
Less Trade Allowances per New Vehicle			0.00
QUOTED PRICE OR TRADE DIFFERENCE.			59984.45
FRET or Canadian GST Taxes.			0.00
Sales/Usage Taxes			0.00
License/Title/Etc			
Misc Fees not subject to FRET			
ACQUISITION COST (Incl Trade if applies).			59984.45
Less Down Payment			
BALANCE DUE Per Unit.			59984.45
PRICE (Total Order) 59984.45		BALANCE DUE (Total Order)	59984.45

61,310 45

Dealer Signature _____ Date _____ Customer Signature _____ Date _____

HAVE YOU ASKED YOUR DEALER ABOUT THE BULLDOG PROTECTION PLAN?

OPTIONS:



OPTIONS:

Panasonic AM/FM Cassette Stero (neg. ground)
w/auto reverse, electronic tuning w/seek,
12 FM/6 AM station presets for scan tuning,
large rocker switch controls, 4-way balance,
positive LCD display, clock, and 2 speakers
w/7.5Wx2 max power output. (Includes roof mt.
antenna.

Price.....\$419.00

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SSB38 Mack Multileaf (camelback) 40,000#  
(Boost a load) Recertication  
Price.....$1459.00
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Synthetic Lubricant-Rear Axle
75-90 (Henkel Brand)
Price.....\$231.00

WEB stick fuel tank heater (installed)
Price.....\$375.00

Spring buildup-RH for wing plow applications
Price.....\$116.00

Air bag buildup for snow plow application
with external controls
Price.....\$720.00

3,204.00

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MACKTRAD Level: 93D
Ref.No.: HM100466.93D
Page: 2

Customer:



Model: MACK RD688S
Total Quantity: 1



Code	Description		Front Wt	Rear Wt	List
ORDER/CUSTOMER/VEHICLE INFORMATION					
505 0001	INITIAL REGISTRATION LOCATION, MINNESOTA	Opt			
013 0002	TYPE OF SERVICE,	Opt			
APP 0003	VEHICLE APPLICATION CLASS, ON/OFF HIGHWAY CLASS "C" - Unlimited operation on paved roads, maintained gravel & hard packed dirt roads. Not necessarily subject to legal weight and dimensional restrictions. (3 AXLES) 70000# MAX GVW, 100000# MAX GCW. (4 AXLES) 80000# MAX GVW, 120000# MAX GCW.	Opt			
CAR 0080	CARRIER APPLICATION, WITH CRD92-93 (except 3.65 rear axle ratio) or CRD112-113 Unlimited miles on max 3% grade paved roads (max 9% miles on max 8% grade or max 1% on max 12% grade), max 32% miles on max 3% grade maintained gravel/packed dirt roads (max 8% miles on max 8% grade or max 1.5% on max 12% grade), & max 0.5% miles on max 20% grade off road. 80000# (36000 kg) MAX GCW. (77000# (35000 kg) MAX GCW w/6.06 ratio.) (Carrier Code 4)	Std			
001 0002	VEHICLE TYPE, STRAIGHT TRUCK WITH TRAILER	Inc			
006 1799	VEHICLE USE & BODY/TRAILER TYPE, SNOW FLOW. On/Off Hwy COMMODITIES, GRAVEL				
	BACK OF CAB INTERFERENCES, VERTICAL EXHAUST, 7.5" (191mm) FROM BACK OF CAB	Std			
931 0001	OVERWIDTH STATEMENT, OVERALL WIDTH EXCEEDS 96"	Inc			
BVS/WHEELBASE/PLATFORM					
002 0184	CHASSIS (BASE MODEL), RD600S 6-WHEEL . TRUCK	Std	8173	7350	112016.00

Code	Description		Front Wt	Rear Wt	List
274 1006	FRAME RAILS, 10.625" x 3.25" x .3125" (270 x 83 x 8 mm) STEEL Combined rating w/inside channel reinforcement Section Modulus 23.79 cu in/RBM 2,620,000 in lbs per rail.	Inc			
271 0214	WHEELBASE, 214" (5436 mm) WB 135" CA. (3429 mm) 210 131"	Opt	19	-6	230.00
272 0200	PLATFORM, 200" LP (5080 mm) 65" AF (1651 mm) USED WITH 214" WB	Inc			
273 1001	FRAME REINFORCEMENT - INSIDE, 1/4". . . STEEL CHANNEL USED WITH 214" WB & 200" LP	Opt	174	381	1103.00

ENGINE/TRANSMISSION/CLUTCH

100 1905	ENGINE, MACK E7-350-V-MAC 350 HP @1800. RPM CMCAC (50 STATE/CANADA)	Opt	32	2	2760.00
136 1103	TRANSMISSION, 9 SPEED MANUAL. (OVERDRIVE) MACK T2090 (10.69/0.71)	Opt	15	5	992.00
133 1020	CLUTCH, MANUAL ADJUSTING - SPICER (DANA) CL798 15.5" TWO-PLATE CERAMIC (128 sq in, 1650 #ft) WITH COAXIAL SPRING DAMPENED DISC AND 2.0" DIAMETER SPLINE	Std			

ENGINE ELECTRONICS

V-MAC FEATURES:

932 0065	ROAD SPEED LIMIT (RSL) 65 mph	Inc			
A01 0010	MAX LOW SPEED THROTTLE SET 10 mph				
A09 2350	ENGINE OVERSPEED THRESHOLD 2350 rpm				
A10 0001	DRIVER CONTR'L'D LOW IDLE SPEED ADJUST	Furnish			
A11 0001	MPH SENSOR INACTIVE FAULT DETECTOR	Furnish			
466 7000	V-MAC CRUISE CONTROL:	Inc			
933 0062	MAXIMUM CRUISE CONTROL SPEED 62 mph				
A02 0035	MINIMUM CRUISE CONTROL SPEED 35 mph				
A20 0001	LOWER GEAR RSL, :	Inc			
A21 0065	LOWER GEAR ROAD SPEED SETTING 65 mph				
A22 0071	LOWER GEAR ROAD LIMIT TRANS RATIO 0.71				
233 0000	OMIT ENGINE SPEED CONTROL	Inc			N/C
A26 0002	GOVERNOR TYPE, MIN-MAX TYPE, ACCELERATES ACCORDING TO THROTTLE SETTING	Inc			
908 7000	IDLE SHUTDOWN FEATURES/SETTINGS:	Inc			
934 0005	IDLE SHUTDOWN TIME SETTING 5 min				
A17 0080	IDLE SHUTDOWN WARMUP TEMPERATURE 80 F°				
A16 0001	IDLE SHUTDOWN WARMUP TIME 1 min				
A13 0002	IDLE SHUTDOWN OVERRIDE IF PTO ENGAGED	Omit			
A14 0002	IDLE SHUTDOWN OVERRIDE IF VARIABLE SPEED CONTROL (VSC) ENGAGED	Omit			
A15 0002	IDLE SHUTDOWN OVERRIDE IF SINGLE SPEED CONTROL (SSC) ENGAGED	Omit			

Code	Description		Front Wt	Rear Wt	List
A60 0001	FURNISH VEHICLE DATA LOG FEATURE - ALLOWS PROLINK AND PC (COMPUTER) MONITORING OF THE FOLLOWING: TOTAL ENGINE HOURS, TOTAL MILES, TOTAL FUEL CONSUMPTION, TOTAL PTO HOURS, TOTAL MPG, TRIP MILES, TRIP ENGINE HOURS (running), TRIP FUEL CONSUMPTION, TRIP IDLE HOURS, TRIP IDLE FUEL CONSUMPTION, TRIP MPG, TRIP RESET W/SERVICE TOOL	Inc			
ENGINE EQUIPMENT					
113 0001	AIR COMPRESSOR, 13.2 CFM (6.3 L/s). . .	Std			N/C
	MINIMUM RATING				
125 0003	AIR CLEANER, 15" (381 mm) DIAMETER. . .	Inc			N/C
	EXTERNAL COWL MOUNTED SINGLE ELEMENT DRY TYPE				
127 0001	AIR INTAKE, INSIDE/OUTSIDE W/IN-CAB . .	Opt	19	1	353.00
	CONTROL				
132 1205	ALTERNATOR, DELCO 12V 100A (21SI) . . .	Std			N/C
316 5100	BATTERIES, (3) BULLDOG 12V M/F GROUP 31	Std			
	625/1875 CCA THREADED STUD TYPE				
	COOLANT CONDITIONER, SPIN-ON	Std			
119 0002	COOLANT PROTECTION TO BELOW -40 DEGREES FAHRENHEIT (-40 DEGREES CELSIUS)	Opt			28.00
129 0003	ENGINE BLOCK HEATER, GOMACK (PHILLIPS). - 1500 WATT 120 VOLT	Opt	4		112.00
	ENGINE HOSES AND TUBING, SILICONE (DOES NOT INCLUDE HEATER & RADIATOR HOSES)	Std			
130 0001	EXHAUST, SINGLE VERTICAL W/HEAT SHIELD FOR MUFFLER	Std			
333 0004	EXHAUST PIPE CONNECTIONS, FLEX PIPE	Std			
118 0002	FAN DRIVE, EATON VISCOUS ?	Std			
140 0002	FLYWHEEL HOUSING, LIGHT WEIGHT, ALUMINUM	Std			
124 0002	HOSES - RADIATOR/HEATER, SILICONE	Std			
112 0004	INJECTION PUMP - ELECTRONIC ENGINE CONTROL	Inc			
508 0000	RADIATOR/COOLING SYSTEM, 1000 SQUARE INCHES FRONTAL AREA STANDARD COOLING CAPACITY	Std			
	SERVICE INTERVAL - LUBE OIL SYSTEM, ESI W/TWO SPIN ON FULL FLOW OIL FILTERS W/CENTRI-MAX CENTRIFUGAL OIL FILTER, AND 16000 MILE SERVICE INTERVAL	Std			
131 1204	STARTER, 12 VOLT DELCO 42MT TYPE 400 ELECTRIC	Std			

CLUTCH/TRANS EQUIPMENT/DRIVELINES

PTO SIDE GEARS, LH AND RH Std

?
 chrome
 OK on make

Code	Description		Front Wt	Rear Wt	List
SL4 0002	SYNTHETIC LUBRICANT - TRANSMISSION, 75W - 90 (HENKEL BRAND)	Opt			145.00
195 2003	DRIVELINE - MAIN, SPICER (DANA) 1760. W/COATED SPLINES	Inc	1	2	46.00
204 2003	DRIVELINE - INTERAXLE, SPICER (DANA) 1710 HD W/COATED SPLINES	Std			
CAB (A thru G) H.O. 3					
173 0002	MACK (RED DOT) INTEGRAL W/HEATER (COMBO HEATER/AIR CONDITIONER UNIT)	Std			N/C
126 0002	AIR RESTRICTION MONITOR (INTAKE), AIR INTAKE RESTRICTION MONITOR, GRADUATED LOCK-UP TYPE (W/MEMORY) DASH MOUNTED	Opt			60.00
	ASH TRAY, (1) W/HINGED COVER (LOCATED ON TOP OF CONSOLE)	Std			
144 0201	CAB, CA49 CONVENTIONAL (WELDED STEEL GALVANIZED SHELL) INCLUDES MACK RUST PREVENTATIVE PROCEDURES	Std			
207 0001	CAB MOUNTING, TRUNNION FRONT, AIR SUSPENDED REAR	Std			N/C
	CIGAR LIGHTER ON INSTRUMENT PANEL	Std			
	COAT HOOK (1)	Std			
	DISPATCH BOX	Std			
	DOME LIGHT (ONE) HEADLINER MOUNTED W/SELF-CONTAINED SWITCH	Std			
	DOORS, GALVANIZED STEEL (INCLUDES NON-TINTED VENT WINDOW, AND ROLL-UP SIDE WINDOWS)	Std			
229 7000	ENGINE PROTECTION SYSTEM, V-MAC ALARM SYSTEM W/LIGHT & AUDIBLE TONE MONITORING HIGH COOLANT TEMPERATURE, LOW OIL PRESSURE & LOW COOLANT LEVEL IN RADIATOR	Inc			N/C
341 0001	ENGINE SHUTOFF, KEY TYPE	Inc			
	FLASHERS, FOUR WAY	Std			
184 0001	FLOOR COVERING, RUBBER MATS W/CLOSED CELL VINYL NITRILE FOAM BACKING	Std			
	GAUGE, AIR PRESSURE	Std			
218 0001	GAUGE, VOLTMETER	Std			
	GAUGE, ENGINE COOLANT TEMPERATURE	Std			
	GAUGE, ENGINE OIL PRESSURE	Std			
294 0001	GAUGE, FUEL LEVEL	Std			
198 0001	GAUGES, ENGLISH DISPLAY	Std			
199 0008	GAUGE, SPEEDOMETER W/TRIP ODOMETER. (ELECTRONIC 1% ACCURACY)	Std			N/C
200 0010	GAUGE, ENGINE TACHOMETER (ELECTRONIC WITH HOURMETER)	Std			
145 0001	GLASS - CAB WINDOW, SAFETY TINTED WINDSHIELD, SIDE AND REAR WINDOWS GRAB HANDLES, STAINLESS STEEL, RH & LH, BEHIND DOOR	Std			

Code	Description	Front Wt	Rear Wt	List
400 0001	GRILLE, BRIGHT FINISH, STAINLESS STEEL.			57.00
CAB (H thru R)				
231 7000	HAND THROTTLE CONTROL, V-MAC VARIABLE			Inc
	ENGINE SPEED CONTROL/LIMIT:			
A04 2150	MAXIMUM VARIABLE GOVERNOR SPEED	2150 rpm		
A03 0500	MINIMUM VARIABLE GOVERNOR SPEED	500 rpm		
A18 2150	MAXIMUM VARIABLE ENGINE SPEED LIMIT	2150 rpm		
	1ST PTO OR OTHER DEVICE			
	HIGH BEAM INDICATOR LIGHT	Std		
340 0102	HOOD AND FENDERS, FIBERGLASS - TILTABLE			Inc
	W/INSPECTION HATCHES AND FRAME MTD			
	FENDER SPLASH SHIELD SECTION			
208 0001	HOOD LATCHES, PAINTED			Std
154 0002	HORN - AIR, (2) MACK RECTANGULAR SINGLE		8	100.00
	TRUMPET (ONE EACH SIDE OF CAB ROOF)			
361 0002	HORN - ELECTRIC, SINGLE TONE			Std
312 0001	IDENTIFICATION/CLEARANCE LIGHTS, (5)			Std
	MARKER AND CLEARANCE			
	INSTRUMENT PANEL, TMC RECOMMENDED TYPE			Std
	(PAINTED SILVER GRAY)			
004 2003	INTERIOR TRIM LEVEL II (SILVER GRAY			Std
	VINYL) FEATURES: SILVER GRAY OVERHEAD			
	CONSOLE W/LOCATION FOR OPTIONAL			
	RADIO, PADDED VINYL FRONT HEADLINER			
	TRIM PANEL, DOOR TRIM PANELS			
	W/ARMREST PADS (BOTH SIDES) &			
	CARPETED LOWER SECTION, SEATS TRIMMED			
	IN GRAY VINYL, 21" (530 mm) DIAMETER			
	SOFT FEEL TWO SPOKE BLACK STEERING			
	WHEEL, AND WIRING DIAGRAM			
160 0001	CHASSIS KEYED AT RANDOM - 2 KEYS			Std
	LOW AIR PRESSURE INDICATOR LIGHT AND			Std
	BUZZER			
152 2002	MIRRORS - EXTERIOR, WEST COAST, RH & LH			Std
	BRIGHT FINISH MACK BULLDOG			
	W/STAINLESS STEEL ARMS AND BRACKETS			
	PARKING BRAKE CONTROL W/WARNING LIGHT			Std
166 0001	5-WAY BINDING POSTS FOR CB			Std
155 0001	REAR WINDOW (FIXED TYPE)			Std
CAB (S thru Z)				
196 2257	SEAT - DRIVER, BOSTROM 914 (LO-BACK).			Std
	AIR SUSPENSION			
197 1100	SEAT - RIDER, MACK FIXED (LO-BACK)			Std
	NON-SUSPENSION			
485 0000	SEAT COVERING, ALL VINYL			Std
592 0002	SEAT BELTS, LAP AND SHOULDER W/LOCKING.			Std
	SEAT BELT RETRACTORS & "KOMFORT			
	LATCH" FOR DRIVER AND RIDER SEATS			

Buttfly
subel 3

3
cloth seat

Code	Description		Front Wt	Rear Wt	List
	SIDE MARKERS, LAMPS AND REFLECTORS	Std			
238 0001	STARTER SWITCH, KEY TYPE	Std			
439 0003	STEERING COLUMN, ADJUSTABLE	Std			
354 0002	SUN VISOR - INTERIOR, BOTH SIDES (PADDED BLACK)	Std			
401 0000	TURN SIGNALS, FRONT, STANDARD FINISH	Std			
239 0002	TURN SIGNAL SWITCH, MANUAL CANCELLING	Std			
	VENTILATION - CAB, COWL - LH, ONE WAY TYPE; UPPER, FRESH AIR INLET FOR HEATER; ROOF, TWO WAY TYPE (ALL VENTS SCREENED)	Std			
146 0002	WINDOW CONTROLS, ELECTRIC WINDOW LIFT, . RH	Opt	3		175.00
	WINDSHIELD WASHERS, ELECTRIC, WIPER MOUNTED W/5 QT (4.7 L) RESERVOIR	Std			
148 0007	WINDSHIELD WIPERS, ROBERT BOSCH, 2. . . SPEED ELECTRIC MOTOR W/INTERMITTENT FEATURE	Opt			92.00
FRAME EQUIPMENT/FUEL TANKS					
279 4102	BUMPER - FRONT, SWEEP BACK STEEL CHANNEL EXT 117"/2972 mm BBC (92.6"x10.0")	Std			
281 1100	CROSSMEMBERS, STEEL HUCK BOLTED BACK TO BACK BEHIND CAB & INTERMEDIATES	Std			
467 9990	CROSSMEMBER (BEHIND REAR AXLE), WEB CHANNEL TYPE	Std			
224 1030	FRONT FRAME EXTENSION, 20" EXTENSION OF PARENT FRAME FOR SNOW PLOW MOUNT (INCLUDES TILT TYPE HOOD)	Opt	89	-15	2388.00
243 0009	TOWING DEVICE - FRONT, HOOKS	Inc			
288 1055	FUEL TANK - LH, 55 GALLON 24" DIAMETER. STEEL STEP	Std			N/C
290 1055	FUEL TANK - RH, 55 GALLON 24" DIAMETER. STEEL	Opt	96	38	380.00
FRONT AXLE/EQUIPMENT/TIRES					
240 1004	FRONT AXLE, 18000# (8200kg) MACK FAW18. (WIDE PIVOT CENTER) ?	Opt	323		2570.00
900 5131	TIRES BRAND/TYPE - FRONT, GOODYEAR - TUBELESS RADIAL PLY (2) 385/65R22.5 18 J UNISTEEL G286 (STEER) (CHASSIS WIDTH EXCEEDS 96")	Opt	120		1102.00
250 2000	WHEELS - FRONT, STEEL DISC (10-HOLE). .	Opt	131		591.00
531 2014	(2) 22.5x12.25 ACCURIDE 10-HOLE (11 1/4"/286mm BC)				
248 1000	HUBS - FRONT, FERROUS	Inc			
241 1101	BRAKES - FRONT, ROCKWELL "S" CAM TYPE 16.5" x 5" Q	Std			

Front Wt Rear Wt List

chrome

Painted (silver) ?

Code	Description		Front Wt	Rear Wt	List
247 2200	BRAKE DRUMS - FRONT, CAST OUTBOARD. . .	Inc	-10		N/C
	MOUNTED				
246 0001	OIL SEALS - FRONT WHEELS, FACTORY	Std			
	OPTION				
385 0001	<u>SHOCK ABSORBERS</u> , FRONT	Std			
242 0002	SLACK ADJUSTERS - FRONT, HALDEX - . . .	Std			N/C
	AUTOMATIC				
244 2002	SPRINGS - FRONT, MACK MULTILEAF 18000#.	Opt	120		73.00
	(8200kg) GROUND LOAD RATING				
383 0001	SPRING CENTERS - 34.5"	Std			
245 2203	STEERING, 492S SHEPPARD INTEGRAL POWER.	Inc	43		261.00
	(18000# CAP, 20.1:1 RATIO)				

REAR AXLE/EQUIPMENT/TIRES/RATIOS

268 1002	REAR AXLE/SUSPENSION, 38000# (17200kg).	Std			N/C
186 1031	MACK S38 SS38 MACK MULTILEAF				
	(CAMELBACK) 38000# CAPACITY				
901 5045	TIRES BRAND/TYPE - REAR, GOODYEAR -.	Std			N/C
<i>change to #124</i>	TUBELESS RADIAL PLY (8) 11R22.5 14 G				
	UNISTEEL G159 (ALL POSITION)				
018 0407	CARRIER/RATIO - REAR AXLE, MACK	Opt			N/C
257 0442	MALLEABLE CRDPC92/CRD93 4.42 RATIO				
267 2000	WHEELS - REAR, STEEL DISC (10 HOLE) (8)	Opt		-51	291.00
346 2012	22.5x8.25 (210 mm) ACCURIDE 10-HOLE				
	(11 1/4" BOLT CIRCLE)				
264 1000	HUBS - REAR, FERROUS.	Inc		60	N/C
253 1100	BRAKES - REAR, ROCKWELL "S" CAM	Std			
	16.5"x7" Q				
263 2200	BRAKE DRUMS - REAR, CAST OUTBOARD	Inc			
	MOUNTED				
262 0001	OIL SEALS - FACTORY OPTION	Std			
391 0001	RAISED REAR BRAKE CHAMBERS (REAR REAR	Std			
	AXLE ONLY)				
255 0002	SLACK ADJUSTERS - REAR, HALDEX -. . . .	Std			N/C
	AUTOMATIC				
269 0050	SUSPENSION - AXLE SPACING, 50"	Std			
402 0002	SPRINGS, ANTI-SWAY	Std			
237 0002	SPRING BRAKE CHAMBERS - QUANTITY, (4)	Std			
	DOUBLE DIAPHRAGM TYPE, MECHANICAL				
	SPRING RELEASE, (2) MOUNTED ON EACH				
	AXLE				
300 0001	SPRING BRAKE CHAMBERS - VENDOR, FACTORY	Std			
	OPTION				

AIR/BRAKE

299 0000	AIR LINES (CHASSIS), EXTRUDED NYLON	Std			
	TUBING (1/8" & 1/4" LINES ARE SINGLE				
	EXTRUSION; 3/8" AND LARGER HAVE				
	POLYESTER REINFORCED CENTER)				
452 0004	AIR BRAKE SYSTEM, DUAL	Std			

Code	Description		Front Wt	Rear Wt	List
296 0105	AIR DRYER, BENDIX "SYSTEM GUARD" AD-9 HEATED	Std			
280 1000	AIR RESERVOIRS, 5961 CUBIC INCH CAPACITY - ONE SUPPLY (WET) TANK MOUNTED INSIDE RH FRAME RAIL AND ONE DUAL COMPARTMENT PRIMARY/SECONDARY TANK MOUNTED UNDER LH FRAME RAIL	Std			
289 0110	AUTOMATIC DRAIN VALVE, BENDIX (NON-HEATED) DRAIN VALVE (1) ON SUPPLY (WET) TANK	Opt	1		59.00
302 0003	BRAKE CONTROL VALVE SYSTEM, THREE (3) VALVE DUAL BRAKE SYSTEM - TRACTOR PARK, TRAILER SUPPLY, TRACTOR-TRAILER PARK	Inc			
301 0000	OMIT HAND CONTROL VALVE	Opt	-6		-99.00
517 0002	TRAILER CONNECTIONS, FULL - TO REAR OF. CHASSIS INCLUDES: (2) AIR LINES AND (1) SEVEN WIRE CABLE W/SEVEN WIRE PLUG ROUTED TO REAR OF CHASSIS, (2) GLAD HANDS MOUNTED TO SUPPORT BAR AT REAR OF CHASSIS, BREAKAWAY SAFETY VALVE, AND (3) VALVE SYSTEM (TRACTOR PARK, TRACTOR/TRAILER PARK AND SUPPLY)	Opt	23	21	580.00

ELECTRICAL

185 0001	BATTERY BOX(ES), STEEL BASE	Std
405 0004	BATTERY BOX COVERS, PAINTED STEEL	Std
	COURTESY LIGHT SWITCH (HEADLAMP AND CLEARANCE)	Std
	ELECTRICAL CIRCUITS/BULBS, 12 VOLT W/CIRCUIT BREAKERS (HEADLAMP CIRCUIT: SAE TYPE I; ALL OTHER CIRCUITS SAE TYPE II) NEGATIVE GROUND SYSTEM	Std
328 0001	ELECTRICAL SYSTEM - 12 VOLT	Std
310 2400	HEADLIGHTS, SINGLE RECTANGULAR HALOGEN LAMPS W/LEXAN LENS (REPLACABLE BULBS)	Std
	REAR LIGHTING, (2) COMBINATION STOP, TAIL, DIRECTIONAL AND BACK-UP LIGHTS	Std
315 1000	SIGNAL FLASHER TYPE, THERMAL FLASHER	Std

PAINT

950 3100	PAINT - CAB EXTERIOR, SINGLE COLOR:	Opt
	Supplier	
	Area Code No. Color	
944 2005	Area "A" 10701 MACK BLUE	
951 7006	PAINT - CHASSIS RUNNING GEAR, MACK BLACK (WATER BASE)	Std
555 0001	FRONT AND REAR WHEELS PRE PAINTED WHITE BY ACCURIDE	Opt

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Code	Description		Front Wt	Rear Wt	List
PTO/SPECIALTY/ADDITIONAL EQUIPMENT					
183 0003	PTO - CRANKSHAFT ADAPTER, 1000/1100 . . SERIES FLANGE FOR FRONT END SNOW PLOW PTO DRIVE (DOES NOT INCLUDE FRONT FRAME EXTENSION)	Opt	17	-2	214.00

DEALER INFORMATION

STANDARD SHIPPING INSTRUCTIONS Std

MIKE HICKEY
MANKATO MACK SALES

PERFORMANCE DATA

UPPER GEAR DATA

Engine..... MACK E7-350-V-MAC
Max HP..... 350 @ 1800 RPM
Max Torque..... 1360 @ 1250 RPM
Transmission..... T2090
Rear Axle..... 938
Ratio..... 4.42
Rear Tire Size..... 11R22.5
RPM..... 501
GVW Rating..... 55040#
GCW Rating..... 80000#
Road Surface..... MACADAM/ASPHALT
Altitude..... 1000 ft
Frontal Height..... 13.0 ft
Frontal Width..... 96.0 in
Required Grade..... 3%
Measurement..... English

Gear	Ratio	%Grade	MPH	RPM
7	1.39	5.2	24.4	1250
7	1.39	3.0	35.1	1800
8	1.00	3.3	33.9	1250
8	1.00	1.5	48.8	1800
9	0.71	1.7	47.7	1250
9	0.71	.1	68.7	1800

%Grade MPH RPM
Level Road 0.0 68.7 1800
Cruise Control .5 62.0 1625
RSL Gov Setting .3 65.0 1703

Starting Grade @ 1st Gear: 19.4
@ 2nd Gear: 10.6
Minimum 1.5% grade recommended
in top gear at peak torque RPM.

Calculated @ 4.42 Rear Axle Ratio

Gear No	Trans Rev	Ratios Forw	Gear Reductn	%Split	Gradeability Start	19.4%	RPM After Shift	Operating Range MPH
1	10.92	10.69	47.25		31.2%			4.6
2		7.45	32.93	43.5	21.9%		1254	6.5
3		5.33	23.56	39.8	15.2%		1288	9.2
4		3.84	16.97	38.8	10.8%		1297	12.7
5		2.73	12.07	40.7	7.3%		1280	17.9
6		1.94	8.57	40.7	4.9%		1279	17.9 25.1
7		1.39	6.14	39.6	3.0%		1290	25.1 35.1
8		1.00	4.42	39.0	1.5%		1295	35.1 48.8
9		0.71	3.14	40.8	.1%		1278	48.8 68.7

PERFORMANCE DATA IS FOR COMPARATIVE ANALYSIS
AND MAY NOT REPRESENT ACTUAL PERFORMANCE.

GVW RATING - 55040#

Max Front GAWR.....	17040#	Max Rear GAWR.....	35000#
Front Axle.....	18000#	Rear Axle.....	35000#
Front Springs.....	18000#	Rear Suspension.....	35000#
Front Tires.....	17040#	Rear Tires.....	42400#
Front Wheels/Rims.....	20000#	Rear Wheels/Rims.....	56000#

WARRANTY COVERAGES AND LIMITATIONS
COVERAGE 100% PARTS AND LABOR - VEHICLE APPLICATION: ON/OFF HIGHWAY CLASS "C"

SCHEDULE 1. BASIC VEHICLE

Hrs Months Miles Kilometers

Clutch Lining, Brake Lining, and Brake
Drums are covered for 12 months or
25000 miles/40,000 kilometers only.

- 12 100,000 161,000

SCHEDULE 2. MACK DIESEL ENGINE

Incl first year roadside assistance & towing.

Hrs Months Miles Kilometers

Standard Warranty

10,000 36 300,000 483,000

Major Components:

12,500 60 500,000 805,000

Cylinder Block Casting

Con-Rod & Cap Forging

Intake Manifold Casting

Main Bearing Bolts

Con-Rod Capscrews

Flywheel Housing

Cylinder Head Castings

Camshaft Forging

Gear Cover

Cylinder Head Capscrews

Valve Lifters

Engine Gears

Crankshaft Forging

Coverage also applies to consumables such as lubricant, anti-freeze, filter elements, belts, hoses and similar maintenance items not reusable and replaced directly as result of warrantable engine, carrier or transmission failure. Components not manufactured by Mack Trucks, Inc., but used on Mack diesel engine assemblies are excluded from the coverage in Schedule 2. These components are covered by the component manufacturer's warranty in effect at the time of delivery. Consult your local Mack service facility for details.

SCHEDULE 3. MACK TRANSMISSIONS:

Hrs Months Miles Kilometers

Incl first year roadside assistance & towing.

- 36 300,000 483,000

SCHEDULE 4. MACK AXLES:

Incl first year roadside assistance & towing for rear axle carriers only.

REAR CARRIERS, HOUSINGS, & FRONT I-BEAM

- 36 300,000 483,000

S65 BOGIE, REGARDLESS OF CARRIER MODEL

- 12 100,000 161,000

SCHEDULE 5. TRUNNION BRACKET & SPINDLE,
SUSP TRUNNION (EXCEPT BUSHINGS)

- 36 300,000 483,000

SCHEDULE 6. FRAMES: SIDE RAILS & CROSSMEMBERS

- 36 300,000 483,000

SCHEDULE 7. CAB STRUCTURE

- 24 200,000 322,000

SCHEDULE 8. CAB CORROSION

- 60 500,000 805,000

Coverage applies to perforation (actual hole in cab panel) due to corrosion. Coverage does not apply to corrosion caused by damage to paint finish.

SCHEDULE 9.

Components not manufactured by Mack Trucks, Inc. may have warranty coverage different from the above, as they are covered by the manufacturer's warranty. Consult your local Mack sales facility for details.

TO OBTAIN WARRANTY COVERAGE AND LIMITATIONS INFORMATION, PLEASE REFER TO MACK STANDARD WARRANTY FORM NO. F034.2

**CRYSTEEL®**

February 17, 1994

1130 - 73rd AVE. N.E.
FRIDLEY, MN 55432• 612-571-1902
• 1-800-795-1280
Dear Brian:

Pursuant to your request for quotation for budget purposes, we are pleased to submit the following for your consideration:

One (1) 15' Crysteel Heavy Duty Tipper Dump Body complete in accordance with manufacturer's standard specifications and including:

- 15' x 37" 42" sides and 50" tailgate
- 10 ga 50,000 PSI sides and ends
- 7 ga 110,000 PSI AR Abrasion resistant steel Floor
- Interlocking understructure of 4" structural channel crossmembers on 12" centers
- 6 panel tailgate
- fully boxed top rail
- greaseless composite teflon rear hinge bushings
- Crysteel patented RC-690 roller-combo hoist with 32.1 ton capacity
- 100% welded body shell with horizontal side brace
- Recessed body lights in rear corner posts with rubber grommets
- crossmembers welded to the outside rubrail
- Air tailgate latch mechanism
- chrome plated 1 3/4" rear hinge pin
- Hydraulic system
 - Commercial Shearing Model P-51 hydraulic pump, front engine mounted with heavy duty driveline
 - 40 gal frame mounted oil reservoir with return line filter and sight gauge
 - Commercial DVA-20 valve with morse cable control system for sander, hoist, plow, wing and Pup Trailer
 - hoses for base system including pressure, suction, return and hoist
 - Dual flow control valve for sander with hoses to the rear
- back-up alarm
- safety body prop
- body up light
- painted one Color
- 3/4" Pull Plate for Pup with PH-400 Pintle hook, Hydraulic Hook-up, gald hands and 7 way light plug

- Austin 3 Light system with 3 strobe lights two strobe heads in rear corner post and one on the cab shield
- Wing light
- Sander light
- Completely installed and operational

Weight Est 6,500 LBS

Net Price ~~\$14,443.00~~

13,443.00

per board
meeting
3-19-94

ADDITIONAL ITEMS AS DISCUSSED

- 1) Monroe Snow Plow, Hitch and Wing in accordance with the Township Specifications and including:

- Model MPHS35-64-12 IS One Way High Speed Slotted Trip Plow to comply with Township specifications
- reinforced to a MTE Quick Hitch Hitch plow portion
- Screw Adjustable shoes
- plow to be painted one fleet color
- To be 100% compatible with existing trucks and hitches in the Township's Fleet for interchangeability including the Hydraulic Quick Couplers
- Monroe Custom MTE Quick Hitch assembly.
- Custom side plate style hitch
- lift cylinder to have a quick coupler on the hydraulic hose
- truck portion of Hitch to be installed
- Bolt-on attachment for easy removal for Summer hauling
- thrust bar to attach to chassis frame behind front spring hanger
- 3 x 10" single acting lift cylinder
- installed and 100% compatible with existing Township equipment
- painted one fleet color
- Monroe Model HDPW-10 Patrol Wing to be incorporated into the custom front hitch.
- 10' Moldboard
- Front wing Post to be direct lift in lieu of cable and sheaves
- Dual Push Arms
- Full Moldboard Trip
- installed complete
- Monroe Model MS-966-RF undertailgate sander with, hoses from rear to sander, RID light, IOC bumper, installation

Net Price \$ 12,743.00

481.00

13,224.00

3-19-94
per board
meeting

- 2) Load sensing hydraulic system to include;
Cessena Model 70523 Pump to be front engine driven
Gresen V300LS valve with Morse Cable control system
in lieu of base system

ADD \$ N/C

- 3) Crysteel Marathon Hoist in Lieu of Underbody Hoist
Inverted Telescopic
Weight Savings 960 LBS Deduct \$ 300.00

- 4) Full Poly Fenders in lieu of front mud flaps ADD \$ 893.00

- 5) Hansen Quick Couplers in Lieu of Std ADD \$ 301.00

- 6) 14' 3 Axle Pup with Fixed pole, same Crysteel Body
design and all work ready
ADD \$ 13,250.00

- 7) For Non-trip style patrol wing similar to Falls
Deduct \$ 1,040.00

All Prices subject to applicable prices.

I would also like the opportunity to discuss with you your needs pertaining to the snow plow equipment on the above unit. I have a demo as well as several excellent references.

Should you have any further questions, please do not hesitate to contact me directly, I remain,

Respectfully,

