

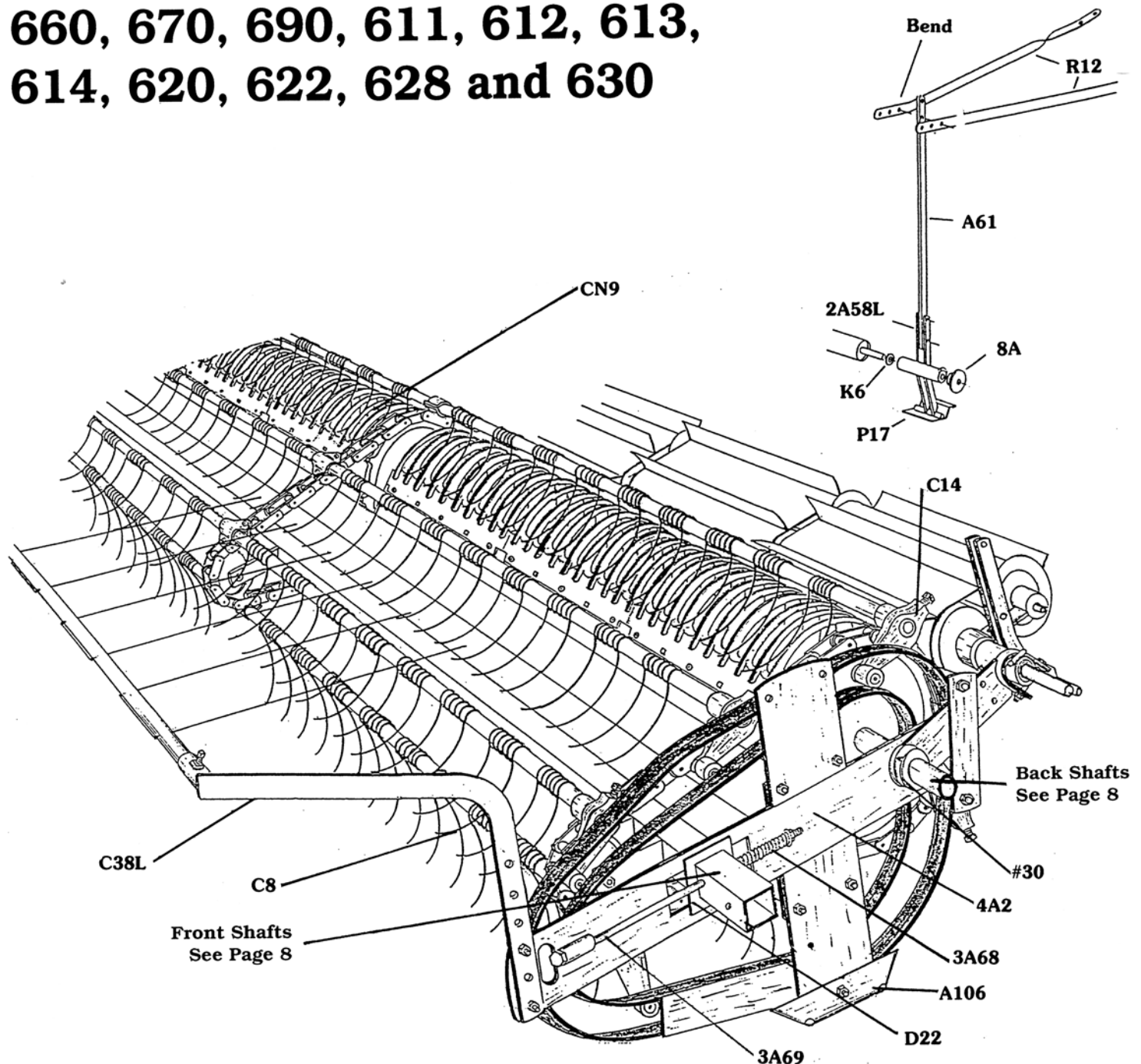
Introduction

This manual contains important information regarding the operation and maintenance of your Sund Raking Pickup. We urge you to read it carefully and follow the recommendations to obtain the most trouble-free, efficient operation of your pickup.

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Parts Common to Models 640, 660, 670, 690, 611, 612, 613, 614, 620, 622, 628 and 630



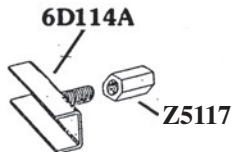
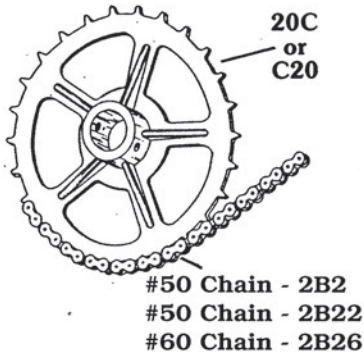
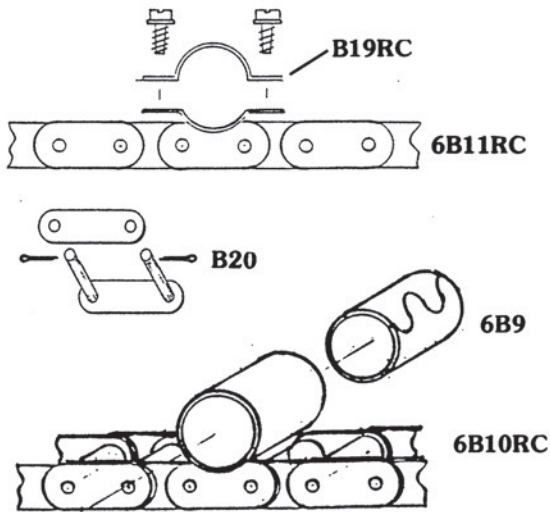
Description

Description	Part No.
Vertical Draper Brace	A61
Shoe	A106
Adjusting Bolt - 1/2" x 11"	3A67
End Frame Right.....	4A1
End Frame Left	4A2
End Frame Right - for 620, 622, 628 & 630 ...	4A1P
End Frame Left - for 620, 622, 628 & 630....	4A2P
Windguard Bracket Right	C38R
Windguard Bracket Left.....	C38L

Description

Description	Part No.
Front Shaft Spring.....	3A68
Front Shaft Bolt - 1/2" x 14".....	3A69
Backshaft Collar	#30
Nylon Stripper.....	CN9
Raker Tooth	C8
Square Front Shaft Washer	D22

Main Frame Parts



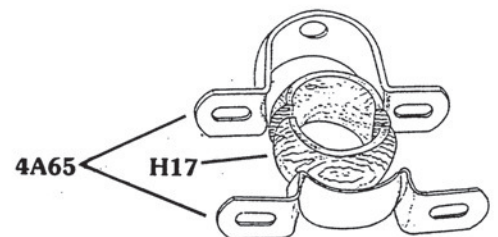
5L1



C125



C14B

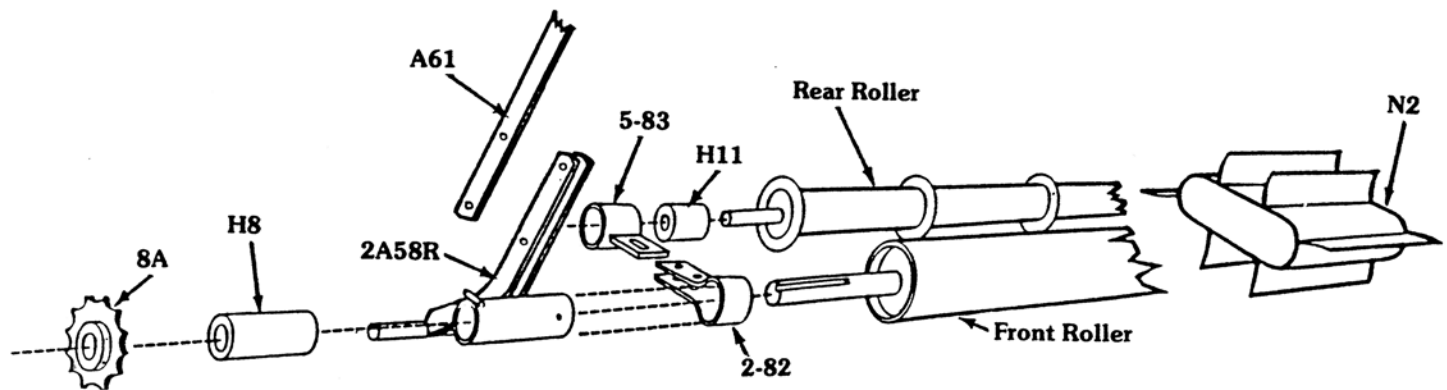


Description

Part No.

Center Bearing Holder for
Rear Main Shaft 4A65
Split Bushing for 4A65 H17
Center Lug Chain 6B11RC
Caps for Center Lug Chain B19RC
Front Idler Sprocket (Steel) 6C23R
Raker Bar Arm Casting Only #14
Arm Assembly w/Roller Bearing C14B
Roller Bearing Assembly C125
Suspension Spring 5L1
Lug Chain 6B10RC
Lug Chain Bushing 6B9
Connector Link B20
Main Shaft Drive Sprocket C20 or 20C
#50 Chain 2B2
#50 Chain for 20' & 22' Pickup 2B22
#60 Chain for 20' & 22' Pickup 2B26
1" Coupling Nut Z5117
Front Shaft Tightener
for 611 & 614 6D 114A
45-Tooth #60 Chain Sprocket for
16', 20', 22' Pickups 4560
45-Tooth Double #60 Chain Sprocket for
28' and 30' Pickups 4560D

Draper Assembly Standard



Description

Front Draper Roller - 1" Shaft
Rear Draper Roller - 5/8" Shaft

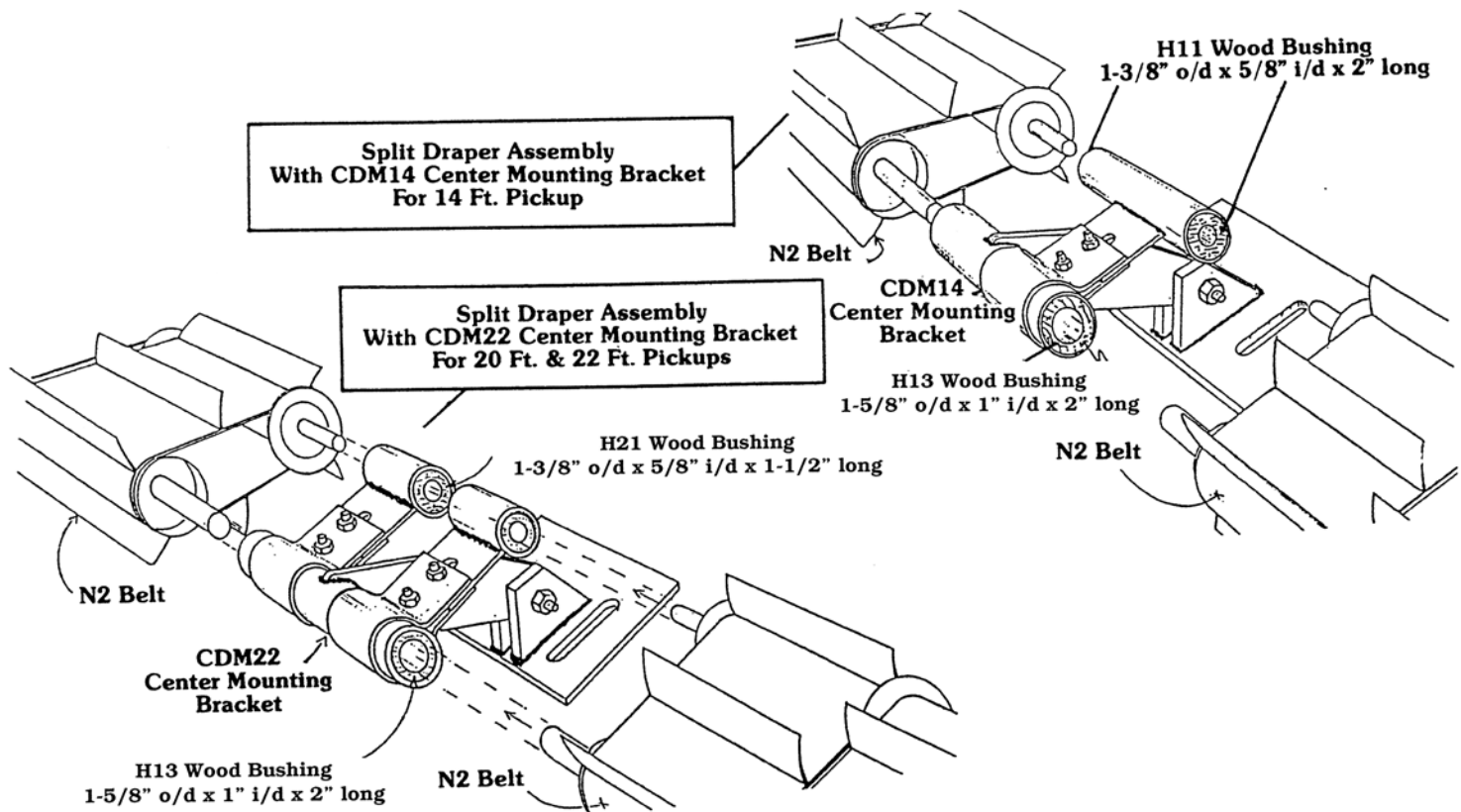
4 ft.	6 ft.	7 ft.	9 ft.	11 ft.	12 ft.	13 ft.	14 ft.
N4	N6	N7	N9	N11	N12	N13	N14
N4B	N6B	N7B	N9B	N11B	N12B	N13B	N14B

Split Draper Assembly

Description

Front Draper Roller - 1" Shaft
Rear Draper Roller - 5/8" Shaft

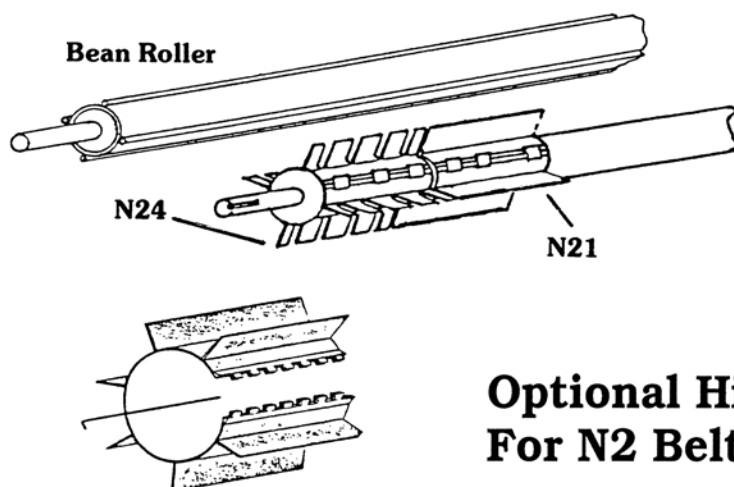
14 ft.	20 ft.	22 ft.	28 ft. FRM	30 ft. FRM
N7CDM	N10	N11CDM	N14CDM	N15
N7BCDM	N10B	N11BCDM	N14EBCDM	N15EBCDM



Draper Parts and Bean Rollers

Description	Part No.
Rubber Draper Belt.....	N2
Draper Tightener	2-82
Draper Bearing Clip.....	5-83
Front Roller Wood Bearing 1-1/16" I.D. x 1-5/8" O.D. x 5" Long	H8
Rear Roller Wood Bearing 5/8" I.D. x 1-5/8" O.D. x 2" Long	H11

Description	Part No.
Nylon Machine Ring for Front Roller (Not Illustrated)	K6
Vertical Draper Brace.....	A61
Draper Bearing Fork - Right.....	2A58R
Draper Bearing Fork - Left.....	2A58L
Hook Bolt (Not Illustrated)	2A59
Draper Sprocket (13 Tooth).....	8A
Draper Sprocket (17 Tooth Not Illustrated)	105017
(15 Tooth Not Illustrated)	105015



FRM Replacement Option for Standard Draper Assembly

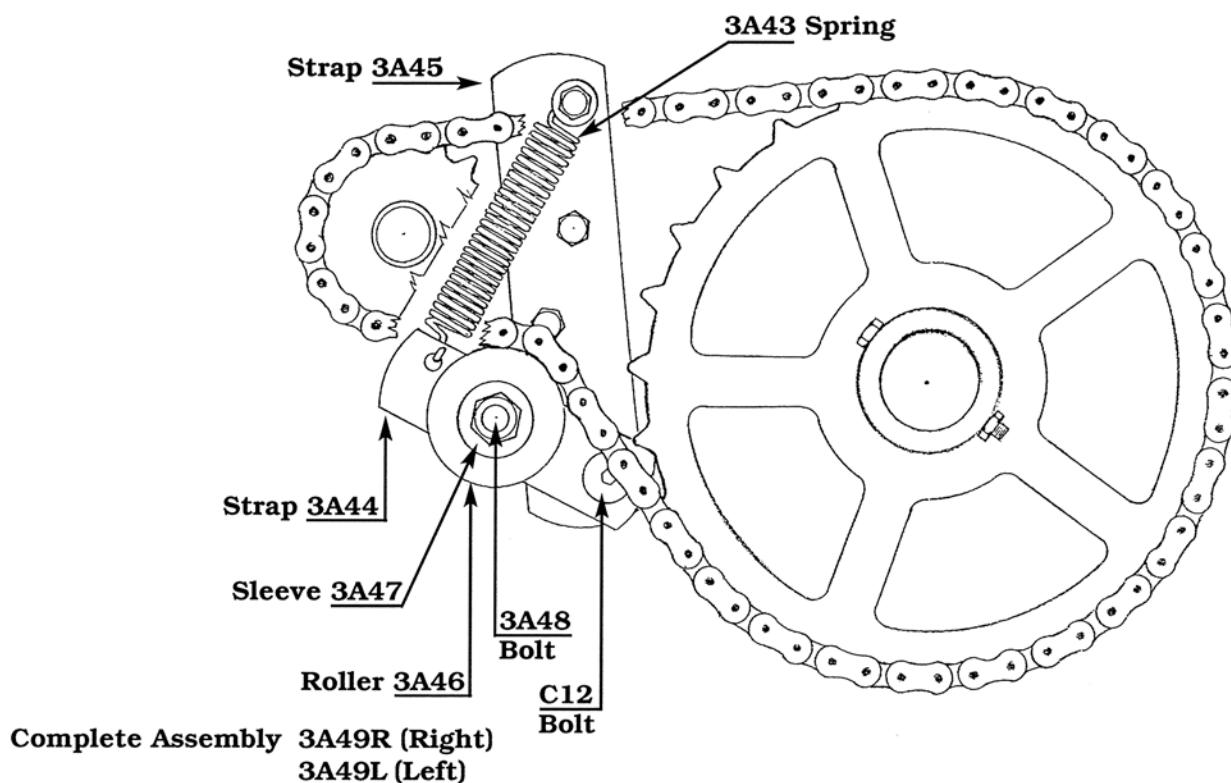
Front Roller Same as Standard Draper
Rear Roller see Bean Roller Section

Description	Part No.
Roller Draper Belt	N24
Roller Draper Belt (Unslotted)	N21

Optional Hinged Draper Belt Replacement For N2 Belt

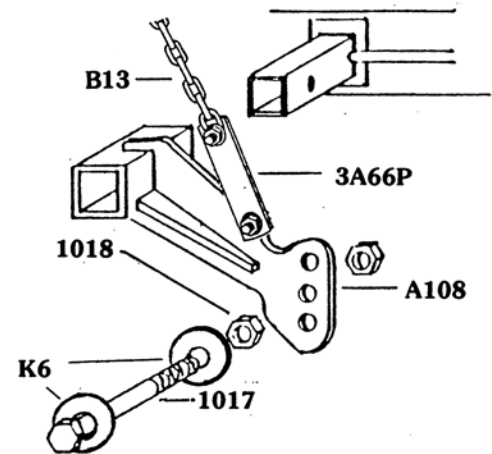
Description	Part No.
Hinged Draper Belt.....	N2-2000

Spring Loaded Chain Tightener



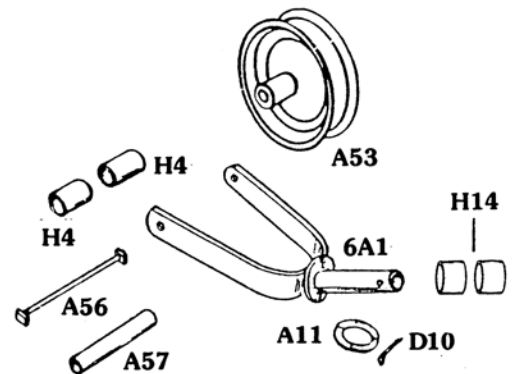
Standard Wheel Mounting Assembly

Description	Part No.
Wheel Mount Casting	A108
Wheel Axel.....	1017
Nut 1".....	1018
Set Screw	
Washer	K6
Snubber Chain	B13
Strap	3A66P



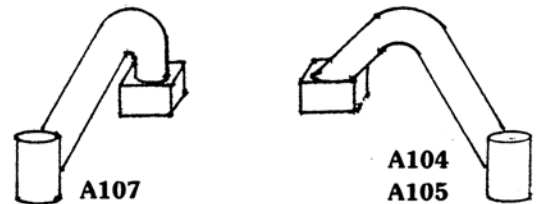
Optional Wheel and Fork Assembly

Description	Part No.
Wheel Castor Wheel.....	A53
Wheel Bearings (Wood) - Two Required.....	H4
Castor Fork - 7" Stem	6A1
Wheel Sleeve.....	A57
Wheel Bolt.....	A56
Machine Ring - 1-3/4"	A11
Cotter Pin - 1/4" x 2-1/2".....	D10
Nylon Spacers	H14
Tire	A54
Tube	A55
Complete Wheel Assembly	CW.1



Gooseneck Swivel Wheel Options

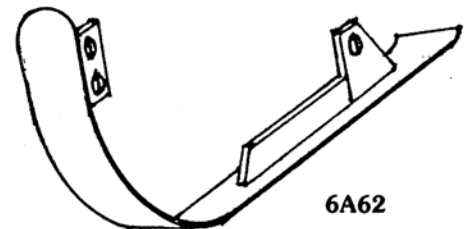
Description	Part No.
Offset	(Right) A104 (Left) A105
Straight	A107



Skid Shoe

Description	Part No.
Right and Left	6A62

(Replaces Wheel Assembly)



Bean Rollers

Bean Roller Installation

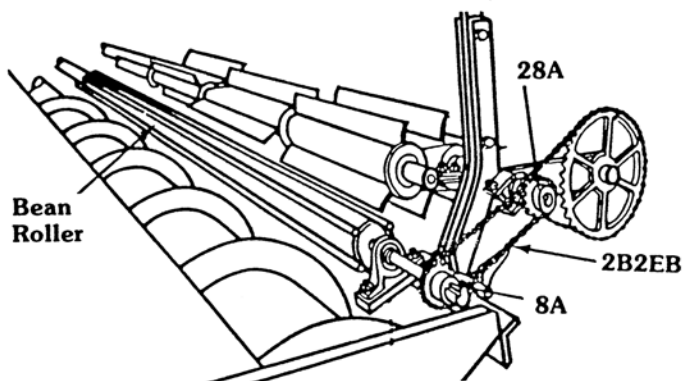
Description

Roller Mounting Bracket Left . . BB100L
 Roller Mounting Bracket Right. . BB100R
 No. 50 Chain For Bean Roller . . 2B2EBB
 Wood Bushing H4

Part No.

#BB100 L & R
 Bean Roller Bracket
 Bottom to rest on Platform

Use #BT1
 Chain Tightener
 if needed



Bean Roller Options

Description

Part No.

Draper Sprocket - 13 Tooth - 1" Bore 8A
 Double Draper Sprocket -
 13 Tooth - 1" Bore 28A
 No. 50 Drive Chain for Bean Roller 2B2EB
 1" Bearing K498

Description	4 Ft.	6 Ft.	7 Ft.	9 Ft.	11 Ft.	12 Ft.	13 Ft.	14 Ft.	20 Ft.	22 Ft.
Roller Only. . .	N4EB	N6EB	N7EB	N9EB	N11EB	N12EB	N13EB	N14EB	N10EB	N11EBCDM

Parts Boxes

EBR.1 - Single Hookup
 EBR.2 - Double Hookup
 EBR22 - Double Hookup for 20 Ft. and 22 Ft.

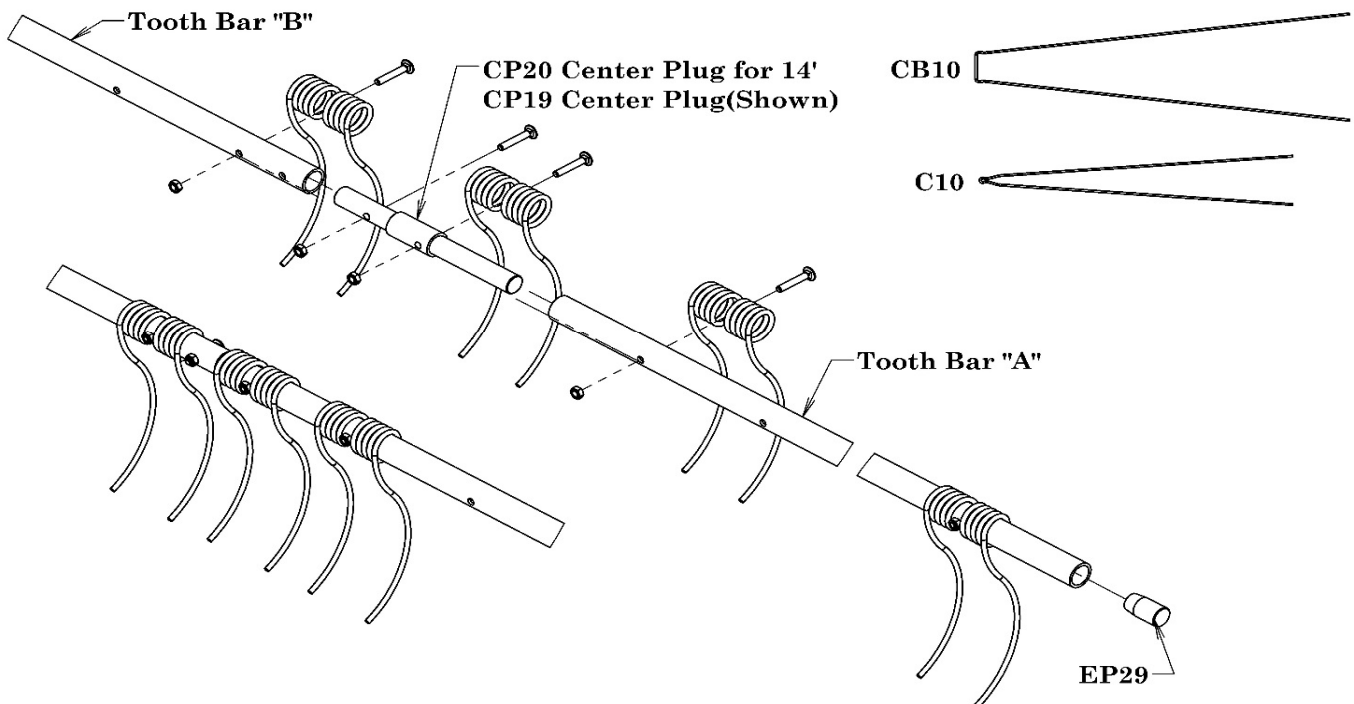
Main Shafts and Tooth Bars

(Not Illustrated)

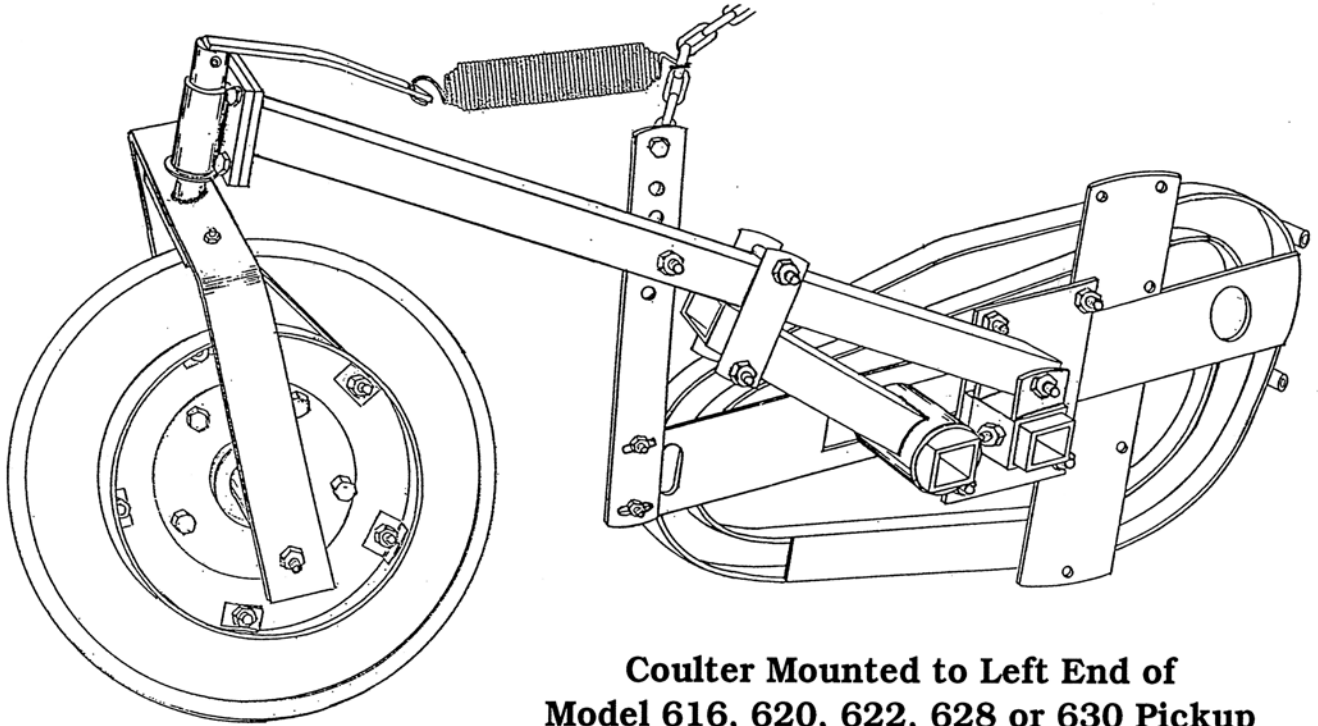
Description	4 Ft.	6 Ft.	7 Ft.	9 Ft.	11 Ft.	12 Ft.	13 Ft.	14 Ft.	16 Ft.	20 Ft.	22 Ft.	28 Ft.	30 Ft.
Rear Main Shaft	D404	D406	D407	D409	D411	D412	D413	D414	D416	D420	D422	D428	D430
Front Main Shaft - Square	6D4	6D6	6D7	6D9	6D11	6D12	6D13	6D14					
Main Frame	6A4	6A6	6A7	6A9	6A11	6A12	6A13	6A14	6A16	6A20	6A22	6A28	6A30
Raker Bar w/o Teeth	RB04	RB06	RB07	RB09	RB11	RB12	RB13A RB13B	RB14A RB14B	RB16A RB16B	RB20A RB20B	RB22A RB22B	RB28A RB28B	RB30A RB30B
Raker Bar w/Teeth	RBT04A RBT04B	RBT06A RBT06B	RBT07A RBT07B	RBT09A RBT09B	RBT11A RBT11B	RBT12A RBT12B	RBT13A RBT13B	RBT14A RBT14B	RBT16A RBT16B	RBT20A RBT20B	RBT22A RBT22B	RBT28A RBT28B	RBT30A RBT30B
Windguard Bar	RBW04	RBW06	RBW07	RBW09	RBW11	RBW12	RBW13	RBW14	N/A	N/A	N/A	N/A	N/A
Center Plug for 20 Ft. & 22Ft. Bars									CP19	CP19	CP19	CP19	CP19
Center Plug for 14 Ft. Bars							CP20	CP20					
Tooth Bar End Plug										EP29	EP29	EP29	EP29

Bars for 13', 14', 16', 20', 22', 28', and 30' Pickups

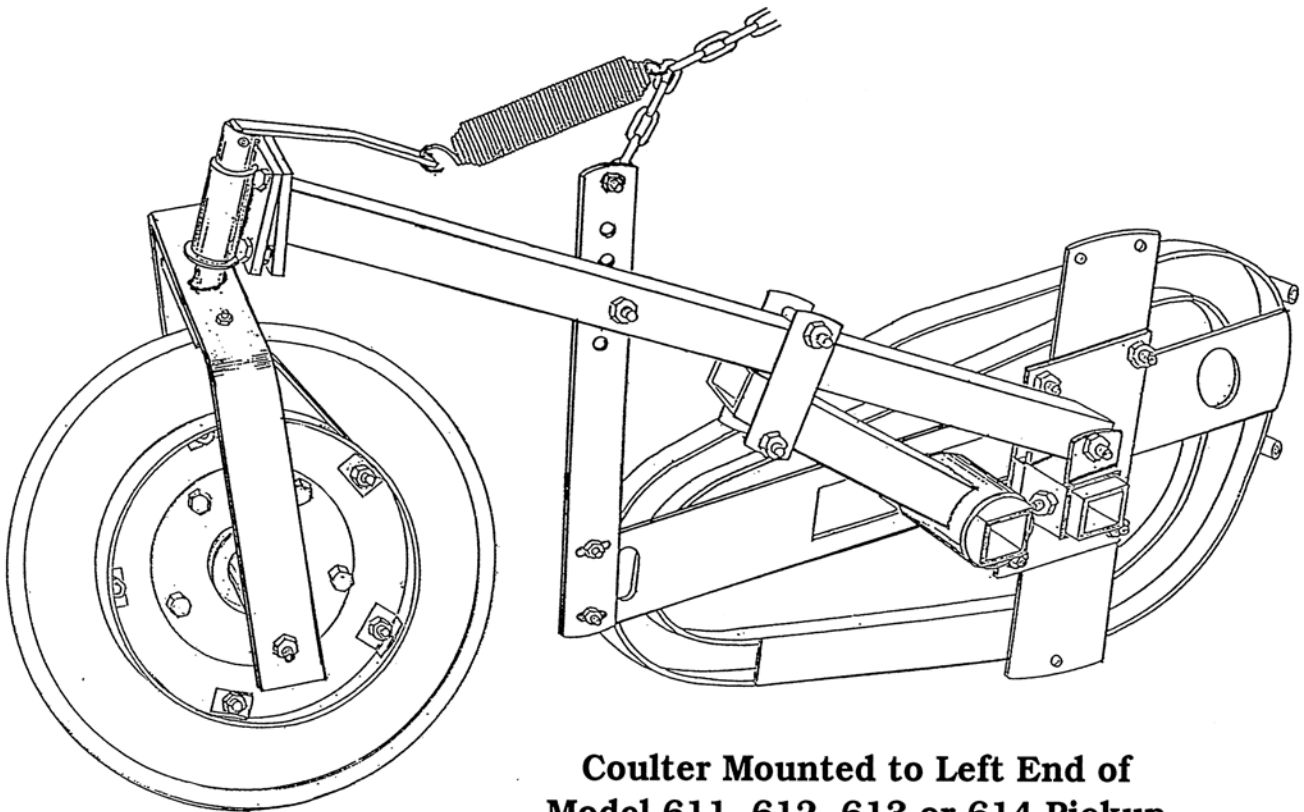
Windguard Teeth



Mounted Coulters



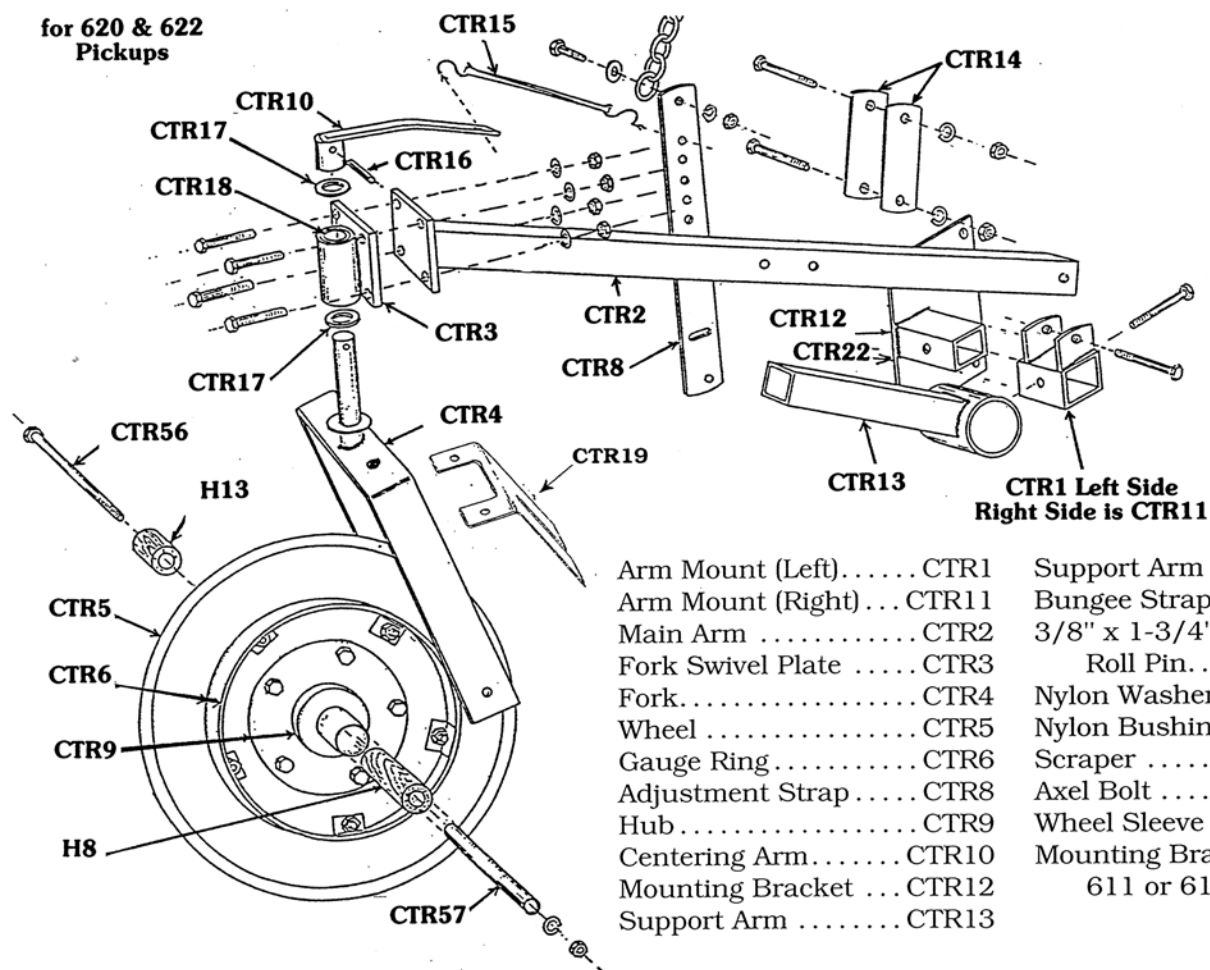
**Coulter Mounted to Left End of
Model 616, 620, 622, 628 or 630 Pickup**



**Coulter Mounted to Left End of
Model 611, 612, 613 or 614 Pickup**

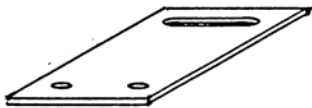
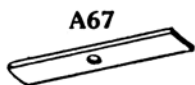
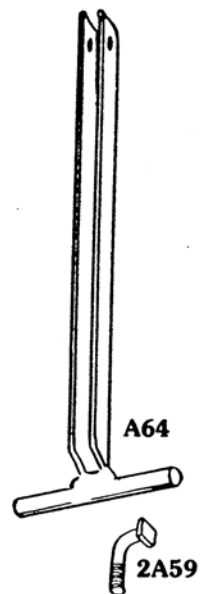
Pea Harvest Coulter Assembly – CTR100

for 620 & 622
Pickups

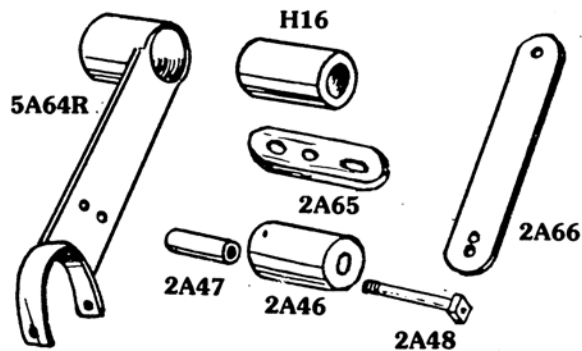


Arm Mount (Left).....	CTR1	Support Arm Straps .	CTR14
Arm Mount (Right) ...	CTR11	Bungee Strap.....	CTR15
Main Arm	CTR2	3/8" x 1-3/4"	
Fork Swivel Plate	CTR3	Roll Pin.....	CTR16
Fork.....	CTR4	Nylon Washers	CTR17
Wheel	CTR5	Nylon Bushing.....	CTR18
Gauge Ring.....	CTR6	Scraper	CTR19
Adjustment Strap.....	CTR8	Axel Bolt	CTR56
Hub	CTR9	Wheel Sleeve	CTR57
Centering Arm.....	CTR10	Mounting Bracket for	
Mounting Bracket ...	CTR12	611 or 614	CTR22
Support Arm	CTR13		

Pickup Mounting Equipment



Description	Part No.
Hook Bolt	2A59
Hook Bolt Strap	A67
Link – Main Frame to Draper – Right	5A64R
Link – Main Frame to Draper – Left	5A64L
Retaining Strap for Link	2A66
Roller Chain Tightener Roller (Wood) (Nylon)	2A46
Main Shaft Bearing (Wood)	H16
Tightener Roller Sleeve	2A47
Tightener Plate	2A65
Main Shaft Collar	30
Bolt 1/2 x 4"	2A48



Flat Mounting Bracket	P18
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Lowering Mounting Bracket	P17
---------------------------------	-----

Orbit Motor Assembly

Description

Orbit Motor	JM204, JM203
Seal Kit for Orbit Motor	60540 - 60023
Orbit Motor Bracket	JD8
Coupler	JD9
Vertical Draper Brace	A61
Draper Bearing Fork - Left	2A58L
Horizontal Draper Brace - 55"	R12

Part No.

Sprocket

Belts, Hubs and Sheaves

Line Shaft Sprocket or Driven Sprocket

1" Bore - 1/4" Keyway - 5/16" Set Screw

Indicates No. of Teeth - S17-S20-S24-S28-S32

S36-S40-S45-S54

V Belts

V Belts - "B" Type 100"	XB100
V Belts - "B" Type 105"	XB105
V Belts - "B" Type 108"	XB108
V Belts - "B" Type 112"	XB112
V Belts - "B" Type 116"	XB116
V Belts - "B" Type 120"	XB120
V Belts - "B" Type 124"	XB124
V Belts - "B" Type 128"	XB128
V Belts - "B" Type 133"	XB133
V Belts - "B" Type 136"	XB136
V Belts - "B" Type 144"	XB144
V Belts - "B" Type 150"	XB150
V Belts - "B" Type 158"	XB158
V Belts - "B" Type 162"	XB162
V Belts - "B" Type 180"	XB180

Part No.

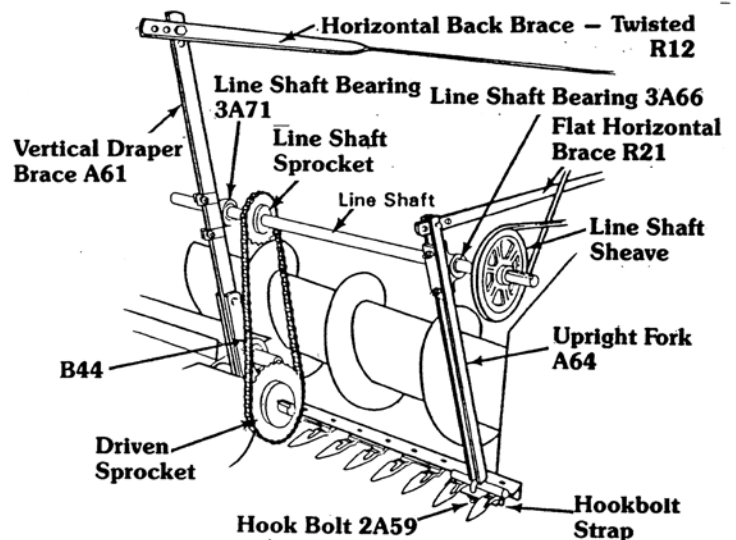
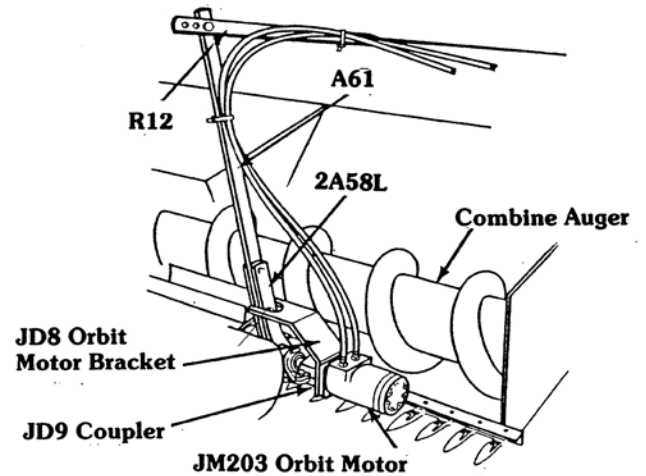
Browning Part No.

Sheave - B Width - Less Hub - 3"	BK3
Sheave - B Width - Less Hub - 4"	BK4
Sheave - B Width - Less Hub - 5"	BK5
Sheave - B Width - Less Hub - 6"	BK6
Sheave - B Width - Less Hub - 7"	BK7
Sheave - B Width - Less Hub - 8"	BK8
Sheave - B Width - Less Hub - 9"	BK9
Sheave - B Width - Less Hub - 10"	BK10
Sheave - B Width - Less Hub - 11"	BK11
Sheave - B Width - Less Hub - 12"	BK12

Description

Browning Part No.

Sheave - B Width - Less Hub - 13"	BK13
Sheave - B Width - Less Hub - 14"	BK14
Sheave - B Width - Less Hub - 15"	BK15
Sheave - B Width - Less Hub - 16"	BK16
Sheave - B Width - Special - 9"	BKC9



Detachable Hub - 1/2" Bore	BR4
Detachable Hub - 5/8" Bore	BR5
Detachable Hub - 3/4" Bore	BR6
Detachable Hub - 7/8" Bore	BR7
Detachable Hub - 15/16" Bore	BR8
Detachable Hub - 1" Bore	BR9
Detachable Hub - 1-1/16" Bore	BR10
Detachable Hub - 1-1/8" Bore	BR11
Detachable Hub - 1-3/16" Bore	BR12
Detachable Hub - 1-1/4" Bore	BR13
Detachable Hub - 1-9/32" Bore	BR14
Detachable Hub - 1-3/8" Bore	BR15
Detachable Hub - 1-7/16" Bore	BR16

Drive Parts

Parts Not Illustrated

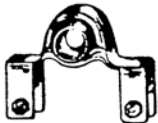
Description	Part No.
No. 40 Roller Chain – 44"	B44
No. 50 Connector Link	B3
No. 50 Offset Link	B4
No. 40 Roller Chain – Per Foot	B6
No. 40 Connector Link	B7
No. 40 Offset Link	B8
Connector Link for 620 Chain	B20

Description	Part No.
1/4 x 1/4 x 1-1/2 Square Key.	D11
1/4 x 2-1/2 Cotter	D10
5/16 x 2-1/2 Cotter	D20
Tooth Fasteners – 1/4 x 1-1/2 Carriage Bolts – Per 100 Pieces	C13
Mounting Bolts – Per Bag.	B5



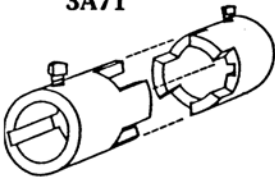
3A66

Drive Shaft Roller Bearing.....3A66



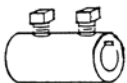
3A71

Bearing Holder for Line Shaft
(Replaces A71).....3A71



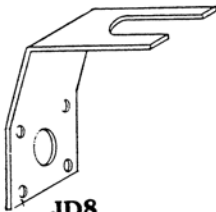
JD10

Bean Roller CouplerJD10



JD9

Orbit Motor CouplerJD9



JD8

Orbit Motor Mounting BracketJD8



B751

Coupler Sprocket #50 ChainB751

B756

Coupler Sprocket #50 Chain and #60 ChainB756

Questions Frequently Asked

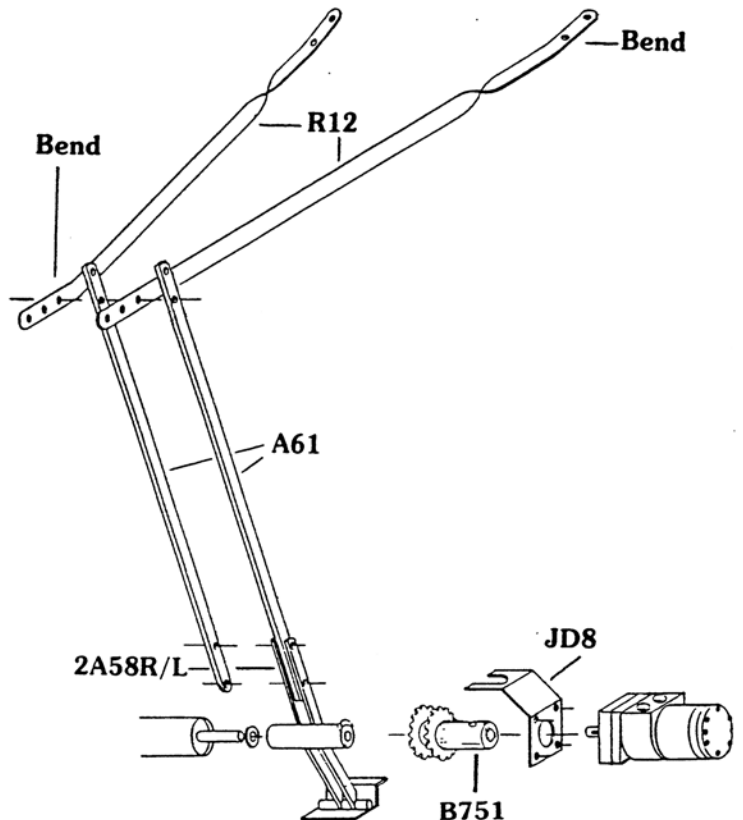
Size	Mounting Width	Weight
640	51-5/8	325 Lbs.
660	74-3/4	440 Lbs.
670	86-1/8	470 Lbs.
690	109-1/8	540 Lbs.
611	132-1/4	680 Lbs.
614	170-1/8	800 Lbs.
620	240-3/4	1040 Lbs.
622.....	264	1120 Lbs.
628		1720 Lbs.
630		1850 Lbs.

Dimensions of Wood Bushings

H4	1-3/8" OD x 1" ID x 2" Long
H8	1-5/8" OD x 1" ID x 5" Long
H11	1-3/8" OD x 5/8" ID x 2" Long
H16	2-1/8" OD x 1-11/16" ID x 3" Long
H17	Split - 2 Halves Make A Whole
2A46	2-1/8" OD x 13/16" ID x 2-5/8" Long
H21	1-3/8" OD x 5/8" ID x 1-1/2" Long

General Installation

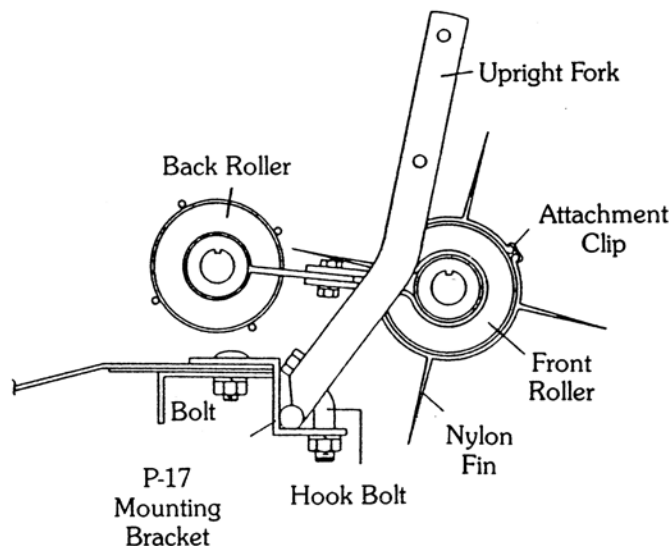
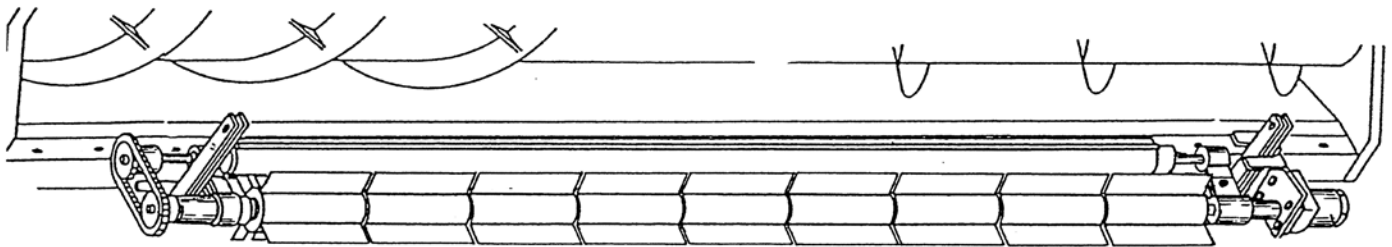
1. Bolt uprights (A61) in place on draper mount forks, (2A58L/R) as shown in illustration. On 620 and 622 pickups, uprights (A61) are doubled for additional support and installed as shown.
2. Bolt back brace straps (R12) to top of uprights as shown. NOTE: Before bolting R12 to A61, it is recommended that R12 braces be bent as shown matching slope of header to provide a rigid and neater appearing mount. Make offset bends as close to the bolt holes as possible to reduce flex in the support systems.
3. Locate positions on combine platform and install brackets P17, P18, or guards to mount forks 2A58 L/R to platform as shown in illustration section. For John Deere pickup header installation, see applicable illustration. If you are installing 614 or longer pickups with split draper or FRM systems, locate the draper center mount bearing CDM position, then locate P17, P18, or guards and bolt in place.
4. Set the base of mounting forks, 2A58 L/R, onto the brackets or guards installed in item 3. Position back braces R12 onto the top rear deck of the platform, locate and drill holes as shown. CAUTION: Be careful not to drill into hydraulic lines or electrical cable that may be located within or under the platform top deck.
5. With draper or FRM system located in proper position, tighten all bolts after double checking correct location and alignments. NOTE: On split draper/FRM systems, adjust the CDM to align the front rollers horizontally and vertically by moving the CDM fore or aft in the slotted bolt holes, and up or down by pivoting bearing mount arm within the tabs. Once aligned, tack weld the bearing mount arm to the tabs for permanent position.
6. Install bean rollers if applicable. See illustration.
7. Install drive. See mechanical or hydraulic drive instructions.
8. Install wheel mount casting 108 or options 104, 105 goosenecks, onto the front shaft.
9. Install pickup to mounted draper assembly by positioning 2A58R/L. Install the retaining bolt and tighten nut enough to set the lock washer.
10. Attach suspension chains B13 as shown. Use full length of chain as pickup floating action is not impeded. Chain slack is also a visual clue to proper header height during field operations. Double check all bolts for tightness and drive system for alignment.
11. Install suspension springs. Lower the platform to the ground to facilitate spring attachment.
12. Test run pickup at slow speed checking for proper operation and drive alignment. NOTE: Do not run pickup backwards as serious damage could result to pickup.



CAUTION: The bottom tooth bar is tripped forward to minimize shipping damage. Push back into position prior to running.

Hydraulic Drive Installation

1. If the hydraulic motor is to be mounted on the platform right hand end as viewed from the driver's seat, in single pickup installations of 690, 611, or 614 pickups, interchange the C20 drive sprocket and #30 main shaft collar, as the pickup is set up for a left hand drive at the factory. On pickups using split draper/FRM system, 614 and longer, C20 drive sprockets are installed on both ends of pickup main shaft as the end opposite the motor serves as the drive for the second half of the split draper system.
2. In multiple pickup installations using individual drive motors on pickups that are NOT mechanically connected through the draper rollers, the hydraulic hoses from the combine should be connected in series to the motors, i.e., return port from first motor connected to inlet port of second motor. Series hydraulic hookups to pickups not mechanically connected causes both pickups to run at the same RPM. In installations using a motor on each end of a single pickup, connect the motors hydraulically in parallel.
3. Hydraulic motor ports are 1/2" NPT. Hoses and fittings are not provided in the drive kit and must be obtained from your supplier. NOTE: Before installing the No. 50 drive chains from draper sprockets to C20 pickup sprockets, run the hydraulic motor(s) to determine correct direction of rotation. If rotation is not correct, correct hose installation to motor(s).



Mechanical Drive Installation

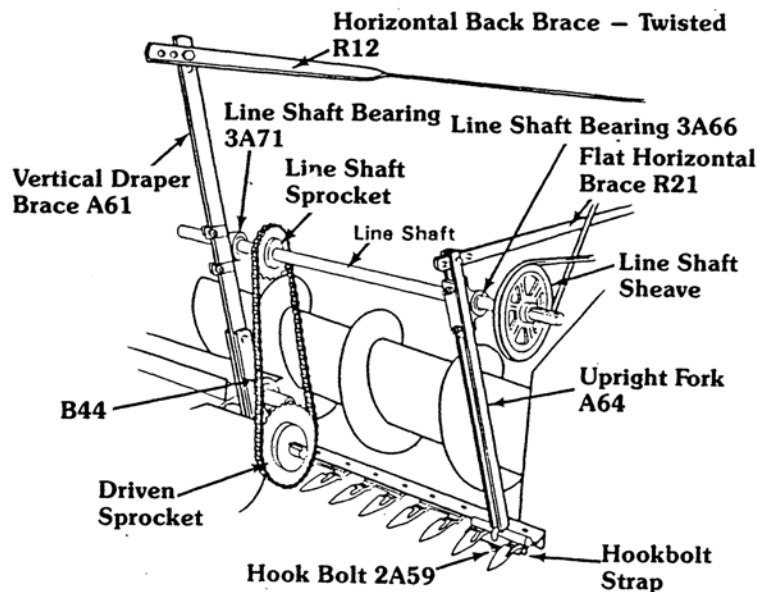
Mechanical drive assemblies and installation procedures for different makes and models of combines are essentially the same. Differences exist primarily in requirements for an adapter to mount the pickup drive sheave on the platform power source. Some installations do not require an adapter. The drive sheave is mounted directly on the platform drive line or driven end of the variable speed drive if available.

Inspect the drive box to insure proper kit for your combine.

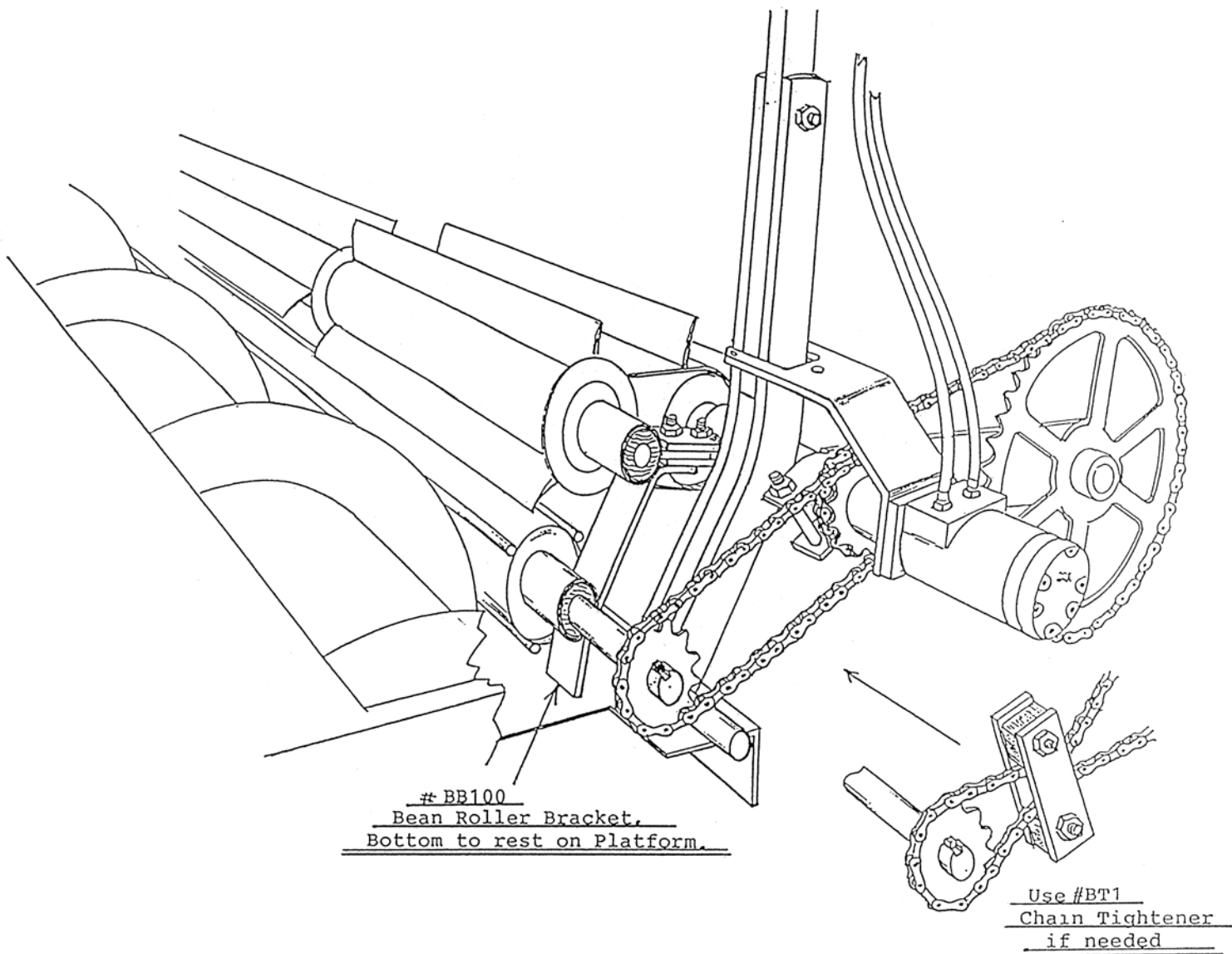
1. Install the adapter (if required) and drive sheave on the platform line shaft or driven end of the variable speed. If the platform drive source is located on the right end as viewed from the driver's seat, the collar and drive sprocket on the pickup backshaft must be switched end for end. The collar and sprocket are installed at factory assembly to accommodate a left end drive.
2. Attach the drive support fork in a guard or other mount source after attaching the support strap to the fork. Locate a suitable mounting point for the support strap on the platform side that will position the drive

mount fork approximately parallel to the draper upright fork. The supporting strap should be bent to accommodate offset as shown.

3. Install the line shaft self aligning bearings on their respective forks as shown and finger tighten to allow movement for alignment of the chain and drive belt.
4. Install the drive sprocket on the line shaft and the line shaft in the self aligning bearings. Pin the sprocket to the line shaft, install the No. 40 chain between line shaft and draper sprockets. Slide the bearing holder up the draper fork to tighten the chain. Level the line shaft as close as possible to the draper and platform by positioning the bearing holder on the drive fork. Slide the line shaft through the bearings to align the chain. Tighten the set screws in the bearings. There are two set screws in each bearing.
5. Install the sheave provided on the line shaft in alignment with the sheave previously installed on the platform. The drive belt must be crossed to provide proper rotation of the pickup. Offset the line shaft sheave slightly to minimize belt wear due to rubbing at the crossing point. Install the tightener on the slack side of the belt.



Bean Roller Installation

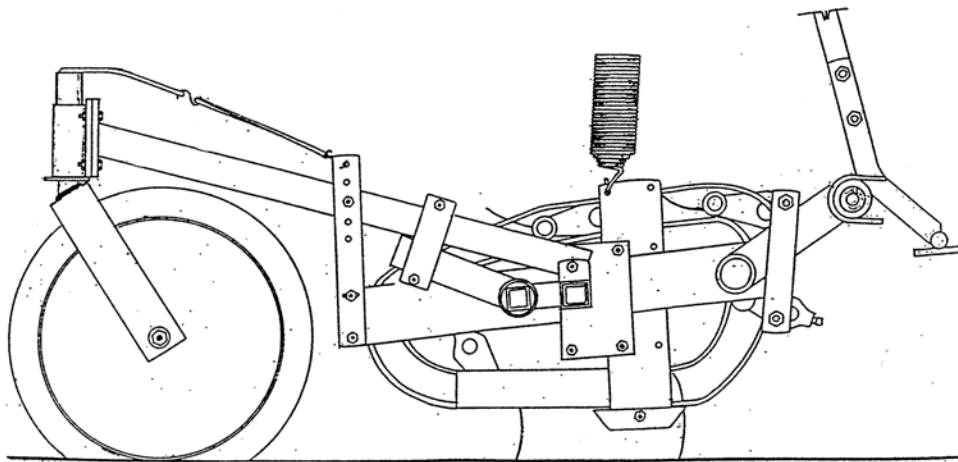


Operations

The Sund raking pickup is a development of the dump hay rake principle incorporating raking, picking, and conveying actions. These combined operations result in a unique machine that works exceptionally well in a variety of crops and conditions. Inspection of the tooth bar assembly readily shows relationship to the dump rake. This system accumulates material through forward raking motion. The curved teeth hold the material until controlled release occurs. Inherent in this system is excellent gleaning, retention, and low shatter due to zero relative motion between the teeth and material once the pickup has the crop material. The curved tooth with the wound coil allows high side flexibility with strong aft resistance producing excellent gleaning properties allowing stones and dirt to remain in the field.

GUIDELINES:

1. Mount the pickup correctly in accordance with instructions. An incorrectly mounted pickup can seriously degrade operating performance and shorten life expectancy.
2. Adjust the pickup according to recommendations. NOTE: Operation of the pickup will ultimately change initial adjustment. Check setting after a few hours of operation and reset if required. Once the second adjustment is made, the pickup will tend to stay adjusted with occasional changes required.
3. Operate the pickup in the correct position at proper rotating speeds. NOTE: The raking feature requires a conveyor speed markedly less than belt type pickups at the same combine ground speed. Operate the header at the correct height. See illustration section.



Side view of correct operating position on 620 and 622.

Normal Operation

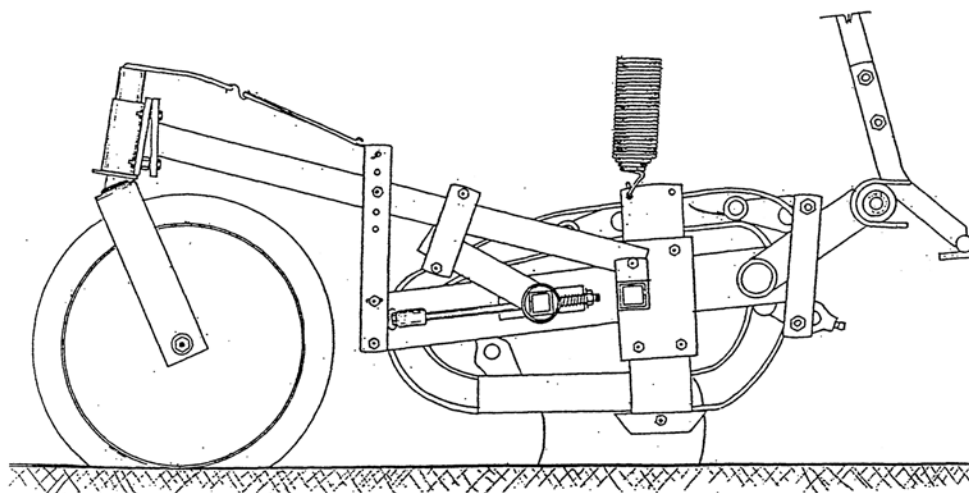
The illustrations depict the pickup in the correct operating position for any crop. Front pickup height is adjusted by raising or lowering the coulter or gage wheel within the adjustments provided. In crops other than peas, the coulter, shown here, is replaced by a gage wheel. The gage wheel is adjusted up or down by moving the wheel axel within holes provided in cast arm 108, or by plastic spacers employed in swivel arm system.

The floating provision allows the pickup to lift approximately eight inches vertically when operating over rough uneven ground, yet the teeth tend to remain in contact with the swath. This allows the operator to set the header height at start of the field, automatically compensating for rough

ground, without constant header adjustments. Notice in the illustrations that the two bottom raker bars are parallel to the ground, the teeth lightly rake as they advance forward through the raking position to the conveying position. Some digging is inevitable due to field roughness, however, the pickup should be operated as closely as possible to the level position.

NOTE: The pickup connector link attaching the pickup to the draper assembly is resting on the upper stop when the pickup is level, the skid shoe, if installed parallel and slightly off the ground, the pickup weight distributed among the suspension spring, coulter or gage wheel, and connector link stop.

611 and 614

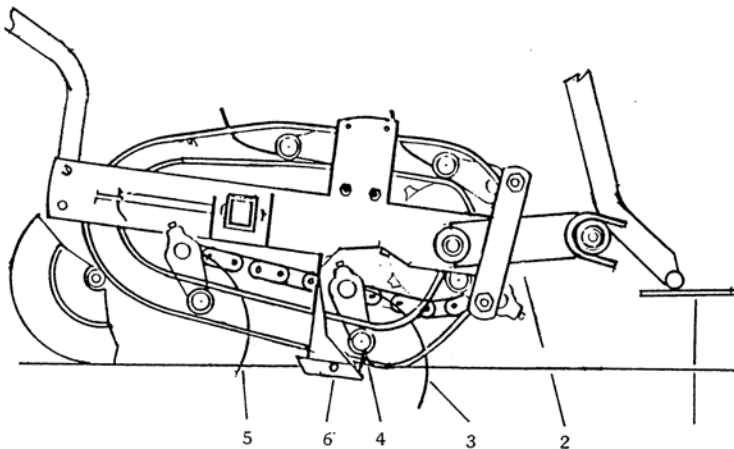


Nose Down Operation

Nose down operation occurs when the platform is carried too high and/or the gage wheel coulter is set improperly allowing the teeth of the raker bar to dig excessively just prior to the movement around the front sprocket from the picking position to the conveying position. The teeth will be sprung back to some degree from digging and will snap forward as they come out of the ground. This action on the part of the teeth may cause dirt and small stones to shoot into the swath. Also, this may cause shatter losses due to abrupt tooth movement. Nose down operations may pick up satisfactorily in some crop and conditions provided the gage wheels or coulters are set to prevent the teeth from digging into the ground.

Heel Down Operation

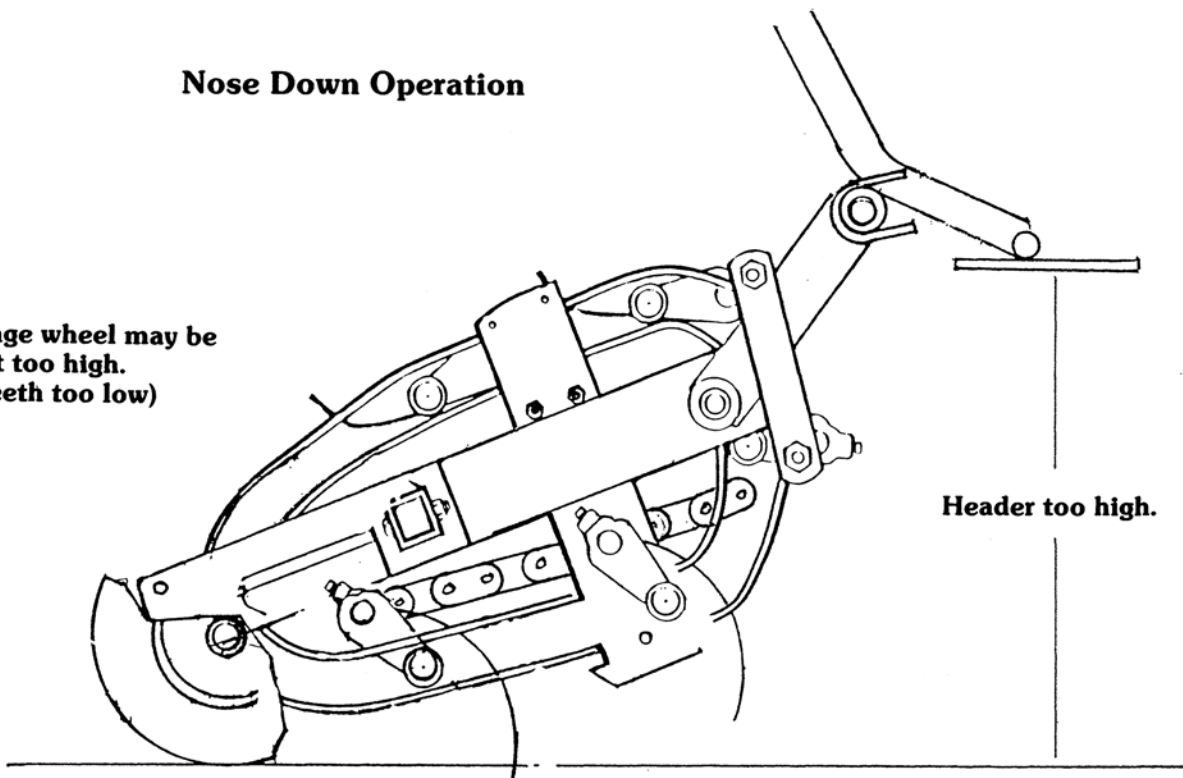
Carrying the platform too low causes the pickup to operate "heel down." See illustration. This causes the teeth to dig into the ground at the start of the raking position. Digging from this condition will degrade picking performance, cause high loading of the track follower rollers, and can allow the tooth bars to roll stones into the material to be picked. The pickup should never be operated heel down.



Heel Down Operation (*Header too low*)

Nose Down Operation

**Gage wheel may be set too high.
(Teeth too low)**



Side view of incorrect operating position.

Bean & Pea Harvesting Options

1. Sund "600" series raking pickup.
2. Hydraulic drive. Two motors for "616" and wider pickups. "611" and "614" models will operate with one motor under most conditions.
3. Skid shoes installed on pickup end frames.
4. Rolling coulter/gage wheel replaces standard gage wheel.

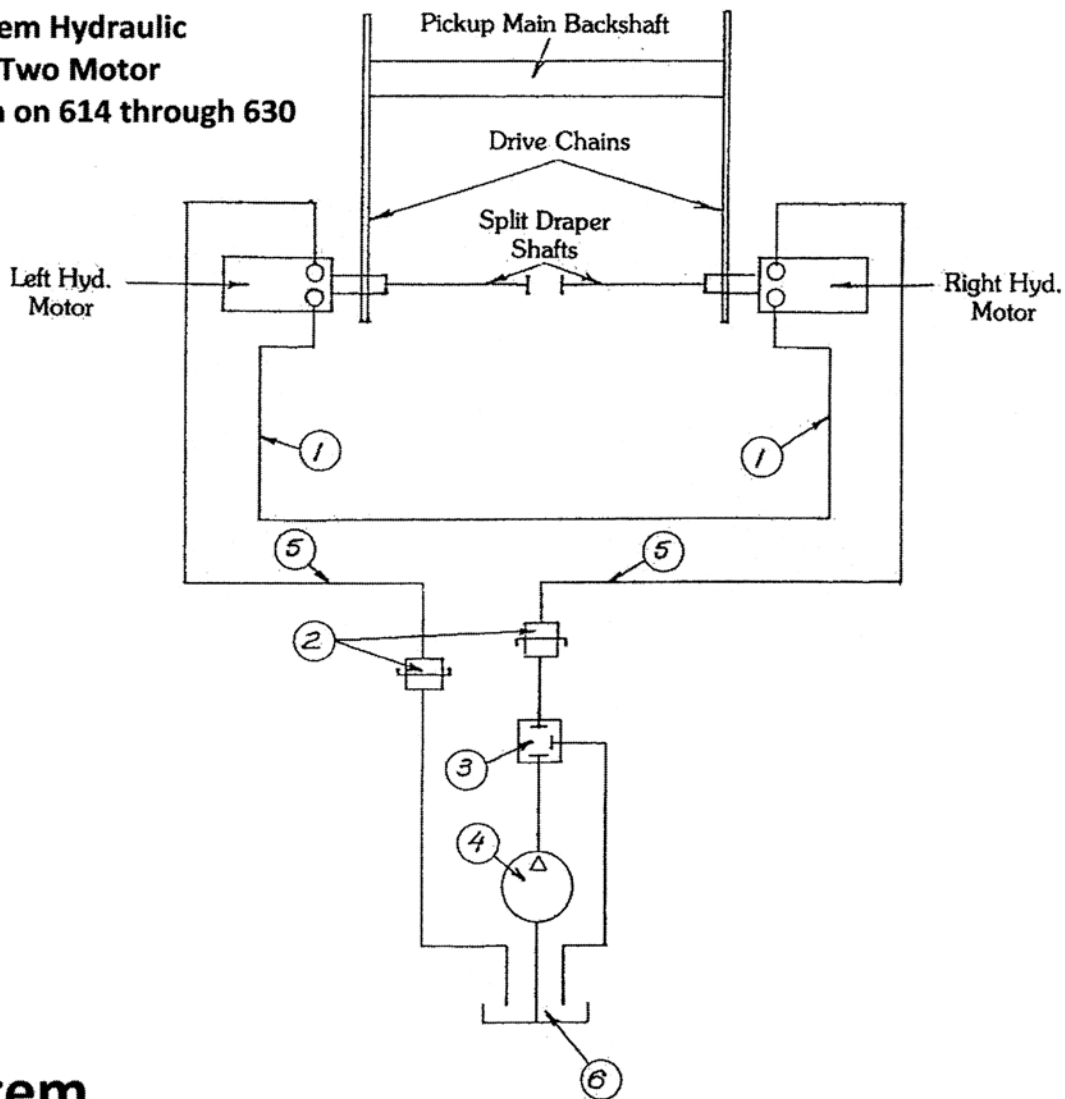
Installation

1. Level the header relative to the combine and ground before installing pickup. Shim pickup mounting bracket if required, to level pickup relative to the ground if unable to achieve by combine header adjust.
2. Install the pickup in accordance with the "600" series owners manual.
3. For pea harvesting install coulters in place of gage wheels. If required clean, paint, weld, cutting burrs from mounting tube with a grinder or file so that coulter slides on snugly without jamming. Adjust the coulter up or down to position pickup teeth at the front position.

Adjustments

1. CONVEYOR CHAINS - The conveyor chains must be properly tensioned. To check, pull upwards on the tooth bar midway at top of pickup. Chain slack should allow the bar to be deflected vertically one half to one inch. Adjust all chains to the same tension. Check regularly.
2. TOOTH BAR - Adjust the tooth bar within the cam roller arms, see Fig. 10, Page 26, higher than shown. The lowest point of the tooth arc should be about one inch higher than the top of the conveyor chain. This puts the teeth into the aggressive position. When adjusting the tooth bars within the cam follower arms, be sure the cam arms are tightened parallel to one another to distribute the load evenly between both rollers.

**Series System Hydraulic
Schematic Two Motor
Installation on 614 through 630
Pickups**



Code Item

1. Hydraulic pressure hose, $\frac{1}{2}$ ", length as required. Swivel ends at motor connection. Two required.
2. Combine "quick" coupling adaptors. Once complete set required, matching existing set on combine.
3. Combine pickup motor speed control
4. Combine hydraulic pump.
5. Hydraulic return hose, $\frac{1}{2}$ ", length as required. Swivel ends at motor connection. Two required.
6. Combine hydraulic reservoir.

NOTE: BEFORE connecting pickup drive chain to motors, run hydraulic motors to check for proper rotation. Reverse hydraulic lines at motors if required to attain proper rotation.

If one motor/draper system runs the proper direction, and one in reverse, reverse the hoses on the latter for proper rotation

If both drapers run in reverse, reverse hoses at the "quick" couplers. If not possible, reverse hoses on both motors to obtain proper rotation.

DO NOT run pickup in reverse as serious damage may result to pickup.

Pea Operations

1. The pickup conveyor speeds should not exceed 20 RPM. The tooth bar is a miniature dump rake on a moving conveyor. Fill the teeth completely by running the pickup slow, bunching and shearing the vines off. Too high an RPM tears vertically at the vines, not allowing the shearing action to occur and causes unnecessary shelling.
2. To minimize vine and shelling losses, recommended ground speed should not exceed 5 mph.
3. Some pea varieties pick easier than others, allowing the platform to be carried higher with the pickup in a nose down mode. In some instances the pickup teeth will clear the ground and still pick cleanly. Coulter adjustments should not allow the teeth at the nose to DIG into the ground. Lightly rake the ground for best results.
4. More difficult to pick varieties will require the pickup to be operated in the flatter raking position. This positions the lower roller track parallel to the ground, the bars operating parallel to the ground in the raking position. The bottom teeth should lightly rake the ground, not DIG.
5. Nose down operations may be satisfactory in some conditions. Under no conditions should

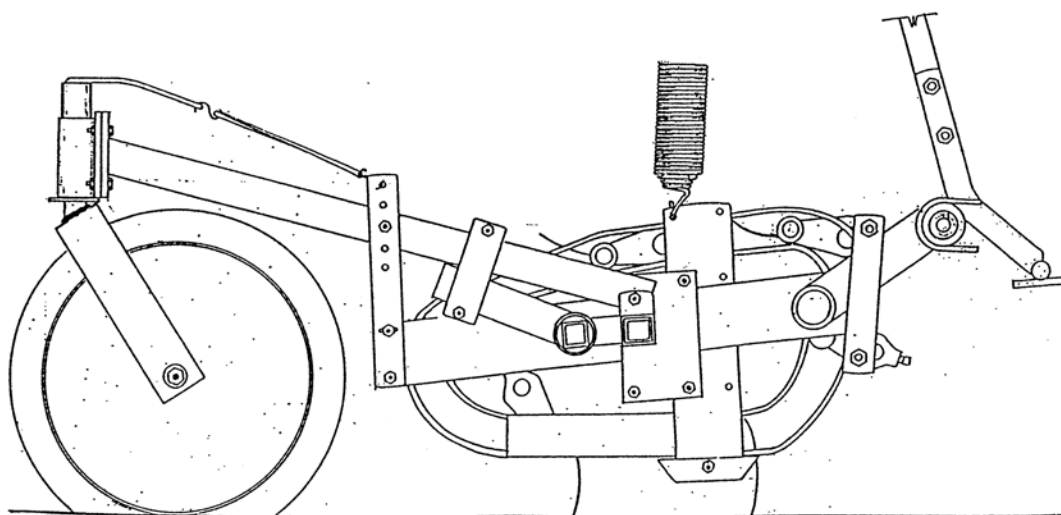
the pickup be operated in the heel down position. Any mode that forces the teeth into the ground excessively is counter-productive, reduces picking effectiveness, and causes premature wear from unwarranted stresses. Additionally, operations that dig into the ground, place the tooth bars very near, if not on the ground, and may cause them to roll stones into the unpicked vines and possibly into the combine.

6. Combine 90 degrees to the direction the vines are laying for best results. Picking butt end first should be avoided if possible.

IMPORTANT:

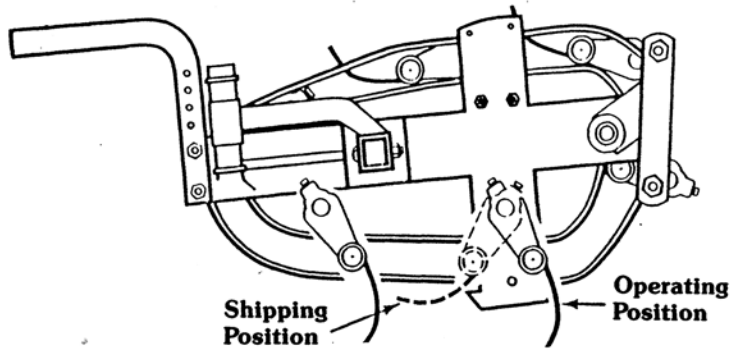
1. Check conveyor chain tension frequently. Tighten if required.
2. Adjust teeth to the aggressive position. Be sure to tighten cam arms on each respective bar parallel to one another to prevent excessive loading of one cam follower roller.
3. Operate the pickup so that the teeth lightly rake the ground. Do not dig excessively.

The following figure depicts the pickup in the correct operating raking position. Correct header height and coulter adjustment hold the pickup level with the teeth lightly raking the ground.



Side view of correct operating position on 620 and 622.

Tripped Tooth Bar



CAUTION: The bottom tooth bar is tripped forward to minimize shipping damage. Push back into position prior to running

Roller Arm Tooth Bar Adjustment

Correct positioning of the tooth bar in the roller arms (C14) (Figure 10) is essential for proper operation. Adjustments to the tooth bar are made when the bar is on the top side of the pickup, ahead of the stripper section.

The tooth bar can be adjusted by loosening the set screws in the roller arms and rotating the bar within the arms. Correct positioning of the teeth for raking, picking, and stripping will occur when the lowest point of the curved tooth arc is even with the top of an imaginary line drawn between the tops of the conveyor chain. The bar should be just ahead of the stripper section for access.

When the tooth bar is resting freely in position ahead of the stripper section, the rollers (#5) (Figure 10) of both arms should be resting evenly on the tracks of the end frame. If the arms are not parallel when clamped to the tooth bar uneven loads will be imposed on the rollers causing premature wear and failure. Pickup teeth must drop below the stripper section to insure that the crop is released to the draper.

A caution note in the mounting instructions states

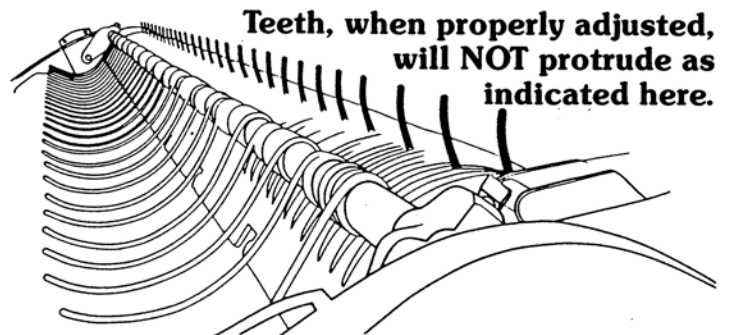
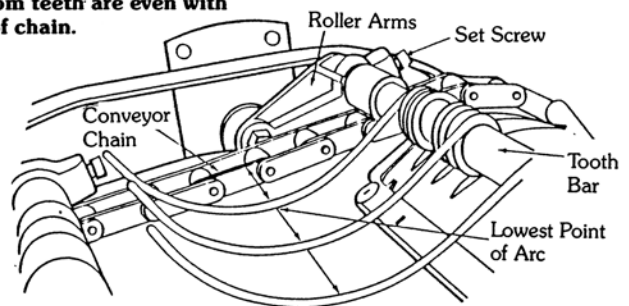
the bottom tooth bar is tripped forward to prevent damage to the teeth in shipping. Operation of the pickup with the bar in the forward tripped position will cause the roller arm assembly to jam in the track at the front.

Trip the bar back as per mounting instructions prior to operating the pickup.

The tooth bar can be inadvertently tripped forward while in the field and some attention is required to prevent this from happening. The bar may be tripped forward if the header is lowered so that the tooth bars in the raking position are resting on the ground or heavy stubble, etc., and the combine is backed up or rolls backward with the pickup stopped. If this occurs, or you suspect it may have occurred, check the bar and, if necessary, trip it back into proper position prior to operating the pickup.

The combine may be backed up without tripping the bar forward with the pickup on the ground, provided the pickup is running.

FIG. 10
Bottom teeth are even with top of chain.



CAUTION: The bottom tooth bar is tripped forward to minimize shipping damage. Push back into position prior to running.

