



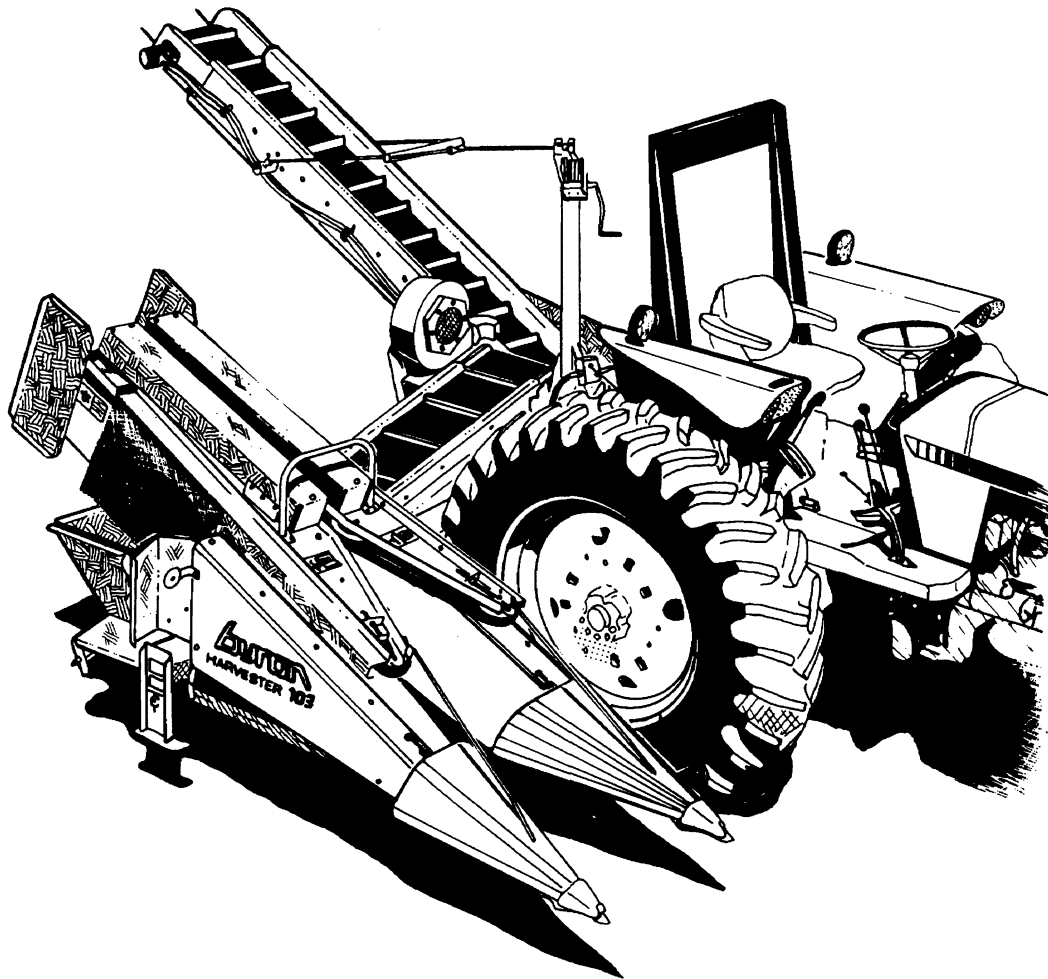
Byron Sweet Corn Harvester
Model 103

PARTS & OPERATOR'S MANUAL

Includes operating, adjustment,
lubrication, maintenance and safety
instructions for Byron 103 Sweet
Corn Harvester with serial numbers
0567001 and higher.

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byron[®]



INTRODUCTION

The BYRON 103 Harvester has been designed to provide the small fresh market sweet corn grower with a mechanical harvester that has most of the advantages of hand picking while offering unmatched speed and conveniences.

The heart of the 103 is the time-proven Byron corn head row gathering unit which is used world wide by commercial sweet corn processors and large fresh market operators in multi-row heads. Stripper plates with soft urethane cushions, gentle rubber gathering belts and hard-chrome plated, sharpened knife rolls make for damage free harvesting of most fresh market varieties.

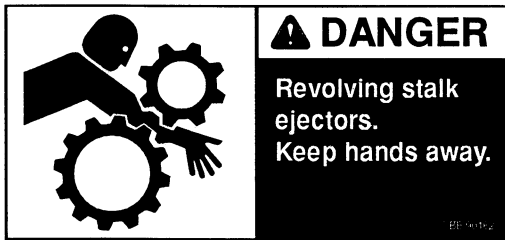
The 103 is intended to be fully mounted on most category II three-point hitch equipped tractors of 40 hp or more.

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SAFETY WARNING SIGNS

The safety signs on this page are placed on the machine to warn of hazards. The warnings on these decals are for your personal safety and the safety of those working around you. **OBSERVE THESE WARNINGS!**



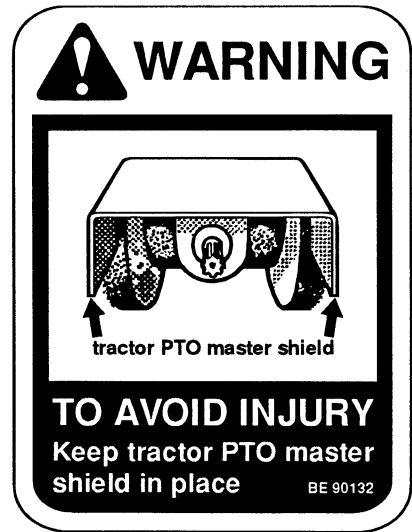
P/N 90162



P/N 90163



P/N 90133



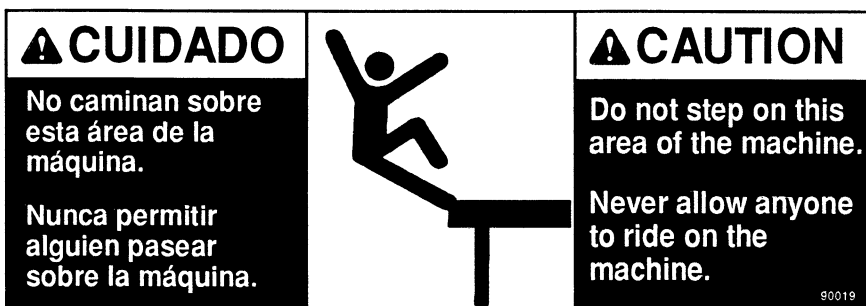
P/N 90132



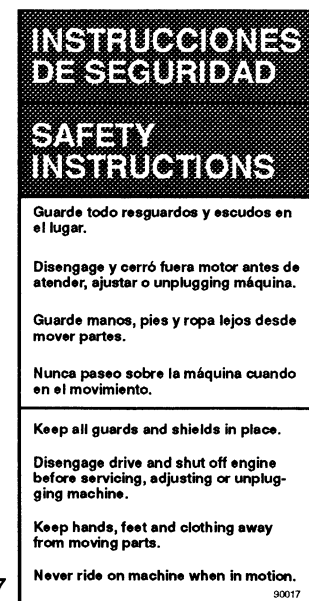
P/N 90020



P/N 90134



P/N 90019

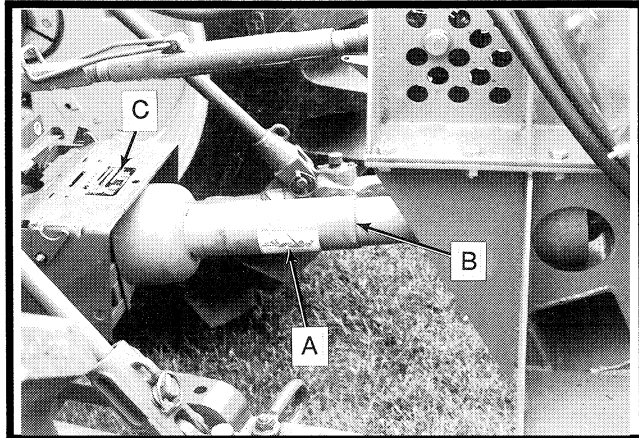


P/N 90017

SAFETY WARNING SIGNS LOCATIONS

The photos below show where the various safety warning signs are located on the harvester. Keep these signs clean. Wipe them off regularly during the harvest season. Replace signs if they become damaged, are missing or painted over. When replacing signs, clean surface thoroughly with a good cleaning solution before placing signs on the machine.

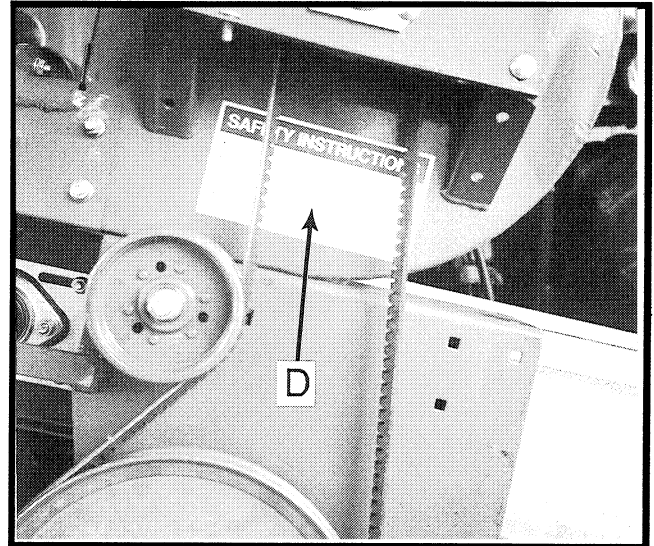
Safety warning signs are available at no charge from your Byron parts department. Order these signs by part number per parts ordering information in the repair parts section of this manual.



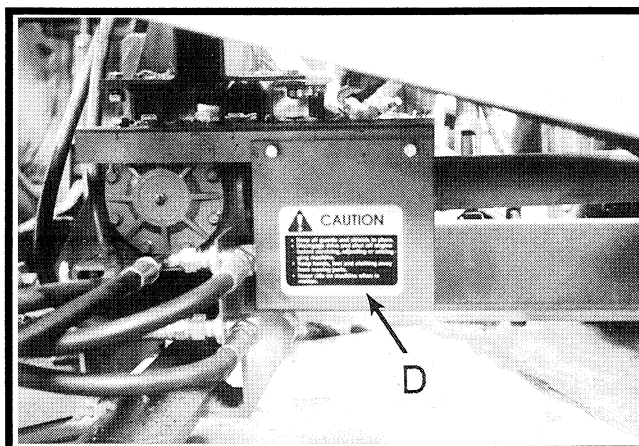
A. P/N 90133 Located on outer P.T.O. shaft shield to warn of danger associated with rotating shafts.

B. P/N 90134 Located on inner P.T.O. shaft. Warns of danger present if operating P.T.O. without outer P.T.O. shaft shield in place.

C. P/N 90132 Located on tractor P.T.O. master shield to warn of danger present in rotating parts on tractor P.T.O.



D. P/N 90017 Located on rear of fan housing under belt guard to warn of hazards present when operating machine without guards and shields in place.



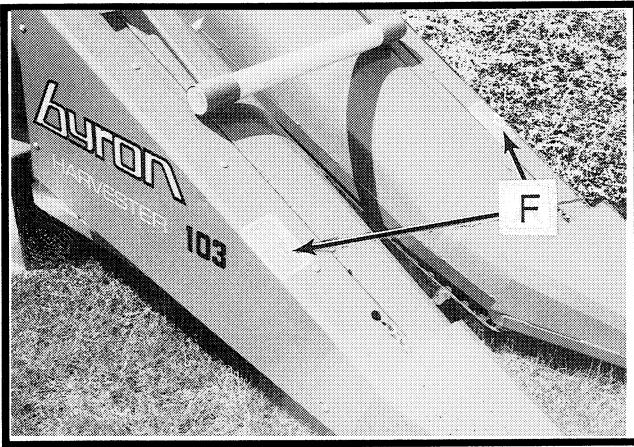
D. P/N 90017 Located on back of rear drive shaft shield to warn of hazards associated with moving parts.



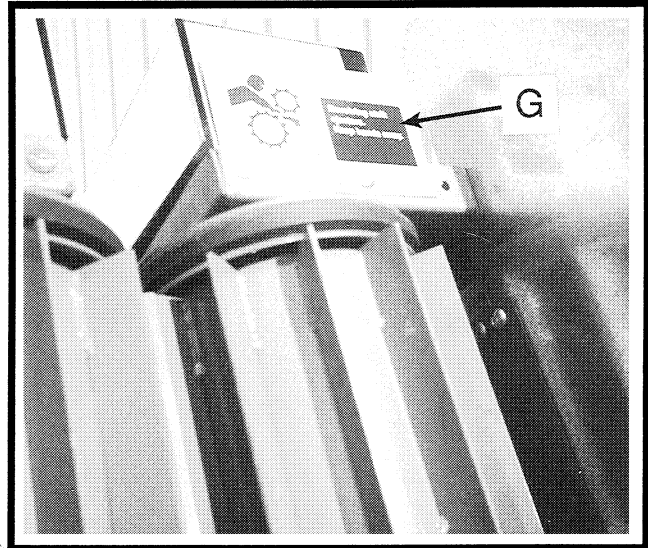
D. P/N 90017 Located on rear of R.H. row separator to warn of hazards associated with moving parts.

E. P/N 90019 Located on rear of L.H. row separator to warn of possible hazards in stepping on row unit sheet metal when machine is running.

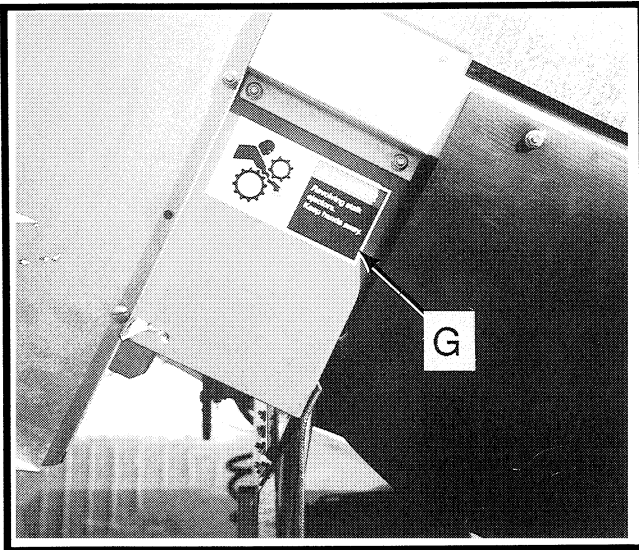
F. P/N 90020 Located on back of L.H. row separator to warn of hazards present in row gathering unit moving parts.



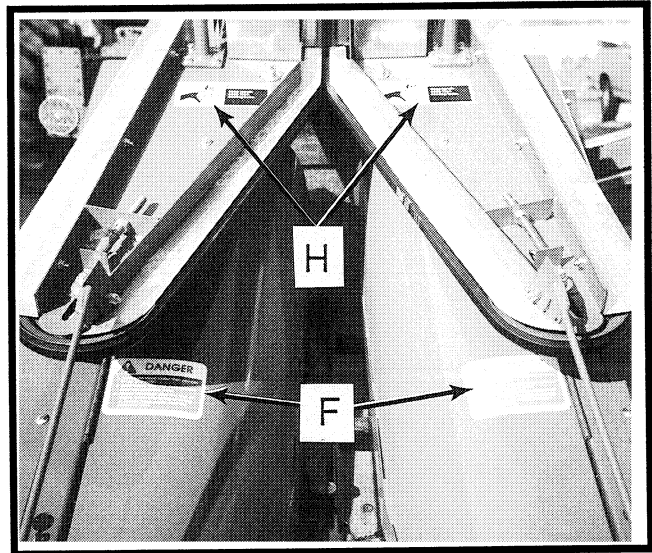
F. P/N 90020 Located on top of both row unit outer covers to warn of hazards present in row gathering unit moving parts.



G. P/N90162 Located above stalk ejector drums to warn of hazards in the area of the rotating drums.



G. P/N 90162 Located on both sides of the stalk ejector drum housings to warn of hazards in the area of the rotating drums.



F. P/N 90020 Located on top of both row unit outer covers to warn of hazards present in row gathering unit moving parts.

H. P/N90163 Located on top front of stalk ejector frames to warn of hazards present in area of stalk gripping belts.



SAFETY PRECAUTIONS



TO GUARD AGAINST INJURY TO YOURSELF AND OTHERS, DAMAGE TO THE MACHINE AND PROPERTY OF OTHERS, DO NOT OPERATE OR ALLOW OPERATION OF THIS MACHINE UNLESS THE FOLLOWING RULES ARE OBSERVED:

1. BEFORE OPERATION

- Install harvester on a tractor equipped with an operator enclosure.
- See that all safety shields and tractor P.T.O. parts are installed and properly secured.
- Be sure tractor P.T.O. is disengaged before starting the tractor engine.
- Make sure there is no one near the machine before starting tractor engine.
- Allow only properly trained personnel to operate this machine. Consult your state labor laws for operator qualifications.
- Never operate farm machinery while under the influence of alcohol or drugs.

2. DURING OPERATION

- Do not stand on or near any part of the harvester while in operation.
- Do not allow anyone to ride on the harvester while in operation.
- Do not allow anyone to ride on the tractor while in operation.
- Keep hands, feet and clothing away from moving parts.
- Never wear loose fitting clothing when operating farm machinery.
- Use extreme care when operating close to ditches, fences or hillsides.

- Never attempt to remove an obstruction from any part of the harvester while the machine is running.
- Disengage tractor P.T.O. and shut off tractor engine before dismounting the tractor.
- Before attempting to clean, adjust or lubricate the machine, shut off tractor engine and be sure all moving parts have come to a complete stop.
- After servicing, be sure all tools, spare parts or servicing equipment are removed from the machine.

3. TRANSPORTING

- Always place the rear elevator/conveyor in the rear loading position for traveling on public roads.
- Avoid heavily traveled roads.
- Drive at a speed which allows complete control of the machine at all times.
- Check clearance carefully before driving the harvester under electric lines or bridges, and into buildings.
- Use warning devices such as flags, S.M.V. emblem, lights, etc. that are approved for use in your local area when moving equipment over public roads. Keep these warning devices clean and in good working order.



DEVELOP SAFE OPERATING HABITS FOR YOURSELF AND INSIST THAT ANYONE ELSE OPERATING THIS MACHINE DO THE SAME. REMEMBER...SAFETY IS EVERYONE'S CONCERN!



MOUNTING THE HARVESTER

Begin by setting the harvester on firm, level ground and lowering the jackstands as follows:

The left hand jackstand is installed in its stowed position. Pull the jack lock pin out of the frame allowing the jackstand to hinge down and reinsert the pin, locking the jackstand into the lowered position.

Find the right hand jackstand and remove the handle which is wired to it for shipping. Slide the jackstand up into and through the square tube on the extreme right end of the frame with the shoe on the jackstand pointing forward. The hole in the frame tube should line up with the center hole in the jackstand. Insert one jack lock pin (from the hardware box) through this hole which locks the jackstand in place. Next take the handle and bolt it to the top of the jackstand with two 1/4" x 3/4" carriage bolts and locknuts from the hardware box. Place blocks under the front of the frame until it sits level and the mast is vertical.

NOTE: It is important that the mast remain vertical when hooking up so that proper geometry will be maintained at the row unit when the harvester is raised or lowered. Back tractor in to the point where the two lower arms of the three point hitch are lined up with the two lower draw pins on the harvester frame.



USE CAUTION WHEN MOUNTING THE HARVESTER FRAME. MAKE SURE NO ONE IS STANDING ON THE FRAME OR IN BETWEEN TRACTOR WHEEL AND FRAME. WHEN WORKING BEHIND TRACTOR TURN OFF ENGINE AND LOCK BRAKES.

Connect the two lower arms to lower draw pins and secure with two lock pins (Fig. 1-A) from the hardware box. Adjust the top link so it will line up with one of the pairs of holes in the lower mast (Fig. 1-B).

As a general rule, it is the rear hole in the second row from the bottom that works best for most tractors (Fig. 1-B). Pin the top link in place, start the tractor and raise the harvester frame slowly while watching the mast. Ideally the mast should remain vertical throughout its travel.

Unfortunately there is a wide range of three-point hitch designs among various tractor manufacturers. If you discover that the mast does not remain vertical when raising the harvester frame, it is going to be necessary to experiment with the top link pivot point. Always start with the harvester sitting on the ground and blocked up perfectly level. Remove the pin from the top link and adjust the length of the top link to line up with one of the holes next to the hole that you started with. Continue to try different holes until you find one which allows the mast to remain vertical throughout its range of travel.

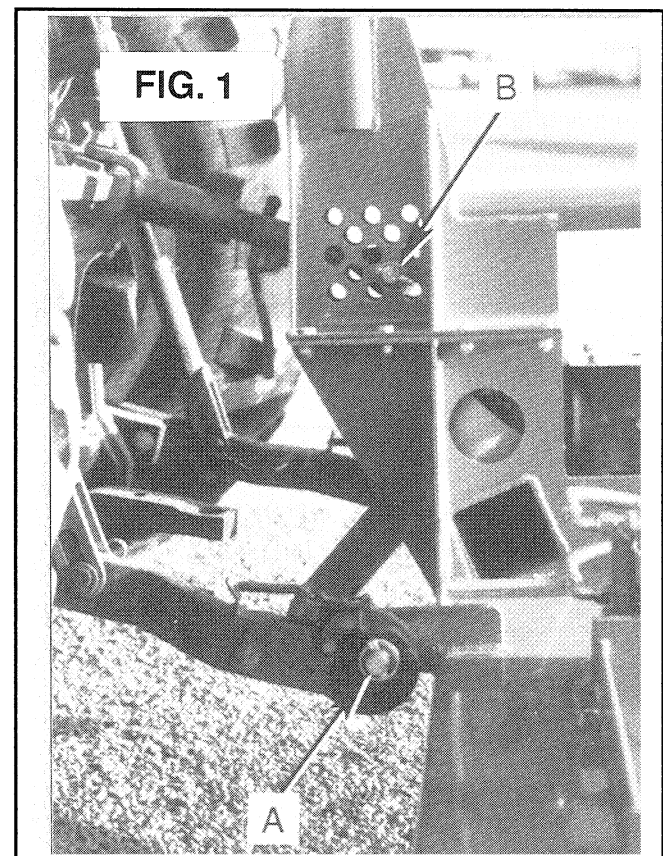
Now that you have the harvester mounted and lifted off the ground, you will notice that the majority of the weight of the harvester is carried on the right side of the tractor, especially when the elevator/conveyor is positioned to

the rear. Level the harvester by adjusting the lower links of the 3-point hitch to compensate for weight bias to the right side. On most tractors this can be accomplished by lowering the harvester until it rests on the ground and then raising (by cranking up) the right hand lower link. Keep adjusting this link until the harvester looks level with the ground when viewed from the rear. Also remove any side sway that may be present in the hitch by adjusting it out per the tractor manufacturer's instructions.

Connect P.T.O. shaft to tractor P.T.O. Connect the two hoses from the control valve which have the male quick-couplers to the tractor hydraulic outlets.

NOTE: John Deere tractors - When the harvester is being mounted on a tractor with a closed-center auxiliary hydraulic system such as John Deere, some changes must be made to the hydraulic system in the area of the flow divider valve as shown in Fig. 2.

- Find one bulkhead union P/N 45139 (Fig. 2-1) and two JIC caps P/N 45043 (Fig. 2-5) in hardware assortment.
- Install bulkhead union in hole provided below the flow divider valve.
- Unscrew two hoses (Fig. 2-2, 3) from tee (Fig. 2-4) which is installed in the return port of the flow divider valve.
- Install JIC caps (Fig. 2-5) on exposed ends of tee.
- Reinstall two hoses (Fig 2-2, 3) to the bulkhead union (Fig. 2-1) as shown. (Refer to Hydraulic System illustration in the Repair Parts Section of this manual for additional information).



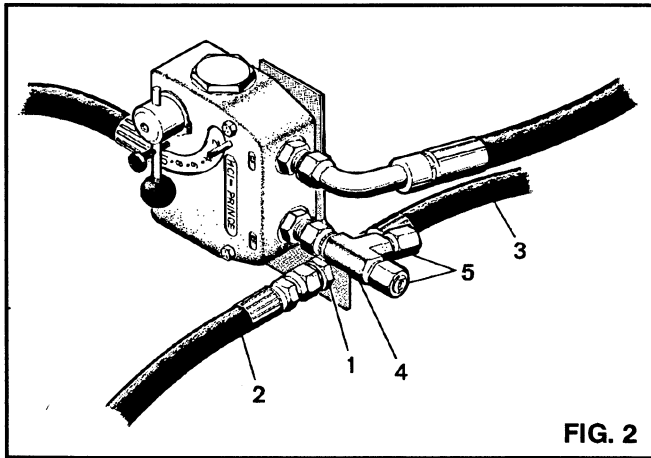


FIG. 2

MOUNTING THE ELEVATOR/CONVEYOR

Prepare to mount the elevator/conveyor to the turntable (Fig. 3) by removing the cotter pin and washer from the inner end of the elevator pivot shaft (Fig. 3-A). Unwind chain (Fig. 4-B) from the shaft and remove the shaft from the turntable. Two persons can now set the elevator up on the turntable as shown in Fig. 3. Insert elevator pivot shaft through the mating holes in the turntable and base of the elevator (Fig. 3-A). Reinstall flatwasher and cotter pin.

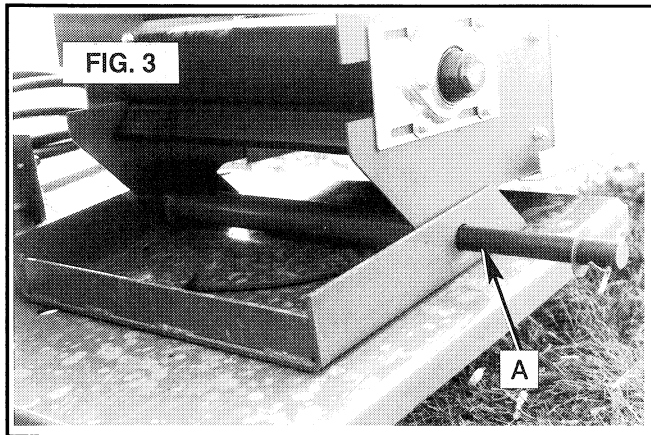


FIG. 3

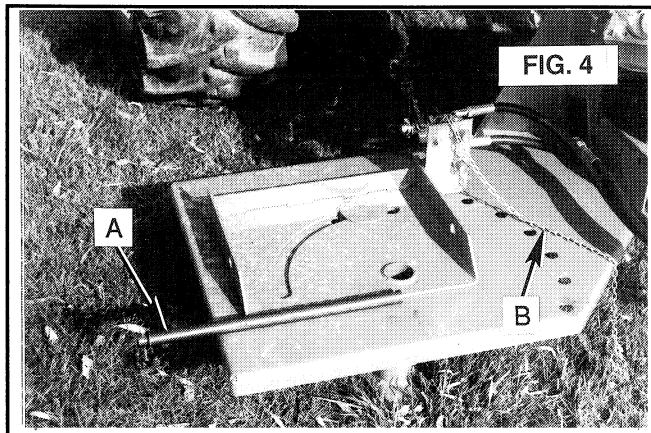


FIG. 4

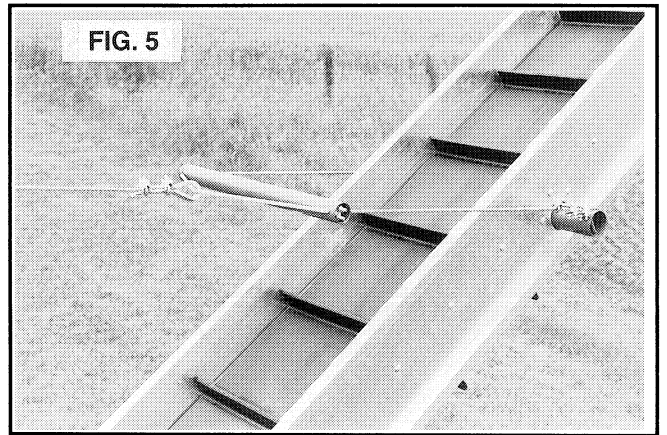


FIG. 5

Let all but about three turns of cable out of the winch. The cable is attached to the elevator hanger as shown in Fig. 5. Place the winch on top of the mast as shown in Fig. 6. Bolt the winch to the mast with two 3/8" x 1" hex head bolts, nuts and lockwashers.

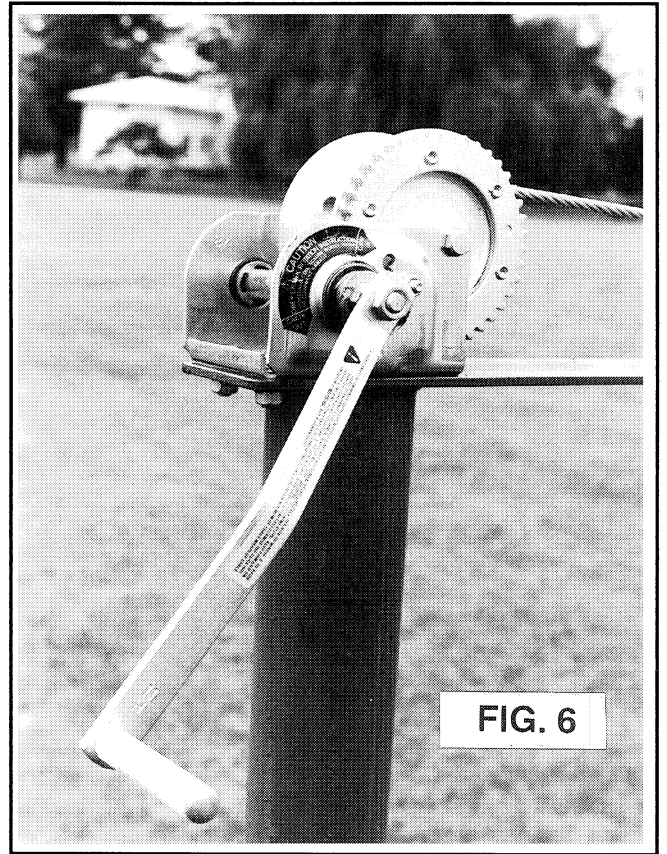
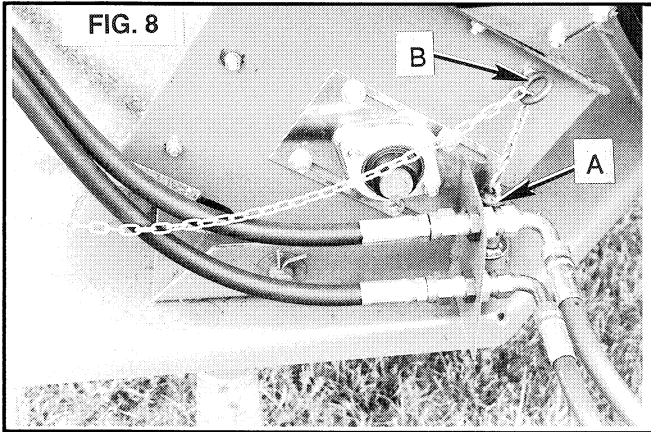
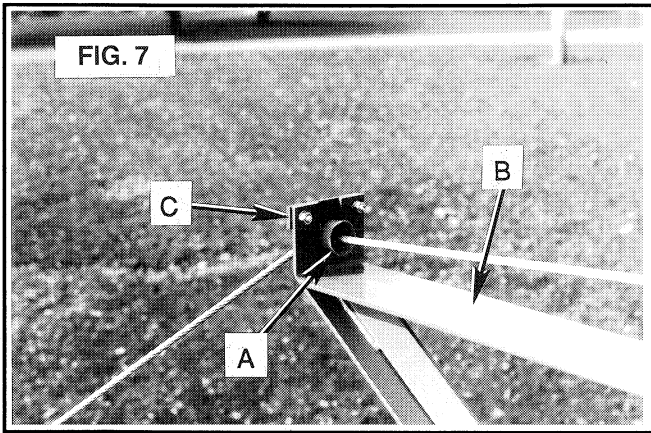
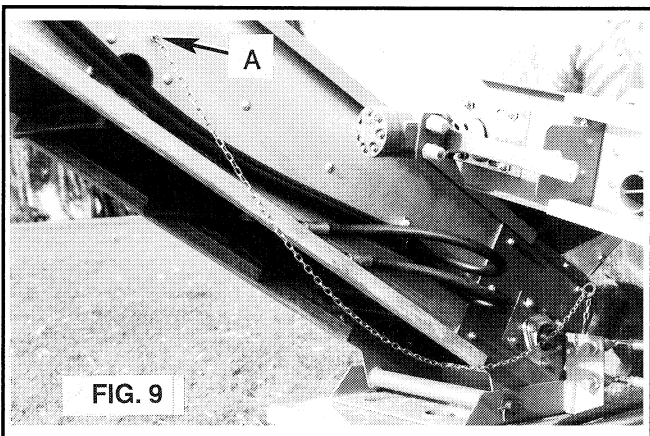


FIG. 6

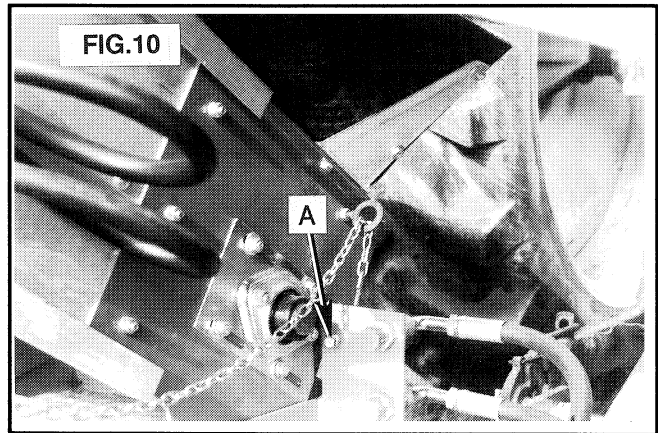
Insert plastic cable guide (Fig. 7-A) into the slot in the end of the winch cable guide arm on the mast (Fig. 7-B). Locate cable guide retainer (Fig. 7-C), two 5/16" x 1" hex bolts, nuts and lockwashers and bolt the retainer in place as shown. You can now tighten up the cable with the winch and raise the elevator/conveyor up to the desired angle.



The elevator turntable is equipped with a pin (Fig. 8-A) that, when pulled up, allows the elevator to be positioned manually in different positions to suit loading requirements. The chain that was wrapped around the elevator pivot shaft is attached to this pin. The end of the chain should

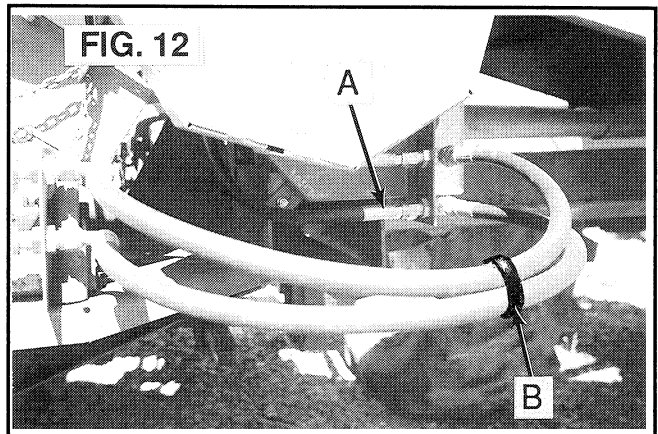
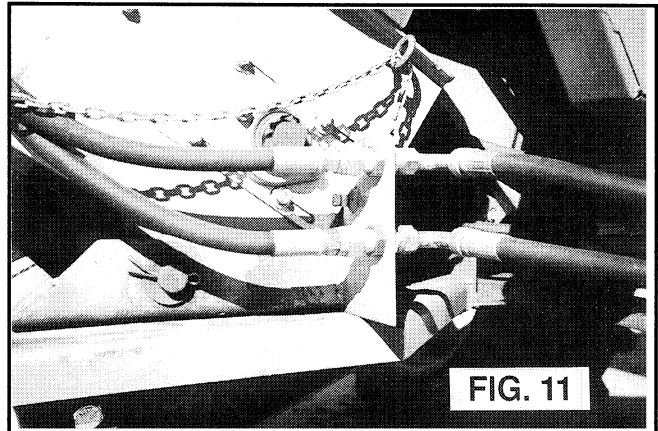


be passed through an eyebolt (Fig 8-B) on the side of the elevator. Use a tapered punch and wedge open the first link of the chain so that it can be fastened to the side of the elevator at Fig. 9-A with a 5/16" locknut placed on the end of a bolt provided for this purpose.



The pin stop bolt (Fig. 10-A) should be adjusted to allow the pin to be pulled out of engagement with the hole in the frame, but not allow the pin to be pulled all the way out when pulled by the chain.

Next connect hoses on the side of the elevator/conveyor (Fig. 11) to the bulkhead fittings on the turntable area as shown. Top hose to top bulkhead fitting, etc. After hoses are in place, install one plastic tie wrap around the pair of hoses at the point shown in Fig. 12-B.



INITIAL/ANNUAL START-UP AND CHECKS

Before running the 103 harvester, read through the lubrication section of this manual. Make sure the machine is lubricated as specified. Make sure that no one is on or near harvester, then start the tractor engine.

Place the speed selector lever on the flow divider valve in the position shown in Fig. 2. Actuate the tractor remote hydraulic outlets and the conveyors will begin to run. (See adjustments section of this manual for additional instructions on setting the conveyor speed on the flow divider valve). Watch all hydraulic connections for leaks.



WARNING: HYDRAULIC FLUID ESCAPING UNDER HIGH PRESSURE CAN PENETRATE THE SKIN, CAUSING SERIOUS INJURY. IF ANY FLUID IS ACCIDENTALLY INJECTED UNDER THE SKIN, IT MUST BE SURGICALLY REMOVED

BY A DOCTOR WITHIN A FEW HOURS OR GANGRENE MAY RESULT.

Conveyor belts have been adjusted for proper tracking at the factory. However, while conveyors are running, check to see that both conveyor belts are tracking properly. Adjust tracking if necessary. (See adjustments section of this manual).

Engage the P.T.O. drive and run the row gathering unit slowly for a few minutes. Observe P.T.O. shaft, drive shaft, gathering belts and knife rolls to see that all are running smoothly.

The harvester is now ready to begin picking corn.

OPERATING THE HARVESTER

Let's recap what you have done in these previous steps to get the 103 Harvester ready to pick sweet corn.

1. Harvester is mounted on your tractor with the mast staying in the vertical position throughout the range of vertical movement required to harvest sweet corn.
2. Harvester is level with the ground when viewed from the rear.
3. Harvester is properly lubricated and adjusted.
4. Hydraulic and mechanical components are operating smoothly and all guards and shields are in place.

STARTING OUT/OPENING UP THE FIELD

Now that you are harvesting your sweet corn mechanically, you may want to plant your corn with open roadways between varieties or plantings to make room for the tractor and harvester with trailing wagon. Otherwise hand pick two or three rows to make a roadway for the tractor.

When starting out, select a gear on your tractor which will allow you to move at about 2 miles per hour over the ground and produce about 150 RPM less than your tractor's 540 P.T.O. RPM. With row unit operating and conveyors moving advance the unit into the first row of

corn with the row centered in the row gathering unit and with the entry area of the row unit held below the lowest ears on the stalks. It is not necessary to maintain a certain distance below the lowest ears, so long as you are below the point where the lowest ears are joined to the stalk. Move along slowly and watch the flow of the stalks into and down through the rotating knife rolls. It is important to be aware of the relationship between knife roll speed, gathering belt speed and ground speed. The knife rolls will turn approximately twice as fast as your tractor P.T.O. RPM. For example at 540 P.T.O. RPM the knife rolls are turning at approximately 1080 RPM. For best results, never run the knife rolls below 800 RPM when harvesting.

After harvesting about 100 ft. of the first row, stop the tractor, disengage the P.T.O. and shut down the tractor engine. Inspect the harvested ears in the wagon. If there is any sign of damage it will show up around the butt of the ear as dented kernels. Butt damage is usually caused by the stripper plate gap being too wide. If experiencing butt damage you may also notice slip shucking (outer wrapper leaves are gone). Closing the stripper plate gap should eliminate both of these problems. Adjust gap not more than 1/16" at a time until damage is eliminated. (See adjustments section of this manual).

Resume harvesting for a short distance and inspect the ears as before. If side damage is present (damage to kernels elsewhere on the ear other than the butt) it can be caused by too much gathering belt lug tip exposure or by dropping the ears from the rear elevator/conveyor into the wagon with the elevator/conveyor winched up too high. Too much belt lug tip exposure can also cause excessive trash (stalks) to be carried up to the conveyor. Adjust belt lug tip exposure. (See adjustments section of this manual).

When you have the stripper plates adjusted to harvest good quality ears, you can now observe the stalk ejector. Remove the rubber side flap from the stalk ejector on the side facing the tractor. When harvesting you will now be able to watch the bottom of the stalks as they move along the ejector belts through the stripper bars and into the ejector drums.

As you move along the row note how many of the stalks are being pulled down through the stripper plates and how many are being removed by the stalk ejector. Also note how many of the stalks being removed by the stalk ejector have ears attached before they reach the stripper bars. If most of the stalks are being run through the stalk ejector then you should move the ejector belt pinch idlers farther apart so the knife rolls have more time to pull the stalks down through the stripper plates. (See adjustments section of this manual). This situation will occur most often in tall varieties of corn. It can also be brought on by combining a high ground speed with a low knife roll RPM.

If there are a lot of stalks with ears still attached going through the stalk ejector you may have the stripper plates set too close. Remember that the stalk ejector is a secondary cleaning/harvesting device. If you can get the

ears off the stalks at the stripper plate, those ears will be exposed to one less mechanical operation and therefore will be less likely to be damaged.

There are certain short-shanked varieties and varieties with two or three ears on a stalk where the stalk ejector will always have to strip ears regardless of the stripper plate setting. If an ear becomes jammed between the stripper bars, the stalks and ears following will usually knock it free. If the ear remains jammed and more ears and stalks jam in behind it plugging the machine, it will be necessary to adjust the stripper bars and/or the belt guides.

If the stalk ejector plugs, stop the machine, turn off the tractor and inspect the jammed ear. If the stalk is still attached and has not been cut off by the ejector drums then you will want to close the gap between the belts particularly at the rear where the stalks transfer from the belts to the drums. (See adjustments section of this manual). If the stalk was cut or pulled off by the ejector drums but the ear is still jammed tightly you will have to adjust the gap between the stripping bars. (See adjustments section of this manual). When the ear that was jammed is immature or smaller than you would normally keep, then open up the gap between the stripper bars. This will allow the smaller ears to pass between the bars and be ejected with the stalk. Opening the gap also increases the taper along the bars and makes it easier for following stalks to dislodge a jammed ear. If the jammed ear is one you would normally keep then close the gap between the stripper bars.

When you have the row gathering unit performing to your satisfaction, you can increase ground speed and P.T.O. speed until you reach an ideal combination of ground/gathering unit speed that should be about 3 miles per hour with the P.T.O. running at 540 RPM.

At this point, the only remaining cause for light trash in the load will be an improperly adjusted cleaning fan. The fan nozzle should be blowing across the harvested ears at the point where they drop from the top of the cross conveyor down to the rear elevator. Light trash (leaves, pieces of stalk) should be blown away from the heavier ears. Pay particular attention to this area if the ears are small. Decrease the air flow coming from the nozzle so as not to blow the lighter ears away from the elevator. (See adjustments section of this manual for cleaning fan adjustment).

Just as ear size can affect the amount of air flow required from the cleaning fan, there are also some variables that will affect the quality of the harvested corn and the adjustments needed will become evident when changing from one variety to another. Varieties with a longer shank on the ear usually will pick cleaner (less trash) than a short-shanked variety. Varieties that have a tapered butt usually demand closer attention to adjustments than a variety with a square butt. Stripper plate adjustment will often be necessary when picking a later planting of the same variety, depending on ear size. As a general rule,

the wider you can run the stripper plate gap, the less trash you will experience.

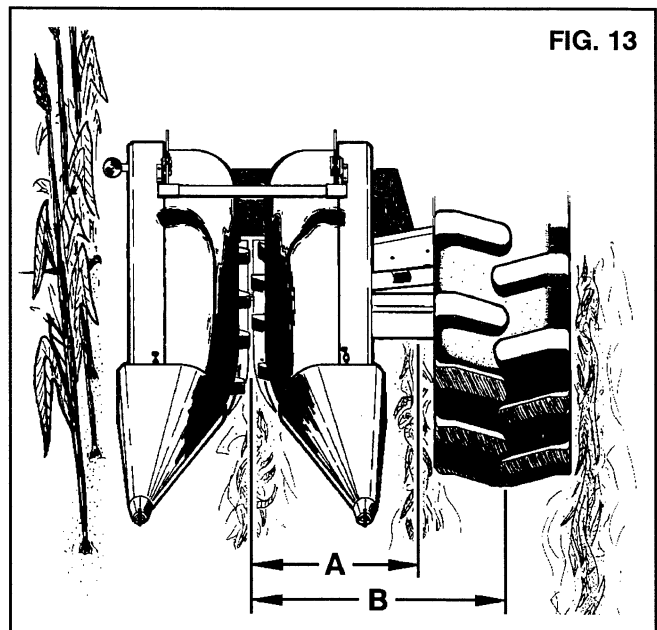
If you are in corn that is weedy you may encounter a problem known as wrapping. Some types of weeds and grasses will wrap around the knife rolls under certain conditions and affect the performance of the harvester. One method of reducing wrapping is to increase knife roll (gathering unit) speed. Because you are encountering weedy conditions you may have slowed your ground speed and allowed the row gathering unit RPM to drop off . . . Remember, regardless of ground speed, keep the P.T.O. running at top speed. Also, to combat wrapping, the harvester is equipped with "vine knives" which are positioned below the knife rolls to cut offending weed material. (See adjustments section of this manual for vine knife adjustment).

As you progress from opening up the field as described in the beginning of this section to having harvested a few more rows during the process of adjusting the machine you will now have the option to side load into a truck instead of into the wagon at the rear. Whether side loading or rear loading you should always run the rear elevator/conveyor as low as possible to avoid damage which could result from dropping the ears from too high into the load.

ADJUSTMENTS

ROW SPACING ADJUSTMENT

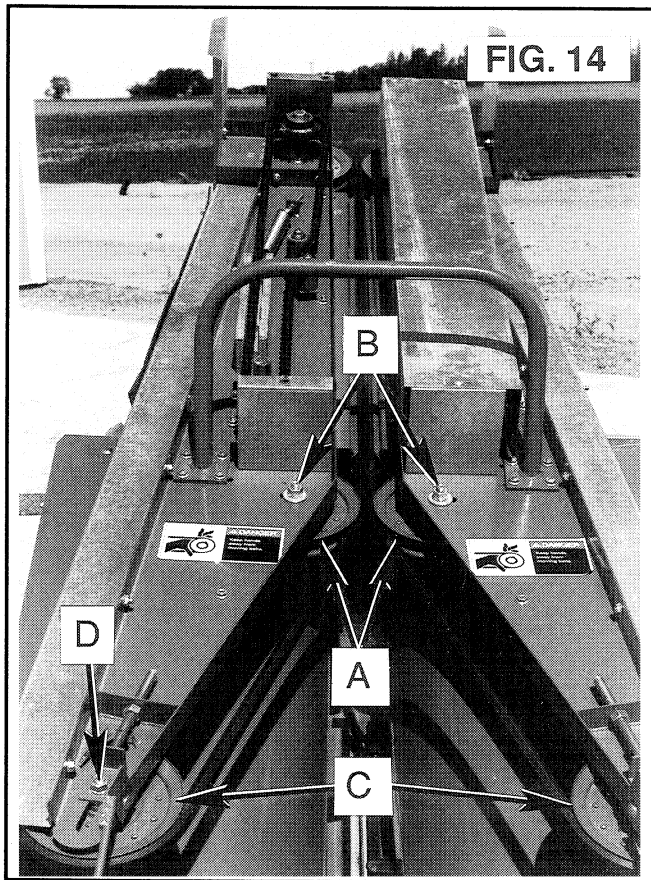
To make this adjustment you must know the row spacing of the corn you will be picking (Fig. 13). For example if rows are planted on 30" centers (Fig. 13-A), you will want to set your harvester up with a dimension of 45" (Fig. 13-B) from the center of the row gathering unit to the center of the right tire - in other words, one row (30") plus one half of one row (15") equals proper row/tire setting (Fig. 13). This keeps the right hand tire in



between two previously picked rows. Loosen four carriage bolts on frame tube clamps and slide the row gathering unit left or right to achieve the desired dimension. Tighten all carriage bolts on the frame tube clamps. When tightening bolts check to see that the small square bars on the ends of the clamps contact the row frame, this prevents the row gathering unit from moving on the frame tube.

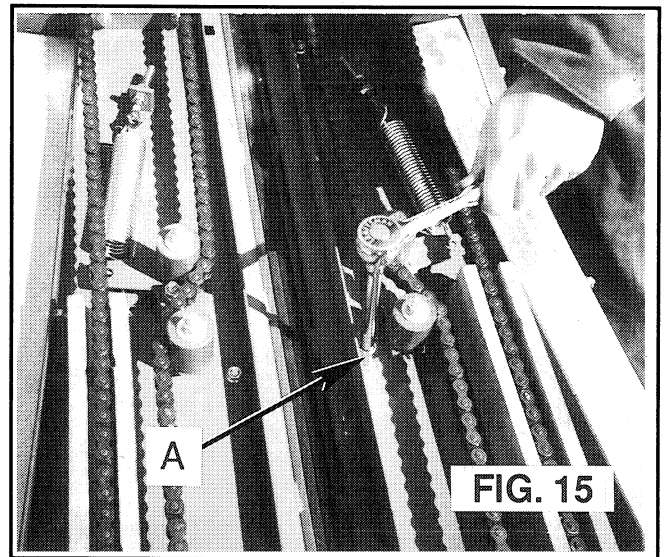
STALK EJECTOR

The stalk ejector belts have two adjustments. The two belt idler pulleys (Fig. 14-A) just in front of the belt guide channels can be moved in or out by loosening nuts (Fig. 14-B) on the belt idler bolts. With this adjustment you can vary the point at which the belts grab the stalks by several inches front to back. Tighten nuts to lock in desired adjustment. The front idler pulleys (Fig. 14-C) are used to adjust belt tension. Loosen locknut on idler (Fig. 14-D), loosen jam nut on adjuster stud and turn adjusting nut to achieve desired tension. The belts do not require much tension to function properly, just enough tension to take up any slack should also prevent slipping. Tighten all nuts to lock adjustment.



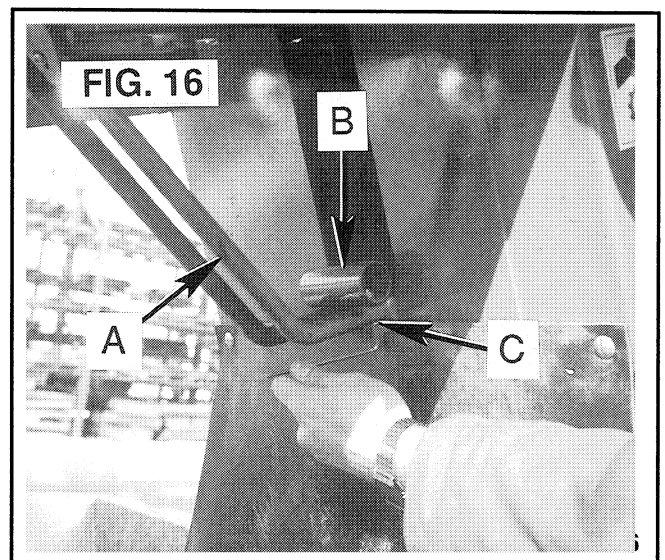
The stalk ejector belt guide channels (Fig. 15) are adjustable in and out to control the gap between the belts. To adjust, (after removing the chain guards) loosen six nuts (Fig. 15-A) (three on each side) that hold the belt

guides in place. The belts should not have more than 1/4" gap between them at the front of the guides and not more than 1/8" at the back of the guides. After adjusting retighten the six bolts and replace the chain guards.



STRIPPER BARS

The stripper bars (Fig. 16-A) are adjustable for spacing at their lower end. There are six holes in the cross tube (Fig. 16-B) which allows for five different settings of the bar spacing. To change the setting, first loosen the two nuts (Fig. 17-A) which anchor the lower end of the stripper bars to the rear support panel. Then remove one of the bolts (Fig. 16-C) which attaches the cross tube to the stripper bars and slide the bars to the desired position and reinstall the bolt. It is usually best to move the stripper bar spacing only one hole at a time when making adjustments. When the desired bar spacing has been obtained, retighten the two nuts on the rear ejector support panel.



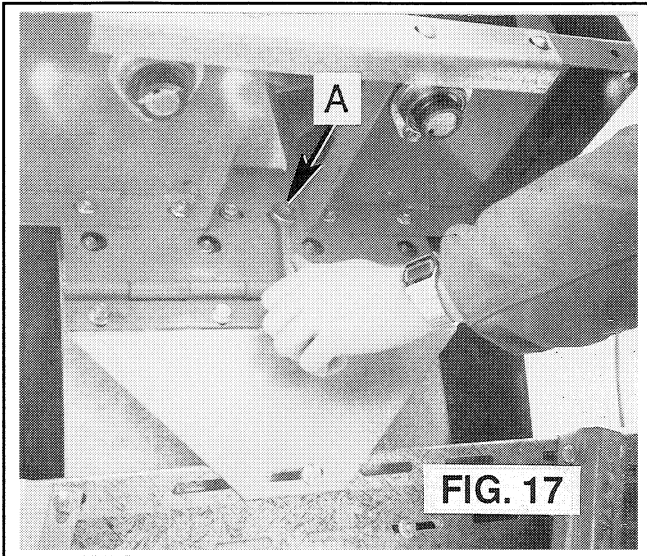


FIG. 17

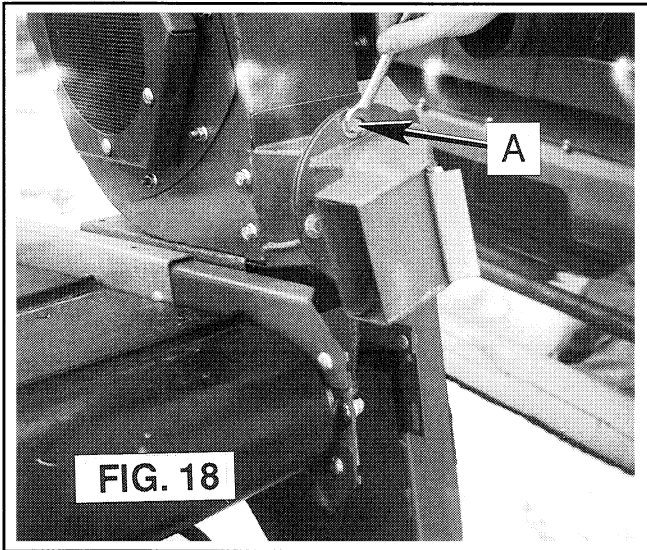


FIG. 18

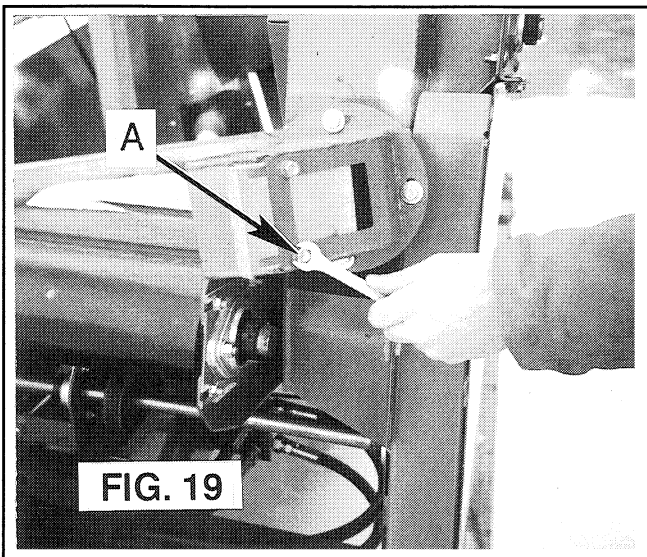


FIG. 19

CLEANING FAN

The cleaning fan can be adjusted for nozzle direction and amount of airflow. To adjust nozzle direction, loosen four bolts (Fig. 18-A) on the ring holding the nozzle to the transition section. Rotate the nozzle to the desired position and retighten bolts. To adjust airflow, loosen the two bolts (Fig. 19-A) on the back of the nozzle which hold the air bleed gate in position. Slide the gate open to reduce airflow across the conveyor. Slide it closed to increase airflow.

VINE KNIVES

Under each knife roll, bolted to the side of the row frame are a pair of vine knives. (Refer to Row Gathering Unit illustration in the Repair Parts Section of this manual).

Loosen the bolts that hold the vine knives to the row frames and clear any material that has wrapped around the knife rolls. Have a helper turn the P.T.O. shaft over slowly by hand using a bar placed into the universal joint. With the knife roll slowly turning, move each vine knife up until it almost touches the knife roll blades, leaving a space of about 1/32". Tighten all bolts.



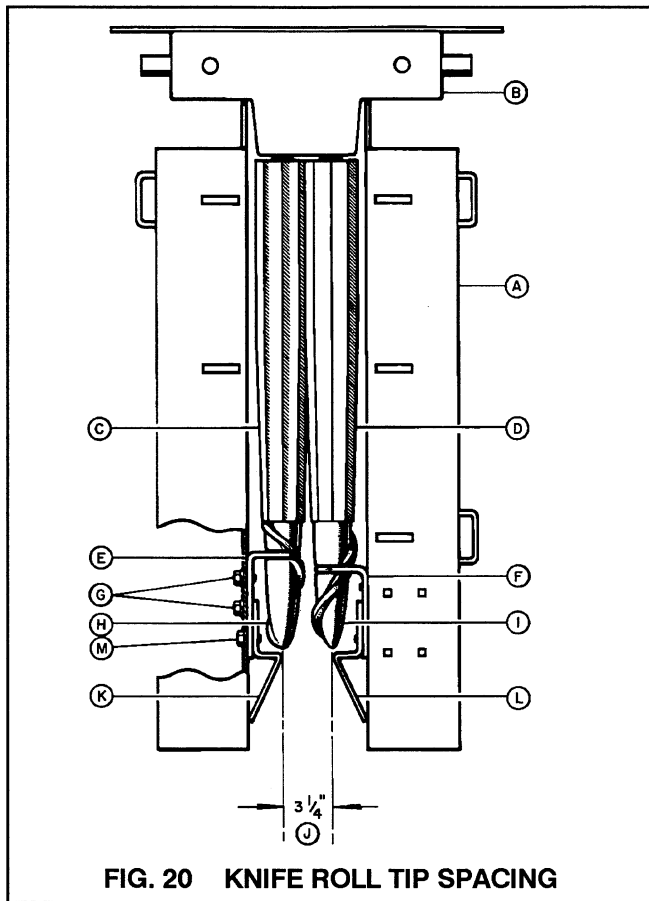
CAUTION: WHEN WORKING UNDER THE HARVESTER, DISENGAGE P.T.O., SHUT DOWN TRACTOR ENGINE AND LOCK THE BRAKES. PLACE A BLOCK OR JACKSTAND UNDER THE HARVESTER FRAME SO THE MACHINE CANNOT BE LOWERED UNEXPECTEDLY. KNIFE ROLLS ARE SHARP. WEAR GLOVES TO AVOID INJURY.

KNIFE ROLL TIP SPACING ADJUSTMENT

Figure 20 shows a top view of a typical row gathering unit which is made up primarily of the row frame (A), the row gathering unit gearbox (B), and the right hand (C) and left hand knife rolls. (Right and left hand parts are determined by standing behind the machine facing in the direction of travel). The lower end of each knife roll is supported by the lower knife roll bushing mount assembly right hand (E) and left hand (F). Each mount assembly is held in place by two 1/2" bolts (G) through the sides of the row frame.

It is important that the knife roll nose spirals right hand (H) and left hand (I) be run at a dimension of 3-1/4" (J) from tip to tip, which is the center to center dimension of the gearbox knife roll drive shafts. This tip spacing is set at the factory on new corn heads using shims between the lower knife roll bushing mounts and the row frame as necessary. This dimension should be checked periodically during the harvest season and adjusted as necessary with the shims (P/N 50513 and P/N 50514).

When removing and replacing knife rolls for any reason, always note how many shims were used on both



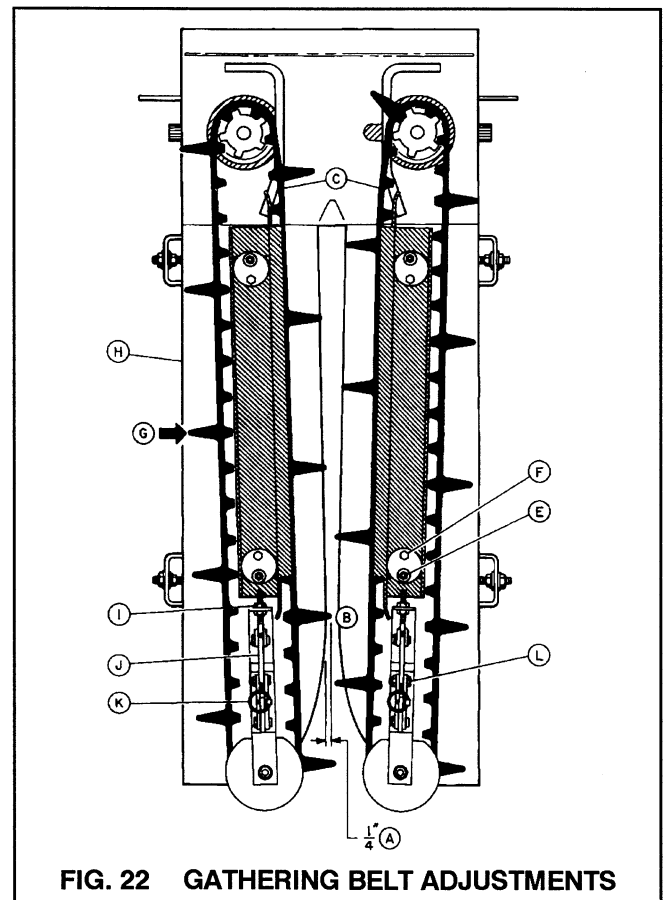
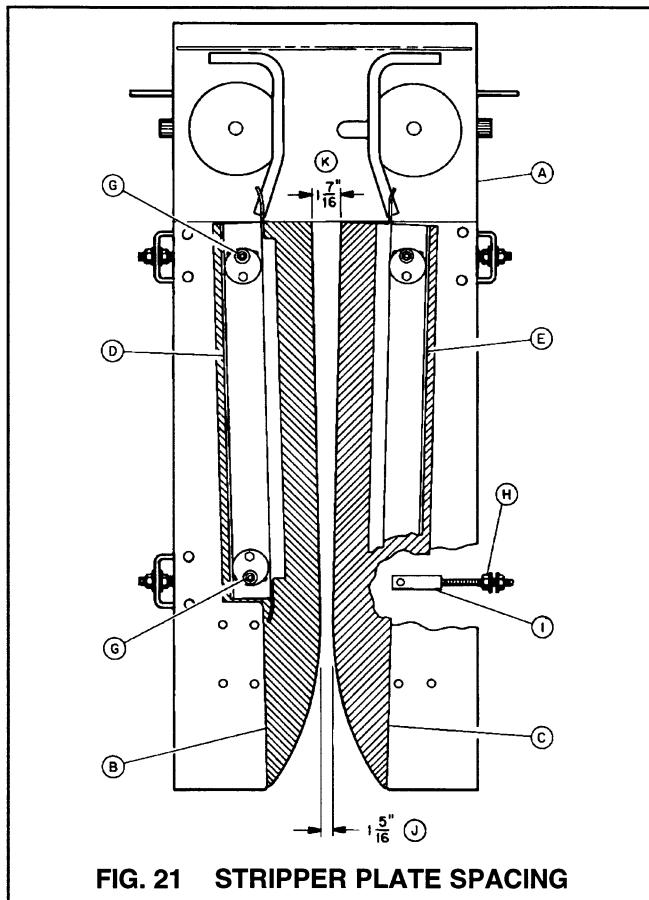
sides and reinstall the shims in their original order, checking the nose tip spacing at the same time.

In addition to the basic row frame, gearbox, knife rolls, and lower mounts shown in Fig. 21, we now add the gearbox cover plate Fig. 4 (A), the right hand (B) and left hand (C) stripper plates (shown shaded) and the right hand (D) and left hand (E) gathering belt guides. Stripper plate spacing is adjusted by loosening two 1/2" nuts (G) on each side of the row and turning either the inner or outer adjusting nut (H) to move the stripper plate in the desired direction.

A good dimension for stripper plate spacing is 1-3/16" at the lower (entry) end, increasing to 1-5/16" at the top. These dimensions may vary depending on ear size and shank length desired, but the spacing should always be 1/8" greater at the top than at the entry. It is also important to keep the entire stripper plate gap centered over the working center line between the knife rolls.

When the stripper plate spacing is adjusted to your satisfaction, tighten nuts (H) on adjusters locking stripper plates in place. Leave the remaining nuts loose to adjust the belt guides (Fig. 5).

Gathering belt exposure is defined as the distance that the tips of the belt gathering lugs protrude beyond the edge of the stripper plates into the stripper plate spacing gap. Ideally the tip should protrude about 1/4" (A) at the point where the stripper plate gap is narrowest (B) and then gradually protrude less and less until the tip is flush



with the edge of the stripper plate at the top of the gap (zero exposure).

To make this adjustment to the gathering belts (C) loosen two end nuts (E) on each belt guide (shown shaded). Place a 3/4" wrench on the fixed nut (F) on the adjuster and turn to move the tips of the belt gathering lugs out. To reduce tip exposure, tap the belt guides back with a rubber mallet. Tighten end nuts.

After setting tip exposure belt tension should be checked. Belts should be tight enough to prevent them from jumping time, but not overly tight which can lead to premature idler bearing and belt failure. Proper belt timing exists when the belt gathering lugs of one belt intermesh evenly with the lugs of the opposing belt as shown in Fig. 22. As a rule, if the belts are properly tensioned, you should be able to grasp one belt gathering lug on the back side of the belt (G) and pull the belt out toward the edge of the row frame (H) until the flat outer surface of the belt comes out even with or slightly past the edge of the row frame. If you can pull the belt out to a point where the drive lugs on the inside surface of the belt come out past

the edge of the row frame, the belt is too loose.

To adjust belt tension, turn adjusting nuts (I) to tighten or relieve tension as required. Over-center linkage (J) on belt idler is intended only to relieve tension when removing belt. To operate, pull lock pin (K) from idler yoke and place a 3/4" box end wrench on hex head (L) on stud link and pull up to relieve tension. Pull down to apply tension.

NOTE: Do not use over-center linkage to adjust belt tension. Too much tension can be inadvertently applied to the belt in this manner, resulting in internal damage to the belt. Adjust tension only with over-center linkage locked in position.

New gathering belts must be adjusted several times during the first few hours of use until they relax and become more flexible.

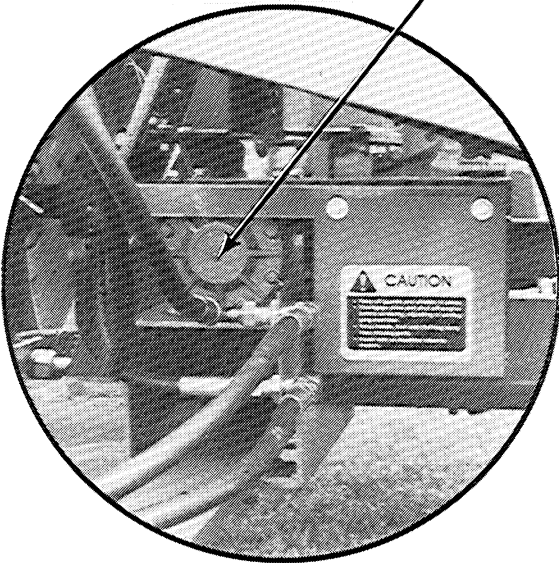
You should be aware that belt tension will change as you adjust the stripper plate gap. Small incremental changes will not require readjusting belt tension. A large change in the gap width, for instance from 5/8" to 1-1/4", would require readjusting gathering belt tension.

NOTES:

LUBRICATION GUIDE

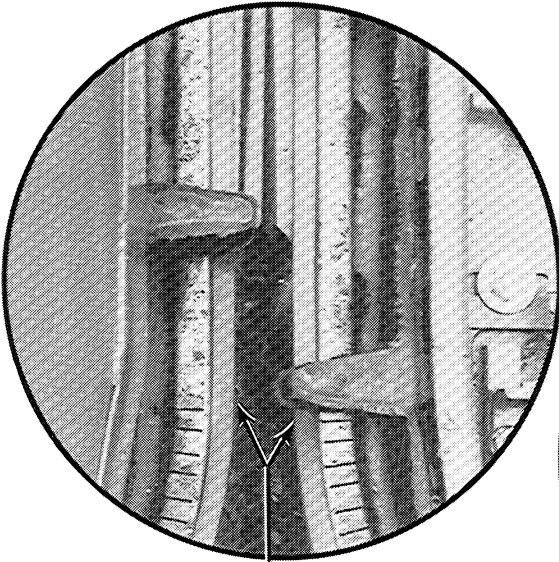
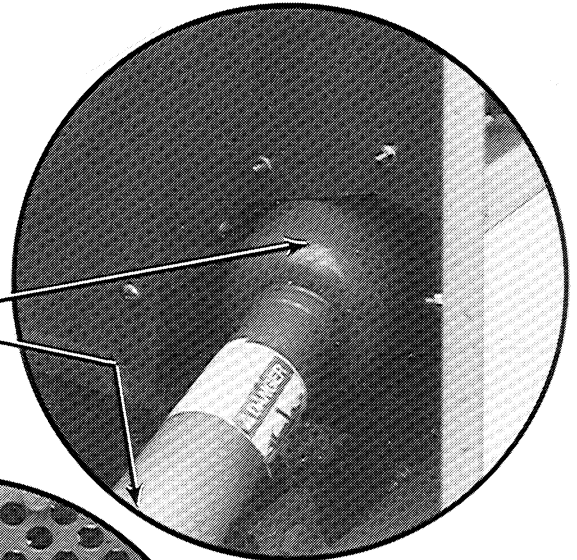
INTERVAL - 60 HOURS
LUBRICANT - EP90 or 80W90

Check oil level in row gathering unit gearbox by removing plug in the rear of the gearbox and visually checking oil level. Lubricant should be up to the bottom of the hole.



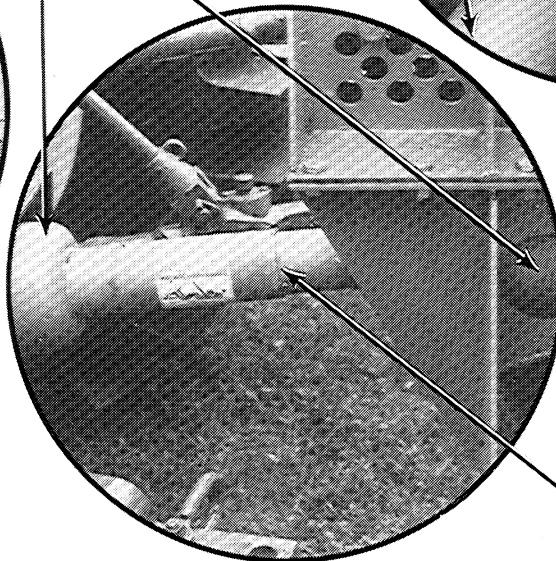
INTERVAL - 8 HOURS
LUBRICANT - MULTI-PURPOSE GREASE

Grease four universal joints on PTO shaft and drive shaft.



INTERVAL - 4 HOURS
LUBRICANT - MULTI-PURPOSE GREASE

Grease lower knife roll support bushings located on the underside of each lower bushing mount. **IMPORTANT!** These bushings cannot be over-lubricated. Failure to grease these bushings could lead to premature bushing failure.



INTERVAL - 20 HOURS
LUBRICANT - MULTI-PURPOSE GREASE

Grease sliding joint thru hole in PTO shield.

TROUBLESHOOTING

TROUBLE	CAUSE	CORRECTION
(1) Excessive trash in harvested corn.	(A) Ground speed too fast.	(A) Operate at a ground speed compatible with variety, yield and conditions.
	(B) Tractor engine running too slow compared to ground speed.	(B) Run engine at a speed which produces 540 RPM at the P.T.O.
	(C) Machine not centered in row.	(C) Keep machine centered to avoid stalk breakage.
	(D) Row gathering unit carried too low.	(D) Row gathering unit should be run only low enough to stay below lowest ears.
	(E) Knife rolls too far apart.	(E) Adjust knife roll tip as described in adjustments section.
	(F) Stripper plates set too close.	(F) Set stripper plate gap only as wide as necessary to harvest usable ears. (See adjustments section).
	(G) Stripper plate gap not centered over knife roll operating center line.	(G) Adjust stripper plates as described in adjustments section.
	(H) Too much gathering belt lug tip exposure.	(H) Adjust gathering belts as described in adjustments section.
	(I) Stalk ejector gripper belts have too much slack.	(I) Adjust gripper belts as described in adjustments section.
	(J) Stalk ejector gripper belts too far apart.	(J) Set gap between belts as described in adjustments section.
	(K) Cleaning fan air stream improperly adjusted.	(K) Adjust fan air stream as described in adjustments section.
(2) Excessive damage to harvested corn; butt damage, side damage and slip shucking.	(A) Ground speed too fast (without excessive trash).	(A) Operate at a ground speed compatible with variety, yield and conditions.
	(B) Row gathering unit carried too high.	(B) Row gathering unit should be run only low enough to stay below lowest ears.
	(C) Knife rolls dull or damaged.	(C) Install new knife rolls. (See Installing Knife Rolls section).
	(D) Stripper plate gap spacing too wide.	(D) Set stripper plate gap only as wide as necessary to harvest usable ears. (See adjustments section).
(3) Small ears lodged at upper end of stripper plate gap.	(A) Stripper plates not properly adjusted.	(A) Adjust stripper plates as described in adjustments section.
	(B) Inadequate gathering belt lug tip exposure.	(B) Increase gathering belt tip exposure at upper end of stripper plate gap.
(4) Ears lodged between stripper bars.	(A) Stripper bars not adjusted properly.	(A) Adjust stripper bar spacing as described in adjustments section.
(5) Row gathering unit jammed, P.T.O. shear bolt shears off.	(A) Foreign object caught in knife rolls (rock, fence wire, etc.)	(A) SHUT DOWN ENGINE and remove foreign object from knife rolls. Install new shear bolt.
	(B) Knife rolls wrapped with weeds, grass, etc.	(B) SHUT DOWN ENGINE and remove material from knife rolls. Adjust vine knives closer to knife rolls (see adjustments section). Install new shear bolt.

STORAGE

Prepare your BYRON 103 Harvester for seasonal storage as follows:

1. Clean machine thoroughly, preferably with a pressure washer.
2. Repair or replace any parts worn beyond service limits.
3. Remove knife rolls and pack grease around gear box seal protectors, grease knife roll splined sockets and reinstall as described in "Knife Roll Replacement".
4. Lubricate all pressure fittings.
5. Coat gathering belts and conveyor belts with a silicone-base rubber protectant such as Armorall.
6. Remove any rust and apply a coat of paint. Grease exposed metal surfaces.
7. Store harvester in a dry place where it will not be exposed to the weather.

KNIFE ROLL REPLACEMENT

To remove the knife rolls from the row unit first remember to exercise the following safety precautions:



RAISE THE HARVESTER UP HIGH ENOUGH TO WORK UNDER THE MACHINE. DISENGAGE P.T.O., SHUT DOWN TRACTOR ENGINE AND LOCK THE BRAKES. PLACE A JACKSTAND OR BLOCK UNDER THE HARVESTER FRAME. DO NOT

ALLOW ANYONE ON THE TRACTOR WHEN YOU ARE WORKING UNDER THE MACHINE.

Referring to Fig. 20, knife rolls are removed as follows:

1. Place a length of pipe or bar through the round holes in the row frame so the bar runs crosswise under the knife rolls.
2. Remove two 1/2" bolts (G) from one lower knife roll bushing mount (E, F).
3. Remove shims and set aside in their proper order.
4. Allow the knife rolls to slide forward about 1-1/2" and they will be free from the row unit.



CAUTION! WEAR GLOVES, KNIFE ROLLS ARE SHARP AND SHOULD BE HANDLED CAREFULLY. SUPPORT THE KNIFE ROLL FIRMLY DURING REMOVAL. SLIDING THE KNIFE ROLL FORWARD 1-1/2" WILL ALLOW IT TO FALL OUT OF THE ROW UNIT.

To reinstall the knife rolls, first apply a coat of fibrous wheel bearing grease to the splined socket at the upper end of each knife roll. Reverse the removal procedure,

and in addition, the two knife rolls must be timed with each other. Each of the knife rolls is driven by a splined shaft from the gearbox. Slide the knives on the splined shafts so that the blades intermesh with each other and so that the nose spirals (H) and (I) are not timed together. Fig. 20 shows proper spiral timing. If it becomes impossible to find a position where the knife roll blades mesh properly, remove the opposite knife roll and rotate it one tooth on the drive shaft spline and proceed with assembly. Remember to replace the shims between the lower bushing mounts (E, F) and row frame in the same order in which you removed them, or adjust shims to achieve the 3-1/4" knife roll tip spacing as shown in Fig. 20. Failure to maintain this dimension will cause excessive wear of the drive splines.

GEARBOX REBUILD

(refer to Fig. 23)

DISASSEMBLY

NOTE: When disassembling a gearbox, it is a good practice to keep parts together in the same order in which they were removed. This will enable you to put parts that are to be reused (gears, shafts, etc.) back into their original location making it easier to achieve bearing preload and gear lash settings.

1. Remove drain plug (item 43) and drain gear lube from gearbox.
2. Remove machine screws (item 8) holding front cap (item 22) to housing (item 1). Remove gasket shims (items 23, 24, 25) and set aside for future reference. Bend the locking tabs on lockwashers (item 27) back and remove locknuts (item 26) from knife roll drive shafts (item 19). Knife roll shaft driven gears (item 16) and two inner bearing cones (items 18) may be removed along with knife roll shafts. To remove two outer bearing cones (item 17) double seals (item 20) must be removed. Bearing cups may be removed from front cap at this time if replacement is necessary.
3. Remove countersunk screws (item 42) holding top caps (item 38) to housing and remove top cap and shaft assemblies. Remove gasket shims (items 39, 40, 41) and inner ball bearing shims (items 30, 31) from housing. Outer sealed bearing (item 36) may now be removed from belt drive shaft (item 33). Bearing must be removed towards the outer end of the shaft, away from the retaining ring (item 35). Inner ball bearing (item 29), belt drive shaft driven gear (item 28) and key (item 34) must be removed towards the inner end of the shaft and the retaining ring removed from the shaft if necessary. Seal (item 37) may be removed from top caps if necessary.
4. Remove machine screws (item 8) holding end caps (item 2) to housing (item 1). Slide end caps off

main shaft (item 13) and remove gasket shims (items 3, 4, 5) and set aside for future reference. Remove large ball bearings (item 7), belt drive gears (item 9), spacers (item 12) and shims (item 10, 11) from main shafts. Shims should be kept in their original location if not being replaced. Pull main shaft from housing. Clutch shaft bushings (item 14) can be removed from ends of main shaft at this time. Double-faced bevel gear (item 15) can now be removed through front cap opening in housing.

ASSEMBLY

1. Clean all parts before assembly!
2. Install new clutch shaft bushings (item 46) into ends of main shaft so that bushings are flush with the ends of the shaft. Place double-faced bevel gear (item 15) into housing through front cap opening: Insert main shaft (item 13) into housing and through the double-faced gear making sure the splines on the main shaft engage the splines in the double-faced gear smoothly. Install spacers (item 12), original shims (items 10, 11) and belt drive gears (item 9) onto main shaft in their original locations. New seals (item 6) and ball bearings (item 7) may now be installed in end caps (item 2) if required. Apply a light coat of clean grease to the lips of the seals and slide end caps onto main shaft. If all of the original parts are being used, install the same combination of gasket shims (items 3, 4, 5) under the end caps. Proper

engagement of the belt drive gears should result as well as correct clearance in the main shaft bearings (item 7). If any of these internal parts have been replaced, gear mating and gear lash should be checked and adjusted if necessary by adding or removing gasket shims (items 3, 4, 5) and shims (items 10, 11). Correct gear lash is .020 - .030 at the gear tooth or .020 - .030 movement at a point 2-1/16" from the center of the belt drive shaft (item 33). Main shaft should be checked for zero end play. The main shaft can be adjusted from end to end by transferring gasket shims (items 3, 4, 5) behind end caps from one end to the other to obtain proper mating and lash in the gears. When satisfied that proper adjustment has been achieved, apply a light coating of silicone gasket sealant to mating surfaces and tighten machine screws.

3. Install new seal (item 37) in top caps (item 38). Install retaining ring (item 35) onto belt drive shaft (item 33). Place key (item 34) and belt drive shaft driven gear (item 28) on inner side of shaft and press gear onto shaft so that it seats against retaining ring. Install shims (items 30, 31) against the underside of the gear. Install inner ball bearing (item 29) onto inner end of drive shaft until it seats against shims and corresponding shoulder on the shaft. Pack the cavity in top cap (item 38) with clean grease, grease seal lips and slide cap onto shaft. Place the original gasket shims (items 39, 40, 41) under the top cap and

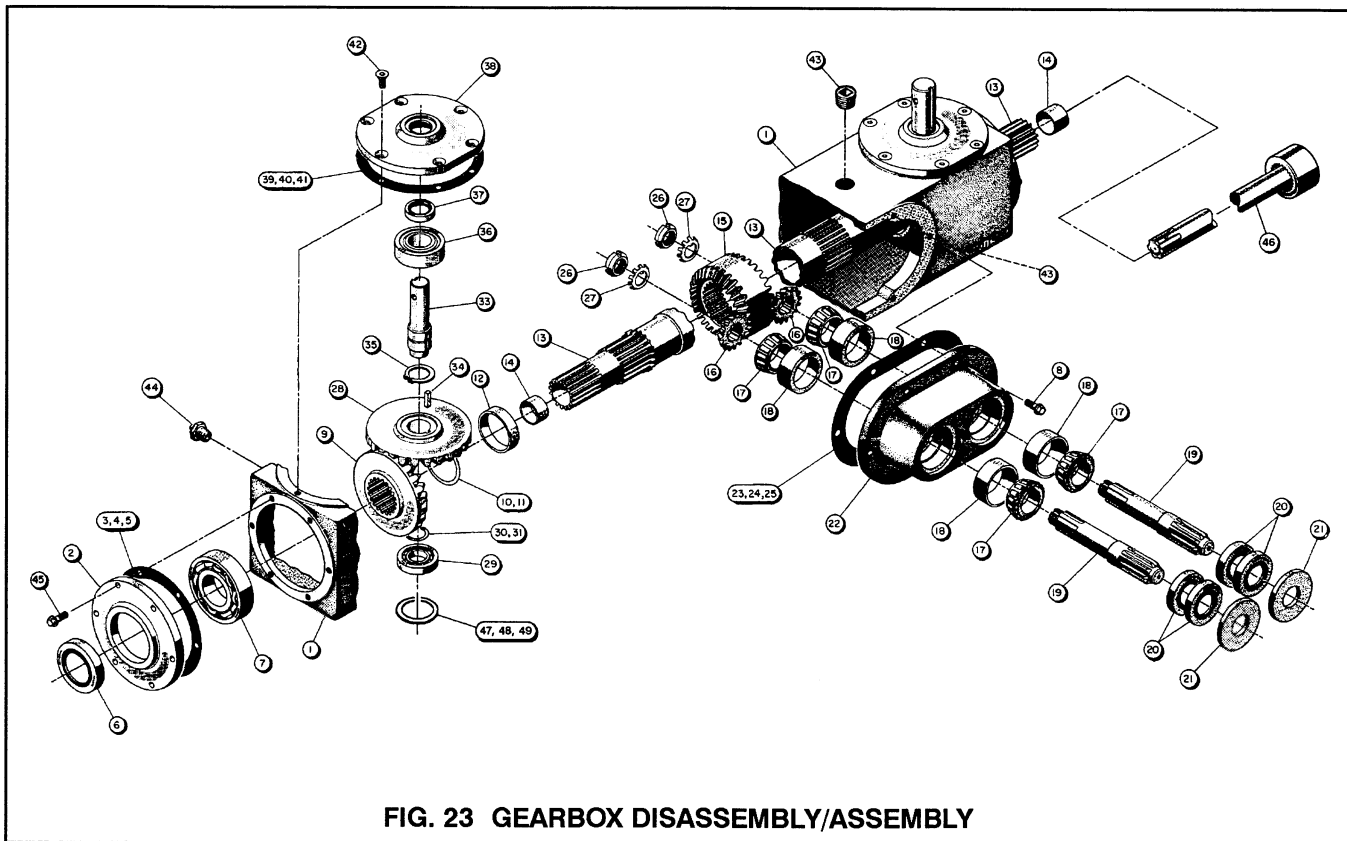
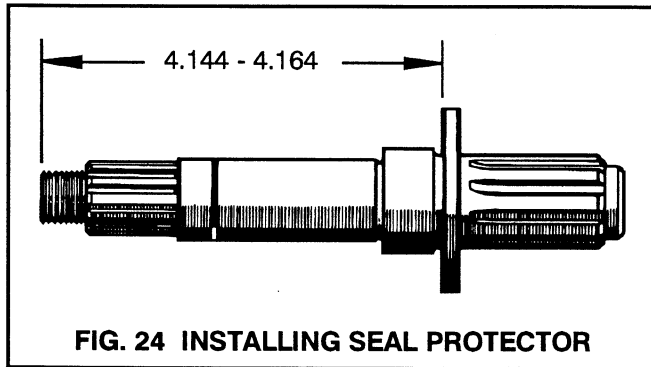


FIG. 23 GEARBOX DISASSEMBLY/ASSEMBLY

install cap/shaft assembly into housing. Shaft end play should be between .010 and .025. Gear lash is checked by pulling up on the shaft and using procedure described in step (2), especially if original parts have been replaced with new parts. When satisfied that proper adjustment has been achieved, apply a light coat of silicone gasket sealant to mating surfaces and tighten countersunk screws.

4. Install four bearing cups (item 18) into both sides of the front cap (item 22). Lubricate two bearing cones (item 17) and set in outer bearing cups. Install double front seals (item 20) in front cap. Each seal must be packed with grease before being tapped into place. This prevents the inner lip spring from popping out, causing premature failure. Both the inner and outer seals should face outward. Make sure the two seals are fully seated into the front cap and against each other. If new knife roll drive shafts (item 19) are being used, it will be necessary to install a seal protector (item 21) on each shaft. The protector is pressed on



the shaft from the outer end to a dimension of 4.144 to 4.164 from the inner (threaded) end of the shaft to the rear surface of the seal protector (see FIG. 10). Carefully insert the shafts through the double seals and bearing cones previously installed in the front cap. Install a pre-lubed bearing cone (item 17), knife roll shaft driven gear (item 16), lockwasher (item 27) and locknut (item 26) on back side of each shaft. Apply "Loctite 609" to the threaded portion of the shaft before installing locknuts. Tighten locknuts until an increased drag (preload) is felt in the bearings. Bend one or more of the tabs on the lockwasher into the notches in the locknut. To test Loctite, allow 24 hours curing time, then check with torque wrench. It should take 30 ft. lbs. to break away the Loctite. With the shafts installed, assemble the front cap to the housing. If you are using the original parts, install the same combination of gasket shims (items 23, 24, 25) under the front cap. If this is a new assembly use a combination of gasket shims under the front cap that results in knife roll drive shaft gear lash of .005 - .010 in the gears which can be measured at a point 1" from the center of the knife roll drive shaft. When proper gear lash has been achieved, apply a light coating of silicone gasket sealant to mating surfaces and tighten machine screws.

5. Turn gearbox main shafts over a few revolutions by hand to be sure there is no binding. Install drain plug in housing and fill gearbox with a good grade of E.P. 90W gear lube. (See lubrication section of this manual).

BE ALERT!



Your Safety Is Involved

ORDERING REPAIR PARTS

The BYRON 103 Harvester is designed and built with top quality agricultural grade components. We recommend that repair/replacement parts for the BYRON 103 Harvester be obtained from one of the BYRON HARVESTER dealer locations shown below. Parts ordered within the continental United States will be shipped via a suitable parcel service if less than 150 lbs. and by common carrier if heavier. Faster service can be provided on request. Arrangements for Canadian and overseas shipment will be made with the customer at the time of order.

BYRON EQUIPMENT CO.
7275 Batavia-Byron Road
Byron, NY 14422-0100

Phone: (716) 548-2665
Fax: (716) 548-2599

BYRON EQUIPMENT CO.
N901 Highway 26 North
Watertown, WI 53098-4316

Phone: (414) 262-8620
Fax: (414) 262-8630

BYRON EQUIPMENT CO.
Great Lakes Office
16582 County Road 40
Goshen, IN 46526

Phone: (219) 642-4313
Fax: (219) 642-4866

BYRON EQUIPMENT CO.
Iowa Office
23645 Diagonal Road
Grundy Center, IA 50638

Phone: (319) 824-5241
Fax: (319) 824-5242

BYRON EQUIPMENT CO.
Washington Office
310 Tippet Lane
Pasco, WA 99301

Phone: (509) 544-0362
Fax: (509) 544-0473

BYRON EQUIPMENT CO.
Oregon Office
16517 N.E. Arney Road
Woodburn, OR 97071-9401

Phone: (503) 981-5860
Fax: (503) 981-4120

LIMITED WARRANTY

Byron Equipment Co. warrants its new machines to be free from defects in material and workmanship, under normal use and service, for a period of one (1) year from the date of delivery to the original purchaser, or five hundred (500) hours of operation whichever occurs first.

Upon satisfactory claim, we will, within a reasonable time, at our option replace or repair defective parts free of charge. Charges for transportation, customs duties or taxes where applicable, installation, correcting defects or making additions will not be allowed, nor will we accept products returned for credit unless the return or correction is authorized by us in writing.

Warranty claims will not be honored if in the Company's opinion such claim was caused by improper use or adjustment of the machine.



THE REMEDY FOR ANY BREACH OF WARRANTY AND THE ONLY REMEDY FOR THE COMPANY'S LIABILITY OF ANY KIND, INCLUDING LIABILITY FOR NEGLIGENCE, WITH RESPECT TO ANY MACHINE, SHALL BE LIMIT TO THE REPAIR OR REPLACEMENT OF ANY DEFECTIVE PARTS AS STATED ABOVE, AND SHALL IN NO EVENT INCLUDE ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EITHER EXPRESSED OR IMPLIED.

WARRANTY PROCEDURE

1. Call or write your nearest BYRON HARVESTER dealer and request the necessary replacement for the defective parts. BYRON will ship the requested parts and bill the customer at current list price. A copy of the BYRON warranty statement and a "RETURN AUTHORIZATION" tag (shown below) will be included with the replacement parts. The billing invoice attached to the shipment will be stamped with the following notice:

PLEASE RETURN THE PARTS IN QUESTION FOR WARRANTY CONSIDERATION ALONG WITH THE ENCLOSED "RETURN AUTHORIZATION" TAG COMPLETED. THANK YOU

	RETURN AUTHORIZATION No. _ _ _ _ _
	<input type="checkbox"/> WARRANTY REQUEST <input type="checkbox"/> OTHER (WRITE COMMENTS ON BACK)
	INVOICE No. _____ DATE _____
	MAKE _____ MODEL _____
	SERIAL No. _____ PART No. _____
	ACRES _____ HOURS _____
	CUSTOMER/ COMPANY NAME _____
	BYRON EQUIPMENT CO. 7275 BATAVIA BYRON RD. BYRON, NEW YORK 14422

2. Upon receipt of the parts and return authorization tag a credit will be issued if the part is found to be covered by warranty. Only the Service Manager is authorized to determine if parts and or labor will be covered under warranty. No other BYRON employee or agent is authorized to issue or even imply warranty to the customer.
3. Credit will be issued to the customer when the Service Manager authorizes it. Remember, as stated in the written warranty, it is the customer's responsibility for any transportation or shipping costs.

RECORD YOUR BYRON 103 SERIAL NUMBER IN THE SPACE PROVIDED BELOW. YOUR DEALER NEEDS THIS NUMBER ALONG WITH PART NUMBER AND PART DESCRIPTION IN ORDER TO GIVE YOU FAST, EFFICIENT SERVICE WHEN YOU NEED PARTS.

BYRON 103 SERIAL NUMBER

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A NOTE ON USING THESE PARTS LISTS

Right or left hand parts are determined by standing in back of the machine facing in the direction of travel. The abbreviation "A.R." in the "USED" column means "AS REQUIRED" - the item is used to service a major assembled component or it is used in numbers which may vary between individual machines usually to obtain a particular adjustment or dimension at assembly. When, in the course of routine repair disassembly a number of shims, flatwashers, etc. are removed, always reassemble the same quantity.

If you have a BYRON part and/or part number and want to know where it is used on your machine refer to the Numerical Parts index in the back of this manual. Find the page where that part is used, then look for the part number on that page. Often a part will be used in more than one location on your machine and since most BYRON HARVESTER parts manuals have the Numerical Parts index, you can determine parts interchangeability between your BYRON HARVESTER machines and avoid overstocking many common parts.

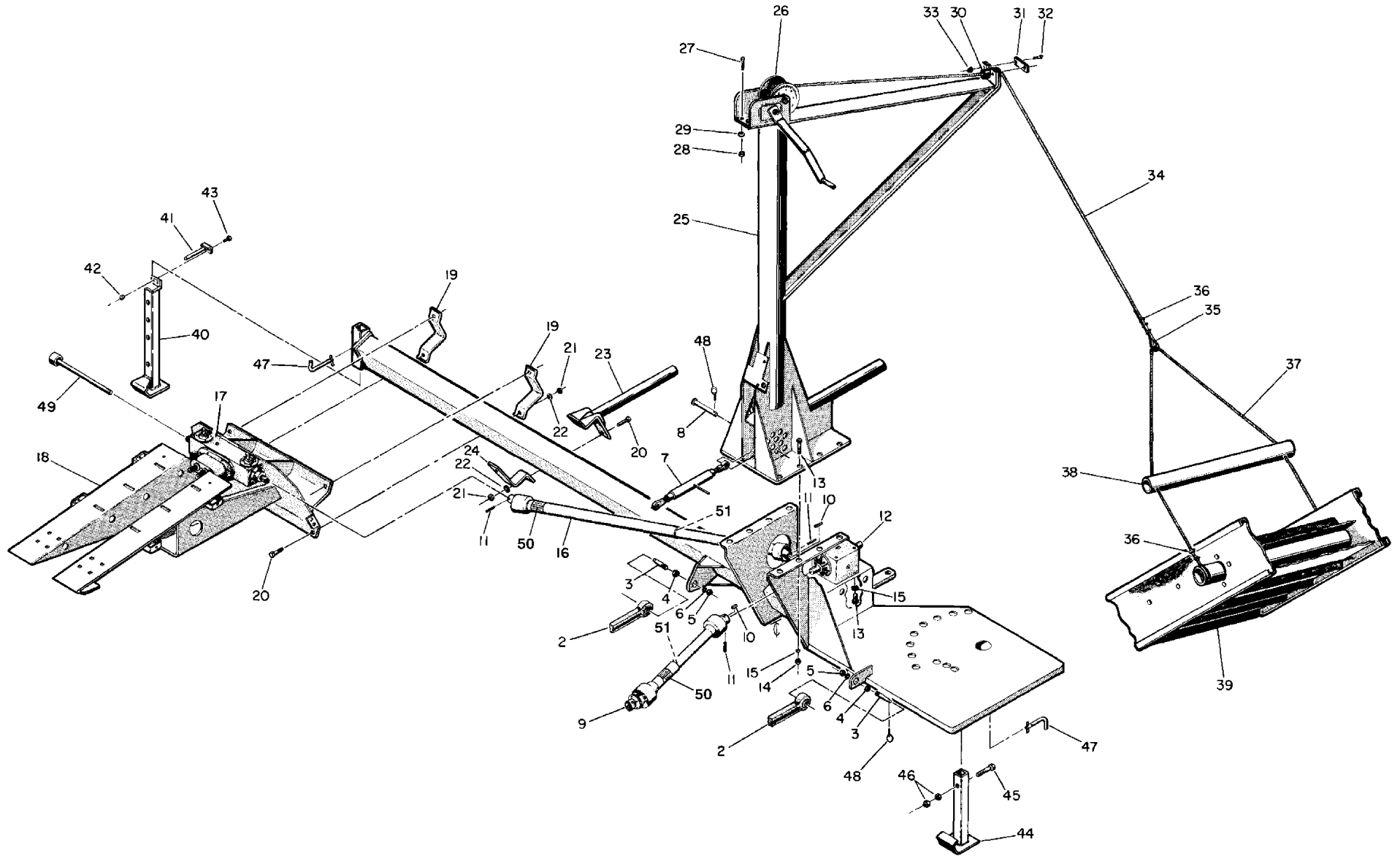
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REPAIR PARTS SECTION

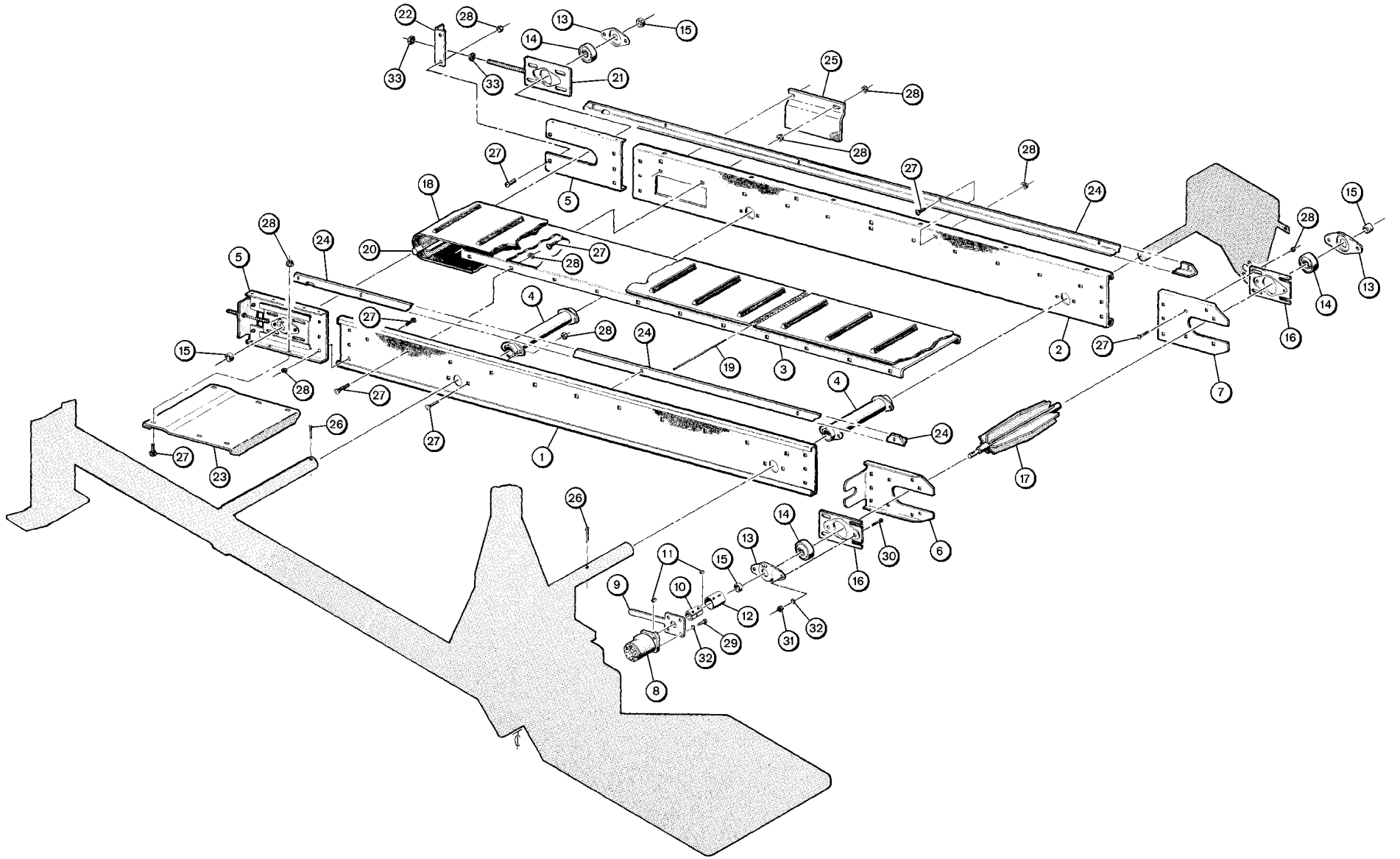
MAIN FRAME, DRIVELINE & RELATED PARTS



MAIN FRAME, DRIVELINE & RELATED PARTS

KEY	P/N	DESCRIPTION	USED
1	10241	Main frame	1
2	----	Tractor bottom link, category II 3-point hitch (not supplied by Byron)	-
3	51292	Draw pin, bottom link to frame (includes items 4, 5 & 6)	2
4	93495	Jam nut, 1-1/8"-10 hex	A.R.
5	93497	Nut, 1-1/8"-10 hex	A.R.
6	93580	Lockwasher, 1-1/8" split spring	A.R.
7	----	Tractor top link, category II 3-point hitch (not supplied by Byron)	-
8	51295	Pin, top link to frame	1
9	51297	P.T.O. shaft assembly, 26" (tractor P.T.O. to gearbox)	1
-	51357	Repair kit (cross & bearings to repair one universal joint)	A.R.
-	93047	Shear bolt, 5/16"-18 x 1" grade 2	A.R.
-	93517	Locknut, 5/16" hex	A.R.
9	51355	P.T.O. shaft assembly (optional with CV joints)	A.R.
10	50067	Square key, 1/4" x 1-1/2"	2
11	93759	Roll pin, 5/16" dia. x 2-1/4" long	3
12	51481	Main drive gearbox (Refer to <i>Main Drive Gearbox</i> illustration on page 28 for parts breakdown)	1
13	93079	Hex head capscrew, 1/2"-13 x 1-1/4" grade 5	12
14	93455	Nut, 1/2"-13 hex	8
15	93580	Lockwasher, 1/2" split spring	12
16	51296	Drive shaft assembly, 48" (main drive gearbox to row gathering unit gearbox)	1
-	51357	Repair kit (cross & bearings to repair one universal joint)	A.R.
17	51482	Gear box assy., row gath. unit/stalk ejector drive (Refer to <i>Row Gathering Unit Gearbox</i> illust.)	1
18	10942	Row frame (Refer to <i>Row Gathering Unit Gearbox, Knife Rolls & Related Parts and Stripper Plates, Gathering Belts & Related Parts</i> illustrations on pages 8 and 10 for additional parts)	1
19	30340	Clamp, row frame to main frame	2
20	93237	Carriage bolt, 5/8"-11 x 2" grade 5	6
21	93457	Nut, 5/8"-11 hex	6
22	93582	Lockwasher, 5/8" split spring	6
23	31374	Support, cross conveyor, lower	1
24	31383	Clamp, support to main frame	1
25	10245	Mast	1
26	51274	Winch assembly (does not include cable)	1
27	93053	Hex head capscrew, 3/8"-16 x 1" grade 5	2
28	93453	Nut, 3/8"-16 hex	2
29	93578	Lockwasher, 3/8" split spring	2
30	51294	Cable guide	1
31	31416	Retainer, cable guide	1
32	93028	Hex head capscrew, 5/16"-18 x 1" grade 5	2
33	93522	Locknut, 5/16"-18 hex serrated flange	2
34	51303	Lift (winch) cable	1
35	31397	Thimble, 5/16" wire rope	1
36	31396	Cable clamp, 5/16"	9
37	51302	Elevator hanger cable	1
38	51301	Elevator hanger tube	1
39	----	Elevator/conveyor assy. (Refer to <i>Elevator/Conveyor</i> illust. on page 6 for parts breakdown)	-
40	31650	Jackstand, R.H.	1
41	31651	Handle, jackstand	1
42	93254	Carriage bolt, 1/4"-20 x 3/4" grade 5	2
43	93520	Locknut, 1/4"-20 hex serrated flange	2
44	31645	Jackstand, L.H.	1
45	93113	Hex head capscrew, 5/8"-11 x 3-3/4" grade 5	1
46	93457	Nut, 5/8"-11 hex	2
47	50533	Pin, jack lock	2
48	93784	Lynch pin, 7/16"	3
49	51400	Drive shaft, row gathering unit gearbox	1
50	90133	Decal, "DANGER, Rotating driveline", etc.	2
51	90134	Decal, "DANGER, Guard missing", etc.	2

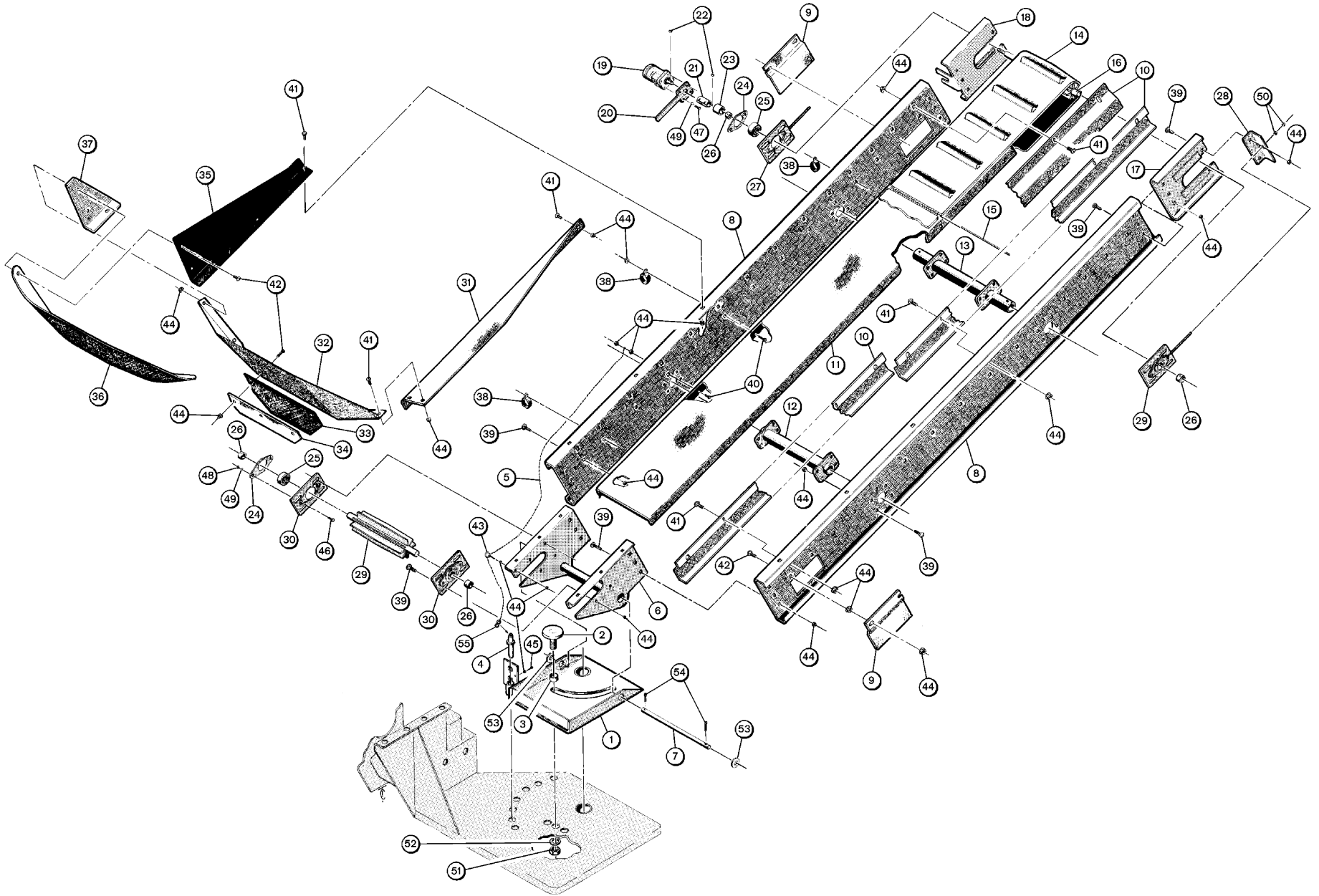
CROSS CONVEYOR



CROSS CONVEYOR

KEY	P/N	DESCRIPTION	USED
1	21280	Conveyor side, front	1
2	21281	Conveyor side, rear	1
3	21283	Conveyor floor	1
4	31346	Torque tube	2
5	21284	Conveyor boot side	2
6	21286	Head section side, front (motor mount side)	1
7	21309	Head section side, rear	1
8	40263	Hydraulic motor, conveyor drive (Refer to <i>Hydraulic System</i> illustration on page 24 for additional parts)	1
9	51255	Motor mount/torque arm	1
10	51287	Drive coupling, includes screws	1
11	93718	Woodruff key, 1/4" x 1" (#808)	2
12	51254	Safety shield, drive coupling	1
13	50087	Bearing housing (flangette) 2-bolt	4
14	50103	Bearing assembly, 1-1/4" bore non-regreaseable (includes lock collar)	4
15	50102	Lock collar, 1-1/4" shaft, eccentric (light duty)	A.R.
16	21276	Bearing plate, conveyor drive (blade type)	2
17	51252	Conveyor drive roll	1
18	51279	Conveyor belt assembly (includes pin)	1
19	51257	Lacing pin, conveyor belt	A.R.
20	51246	Conveyor idler roll (blade type)	1
21	21278	Bearing plate/conveyor belt adjuster	2
22	31345	Adjuster angle	2
23	22173	Skid plate	1
24	22172	Belt seal	2
25	22175	Clean out door	1
26	93694	Cotter pin, 1/4" x 3"	2
27	93163	Carriage bolt, 5/16"-18 x 3/4" grade 5	69
28	93522	Locknut, 5/16"-18 hex serrated flange	79
29	93052	Hex head capscrew, 3/8"-16 x 3/4" grade 5	4
30	93188	Carriage bolt, 3/8"-16 x 3/4" grade 5	8
31	93453	Nut, 3/8"-16 hex	8
32	93578	Lockwasher, 3/8" split spring	12
33	93455	Nut, 1/2"-13 hex	4

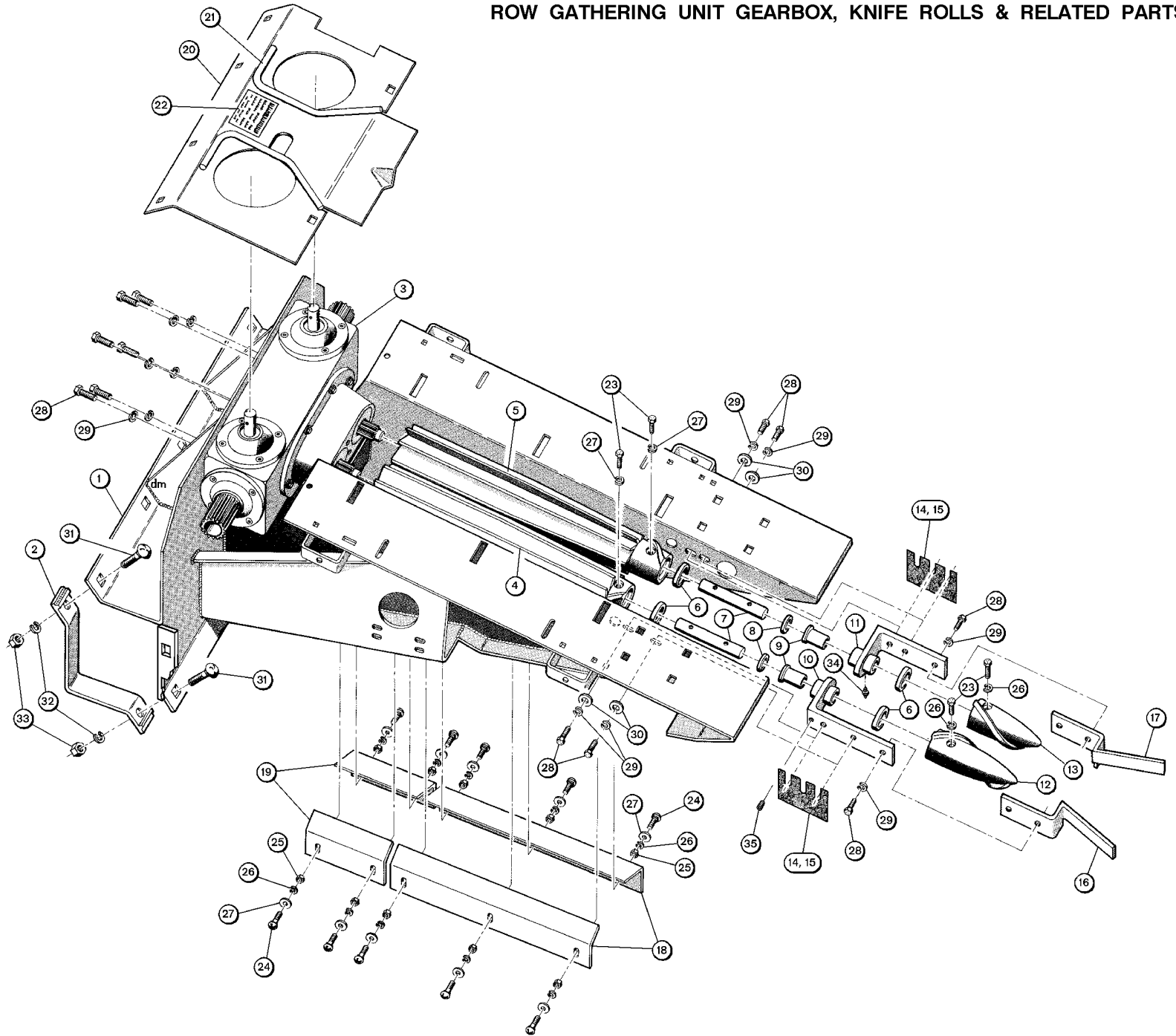
ELEVATOR / CONVEYOR



ELEVATOR / CONVEYOR

KEY	P/N	DESCRIPTION	USED
1	51244	Turntable	1
2	31379	Hold-down, turntable	1
3	31380	Spacer, hold-down	1
4	51299	Turntable position lock pin	1
5	51308	Chain, lock pin release	1
6	31339	Elevator boot	1
7	51300	Elevator pivot shaft	1
8	21269	Elevator side	2
9	22175	Clean out door	2
10	22177	Belt seal	4
11	21270	Elevator floor	1
12	31360	Torque tube, lower	1
13	31358	Torque tube, upper	1
14	51256	Conveyor belt assembly (includes pin)	1
15	51257	Lacing pin, conveyor belt	A.R.
16	51252	Conveyor drive roll	1
17	31343	Head section side, R.H.	1
18	31340	Head section side, L.H. (motor side)	1
19	40263	Hydraulic motor, conveyor drive (Refer to <i>Hydraulic System</i> illust. on page 24 for additional parts)	1
20	51255	Motor mount/torque arm	1
21	51287	Drive coupling (include screws)	1
22	93718	Woodruff key, 1/4" x 1" (#808)	2
23	51254	Safety shield, drive coupling	1
24	50087	Bearing housing (flangette) 2-bolt	4
25	50103	Bearing assembly, 1-1/4" bore non-regreaseable (includes lock collar)	4
26	50102	Lock collar, 1-1/4" bore, eccentric (light duty)	A.R.
27	21278	Bearing plate/conveyor belt adjuster	2
28	31345	Adjuster angle	2
29	51246	Conveyor idler roll	1
30	21274	Bearing plate, idler shaft	2
31	21484	Hopper panel, R.H.	1
32	21483	Hopper panel, rear	1
33	21341	Hopper/conveyor spill flap	1
34	21342	Panel, flap backup	1
35	21485	Hopper panel, L.H. (rubber)	1
36	22171	Hopper extension (rubber)	1
37	21486	Panel, rubber backup, L.H.	1
38	93882	Loom clamp, 1/2" (hose retainer)	3
39	93163	Carriage bolt, 5/16"-18 x 3/4" grade 5	66
40	93164	Carriage bolt, 5/16"-18 x 1" grade 5	4
41	93379	Machine screw, 5/16"-18 x 5/8" truss head, self-locking, grade 5	22
42	93380	Machine screw, 5/16"-18 x 3/4" truss head, self-locking, grade 5	10
43	93391	Eye bolt, 5/16"-18 x 1-1/8" long	1
44	93522	Locknut, 5/16"-18 hex serrated flange, self-locking	121
45	93028	Hex head capscrew, 5/16"-18 x 1" grade 5	1
46	93188	Carriage bolt, 3/8"-16 x 3/4" grade 5	8
47	93052	Hex head capscrew, 3/8"-16 x 3/4" grade 5	4
48	93453	Nut, 3/8"-16 hex	8
49	93578	Lockwasher, 3/8" split spring	12
50	93455	Nut, 1/2"-13 hex	4
51	93458	Nut, 3/4"-10 hex	1
52	93583	Lockwasher, 3/4" standard spring	1
53	93642	Machinery washer, 1" shaft x 10 ga. (wide rim)	2
54	93690	Cotter pin, 1/4" x 2"	2
55	93895	"S" hook, pin release chain to pin	1

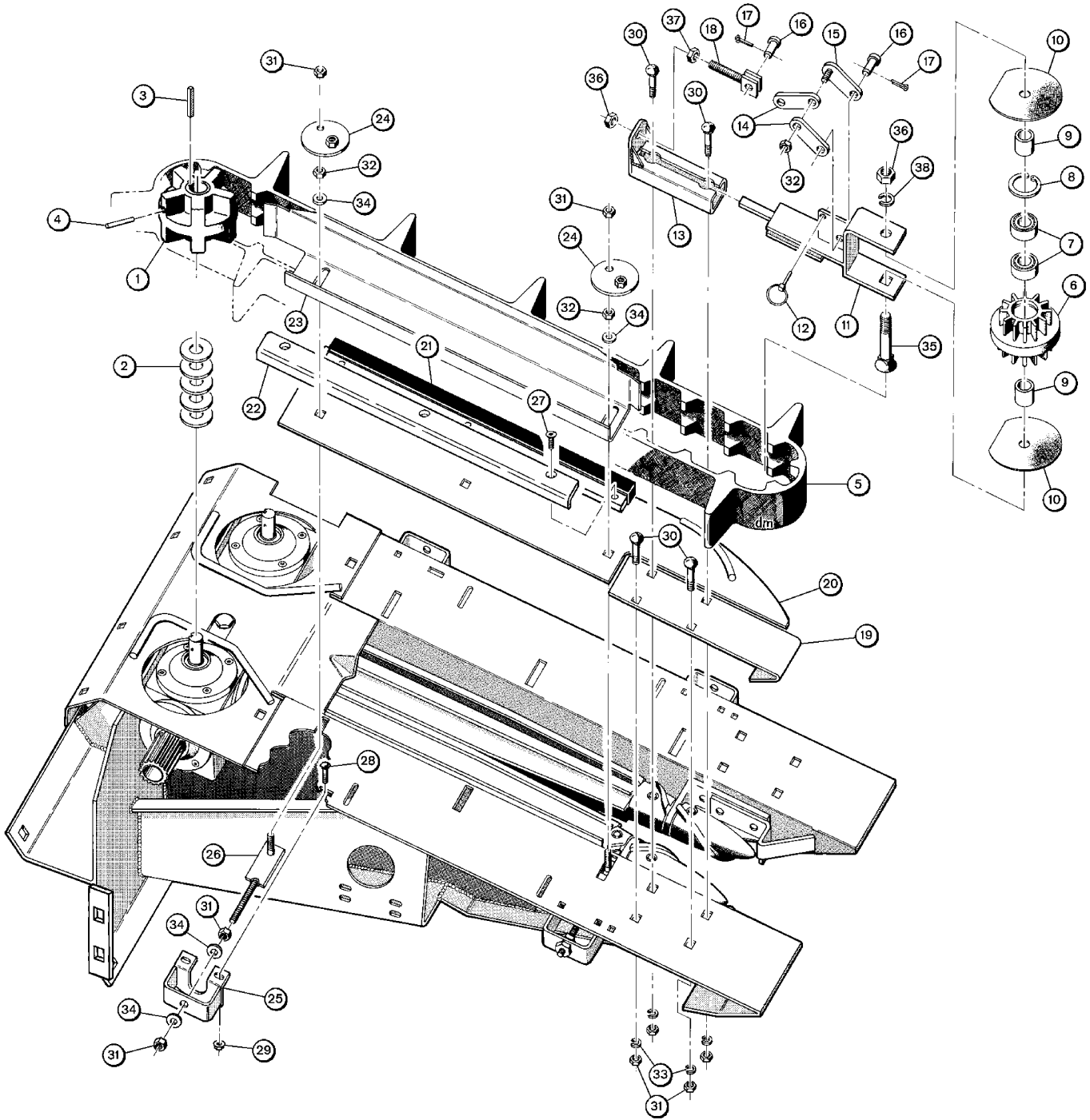
ROW GATHERING UNIT GEARBOX, KNIFE ROLLS & RELATED PARTS



ROW GATHERING UNIT GEARBOX, KNIFE ROLLS & RELATED PARTS

KEY	P/N	DESCRIPTION	USED
1	10942	Row frame	1
2	30340	Clamp, row frame	2
3	51482	Row gathering unit gearbox assembly (Refer to <i>Row Gathering Unit Gearbox</i> illustration on page 26 for parts breakdown)	1
-	51562	Knife roll assembly, R.H. (includes items 4, 6 thru 10, 12, 23, 26, 34 and 35)	1
-	51563	Knife roll assembly, L.H. (includes items 5, 6 thru 9, 11, 13, 23, 26, 34 and 35)	1
4	50502	Knife roll, R.H. (.005 chrome thickness)	1
5	50503	Knife roll, L.H. (.005 chrome thickness)	1
6	50578	Seal, lower knife roll	4
7	50573	Shaft, knife roll lower	2
8	93640	Thrust washer	2
9	50283	Bushing	2
10	30365	Mount, lower knife roll bushing, R.H.	1
-	50550	Mount assembly, lower knife roll bushing, R.H. (includes items 9, 34 and 35 assembled)	A.R.
11	30366	Mount, lower knife roll bushing, L.H.	1
-	50551	Mount assembly, lower knife roll bushing, L.H. (includes items 9, 34 and 35 assembled)	A.R.
12	50432	Nose spiral, R.H. (long)	1
13	50433	Nose spiral, L.H. (short)	1
14	50513	Shim, .062, mount assembly to row frame	A.R.
15	50514	Shim, .125 mount assembly to row frame	A.R.
16	30391	Guard, nose spiral. R.H.	1
17	30392	Guard, nose spiral. L.H.	1
18	32141	Weed knife, lower	2
19	32216	Weed knife, upper (short)	2
19	32142	Weed knife, upper (long) (optional, not shown)	A.R.
20	21379	Gearbox cover (includes item 21)	1
21	33378	Guide, gearbox cover (welded to gearbox cover, but available as a replacement part)	A.R.
22	90125	Decal, "IMPORTANT Fill gearbox" etc.	1
23	93433	Hex head capscrew, 3/8"-16 x 1-1/4" grade 8	4
24	93189	Carriage bolt, 3/8"-16 x 1" grade 5	10
25	93453	Nut, 3/8"-16 hex	10
26	93578	Lockwasher, 3/8" split spring	14
27	93603	Flatwasher, 3/8"	10
28	93078	Hex head capscrew, 1/2"-13 x 1" grade 5	12
29	93580	Lockwasher, 1/2" split spring	12
30	93641	Machinery washer, 1/2" shaft dia. x 14 ga., narrow rim	4
31	93237	Carriage bolt, 5/8"-11 x 2" grade 5	4
32	93457	Nut, 5/8"-11 hex	4
33	93582	Lockwasher, 5/8" split spring	4
34	93802	Grease fitting, 1/4"-28, straight x 45/64"	2
35	94232	Set screw, socket head, 1/4"-28 x 1/4"	2

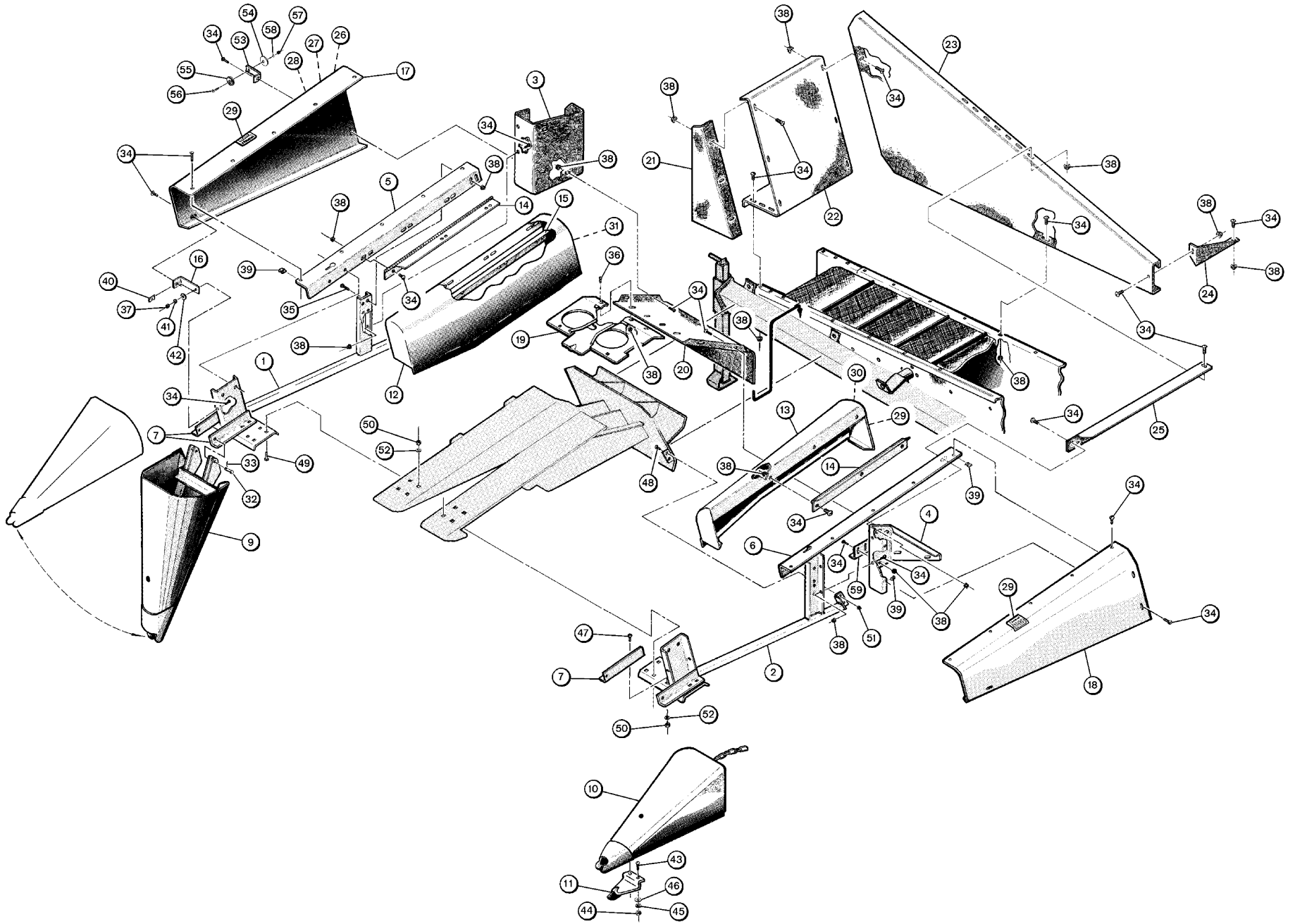
STRIPPER PLATES, GATHERING BELTS & RELATED PARTS



STRIPPER PLATES, GATHERING BELTS & RELATED PARTS

KEY	P/N	DESCRIPTION	USED
1	51074	Sprocket, gathering belt drive	1
2	93626	Thrust washer, nylon, 1"	10
3	50067	Square key, 1/4" x 1-1/2" long	2
4	93758	Roll pin, 5/16" x 2" long	2
5	50812	Gathering belt, Byron standard	2
6	51023	Sprocket, belt idler (includes bearings and retaining ring)	2
7	50823	Bearing, idler sprocket	4
8	50824	Retaining ring	2
9	51284	Spacer	4
10	21563	Idler cover plate	4
11	32280	Idler yoke	2
12	51236	Lynch pin, 1/4"	2
13	32281	Idler mount base	2
14	32289	Link, plain	4
15	32294	Link, stud	2
16	93992	Clevis pin, 1/2" x 1-1/8" long x 5/32" hole	4
17	93663	Cotter pin, 1/8" x 1" long	4
18	32286	Adjuster clevis	2
19	32293	Idler spacer/guard	2
20	21991	Stripper plate, R.H.	1
-	21992	Stripper plate, L.H.	1
21	51413	Cushion, stripper plate, urethane, green	2
21	53902	Cushion, stripper plate, UHMW, black (optional)	2
22	21439	Hold-down, cushion	2
23	32307	Belt guide, R.H., 1994 and older	1
23	35615	Belt guide, R.H., 1995 and newer	1
-	32308	Belt guide, L.H., 1994 and older (not shown)	1
-	36070	Belt guide, L.H., 1995 and newer (not shown)	1
24	35839	Cam, belt guide adjusting	4
25	33307	Bracket, stripper plate adjuster	4
26	32461	Adjuster, stripper plate	4
27	93345	Machine screw, 5/16"-18 x 3/4" hex socket countersunk head	6
28	93189	Carriage bolt, 3/8"-16 x 1" grade 5	8
29	93523	Locknut, 3/8"-16 hex serrated flange	8
30	93215	Carriage bolt, 1/2"-13 x 1-1/2" grade 5	8
31	93455	Nut, 1/2"-13 hex	18
32	93519	Locknut, 1/2"-13 hex (toplock)	5
33	93580	Lockwasher, 1/2" split spring	8
34	93605	Flatwasher, 1/2"	12
35	93319	Plow bolt, 5/8"-11 x 4" grade 5	2
36	93457	Nut, 5/8"-11 hex	4
37	93506	Jam nut, 5/8"-11 hex	2
38	93582	Lockwasher, 5/8" split spring	2

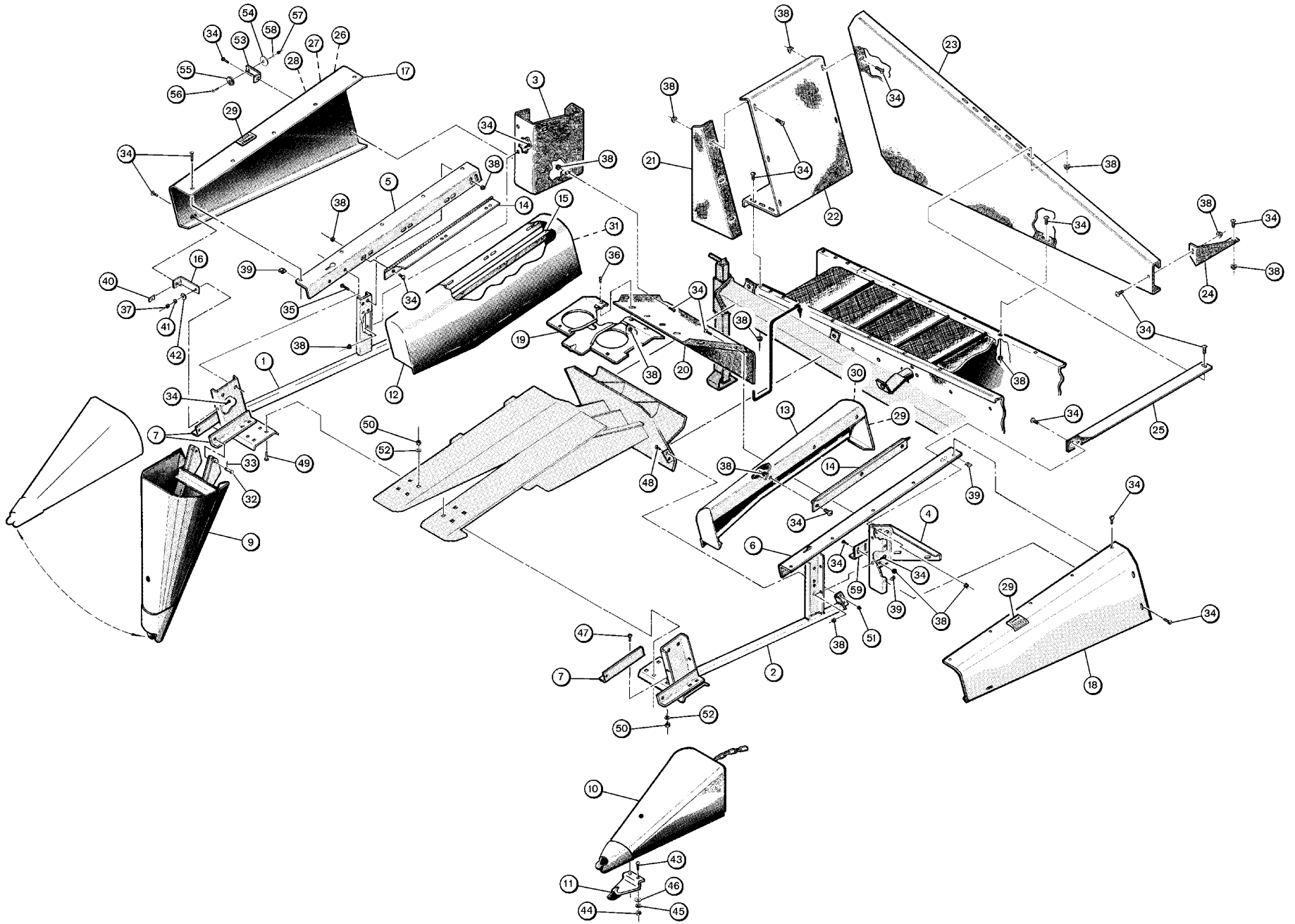
SHEET METAL & RELATED PARTS



SHEET METAL & RELATED PARTS

KEY	P/N	DESCRIPTION	USED
1	10247	Support frame, R.H.	1
2	10248	Support frame, L.H.	1
3	21321	Rear bulkhead, R.H.	1
4	21322	Rear bulkhead, L.H.	1
5	21313	Mount angle, R.H.	1
6	21314	Mount angle, L.H.	1
7	30710	Bracket, nose pivot	4
8	----	(Not assigned)	-
9	20777	Nose assembly, R.H.	1
10	20778	Nose assembly, L.H.	1
11	50540	Shoe, row separator nose (replaceable - not included with nose assembly)	2
12	21329	Row separator half, R.H.	1
13	21330	Row separator half, L.H.	1
14	31400	Hinge row separator	2
15	31670	Stiffener angle, R.H.	1
-	31671	Stiffener angle, L.H. (not shown)	1
16	30719	Brace, outer covers	2
17	21318	Outer cover, R.H.	1
18	21319	Outer cover, L.H.	1
19	21379	Gearbox cover (Refer to <i>Row Gathering Unit Gearbox, Knife rolls & Related Parts</i> illustration on page 8 for additional parts)	1
20	21325	Extension, gearbox cover	1
21	21345	Front panel, conveyor hopper	1
22	21344	End panel, conveyor hopper	1
23	22174	Rear panel, conveyor hopper	1
24	32838	Gusset, support panel	1
25	32842	Cross support, ejector to row frame	1
26	90011	Decal, "BYRON" logo	1
27	90095	Decal, "HARVESTER"	1
28	90126	Decal, "103" model number	1
29	90020	Decal, "DANGER, Knife rolls move faster than", etc.	3
30	90019	Decal, "CAUTION, No step", etc.	1
31	90017	Decal, "SAFETY INSTRUCTIONS, Keep all guards and shields in place", etc.	2
32	93785	Clevis pin, nose pivot, 1/2" x 1-1/2" long	4
33	93672	Cotter pin, 5/32" x 1-1/2" long	4
34	93379	Machine screw, 5/16"-18 x 5/8" truss head, self-locking, grade 5	47
35	93027	Hex head capscrew, 5/16"-18 x 3/4" grade 5	4
36	93380	Machine screw, 5/16"-18 x 3/4" truss head, self-locking, grade 5	4
37	93452	Nut, 5/16"-18 hex	2
38	93522	Locknut, 5/16"-18 hex serrated flange	55
39	93545	Speed nut, 5/16"-18 x .074 - .100 grip range	14
40	93546	Speed nut, 5/16"-18 x .100 - .134 grip range	2
41	93577	Lockwasher, 5/16" split spring	2
42	93602	Flatwasher, 5/16"	2
43	93189	Carriage bolt, 3/8"-16 x 1" grade 5	4
44	93453	Nut, 3/8"-16 hex	4
45	93578	Lockwasher, 3/8" split spring	4
46	93603	Flatwasher, 3/8"	4
47	93214	Carriage bolt, 1/2"-13 x 1" grade 5	4
48	93215	Carriage bolt, 1/2"-13 x 1-1/2" grade 5	4
49	93216	Carriage bolt, 1/2"-13 x 2" grade 5	8
50	93455	Nut, 1/2"-13 hex	12
51	93525	Locknut, 1/2"-13 hex serrated flange	4

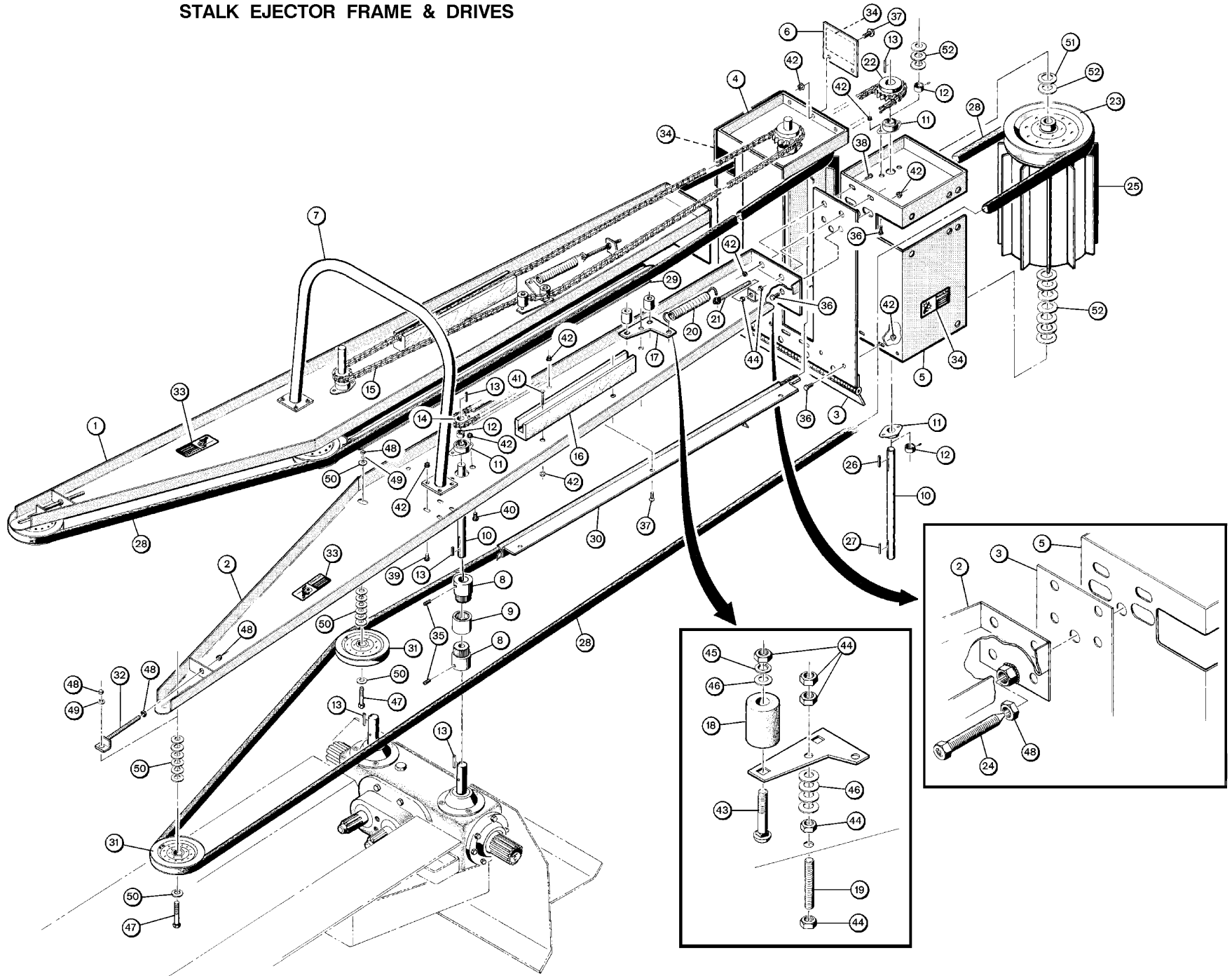
SHEET METAL & RELATED PARTS



SHEET METAL & RELATED PARTS
(continued)

KEY	P/N	DESCRIPTION	USED
52	93580	Lockwasher, 3/8" split spring	12
53	31415	Bracket, reflector mount	1
54	50587	Reflector, red	1
55	50586	Reflector, amber	1
56	93440	Machine screw, 10-24 x 1" round head	1
57	93470	Nut, 10-24 hex	1
58	93593	Lockwasher, #10 split spring	1
59	21323	Cover, drive shaft access	1

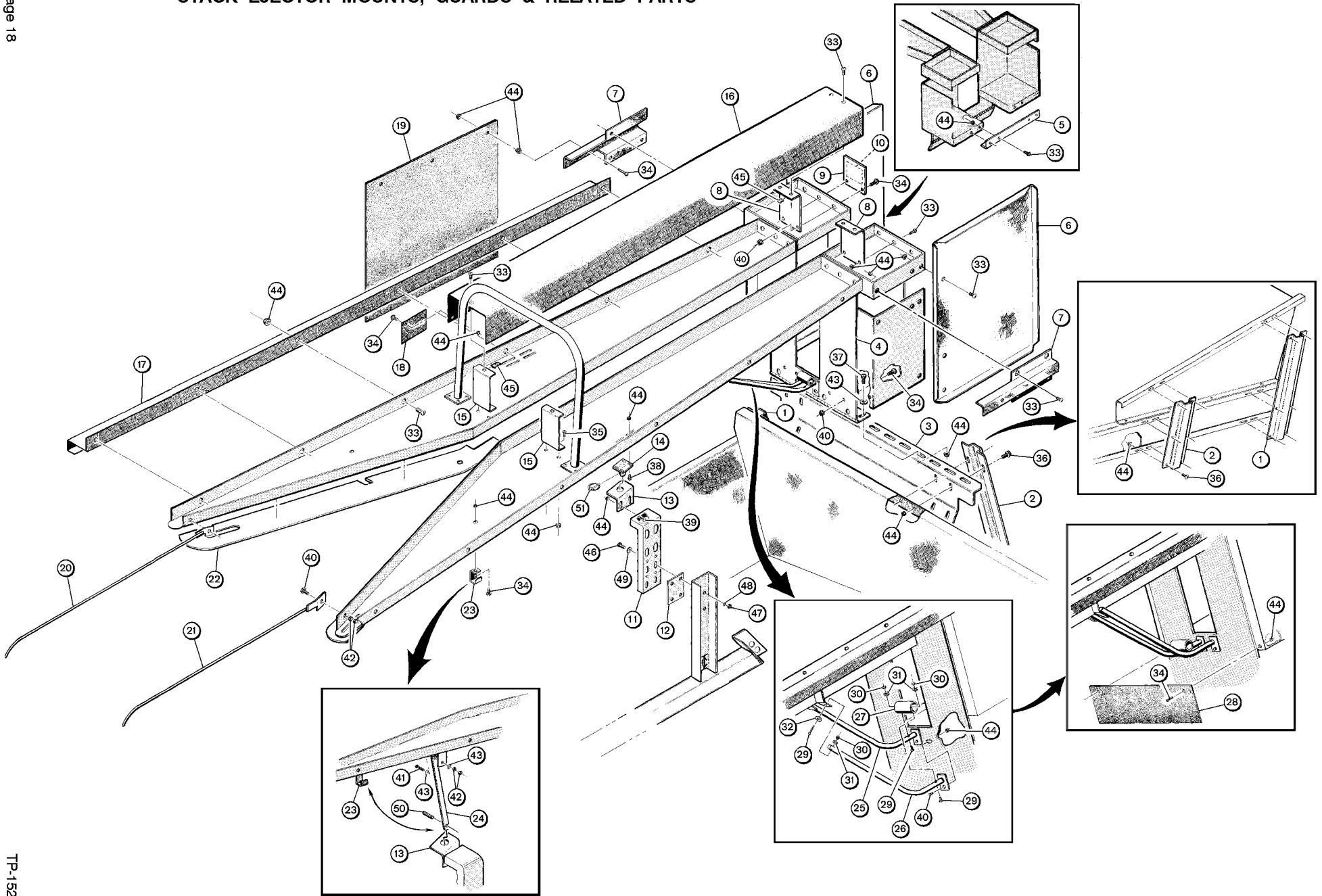
STALK EJECTOR FRAME & DRIVES



STALK EJECTOR FRAME & DRIVES

KEY	P/N	DESCRIPTION	USED
1	10302	Frame, stalk ejector, R.H.	1
2	10303	Frame, stalk ejector, L.H.	1
3	21463	Rear stalk ejector support panel	1
4	21458	Drum mount, R.H.	1
5	21459	Drum mount, L.H.	1
6	21582	Mount panel, decal	1
7	31576	Spreader tube	1
8	51455	Hub, drive coupling (includes set screw)	4
9	51456	Sleeve, drive coupling	2
10	51458	Shaft, stalk ejector drive and drum main	4
11	51421	Bearing, 1" bore non-regreaseable (includes lock collar)	6
12	50135	Lock collar, 1" shaft, eccentric (includes set screw)	A.R.
13	50575	Square key, 1/4" x 1-1/4" long	8
14	50555	Sprocket, stalk ejector drive, 12 tooth, RC #50-1R chain, 1" bore (includes set screw)	2
15	51459	Chain assembly, stalk ejector drive, RC #50-1R x 145 plus 2 offset and 1 connector links (148 total pitches)	2
-	50233	Connector link, RC #50-1R chain (spring clip type)	A.R.
-	50234	Offset link, RC #50-1R chain (cotter pin type)	A.R.
16	51466	Chain slide block (wood)	2
17	31534	Bell crank, chain tension (refer to inset for additional parts)	2
18	50397	Chain guide	4
19	31538	Stud, 3/8"-16 x 2-1/4 (bell crank pivot)	2
20	51417	Spring, chain tension	2
21	31537	Stud, tension adjuster, 3/8"-16 thread	2
22	51437	Sprocket, stalk ejector driven, 22 tooth, RC #50-1R chain	2
23	51428	Pulley, stalk ejector drum, 1 groove, "C" section, 8-1/2" O.D., 1" finished bore	2
24	31621	Pulley scraper, 1/2"-13 x 4-5/8" long, pointed bolt	2
25	51463	Drum, stalk ejector	2
26	50547	Square key, 1/4" x 1-3/4" long	2
27	51487	Square key, 1/4" x 1" long	2
28	51462	Hex belt, stalk gripper, "C" 162	2
29	31570	Belt guide, R.H.	1
30	31571	Belt guide, L.H.	1
31	51429	Pulley, belt idler, 1 groove, "C" section, 7-5/16" O.D., 1/2" bore	4
32	31533	Belt tensioner	2
33	90163	Decal, "DANGER, Keep hands away from moving belts", etc.	2
34	90162	Decal, "DANGER, Revolving stalk ejectors, keep hands away", etc.	3
35	93350	Set screw, 1/4"-20 x 1/4" long socket head	4
36	93026	Hex head capscrew, 5/16"-18 x 1/2" grade 5	16
37	93379	Machine screw, 5/16"-18 x 5/8" truss head self-locking, grade 5	8
38	93027	Hex head capscrew, 5/16"-18 x 3/4" grade 5	8
39	93384	Hex head machine screw, 5/16"-18 x 1" serrated flange, self-locking, grade 5	8
40	93164	Carriage bolt, 5/16"-18 x 1" grade 5	4
41	93167	Carriage bolt, 5/16"-18 x 1-3/4" grade 5	4
42	93522	Locknut, 5/16"-18 hex serrated flange	50
43	93197	Carriage bolt, 3/8"-16 x 3" grade 5	4
44	93453	Nut, 3/8"-16 hex	4
45	93578	Lockwasher, 3/8" split spring	4
46	93603	Flatwasher, 3/8"	12
47	93084	Hex head capscrew, 1/2"-13 x 2-1/2" grade 5	4
48	93455	Nut, 1/2"-13 hex	8
49	93580	Lockwasher, 1/2" split spring	4
50	93605	Flatwasher, 1/2"	30
51	93644	Machinery washer, 1" shaft, 14 ga., thin rim	2
52	93642	Machinery washer, 1" shaft, 10 ga., thin rim	26

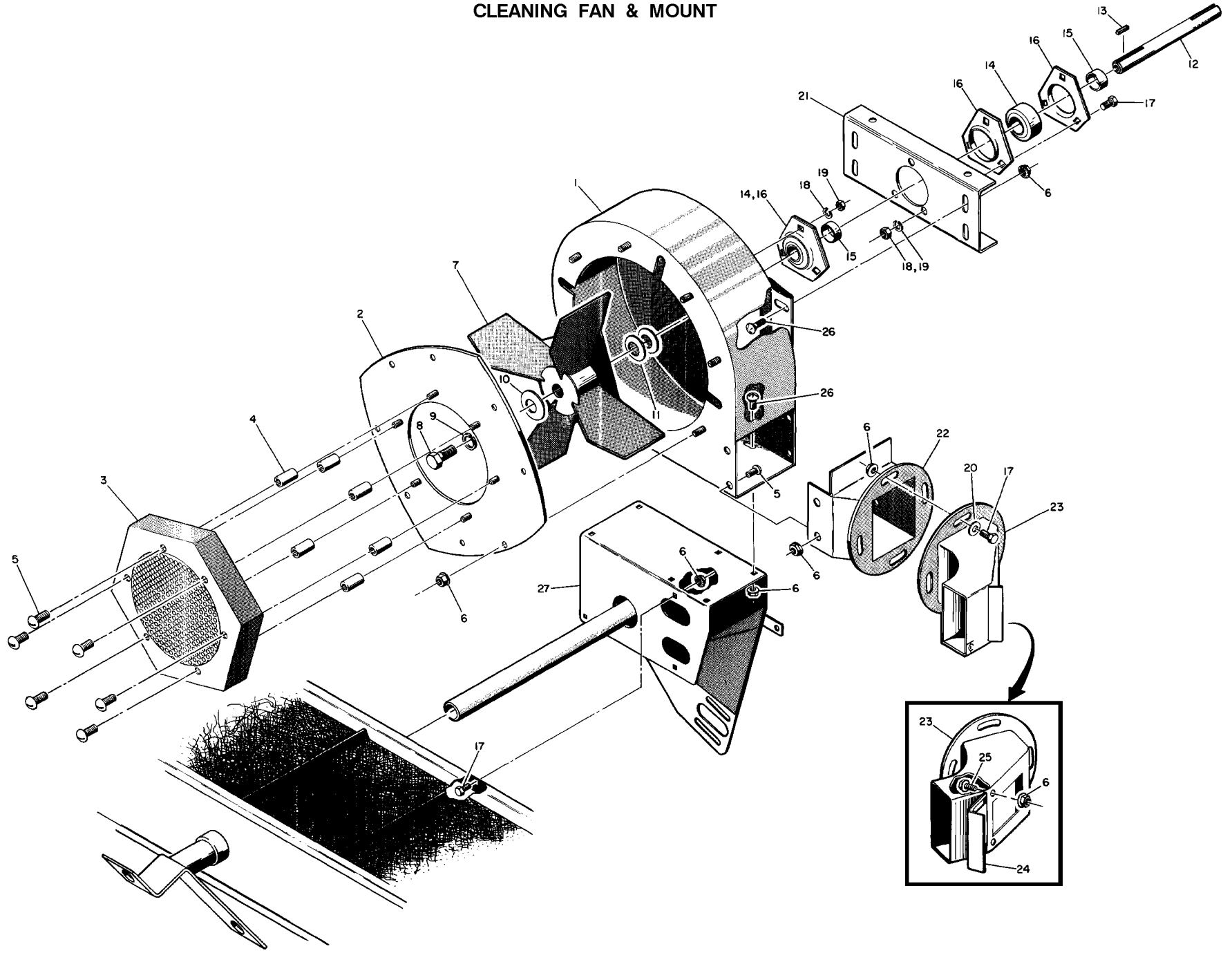
STACK EJECTOR MOUNTS, GUARDS & RELATED PARTS



STALK EJECTOR MOUNTS, GUARDS & RELATED PARTS

KEY	P/N	DESCRIPTION	USED
1	32835	Vertical support channel, long	1
2	32836	Vertical support channel, short	1
3	32837	Stalk ejector support extension	1
4	21463	Stalk ejector support panel, rear	1
5	31624	Brace, drum mount rear	1
6	21544	Ejector drum shield	2
7	21543	Guard, ejector drum, L.H.	1
-	21542	Guard, ejector drum, R.H.	1
8	21453	Chain guard mount, upper	2
9	21582	Mount panel, decal	1
10	90162	Decal, "DANGER, Revolving stalk ejectors, keep hands away", etc.	1
11	31531	Stalk ejector support, front	2
12	31535	Spacer, front support to row frame	2
13	31547	Mount angle, stalk ejector front, L.H.	1
-	31546	Mount angle, stalk ejector front, R.H. (not shown)	1
14	31542	Locator pin, front	2
15	21452	Chain guard mount, lower	2
16	21449	Chain guard, stalk ejector	2
17	21513	Belt guard, stalk ejector, R.H.	1
-	21514	Belt guard, stalk ejector, L.H. (not shown)	1
18	21460	Filler plate, chain guard	2
19	21462	Side flap, stalk ejector	2
20	31590	Stalk guide rod, R.H.	1
21	31591	Stalk guide rod, L.H.	1
22	21540	Leaf deflector	2
23	31586	Hanger bracket, prop rod	2
24	31585	Prop rod, stalk ejector frame	2
25	31582	Stripper bar, R.H.	1
26	31583	Stripper bar, L.H.	1
27	31584	Ear stripper tube	1
28	21473	Flap, ear cushion	1
29	93473	Machine screw, 1/4"-20 x 1-1/4" hex socket button head, grade 5	4
30	93451	Nut, 1/4"-20 hex	4
31	93576	Lockwasher, 1/4" split spring	4
32	93601	Flatwasher, 1/4"	2
33	93378	Machine screw, 5/16"-18 x 1/2" truss head, self-locking, grade 5	44
34	93379	Machine screw, 5/16"-18 x 5/8" truss head, self-locking, grade 5	17
35	93380	Machine screw, 5/16"-18 x 3/4" truss head, self-locking, grade 5	4
36	94026	Hex head machine screw, 5/16"-18 x 5/8" serrated flange, self-locking, grade 5	12
37	93027	Hex head capscrew, 5/16"-18 x 3/4" grade 5	4
38	93163	Carriage bolt, 5/16"-18 x 3/4" grade 5	8
39	93164	Carriage bolt, 5/16"-18 x 1" grade 5	4
40	93028	Hex head capscrew, 5/16"-18 x 1" grade 5	4
41	93030	Hex head capscrew, 5/16"-18 x 1-1/2" grade 5	2
42	93517	Locknut, 5/16"-18 hex (stover type, 2-way)	8
43	93602	Flatwasher, 5/16"	8
44	93522	Locknut, 5/16"-18 hex serrated flange	108
45	93545	Speed nut, 5/16"-18 x .074 - .100 grip range	6
46	93053	Hex head capscrew, 3/8"-16 x 1" grade 5	8
47	93453	Nut, 3/8"-16 hex	8
48	93578	Lockwasher, 3/8" split spring	8
49	93603	Flatwasher, 3/8"	8
50	93775	Roll pin, 3/8" dia. x 2" long	2
51	51236	Lynch pin, 1/4" dia.	2

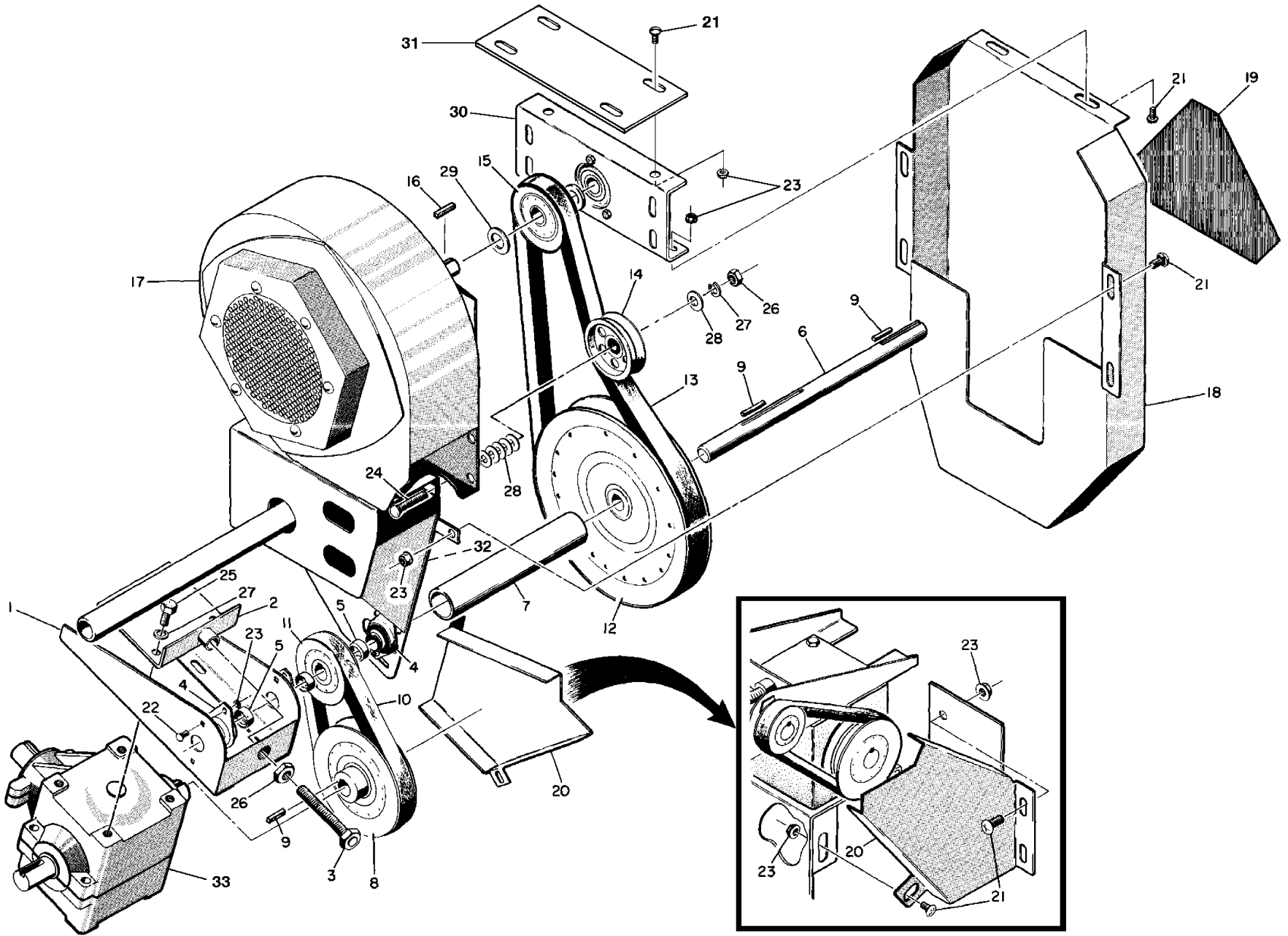
CLEANING FAN & MOUNT



CLEANING FAN & MOUNT

KEY	P/N	DESCRIPTION	USED
-	60060	Cleaning unit fan assembly (includes items 1 - 26)	A.R.
1	31596	Fan housing	1
2	21507	Cover plate	1
3	21478	Intake guard	1
4	93532	Stand off nut, 5/16"-18 x 1-11/32" long	6
5	93379	Machine screw, 5/16"-18 x 5/8" truss head, self-locking, grade 5	10
6	93522	Locknut, 5/16"-18 hex serrated flange	30
7	51415	Fan	1
8	93070	Hex head capscrew, 3/8"-24 x 1-1/4" grade 5	1
9	93578	Lockwasher, 3/8" split spring	1
10	93625	Washer, special, 3/8" x 2-1/8" O.D. x 12 ga.	1
11	93642	Machinery washer, 1" shaft dia. x 10 ga., narrow rim	2
12	51497	Shaft, fan	1
13	50418	Square key, 1/4" x 2" long	1
14	50013	Bearing, 1" bore, non-regreaseable (includes lock collar)	2
15	50135	Lock collar, 1" shaft, eccentric (includes set screw)	A.R.
16	50104	Bearing housing (flangette) 1" bore, 3-bolt	4
17	93027	Hex head capscrew, 5/16"-18 x 3/4" grade 5	13
18	93452	Nut, 5/16"-18 hex	6
19	93577	Lockwasher, 5/16" split spring	6
20	93602	Flatwasher, 5/16"	4
21	31594	Bearing mount channel	1
22	31604	Transition	1
23	31605	Nozzle, fan	1
24	21503	Air bleed gate	1
25	94026	Hex head machine screw, 5/16"-18 x 5/8" serrated flange, self-locking, grade 5	2
26	93163	Carriage bolt, 5/16"-18 x 3/4" grade 5	8
27	31600	Fan mount	1

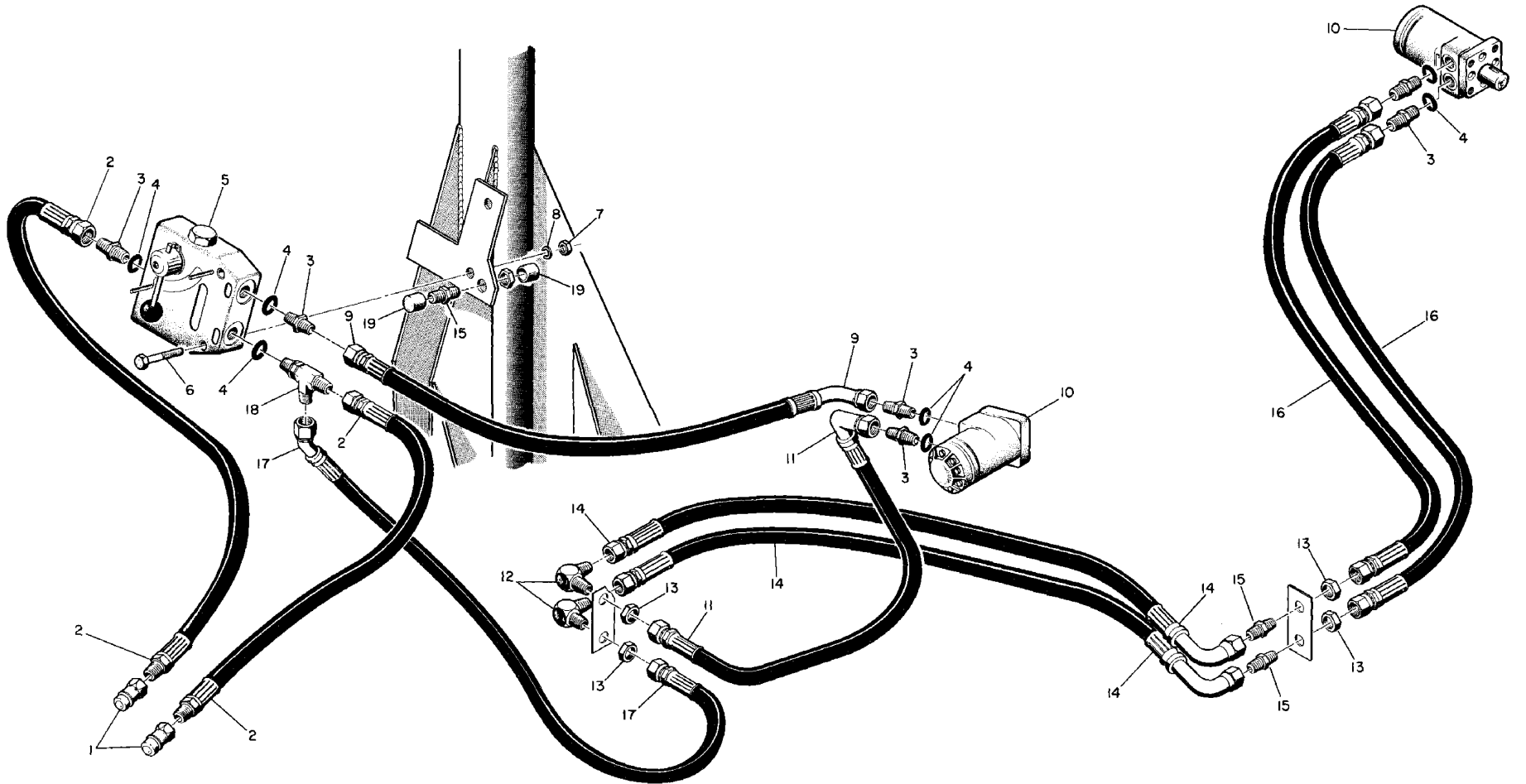
FAN DRIVES & GUARDS



FAN DRIVES & GUARDS

KEY	P/N	DESCRIPTION	USED
1	31615	Jackshaft mount	1
2	31617	Anchor plate	1
3	31622	Stud, belt tension adjuster	1
4	51421	Bearing assembly, 1" bore, 2-bolt flange (includes lock collar)	3
5	50135	Lock collar, 1" dia. shaft, eccentric	A.R.
6	51498	Jackshaft, fan drive	1
7	51529	Shaft guard, 2" PVC, 12-1/2" long	1
8	51504	Pulley, 1 groove, "B" section, 7" O.D., 1-1/4" finished bore, jackshaft drive	1
9	50575	Square key, 1/4" x 1-1/4" long	3
10	51502	V-belt, BX 32, jackshaft drive	1
11	51505	Pulley, 1 groove, "B" section, 4" O.D., 1" finished bore, jackshaft driven	1
12	51503	Pulley, 1 groove, "B" section, 12" O.D., 1" finished bore, fan drive from jackshaft	1
13	51501	V-belt, BX 65, fan drive	1
14	50086	Idler pulley, 4" dia. x 1/2" bore	1
15	51505	Pulley, 1 groove, "B" section, 4" O.D., 1" finished bore, fan driven	1
16	50575	Square key, 1/4" x 1-1/4" long	1
17	----	Fan and fan mount assembly (Refer to <i>Cleaning Fan & Mount</i> illustration on page 20 for parts breakdown)	-
18	21496	Belt guard, upper	1
19	90080	Decal, SMV sign	1
20	21506	Belt guard, lower	1
21	93379	Machine screw, 5/16"-18 x 5/8" truss head, self-locking, grade 5	9
22	93163	Carriage bolt, 5/16"-18 x 3/4" grade 5	4
23	93522	Locknut, 5/16"-18 hex serrated flange	13
24	93255	Carriage bolt, 1/2"-13 x 3-1/4" grade 5	1
25	93079	Hex head capscrew, 1/2"-13 x 1-1/4" grade 5	4
26	93455	Nut, 1/2"-13 hex	2
27	93580	Lockwasher, 1/2" split spring	5
28	93605	Flatwasher, 1/2"	A.R.
29	93617	Machinery washer, 1" dia. shaft x 14 ga., thin rim	A.R.
30	31594	Bearing mount channel	1
31	22042	Cover	1
32	90017	Decal, "SAFETY INSTRUCTIONS, Keep all guards and shields in place", etc.	1
33	----	Main drive gear box (Refer to <i>Main Drive Gearbox</i> illustration on page 28 for parts breakdown)	-

HYDRAULIC SYSTEM

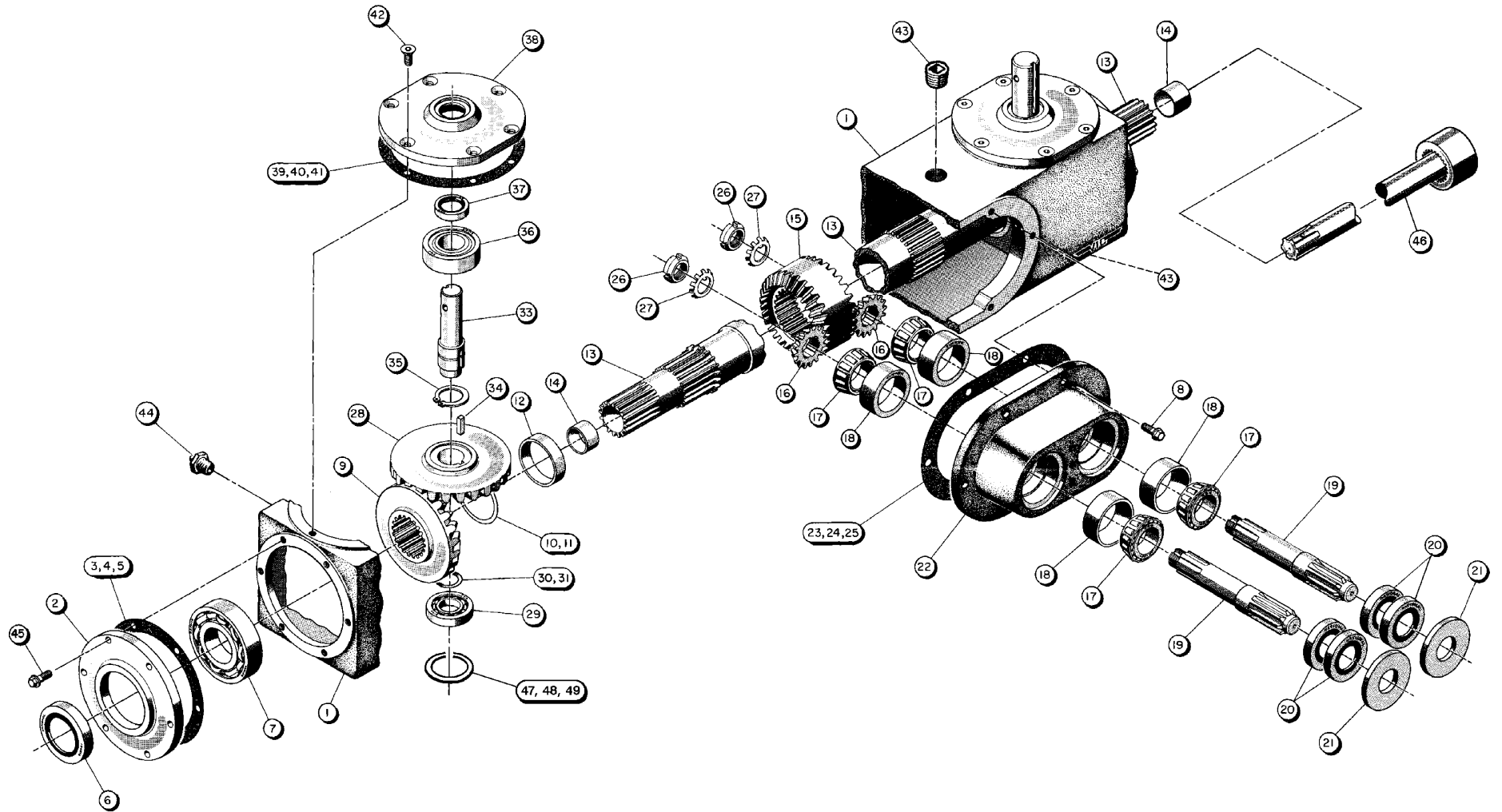


HYDRAULIC SYSTEM

KEY	P/N	DESCRIPTION	USED
1	40070	Quick coupler, male half	2
2	41265	Hose assembly, pressure from and return to tractor, -10 JIC straight female swivel to 1/2" NPT straight female swivel, 40" long	2
3	45319	Straight adapter, -10 SAE "O" ring to -10 JIC solid male, includes "O" ring	6
4	45879	"O" ring, -10	A.R.
5	40476	Flow divider valve	1
6	93009	Hex head capscrew, 1/4"-20 x 2-1/2" grade 5	2
7	93451	Nut, 1/4"-20 hex	2
8	93576	Lockwasher, 1/4" split spring	2
9	41404	Hose assembly, pressure from flow divider valve to cross conveyor drive motor, -10 JIC straight female swivel to -10 JIC 90° female swivel, 22" long	1
10	40263	Hydraulic motor, cross conveyor and elevator drive	2
-	41209	Seal kit for Char-Lynn H-9 series motor	A.R.
-	41286	Replacement flange for Char-Lynn H-9 series motor	A.R.
11	41405	Hose assembly, pressure from cross conveyor drive motor to frame bulkhead, -10 JIC straight female swivel to -10 JIC 90° female swivel, 35" long	1
12	45165	90° bulkhead elbow, -10 JIC (includes jam nut)	2
13	45980	Jam nut, -10	A.R.
14	41123	Hose assembly, pressure and return, intermediate, -10 JIC straight female swivel to -10 JIC 90° female swivel, 46" long	2
15	45139	Bulkhead union, -10 JIC (includes jam nut)	3
16	41270	Hose assembly, pressure and return, elevator drive motor, -10 JIC straight female swivel both ends, 139" long	2
-	41209	Seal kit for Char-Lynn H-9 series motor	A.R.
-	41286	Replacement flange for Char-Lynn H-9 series motor	A.R.
17	41406	Hose assembly, return from elevator to flow divider valve, -10 JIC straight female swivel to -10 JIC 45° female swivel, 50" long	1
18	45422	Run tee, -10 SAE "O" ring to -10 JIC (includes "O" ring)	1
19	45043	Cap nut, -10 JIC	2

NOTE: One bulkhead union (P/N 45139) is shipped loose in the hardware box. This bulkhead union is installed in the position shown only when harvester is being used on a John Deere tractor. In this case two JIC caps (P/N 45043), also found in the hardware box, are used to cap off the tee (item 20) in the return port of the flow divider valve. (Refer to set-up instructions section of this manual).

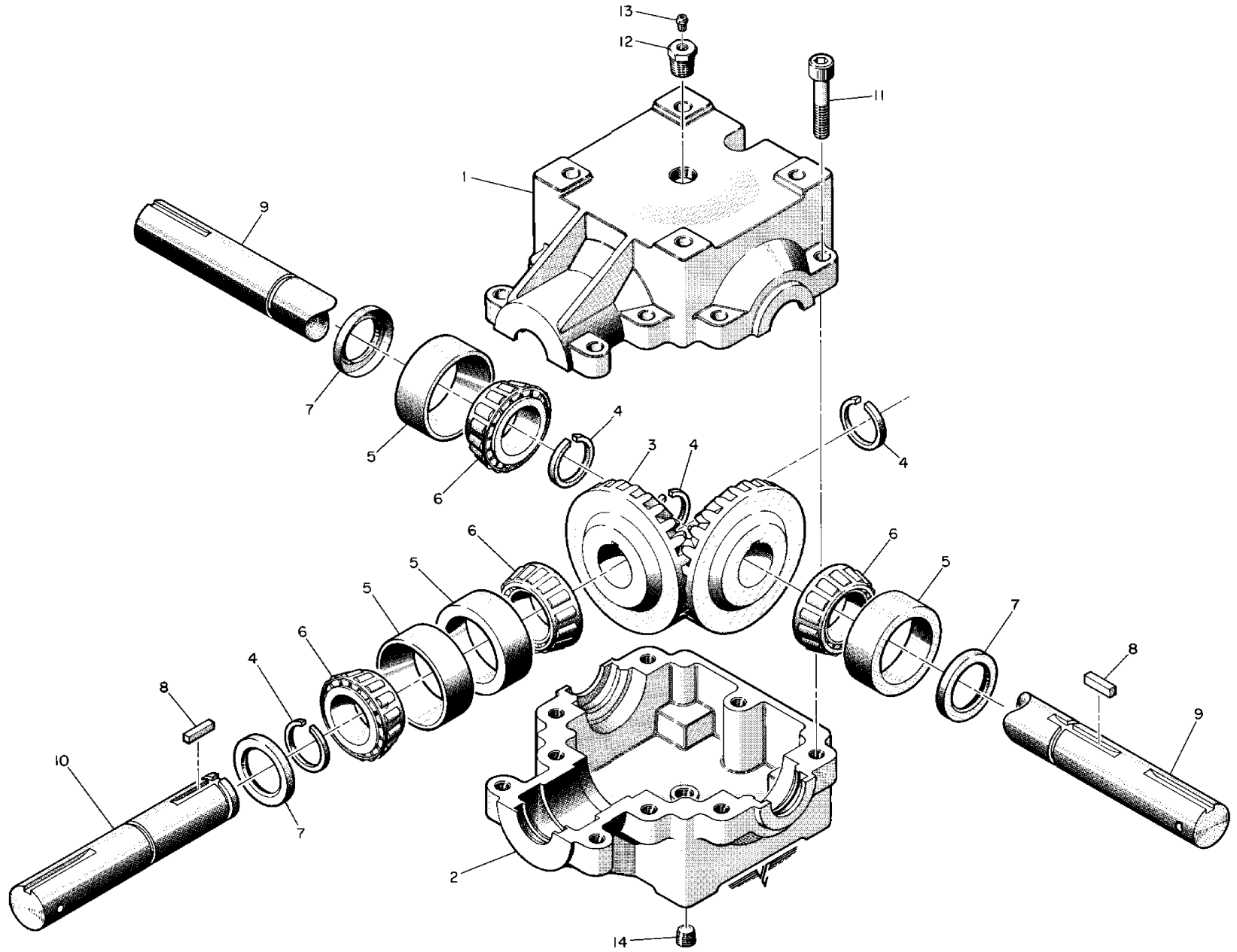
ROW GATHERING UNIT GEARBOX



ROW GATHERING UNIT GEARBOX

KEY	P/N	DESCRIPTION	USED
-	51482	Row gathering unit gearbox assembly (includes items 1 thru 45) (This gearbox is equipped with the long gathering belt drive shafts to drive the stalk ejector)	A.R.
1	51175	Housing	1
2	51176	End cap	2
3	51181	Gasket shim, .015" thick	A.R.
4	51182	Gasket shim, .005" thick	A.R.
5	51183	Gasket shim, .003" thick	A.R.
6	51178	Seal, main shaft	2
7	51177	Ball bearing, main shaft	2
8	93384	Machine screw, 5/16"-18 x 1" hex washer head, self-locking	6
9	51179	Bevel gear, 17 tooth, main shaft	2
10	51203	Shim, bevel gear spacer, .010" thick	A.R.
11	51204	Shim, bevel gear spacer, .005" thick	A.R.
12	51195	Spacer, main shaft bevel gear	2
13	51180	Main shaft, hollow thru bore	1
14	50932	Bushing, clutch shaft	2
15	51199	Bevel gear, double faced 36 tooth, knife roll drive	1
16	51184	Bevel gear, 16 tooth knife roll shafts driven	2
17	50157	Bearing cone, knife roll drive shaft	4
18	50158	Bearing cup, knife roll drive shaft	4
19	51283	Shaft, knife roll drive	2
20	51282	Seal, knife roll drive	4
21	50473	Seal protector	2
22	51187	Front cap	1
-	51843	Front cap assembly (includes items 16 thru 27)	A.R.
23	50486	Gasket shim, .015" thick	A.R.
24	50487	Gasket shim, .005" thick	A.R.
25	50488	Gasket shim, .003" thick	A.R.
26	51280	Locknut	2
27	51281	Lock ring	2
28	51189	Bevel gear, 23 tooth, belt drive shaft	2
29	51188	Ball bearing, belt drive shaft inner	2
30	52055	Shim, ball bearing, .005" thick	A.R.
31	52052	Shim, ball bearing, .010" thick	A.R.
32	----	<i>(Not assigned)</i>	-
33	51431	Shaft, gathering belt/stalk ejector drive	2
34	51190	Square key, gear to shaft	2
35	51193	Retaining ring, belt drive shaft	2
36	51191	Ball bearing, sealed, belt drive shaft	2
37	50475	Seal, belt drive shaft	2
38	51194	Top cap	2
39	51196	Gasket shim, .015" thick	A.R.
40	51197	Gasket shim, .005" thick	A.R.
41	51198	Gasket shim, .003" thick	A.R.
42	93345	Machine screw, 5/16"-18 x 3/4" hex socket countersunk head	12
43	40751	Plug, fill and drain, 1/2" NPT square socket	2
44	40139	Breather, 5 psi	1
45	93382	Machine screw, 5/16"-18 x 7/8" hex serrated flange, self-locking, grade 5	12
46	51400	Drive shaft, spline adapter	1
47	51200	Shim, ball bearing, .015 thick	A.R.
48	51201	Shim, ball bearing, .005 thick	A.R.
49	51202	Shim, ball bearing, .003 thick	A.R.

MAIN DRIVE GEARBOX



MAIN DRIVE GEARBOX

KEY	P/N	DESCRIPTION	USED
-	51481	Gearbox assembly (includes items 1 thru 14)	A.R.
1	51556	Gearbox housing half, top (thru bolt holes)	1
2	51557	Gearbox housing half, bottom (tapped bolt holes)	1
3	51380	Bevel gear	2
4	51381	Retaining ring	4
5	51382	Bearing cup	4
6	51383	Bearing cone	4
7	51384	Seal	3
8	51385	Key	2
9	51555	Shaft, input and fan drive	1
10	51387	Shaft, row gathering unit drive	1
11	93349	Machine screw, 3/8"-16 x 2-1/4" hex socket head, grade 8	9
12	40140	Reducer bushing, 1/2" to 1/8" NPT hex	1
13	41301	Pressure relief, 1/8" NPT	1
14	40751	Plug, 1/2" NPT hex socket	1

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