Mixers and Spreaders

TRUCK MOUNTING
TECHNICAL SPECIFICATIONS

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Invest in Quality®

A WIDE SELECTION OF TRUCK MOUNT MACHINES

As the worldwide leader in spreading and mixing technology, Kuhn North America offers a complete line of 27 models of mixers and spreaders for truck mounting. Spreaders available for truck mounting include ProTwin® Slinger® side-discharge spreaders and the ProSpread® Commercial apron box spreaders, ranging in capacity from 600 cubic feet up to 1,000 cubic feet. TMR mixers available for truck mounting include Vertical Maxx® twin-auger and triple-auger models, Reel Auggie®, Reel Commercial and Botec® four-auger models, ranging in capacity from 200 to 1,320 cubic feet. Two delivery box models, the PF 1130 & 1145, are also available and have capacities ranging from 1,000 - 1,450 cubic feet. For proper operation, it is crucial that each of these machines is paired to the proper truck. This will allow each mixer and spreader to meet our high standards for quality performance and long life.

CHOOSING THE PROPER DRIVETRAIN

MANUAL TRANSMISSION

Most manual transmissions offer one or two gears that are low enough to achieve proper ground speed saving the expense of an additional gear reduction. A downside to a manual transmission, however, is that the PTO disengages when the clutch is depressed. This restricts PTO use to operations where the transmission will not be shifted.

AUTOMATED MANUAL TRANSMISSION

An automated manual transmission combines the ease of use of a fully automatic with the lower gearing of a manual transmission. These transmissions generally are more expensive, however the cost savings for not having to add an auxiliary transmission can make them competitively priced.

AUTOMATIC TRANSMISSION

Automatic transmissions eliminate the need to manually shift gears providing more user-friendly operation. Due to the size, weight and use of truck-mounted machines, automatic transmissions may require modifications such as an additional gear reduction to operate at an acceptable speed for unloading.

OPTIONAL AUXILIARY TRANSMISSION

An additional auxiliary transmission can be paired with any transmission to further reduce gearing and ground speed. This gearbox can be supplied in ratios of 2:1, 3.25:1, 4:1, 5:1 to provide ultra-low ground speeds that are preferred for many truck mount applications. The auxiliary transmission does disengage to allow the truck to operate at road speeds when necessary.

REAR DIFFERENTIAL GEARING

When selecting a truck to mount a mixer or spreader we recommend the lowest rear end gearing available. This improves functionality by reducing ground speed and may open up options for other higher geared transmissions.

POWER BY THE NUMBERS

OVERALL REDUCTION CALCULATION

[First Gear Ratio] x [Auxiliary Low Range Ratio] x [Rear End Ratio]

Example: *3500 RDS Allison Transmission*

First Gear: 4.59

Auxiliary Low Range Ratio: 3.25:1

Rear Axle Ratio: 5.38

4.59 x 3.25 x 5.38 = 80.3 Overall Reduction

Greater reduction may be required in certain applications to reach even lower ground speeds.

GROUND SPEED CALCULATION

[Engine RPM] ÷ [Overall Reduction] x [60] ÷ [Tire Revolutions/Mile]

Example:

Mechanical Drive: 1750 rpm

Hydrostatic Drive: 2000 rpm

Overall Reduction: 80.3

Multiplier to convert RPM to mph: 60

Tire Revolutions/Mile: 496 (based on 11R 22.5 tire)

Mechanical Drive:

(1750 ÷ 80.3) x (60 ÷ 496) = 2.6 mph

Hydrostatic Drive:

(2000 ÷ 80.3) x (60 ÷ 496) = 3.0 mph

Without the 3.25:1 auxiliary transmission, this truck would have a ground speed of 8.6 mph at 1750 RPM or 9.8 mph at 2000 RPM.

MINIMUM RECOMMENDATIONS

Machine	Ground Speed	1st Gear Ratio	Rear Axle Ratio	Overall Reduction
Mixers	2-3 mph	8:1	7:1	60:1-100:1*
Spreaders	3-6 mph	8:1	6:1	50:1

* Requirements may vary based on your feeding operation.

DRIVE SELECTION FOR MAXIMUM PERFORMANCE

OPTIMIZING TRUCK CHASSIS SETUP

MECHANICAL DRIVE

Because mechanical-driven machines receive their power from the transmission, it's important that the transmission selected has the capacity to operate the PTO at the proper torque, speed, and direction of rotation. Mechanical drive systems cost less and have a number of different driveline options but are slightly less versatile than hydrostatic drives. They also cannot handle the startup torque of some of the largest KUHN Knight mixers and spreaders.

HYDROSTATIC DRIVE

When incorporating a hydrostatic drive, the truck must be equipped with an engine PTO accessory in either the front (FEPTO) or rear (REPTO). The truck must also have bucket seats as opposed to bench seats to allow room for the control pedestal. Hydrostatic drives are more versatile with the mixer speed independent of the ground speed. A front-mounted hydrostatic pump powered by a FEPTO will require a truck with an extended front bumper, which may be done after-market or ordered stock from the truck manufacturer.

SELECTING THE RIGHT PTO

To properly order the correct PTO for a mechanical drive, it is important to know the make and model of your transmission as well as the number of transmission speeds. It is also helpful to know the year, make, model and engine of the truck.

DRIVELINE ANGLE

The driveline angle is critical for both mechanical and hydrostatic drive options. An improper angle may result in poor operation and decreased component life. We recommend a driveline angle in the range of 1-8 degrees for best performance.

FRAME MODIFICATION

Selecting the proper truck frame for mounting a mixer or spreader is critical. For small- to medium-sized models, a single C frame may be sufficient. On larger units, a double C frame is necessary to ensure proper support. Frame length is also very important. To ensure a proper fit, the frame may need to be stretched. When extending the frame, a minimum of three feet overlap between sections is required to ensure frame integrity.

WHEELBASE MODIFICATION

To optimize weight distribution and achieve proper driveline clearance it may be necessary to adjust axle position.

SUSPENSION MODIFICATION

To meet suspension requirements, modification to the front and/or rear spring packs may be necessary. Even with the upgraded suspension, the axles still must not be loaded beyond their rating. Additional modification may also be necessary for some reel mixers due to the weight and position of the augers.

KNOWING THE RATINGS

GROSS VEHICLE WEIGHT RATING

The maximum weight of a vehicle is specified by the manufacturer as gross vehicle weight rating (GVWR). This measurement refers to the weight of all truck components as well as the load applied. To ensure that your mixer or spreader has proper support, it is important to be mindful of the GVWR when purchasing your truck.

AXLE RATING

The maximum operating weight of each axle of a vehicle is specified by the manufacturer. Be sure to account for all possible uses and applications of your truck before choosing your chassis. It is crucial that you never load an axle beyond the manufacturer's axle rating.

SINGLE AXLE VS. TANDEM AXLE

For smaller, lower weight machines that handle smaller volumes, a single axle chassis is generally recommended. Single axles provide a tighter turning radius and cost less, saving you time and money. Larger units used for heavier loads often require a tandem axle configuration in order to meet the minimum weight requirements. They offer better flotation and sturdy support in these applications.

OUTSTANDING RELIABILITY & PERFORMANCE

FEEDLOT CORE RADIATOR/CHARGE AIR COOLER

This optional radiator and charge air cooler set is built with heavy-duty fins to allow for pressure washing. It is designed for agricultural use with a larger percentage of open space to allow for increased air flow and minimized plugging.

REMOTE A/C CONDENSER

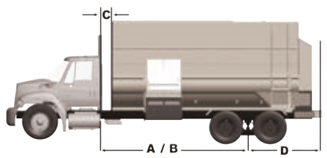
For improved airflow through the radiator and charge air cooler, this air conditioning condenser is relocated to the side of the unit.
This also reduces the labor required to clean crucial engine cooling components.

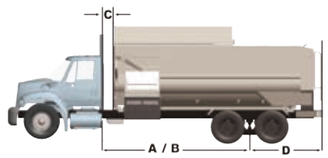
ASSIST AXLE

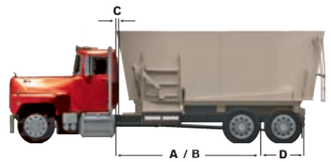
An air loaded assist axle may be required on some larger units. The assist axle may be mounted in front of the tandem axle (pusher) or behind (tag). This axle may be lowered when necessary to meet certain travel regulations, but may also be raised when not needed to improve cornering and save tire wear.

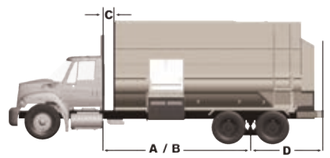
FLOTATION TIRES

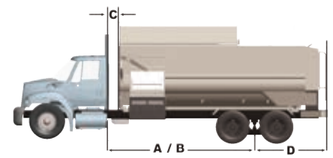
Flotation tires help minimize compaction and maximize traction when hauling even the heaviest loads.

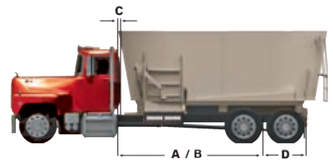












Model Specifications

	MECH/FEPTO DRIVE CAB-TO-AXLE UNIT [1]	REPTO CAB-TO-AXLE UNIT [1]	SET BACK CAB UNIT	MIN AFTERFRAME [2]	AXLE TYPE	MIN GVW	MIN FRAME SEC. MOD [3]	MIN AXLE FRONT/REAR (1,000 lbs)	MIN ENGINE HP	MIN ENGINE DISPLACEMENT	MIN PTO TORQUE
MODELS	A	B	C	D							
REEL AUGGIE											
3120	103"–109"	–	11"–17"	42"	Single	25,000 lbs	12.5 in³	10/15	180 hp	6 L	200 ft. lbs.
3125	103"–109"	–	11"–17"	42"	Single	25,000 lbs	12.5 in³	10/15	180 hp	6 L	200 ft. lbs.
3130	119"–125"	–	11"–17"	50"	Single	25,000 lbs	12.5 in³	10/15	180 hp	6 L	200 ft. lbs.
RA 136	96"–102"	–	9"–15"	56"	Single	27,500 lbs	12.5 in³	10/17.5	180 hp	6 L	250 ft. lbs.
RA 142	113"–119"	–	9"–15"	56"	Single	36,000 lbs	12.5 in³	12/24	210 hp	6 L	250 ft. lbs.
REEL COMMERCIAL											
RC 250	118"–124"	130"–136"	9"–15"	56"	Single	45,000 lbs	17 in³	12/33	250 hp	8 L	300 ft. lbs.
RC 260	138"–144"	150"–156"	9"–15"	66"	Single	48,000 lbs	17 in³	12/36	300 hp	8 L	300 ft. lbs.
RC 260	138"–144"	150"–156"	–	66"	Tandem	51,000 lbs	17 in³	14/37	300 hp	8 L	300 ft. lbs.
RC 270	157"–163"	169"–175"	–	84"	Tandem	56,000 lbs	17 in³	14/42	330 hp	9 L	300 ft. lbs.
RC 295	157"–163"	169"–175"	–	90"	Tandem	64,000 lbs	23 in³	18/46	330 hp	9 L	Hydrostatic
BOTEC											
4136	112"–120"	–	13"–24"	62"	Single	27,500 lbs	12.5 in³	10/17.5	180 hp	6 L	180 ft. lbs.
4142	112"–120"	–	13"–24"	62"	Single	36,500 lbs	12.5 in³	12/24	210 hp	6 L	180 ft. lbs.
BTC 155	134"–140"	145"–151"	13"–24"	70"	Single	49,000 lbs	17 in³	12/37	250 hp	7 L	250 ft. lbs.
BTC 163	150"–156"	160"–166"	20"	76"	Tandem	58,000 lbs	17 in³	16/42	300 hp	8 L	300 ft. lbs.
BTC 172	150"–156"	160"–166"	20"	76"	Tandem	62,000 lbs	17 in³	16/46	330 hp	9 L	300 ft. lbs.
BTC 190	147"–153"	163"	20"	80"	Tandem	70,000 lbs	23 in³	18/52	330 hp	9 L	Hydrostatic
VERTICAL MAXX - Front Discharge (FD) - Side Discharge (SD)											
VT 144 GII SD	109"–113"	–	–	60"	Single	42,000 lbs	12.5 in³	12/30	250 hp	7 L	300 ft. lbs.
VT 156 GII SD	128"–134"	128"–134"	–	72"	Single	51,000 lbs	17 in³	14/37	300 hp	8 L	400 ft. lbs.
VT 156 GII SD	128"–134"	128"–134"	–	72"	Tandem	54,000 lbs	17 in³	14/40	300 hp	8 L	400 ft. lbs.
VT 156 GII FD	154"–158"	173"–177"	–	72"	Tandem	54,000 lbs	17 in³	14/40	300 hp	8 L	400 ft. lbs.
VT 168 GII SD	128"–134"	128"–134"	–	72"	Tandem	54,000 lbs	17 in³	14/40	300 hp	9 L	400 ft. lbs.
VT 168 GII FD	154"–158"	173"–177"	–	72"	Tandem	54,000 lbs	17 in³	14/40	300 hp	9 L	400 ft. lbs.
VT/VTC 180 GII SD	158"–164"	160"–164"	–	72"	Tandem	64,000 lbs	23 in³	18/46	325 hp	10 L	Hydrostatic
VT/VTC 180 GII FD	194"–198"	213"–217"	–	72"	Tandem	62,000 lbs	23 in³	16/46	325 hp	10 L	Hydrostatic
VT/VTC 1100 GII SD	158"–164"	160"–164"	–	72"	Tandem	72,000 lbs	23 in³	20/52	375 hp	12 L	Hydrostatic
VT/VTC 1100 GII FD	194"–198"	213"–217"	–	72"	Tandem	72,000 lbs	23 in³	20/52	375 hp	12 L	Hydrostatic
VTC 1120 GII SD	158"–164"	160"–164"	–	72"	Tandem	79,000 lbs	25 in³	21/58	400 hp	12 L	Hydrostatic
VTC 1120 GII FD	194"–198"	213"–217"	–	72"	Tandem	79,000 lbs	25 in³	21/58	400 hp	12 L	Hydrostatic
PROFEED DELIVERY BOX											
PF 1130 (35K Max Net Load)	174"-178"	193"-197"	19"-22"	80"	Tandem	72,000 lbs	23 in³	20/52	330	9 L	Hydrostatic
PF 1130 (45K Max Net Load)	174"-178"	193"-197"	19"-22"	80"	Tandem	82,000 lbs	27 in³	21/62	360	12 L	Hydrostatic
PF 1130 (50K Max Net Load)	174"-178"	193"-197"	19"-22"	80"	Tandem	90,000 lbs	30 in³	22/68	400	12 L	Hydrostatic
PF 1145 (40K Max Net Load)	192"-196"	211"-215"	19"-22"	80"	Tandem-Pusher	80,000 lbs	27 in³	22/52/12	360	12 L	Hydrostatic
PF 1145 (50K Max Net Load)	192"-196"	211"-215"	19"-22"	80"	Tandem-Pusher	90,000 lbs	30 in³	22/58/12	400	12 L	Hydrostatic
PROTWIN SLINGER											
SLC 132	157"–163"	163"–169"	17"–23"	88"	Tandem-Tag	67,000 lbs	17 in³	20/40/16	325 hp	9 L	300 ft. lbs.
SLC 132	190"–196"	196"–202"	17"–23"	52"	Tandem	60,900 lbs	17 in³	20/46	325 hp	9 L	300 ft. lbs.
SLC 132	165"–171"	171"–177"	17"–23"	52"	Tandem	58,000 lbs	17 in³	14/46	325 hp	9 L	300 ft. lbs.
SLC 141	207"–210"	210"–213"	23"–26"	57"	Tandem-Pusher	80,000 lbs	17 in³	16/46/13	350 hp	9 L	300 ft. lbs.
SLC 141	205"–208"	208"–211"	23"–26"	91"	Tandem-Tag-Pusher	86,000 lbs	17 in³	20/40/13/13	350 hp	9 L	300 ft. lbs.
SLC 141	211"–214"	214"–217"	23"–26"	53"	Tandem	72,000 lbs	17 in³	20/52	350 hp	9 L	300 ft. lbs.
COMMERCIAL PROSPREAD											
PSC 161	164"–168"	–	14"–20"	60"	Tandem	73,000 lbs	25 in³	18/55	325 hp	10 L	325 ft. lbs.
PSC 161	164"–168"	–	14"–20"	60"	Tandem-Pusher	73,000 lbs	25 in³	16/46/12	325 hp	10 L	325 ft. lbs.
PSC 171	186"–190"	–	14"–20"	65"	Tandem	76,000 lbs	30 in³	18/58	375 hp	12 L	350 ft. lbs.
PSC 171	186"–190"	–	14"–20"	65"	Tandem-Pusher	76,000 lbs	30 in³	16/46/15	375 hp	12 L	350 ft. lbs.
PSC 181	212"–216"	–	14"–20"	65"	Tandem-Pusher	84,000 lbs	40 in³	16/48/20	425 hp	12 L	350 ft. lbs.
PXL 185	219"–224"	–	18"–20"	50"	Tandem-Pusher	88,000 lbs	40 in³	20/48/20	425 hp	12 L	350 ft. lbs.
PXL 185	168"–178"	–	14"–20"	99"	Tandem-Tag-Pusher	92,000 lbs	40 in³	20/40/12/20	425 hp	12 L	350 ft. lbs.
PXL 1100	240"–244"	–	16"–19"	60"	Tandem-Pusher	90,000 lbs	40 in³	20/50/20	475 hp	12 L	400 ft. lbs.
PXL 1100	247"–263"	–	18"–22"	43"	Tandem-Pusher-Pusher	104,000 lbs	40 in³	18/46/20/20	475 hp	12 L	400 ft. lbs.

[1] This information may not apply to tilt cab trucks. A longer cab-to-axle may be required. [2] ProTwin afterframes are required only for bumper supports and are non-load bearing for tandem axles without tag. [3] ProTwin afterframes require full strength afterframe for units with tandem and tag axles. [4] The FRAME SEC. MOD. column refers to the strength of the frame based on 110,000 PSI yield strength.

MIXERS AND SPREADERS TRUCK MOUNTING

THE RIGHT MACHINE TO MEET YOUR NEEDS

A MIXER OR SPREADER FOR EVERY APPLICATION

With 27 models of mixers and spreaders available for truck mounting, we have the machine to fit your unique situation. Contact your local KUHN Knight dealer to find the right model for you.

1. Side-Discharge Spreaders – 2. Apron Box Spreaders – 3. Vertical Twin-Auger Mixers – 4. Reel Mixers – 5. 4-Auger Mixers – 6. Delivery Boxes

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