

SAFETY FIRST



FARM AND INDUSTRIAL EQUIPMENT INSTITUTE SAFETY ALERT SYMBOL.
This symbol is used preceding all **CAUTION** (a general safety reminder), **WARNING** (denotes a potential hazard) and **DANGER** (denotes a potential injury) notices!

Most farm accidents, like industrial, home and highway accidents, are caused by the failure of some individuals to observe simple and fundamental safety rules or precautions. For this reason farm accidents, just as other types of accidents, can be prevented by recognizing the causes of accidents and doing something about them before an accident occurs.

Regardless of the care used in the design and construction of farm equipment, there are many points that cannot be completely safeguarded without interfering with accessibility and efficient operation.

A careful operator is the best insurance against an accident.

The complete observance of one simple rule would prevent many thousand serious injuries each year. That rule is **"NEVER ATTEMPT TO CLEAN, OIL OR ADJUST A MACHINE WHILE IN MOTION."**

NATIONAL SAFETY COUNCIL

BEFORE ATTEMPTING TO OPERATE YOUR NEW MIXER FEEDER BE SURE TO READ THIS OWNERS MANUAL AND FAMILIARIZE YOURSELF WITH THE MACHINE!! OBSERVE THE FOLLOWING PRECAUTIONS FOR SAFE OPERATION OF THIS MACHINE!!

SAFETY TIPS



Keep Hands, Feet and Clothing away from PTO Shaft!

DO NOT climb on or enter machine while in operation

DO NOT make high speed maneuvers with the machine

Disengage PTO and remove key before servicing

Keep ALL Shields in place

DO NOT allow riders on outside of vehicle

DO NOT attempt to clean, oil or adjust machine while in motion

DO NOT exceed 1000 PTO speed on trailer mounted units

Properly ground all electrical Stationary applications.

INTRODUCTION

Through years of research and development Mohrlang Mfg. has designed this Mixer Feeder to give superb high speed mixing and blending of rations, with minimum maintenance. Yet to maintain the maximum efficiency of this machine, it is important to know the operational characteristics and limitations. It is also important to recognize probable causes of problems, should they occur.

CAPACITY

The Mohrlang Mixer Feeder is designed to mix rations that fall into the following Limitations:

1. At least 75% of material is 1 1/2" or shorter.
2. Less than 20% of material does not exceed 2 1/2".
3. Maximum fiber length does not exceed 4".

ANY ATTEMPT TO MIX MATERIAL OVER THESE LIMITATIONS WILL VOID WARRANTY.

MIXING TIME

Normal mixing time is from 3 to 5 minutes after the last ingredient has been added. The exact mixing time can be determined by analyzing samples taken from the bunk at several intervals throughout the discharge cycle. Always strive for the shortest possible mixing time. Over mixing reduces the quality of the feed and shortens the life of the mixer. Running the mixer while loading is not necessary and does not reduce the mixing time.

CAUTION: TOTAL MIXING TIME SHOULD NOT EXCEED 15 MINUTES PER BATCH.

>>Over mixing will cause excessive wear on mixer and reduce feed quality.

GENERAL SPECIFICATIONS

WIDTH:	
MIXING CHAMBER.....	.86"
OVERALL.....	105"
LENGTH:	
MTR 420 MIXING CHAMBER.....	138"
OVERALL.....	168"
MTR 520 MIXING CHAMBER.....	152"
OVERALL.....	172"
DEPTH:	
MTR 420 MIXING CHAMBER.....	.63"
MTR 520 MIXING CHAMBER.....	.70"
HEIGHT:	
MTR 420 (MIXER ONLY).....	.69"
MTR 520 (MIXER ONLY).....	.78"
CAPACITY:	
MTR 420 MIXER.....	420 c.f.
MTR 520 MIXER.....	520 c.f.
MIXING CAPACITY:	
MTR 420 MIXER.....	350 c.f.
MTR 520 MIXER.....	450 c.f.
WEIGHT:	
MTR 420 MIXER.....	8,700 lb.
MTR 520 MIXER.....	9,500 lb.
DISCHARGE AUGER TROUGH:.....	1/4" Steel With 12 ga S.S. Replaceable Liner
SIDES:	7 ga Steel
FRONT & BACK.....	7 ga Steel
ROTOR TROUGH:.....	1/4"
DISCHARGE AUGER:.....	20" O.D. x 3/4" pitch on 3 1/2" XXH pipe
ROTOR:	
MTR 420.....	54" Diameter
MTR 520.....	66" Diameter
BEARINGS:.....	All Bearings Relubricable
DRIVES:.....	High Speed Reduction in Precision Gear Boxes, Roller Chain and Hardened Sprockets with Standard Oil Bath.

TRUCK SPECIFICATIONS

MTR 420 CUBIC FOOT MIXER:

Minimum GVWR.....	28,000 lb.
Rear Axle.....	19,000 lb.
Front Axle.....	9,000 lb.
Cab to Axle.....	112"
Minimum Engine.....	180 hp.
Transmission.....	Allison MT-653, Spicer CM-5252A
Tires.....	10:00x20 12 Ply

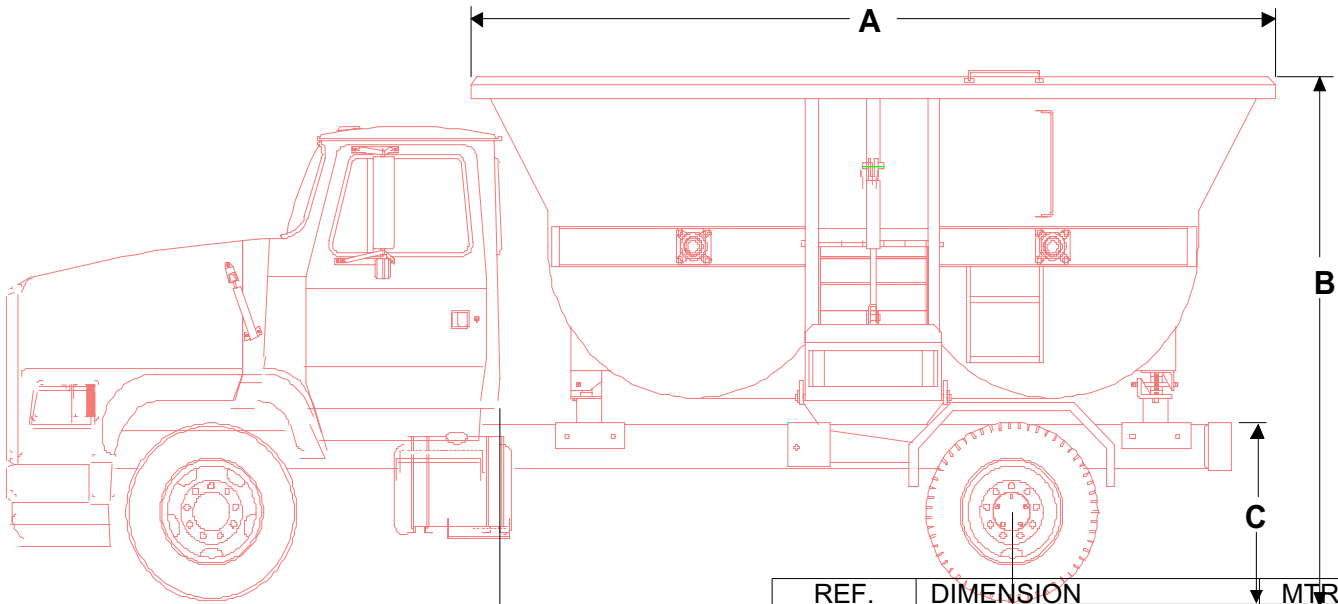
MTR 520 CUBIC FOOT MIXER:

Minimum GVWR.....	33,000 lb.
Rear Axle.....	21,000 lb.
Front Axle.....	12,000 lb.
Cab to Axle.....	122"
Minimum Engine.....	180 hp.
Transmission.....	Allison MT-653, Spicer CM-5252A
Tires.....	10:00x20 12 Ply

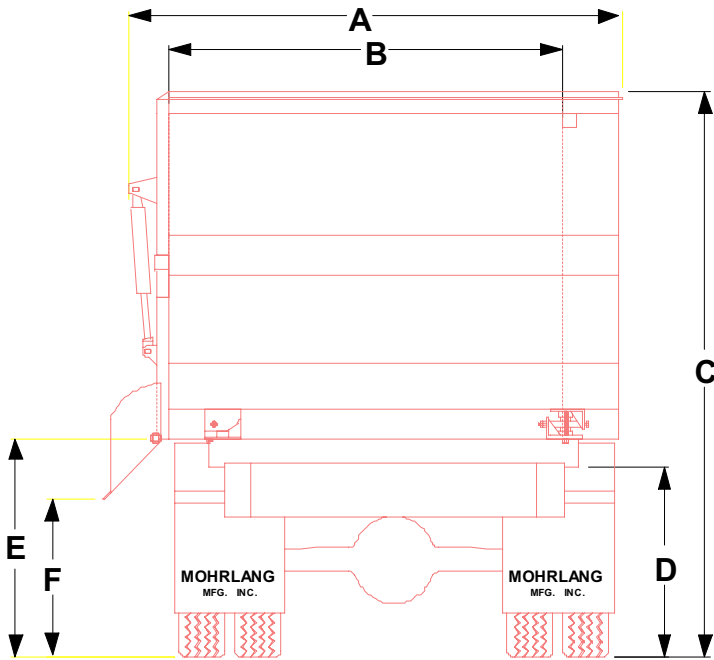
OPTIONAL TRUCK EQUIPMENT FOR ALL MIXERS:

Power Steering, Double Frame, Dual Element Air Cleaner, Air Pre-Cleaner, Mud & Snow Tires, Transmission Temperature Gauge (Allison Only), Individual Seats, Disc Wheels, Air Cleaner Restriction Gauge, Feedlot Bumper and Air-Air By-Pass.

REF.	DIMENSION DESCRIPTION	MTR 420	MTR 520
A	OVER ALL LENGTH	166"	188"
B	OVER ALL HEIGHT	108"	117"
C	TRUCK FRAME HEIGHT	39"	39"
D	CAB TO AXLE LENGTH	112"	122"



REF.	DIMENSION DESCRIPTION	MTR 420	MTR 520
A	OVER ALL WIDTH	107"	107"
B	MIXING CHAMBER WIDTH	85"	85"
C	OVER ALL HEIGHT	108"	117"
D	TRUCK FRAME HEIGHT	39"	39"
E	CHUTE HINGE POINT	45"	45"
F	CHUTE LOWER HEIGHT	33"	33"



TRAILER SPECIFICATIONS

WEIGHT:

Trailer Only.....2,500 lb.
With Mixer (MTR 420).....11,200 lb.

AXLE:23,000 lb. W/Sealco Self Oiling Hubs

SUSPENSION: (Optional):.....Hutch Single Axle W/Multi-Leaf Springs

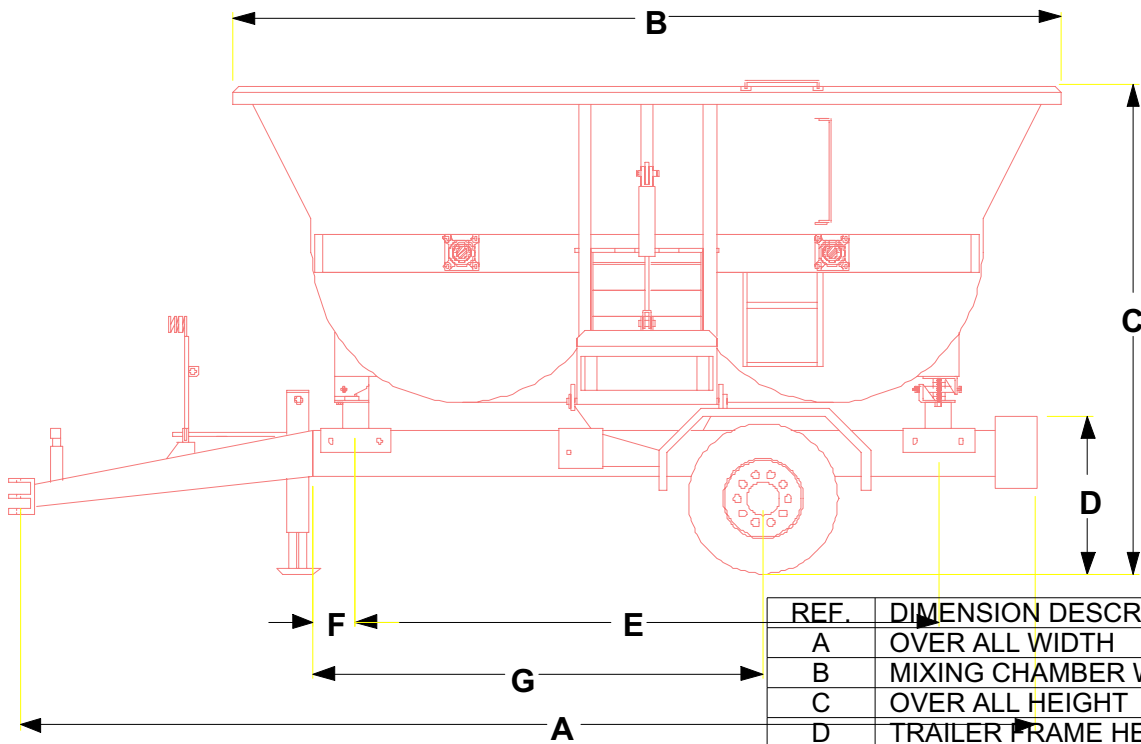
TIRES:.....40x14.5x19 Flootation

PTO SPEED REQUIREMENT:.....1,000 RPM or 540 RPM

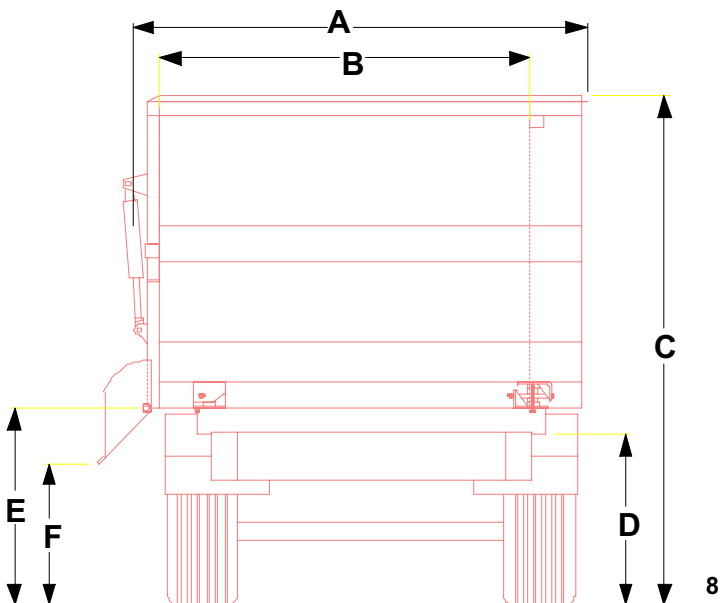
HORSEPOWER REQUIREMENT:

MTR 420.....40 hp. To 50 hp.

REF.	DIMENSION DESCRIPTION	MTR 420
A	OVER ALL TRLR. LENGTH	221"
B	OVER ALL BOX LENGTH	166"
C	OVER ALL HEIGHT	99"
D	TRAILER FRAME HEIGHT	30"
E	PEDESTAL CENTERS	122"
F	FRAME END-PED. CENTER	10"
G	FRAME END TO AXLE	92"



REF.	DIMENSION DESCRIPTION	MTR 420
A	OVER ALL WIDTH	107"
B	MIXING CHAMBER WIDTH	85"
C	OVER ALL HEIGHT	99"
D	TRAILER FRAME HEIGHT	30"
E	CHUTE HINGE POINT	36"
F	CHUTE LOWER HEIGHT	24"



STATIONARY SPECIFICATIONS

WEIGHT:

MTR 420.....12,200 lb.
MTR 520.....13,000 lb.

END PANELS:.....7 ga Steel

SIDES:.....7 ga Steel

BOTTOM:.....1/4" with Std 3/16" Liner

DRIVE:.....Oil Bath is Standard

HORSEPOWER REQUIREMENTS:

MTR 420.....30 hp.
MTR 520.....40 hp.

OPERATION

TRUCK MOUNTED MIXERS:

1. Before loading the Mixer, make sure the gate is in the closed position and the chute is up position and the mixing chamber is free of any foreign objects.
2. Engaging the Mixer: Power is obtained from the PTO mounted on Truck transmission. PTO control is generally an ON-OFF switch on the console or floor mounted or Lever controlled.

CAUTION: Avoid High Engine RPM engagement of the PTO to avoid drive train damage. Engagement speed should not exceed 1000 RPM.

1. Normal Mixer operation should be no more than 2000 RPM.
2. Discharging Feed: Lower the chute, adjust gate to get desired discharge. The hydraulic controls for the gate and chute are either levers mounted beside the driver seat or joy stick mounted on the console.

TRAILER MOUNTED MIXER:

1. Trailer mounted Mixers are very similar in operation to the truck mounted mixers.
2. Be sure to match the proper tumbler shaft to the tractor mixer PTO, 540 RPM or 1000 RPM.
3. Hook-up hydraulic hoses to the outlets on the tractor, the sequence valve on the mixer will operate the chute and gate on single hydraulic systems. With the sequence valve the chute lowers then the gate will raise to desire position. The reverse operation lowers the gate and then raise the chute.
4. Electric connection is required to operate the discharge and scale system. Be sure to connect to 12 volt DC and proper polarity. Mount the control in a position for easy operator access.

5. It is best not to operate the mixer when cornering, to prevent possible damage to tumbler shaft.

CAUTION: Keep tumbler shaft well lubricated so it can slide during operation to prevent damage to drive train.

STATIONARY MIXERS:

WARNING: Stationary Mixers are generally controlled from a remote location and start automatically without warning.

Before servicing or entering the mixing chamber, disconnect main power source and lock the disconnect in the OFF position to prevent accident start-up.

Do not clean, adjust, or grease while mixer is running.

Keep body and clothing away from any moving parts, whether or not mixer is operating.

Keep all shields and doors in place, except for servicing.

Be sure all equipment is properly grounded.

FAILURE TO HEED MAY RESULT IN SERIOUS INJURY.

Engaging Mixer: Power is supplied to the stationary by an electric motor mounted towards the rear of the mixer.

CAUTION: Be sure your electrician has wired the motor properly.

Motor Current: An amp meter should be installed at the control panel to monitor motor current. Once the motor has reached operating RPM (1750), the current draw must not exceed the rating stamped on the motor name plate.

TROUBLESHOOTING

CONVEYOR WILL NOT OPERATE:

1. Check PTO engagement.
2. Make sure chute is down.
3. Check BELT DRIVE.
4. Check electrical connections.
5. Check PUMP & MOTOR.
6. Check mercury safety switch on rear of chute.
7. Check conveyor chain OR AUGER for binding.

BEARING FAILURE:

1. Bearing failure is most generally caused by lack of lubrication or over lubrication.

DRIVE CHAIN BREAKAGE:

1. Side bar breakage is usually caused by sprocket misalignment and/or vibration, evident by sprocket wear.
2. Pin breakage is caused by sudden shock load, or improper adjusted chain idlers.
3. Pin bending is caused by gradual overloading.
4. Roller breakage is caused by chain climbing sprocket or an object getting under roller.

HYDRAULIC SYSTEM INOPERATIVE:

1. Check belt tightness.
2. Check oil level.
3. Check valve bypass pressure.

MAINTENANCE

DRIVELINES:

There are 3 automotive drivelines on your mixer, each with 2 cross and bearings, and a splined slip yoke. There are also 2 jack shafts, with 2, 1 1/4" pillow block bearings per shaft. It is important to service the components regularly with standard gun grease. If an automotive driveline is removed for some reason, be sure to check the alignment of the yoke before operating the mixer.

GEAR BOXES:

Check the oil level on a regular interval, in both the 4:1 M-625 gear box and 5:1 GR-1600 gear box. Service both gear boxes with 90 weight gear oil.

CHAIN AND SPROCKETS:

Service rear chains and conveyor drive chain with ATF or any light oil on a regular time schedule. Discharge chain should be serviced with a light coat of diesel fuel. The oil bath, oil level should be kept centered on lower sprockets using 10w40 oil. Be sure to keep the oil and the inside of the oil bath as clean as possible. Dirt and grime in the oil bath will greatly reduce the life of the chain and sprockets.

SPROCKET ALIGNMENT:

All sprockets are kept in place by locking spacer on both ends of the auger shafts. If a sprocket has been removed, be sure to check the alignment again, to be sure the spacer are in the right spot.

BEARING REPLACEMENT:

When installing a new bearing, polish the shaft so it takes only light tapping to slide the bearing into position. **DO NOT FORCE BEARING ON WITH A LARGE HAMMER.** To do so will cause premature bearing failure.

LUBRICATION:

Refer to the lubrication chart for proper lubricant and intervals.

STRUCTURAL AND DRIVE BOLTS:

Tighten all structural and drive bolts after the first day of operation on a new machine, and at least once a month thereafter.

STORAGE:

If your mixer is stored for a month or more it is important to completely service unit by greasing all bearings, cleaning inside and out to protect against rust. It is advisable to store inside to protect against rain and snow.

CONVEYOR:

The conveyor discharge chain adjustment is the 2 t-bearing on the front of the conveyor. It better to run the chain loose to keep wear at a minimum.

LUBRICATION

ITEM	LUBRICATE	INTERVAL
All U-Joint & Driveline Bearings	All Purpose Gun Grease	100 Hours
Gear Boxes	#90 Gear Oil	Check once a week
All Bearings	All Purpose Gun Grease	100 Hours
Roller Chains	Atf Or Light Oil	100 Hours
Conveyor Chains	Diesel Fuel	100 Hours
Guides For Discharge Gate	All Purpose Gun Grease	100 Hours
Hydraulic System	Hydraulic Or Atf Oil	Check once a week
Tumbler Shaft	All Purpose Gun Grease	100 Hours
Oil Bath Drive	10w40 Oil	Check once a week