Red Giant Grain Stir-Ator

Model 176

Owner's Manual

PNEG-1358

Date: 06-15-11

BY THE

GSI GROUP

PNEG-1358

All information, illustrations, photos and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

Contents

Table of Contents

Safety Guidelines

This manual contains information that is important for you, the owner/operator, to know and understand. This information relates to protecting ***personal safety*** and ***preventing equipment problems.*** It is the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of these safety guidelines. To help you recognize this information, we use the symbols that are defined below. Please read the manual and pay attention to these sections. Failure to read this manual and its safety instructions is a misuse of the equipment and may lead to serious injury or death.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE is used to address practices not related to personal injury.

Safety Instructions

Our foremost concern is your safety and the safety of others associated with this equipment. We want to keep you as a customer. This manual is to help you understand safe operating procedures and some problems which may be encountered by the operator and other personnel.

As owner and/or operator, it is your responsibility to know what requirements, hazards and precautions exist, and to inform all personnel associated with the equipment or in the area. Safety precautions may be required from the personnel. Avoid any alterations to the equipment. Such alterations may produce a very dangerous situation where SERIOUS INJURY or DEATH may occur.

This equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.

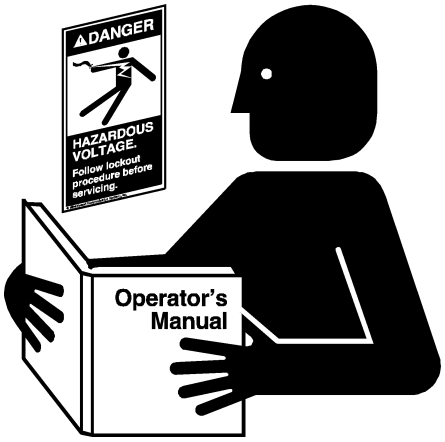
Follow Safety Instructions

Carefully read all safety messages in this manual and safety signs on your machine. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machinery in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual or need assistance, contact your dealer.



Read and Understand Manual

Stay Clear of Rotating Parts

Entanglement in rotating augers will cause serious injury or death. Make sure everyone is clear of Stir-Ator before starting or operating the unit.

Keep all shields and covers in place at all times.

Wear close fitting clothing. Stop and lock out power source before making adjustments, cleaning, or maintaining equipment.

Rotating Auger Hazard

Operate Motor Properly

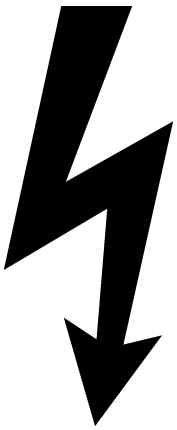
Do not operate the Red Giant Stir-Ator unless the shut off chain has been properly installed.

All electrical connections should be made in accordance with the National Electric Code. Be sure equipment and bins are properly grounded.

Do not operate electric motor equipped units until motors are properly grounded.

Disconnect power on electrical driven units before resetting motor overloads.

Do not repetitively stop and start the drive in order to free a plugged condition. Jogging the drive in this manner can damage the equipment and/or drive components.



Electric Shock Hazard

Practice Safe Maintenance

Understand service procedures before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is in operation. Keep hands, feet and clothing away from rotating parts.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any built up grease oil and debris.

Maintain Equipment and Work Area

Avoid Falls

Anchor the bottom of any ladder being used in a bin or silo to prevent it from slipping.

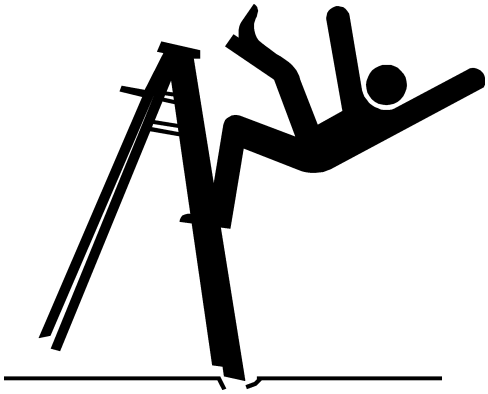
Because the equipment is suspended from chains in the center, be cautious of positioning ladder against the equipment. The equipment can move or swing from the weight of a person climbing on the ladder.

When setting a ladder against the equipment, a vise grip or other type of tie down should be used in the front and back of the track drive unit. This keeps the equipment from rolling or sliding around the bin while service work is being performed.

During heavy service work, such as removing auger drive, electric motors, or replacing electrical swivel, tying the ladder to the main frame or other solid component is advised.

Never climb out on the main beam or augers from a ladder or the roof manhole.

If an unusual amount of service work needs to be performed, consider lowering the unit onto sawhorses.



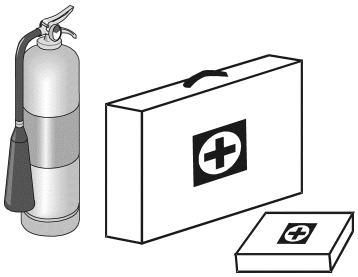
Always Use Ladders Safely

Prepare for Emergencies

Be prepared if fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone.



Keep Emergency Equipment Quickly Accessible

Wear Protective Clothing

Wear close fitting clothing and safety equipment appropriate to the job.

Remove all jewelry.

Long hair should be tied up and back.

Safety glasses should be worn at all times to protect eyes from debris.

Wear gloves to protect your hands from sharp edges on plastic or steel parts.

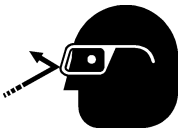
Wear steel toe boots to help protect your feet from falling debris. Tuck in any loose or dangling shoe strings.

A respirator may be needed to prevent breathing potentially toxic fumes and dust.

Wear hard hat to help protect your head.

Wear appropriate fall protection equipment when working at elevations greater than six feet (6').

Eye Protection



Gloves

Steel Toe Boots

Respirator

Hard Hat

Fall Protection

Operator Qualifications

A. The User/Operator must be competent and experienced to operate auger equipment. Anyone who works with or around augers must have good common sense in order to be qualified. These persons must also know and meet all other qualifications, such as:

i. Any person who has not read and/or does not understand all operation and safety procedures is not qualified to operate any auger systems.

ii. Certain regulations apply to personnel operating power machinery. Personnel under the age of 18 years may not operate power machinery, including augers. It is your responsibility, as owner and/or supervisor, to know what these regulations are in your area or situation.

iii. Unqualified or incompetent persons are to remain out of the work area.

iv. O.S.H.A. (Occupational Safety and Health Administration) regulations state: “At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which the employee is, or will be involved”. (Federal Occupational Safety and Health Standards for Agriculture. Subpart D, Section 1928.57 (a) (6)).

B. As a requirement of O.S.H.A., it is necessary for the employer to train the employee in the safe operating and safety procedures for this auger. The sign-off sheet is provided for your convenience and personal record keeping. All unqualified persons are to stay out of the work area at all times. It is strongly recommended that another qualified person who knows the shut down procedure is in the area in the event of an emergency.

Date	***Employee Name***	***Supervisor Name***

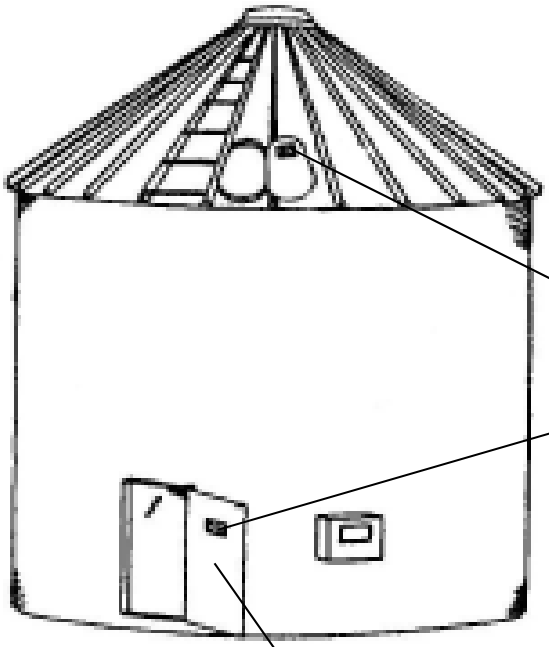
THE DECALS SHOWN ON THIS PAGE MUST BE DISPLAYED AS SHOWN.

Replacements are available upon request. Write to the following address:

DMC,
1004 E. Illinois St.,
Assumption, IL. 62510
Phone: 1-217- 226-4421

Please note:

1. Decals on the page are not actual size.
2. Keep all decals wiped clean at all times.
3. All decals must be replaced if they are destroyed, missing, painted over or can no longer be read.



THIS DRYING BIN EQUIPPED WITH

DMC

RED GIANT

GRAIN STIR-ATOR

DAVID MANUFACTURING CO. ASSUMPTION, IL

104L2013

Should be located on outside of door.

104L2013

DANGER

Rotating flighting will kill or dismember.	Flowing material will trap and suffocate.	Crusted material will collapse and suffocate.

Keep clear of all augers.
DO NOT ENTER this bin!

If you must enter the bin:

1. Shut off and lock out all power.
2. Use a safety harness and safety line.
3. Station another person outside the bin.
4. Avoid the center of the bin.
5. Wear proper breathing equipment or respirator.

Failure to heed these warnings will result in serious injury or death.

DC-GBC-1A

DC-GBC-1A

DC-GBC-1A and DC-GBC-1S

Should be located at any bin entry so it can be seen and read easily.

2. Decals

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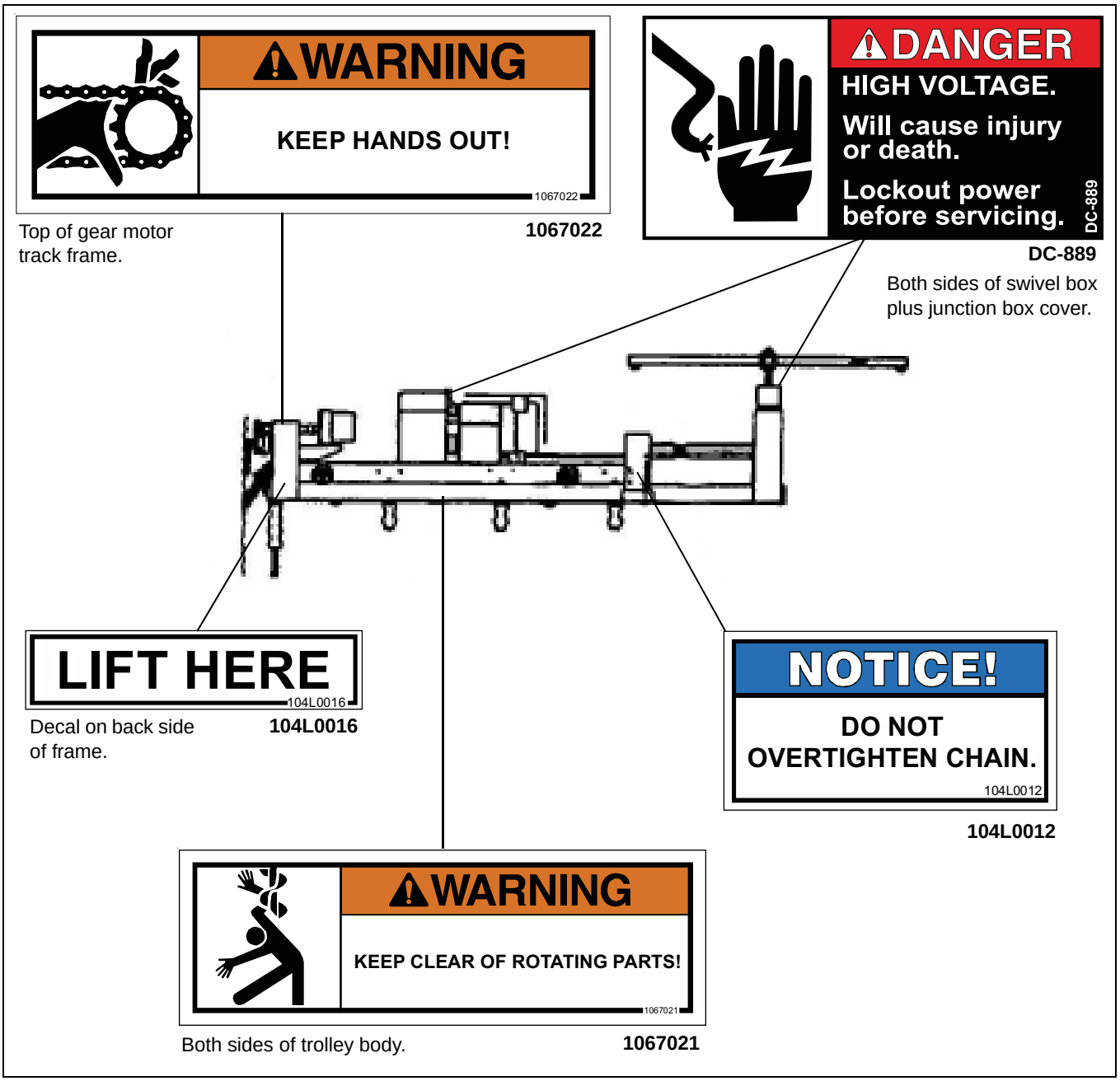

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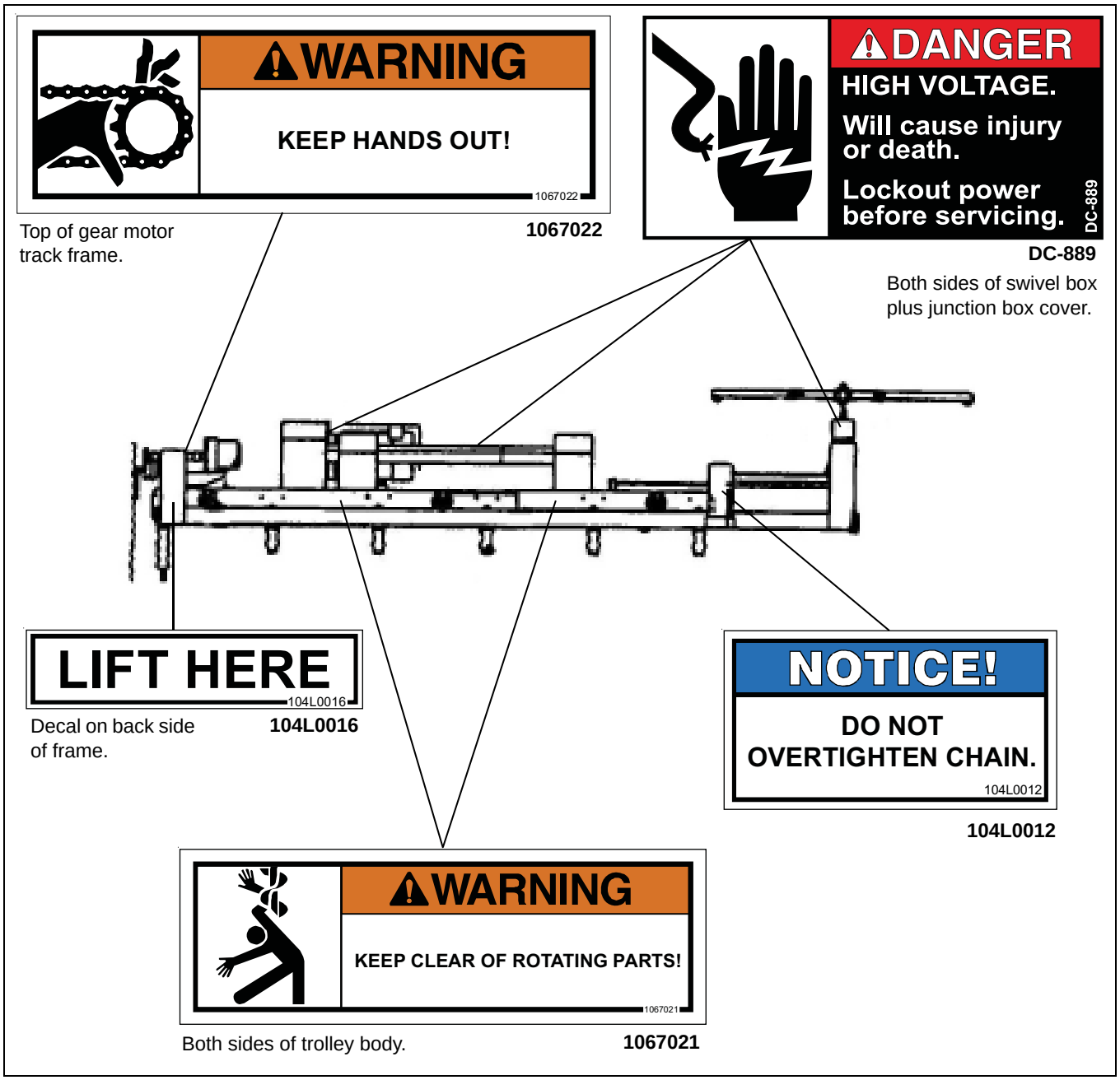


Top of gear motor track frame. **1067022**

DC-889
Both sides of swivel box plus junction box cover.

Decal on back side of frame. **104L0016**

104L0012

Both sides of trolley body. **1067021**

3. Final Inspection Checklist

1. HAVE YOU READ THE OWNER'S MANUAL COMPLETELY - YOURSELF? STUDY IT.
2. Is there at least 7" clearance between the top of the track and the lowest part of the roof or roof braces?
3. Are the track splices correctly installed? Consult the drawings in the OWNER'S MANUAL?
4. Is the suspension tee properly hung, LEVEL, with the end loops down, with lead-in wire and shut off chain properly installed?
5. Is the frame of the Stir-Ator about 1" higher at the center of the bin for NEW BIN INSTALLATION, and LEVEL WITH EXISTING BINS?
6. Are augers 3" off the drying floor at the bin wall?
7. Were the augers notched with a file (NOT A TORCH) where the clamp bolts serve as a driving key?
8. Did you note the instructions NOT to weld flighting at the top end of the auger?
9. Are you keeping a record of the serial number of each owner?
10. If your Red Giant Stir-Ator is equipped with 3 phase power, BE SURE THE ELECTRICIAN HAS INSTALLED ADEQUATE MOTOR PROTECTION, (either magnetic or manual starters can be used) or you will void the warranty on your 3 phase motors.
11. Did you make sure that the owner received his owner's manual and was instructed that reading and understanding the manual will help immensely?
12. If electric motors other than the ones provided by David Manufacturing Company are used, modification of the motor belt shield may become necessary. Cut to fit. Do not operate without the shields being in place.
13. Did you put safety decals on bin; inside walk-in door; under side of manhole cover?
14. **NOTE:** *Operating the Stir-Ator during bin unloading can be beneficial and can prevent auger damage. When the grain no longer flows into the center sump, the Stir-Ator should be shut off to prevent auger damage.*
15. **NOTE:** *BURYING UNIT WILL DAMAGE BIN AND WILL VOID YOUR RED GIANT WARRANTY.*

DID YOU PUT #90 OIL IN THE GEARBOXES?

PROPER INSTALLATION GREATLY REDUCES SERVICE CALLS.

NOTE: *Prior to assembly and installation consult the bin erection manual or manufacturer for any special unit hanging or support locations.*

1. All Red Giant Grain Stir-Ators come shipped as follows:

   One (1) trolley base assembly - 4 Auger and 6 auger units
   One (1) trolley extension bundle - 6 Auger only
   One (1) frame rail bundle
   One (1) track bundle
   One (1) electrical parts box 26" x 26" x 18"
   Two (2) parts boxes 16" x 16" x 54"

2. Before starting to assemble the bin, the complete Red Giant Stir-Ator, less augers, should be laid in the center of the concrete pad. The top ring and roof assembly of the bin is assembled in the usual way. The Stir-Ator wall track is then installed, as shown in *Figure 6A on Page 36*. The 5/16" hole for the track bolts should be drilled or punched, in the bin metal progressively; that is, starting with a double hole end of a track section, the first hole is drilled or punched and the three (3) hole connector, track bracket and bolt installed. Then, using the holes in the track as a guide, the rest of the bolts and brackets can be installed around the bin. Be sure to have track splices smooth and aligned. *(See Figure 11A on Page 81.)*

   ALL RED GIANT STIR-ATORS REQUIRE 12-5/8" SPACING TRACK.

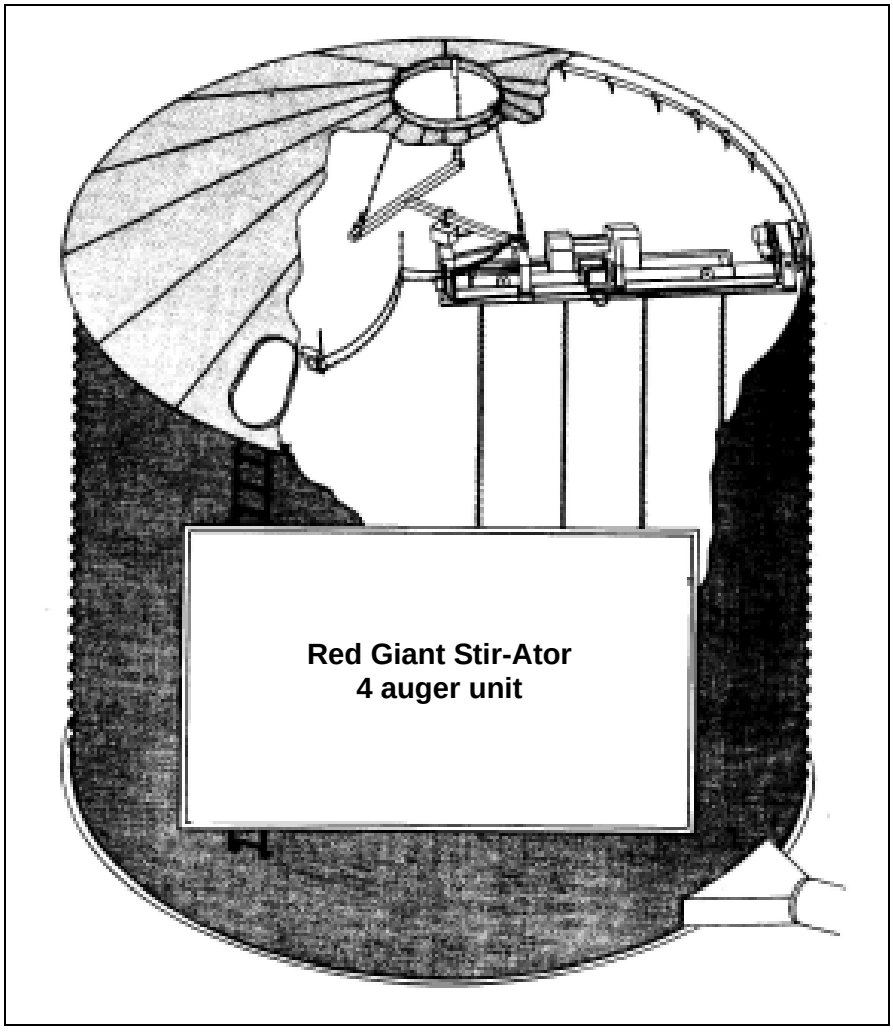


Figure 4A

3. NOTE THE 7" DISTANCE FROM THE EAVE OF THE BIN TO THE CENTER LINE OF THE HOLES IN THE TRACK. Bins with steeply-pitched roofs may allow the 7" distance to be reduced. Roofs with the low or “flat” profiles may require more clearance. Reinforcements for the roof or inner ladders which might interfere with the movement of the Stir-Ator should be trimmed off as indicated in *Figure 6A on Page 36*. If this cannot be done, the 7" distance from the eave to the bolt holes must be increased proportionately.

4. There should be slightly more track material than is required. Upon making the complete circuit of the bin, the end of the last section should be cut-off so as to fit snugly against the forward end of the first length and a 7/16" hole drilled, 5/8" from the cut-off end. ALL TRACK JOINTS SHOULD BE ALIGNED AS SMOOTHLY AS POSSIBLE. Misalignment should be corrected by filing or bending, if necessary.

5. Because the Stir-Ator augers run very close to the bin wall, INSIDE WALL LADDERS MUST BE MOUNTED VERY CLOSE TO THE BIN WALL. If this cannot be accomplished, the ladder must be removed. A portable ladder is advised and this can be obtained form your dealer. If the walk-in door protrudes over 2-1/2" into the bin itself, SKID PLATES SHOULD BE PUT ON THE DOOR so that the augers will not get caught during Stir-Ator operation.

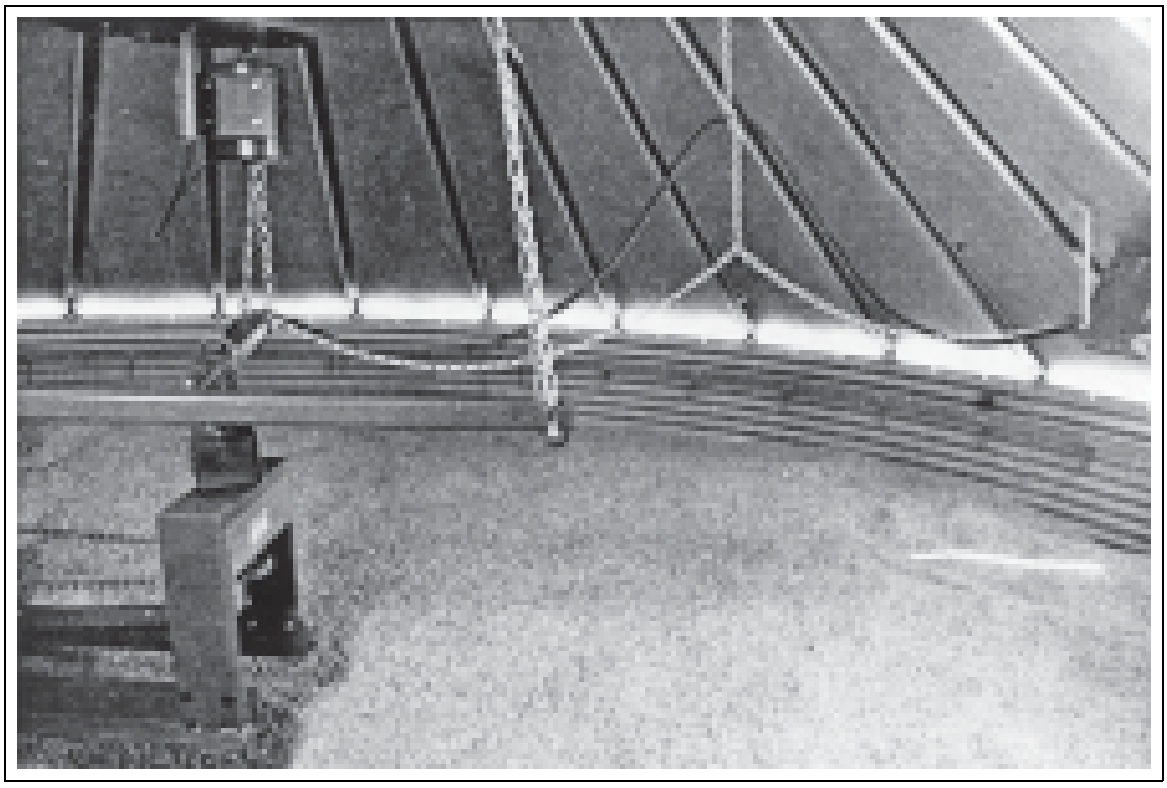


Figure 4B

6. At this time, hook the three (3) suspension chain hooks over the top edge of the fill hole. Space them equally around the fill hole. *(See Page 40 or Figure 4B.)*

7. Install the switch box above the inspection hole. Be sure the Red Giant will not hit it and do not forget the brace. *(See Figure 4B above or Figure 6A on Page 36.)*

   Lead-in cord and shut off chain need to be positioned so that the Stir-Ator will not catch them as it rotates around the bin.

   NOTE THE CLEARANCE REQUIREMENTS IN DRAWINGS A *ON PAGE 36* **AND B** *ON PAGE 37*.

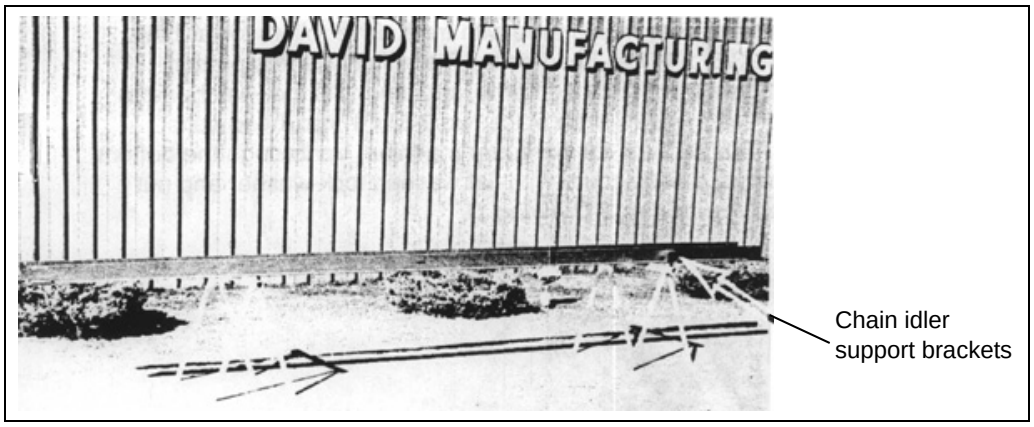


Figure 4C

8. Put main frame on saw horses (two (2) pieces), as shown in *Figure 4C*. Then space about 11-1/2" apart with angle flanges outward. Be sure chain idler support brackets are on the same end.
9. Place inboard pivot end over main frame as shown in *Figure 4D*. Be sure inboard pivot is on the same end of the frame as chain idler support brackets. *(See Figure 4F on Page 18.)* Have the heavy electric cords coming out of the center pivot on the same side as the loops on the main frame. These loops hold the heavy cords in place.

   NOTE: *Large loops for both rubber covered cords, small loops on opposite end of frame for 14-3 cord only.*

   Using two (2) 3/8" x 1" hex head bolts, place flat washer onto bolt, put bolt through yoke and frame and secure with lock washer and nut on inside of frame angle (two (2) on each side). Using two (2) 3/8" x 1" hex head bolts for 4 auger machine (two (2) 3/8" x 2" hex head bolts for 6 auger machine), bring bolts up from the bottom of the main frame through yoke and secure with flat washer, lock washer and nuts (two (2) on each side). *(See Figure 4D or Page 54.)*

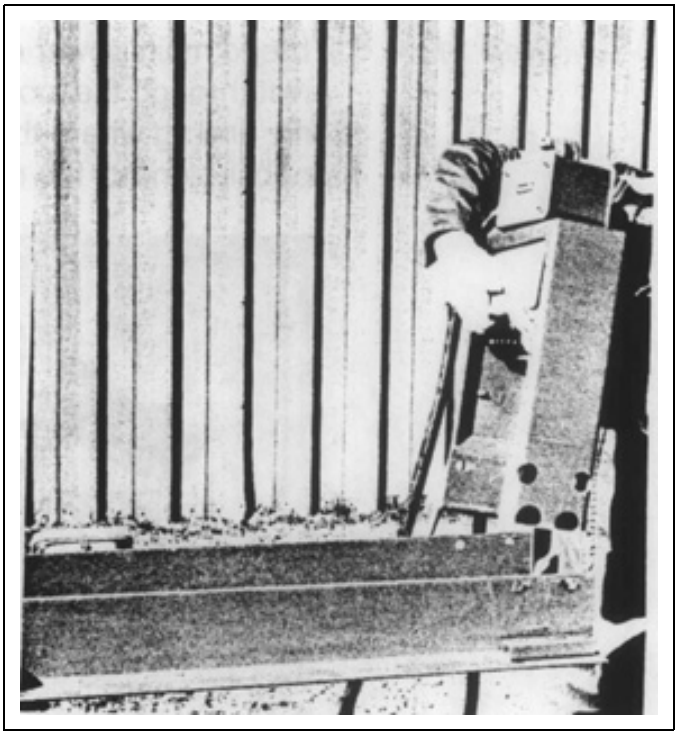


Figure 4D

10. Place the out board pivot end over main frame with track drive rollers toward the outside. Secure with two (2) 3/8" x 1" hex head bolts. Place flat washers on bolt, putting bolt through outboard pivot end and frame, securing with lock washer and nut on the inside (two (2) on each side) then place two (2) 3/8" x 1" hex head bolts for 4 auger machine (two (2) 3/8" x 2" for 6 auger machine) up through the bottom of the frame, through the yoke and secure with flat washer, lock washer and nut (two (2) on each side). *(See Figure 4E and Page 50.)*

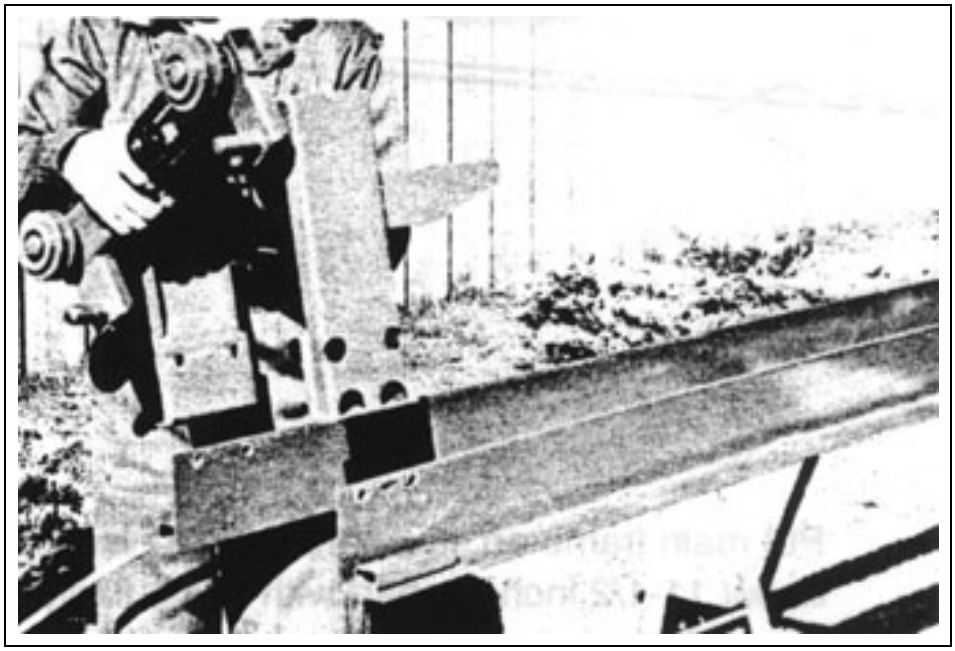


Figure 4E

11. Thread main power cord and gear motor power cord (14-3) from the inboard pivot through the loops on the side of the main frame, with the main power cord only ending where the large loops stop. The gear motor cord continues to the opposite end of the main frame as shown in *Figure 4F*.

    Greenfield shown in photo has been replaced with 14-3 rubber covered wire.

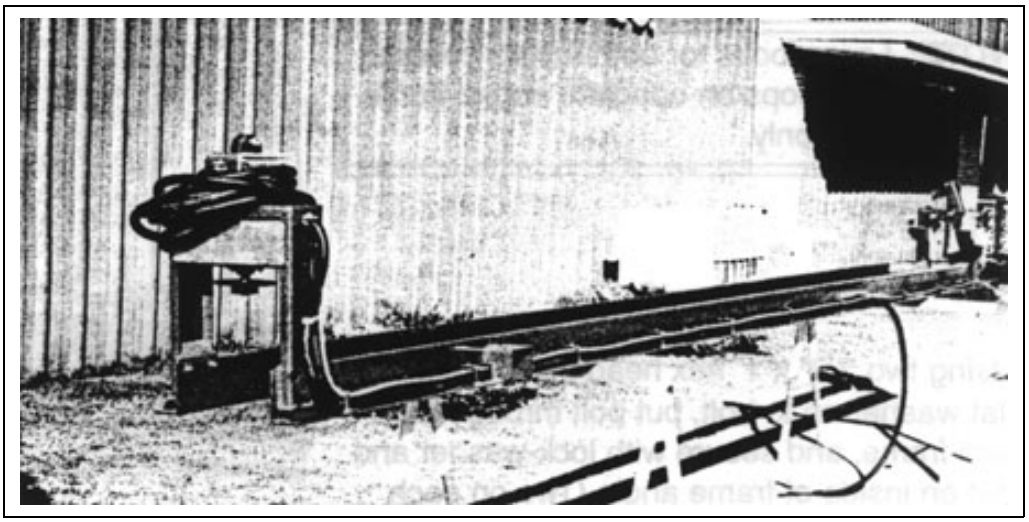


Figure 4F

12. **For 6 Auger Units Only:** The 6 auger trolley comes in two (2) sections; one 4 auger section plus an extension. First remove the bolts holding the center gearbox on the 4 auger section. *(See Figure 4H or Page 60.)* Then, place 2 auger section over 4 auger section and replace gearbox bolts. At this time, install two (2) additional 5/16" x 3/4" hex head bolts, lock washers and nuts in the lapped section. Be sure bolts are tightened securely. Cut loose extension drive shaft. *(See Figure 4H.)*

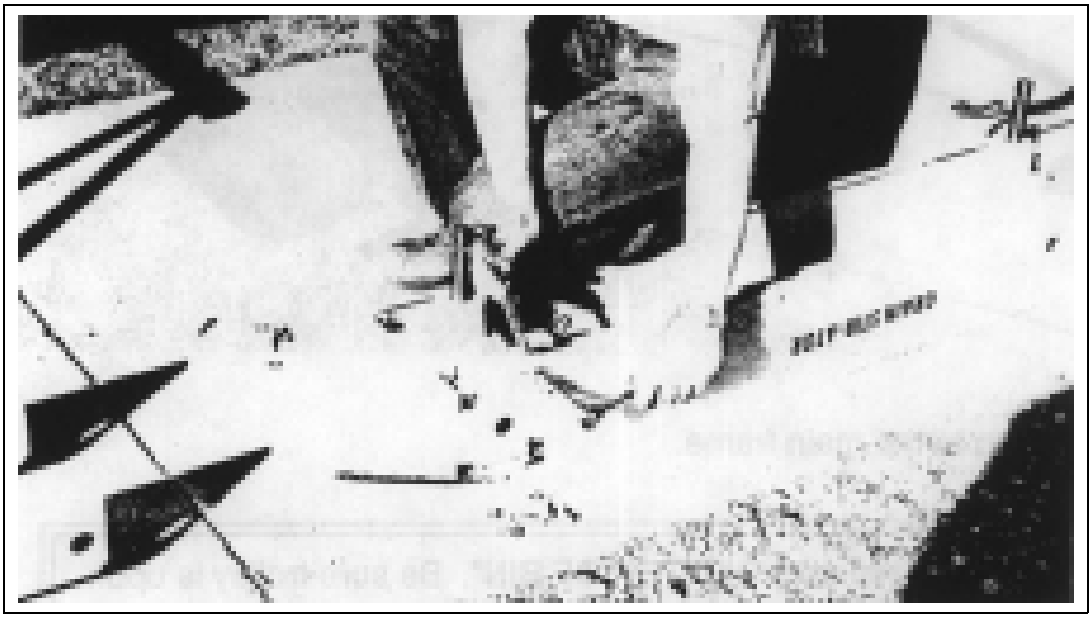


Figure 4G

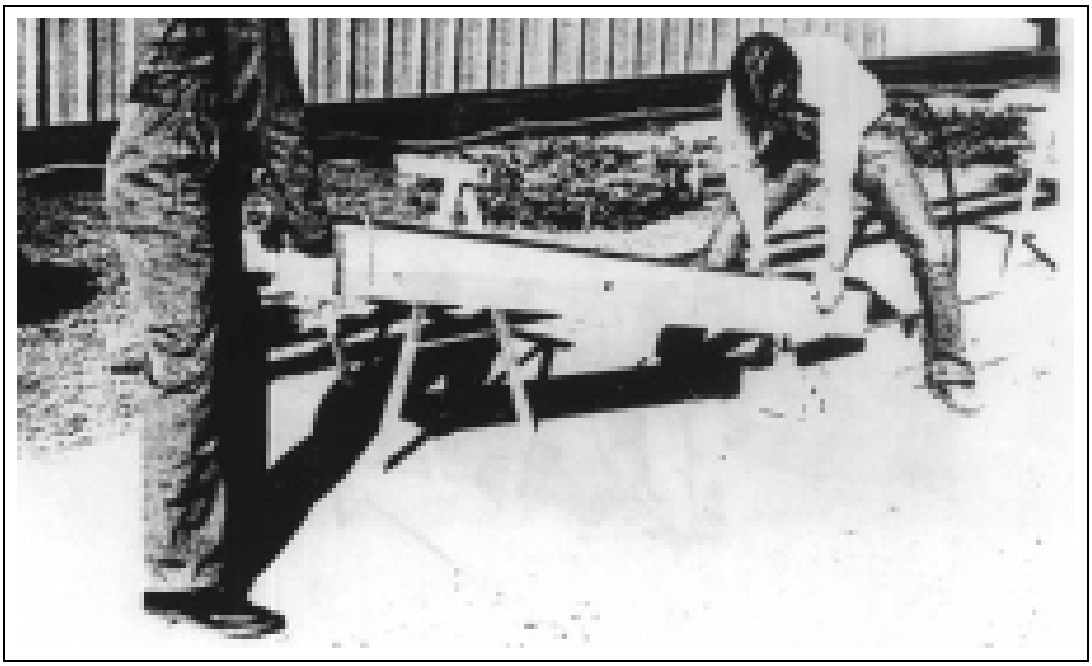


Figure 4H

13. Place the 3/4" x 14" axle shaft through the trolley body axle bushings. Two (2) axles are used on a 4 auger trolley and three (3) axles are used on all 36' 4 auger and all 6 auger trolleys. After the axles have been installed, place one 3/4" SAE washer, the poly-wheel and another 3/4" SAE washer on each side. Secure with a 3/16" x 1-1/4" cotter pin. *(See Figure 4I and Page 44.)*

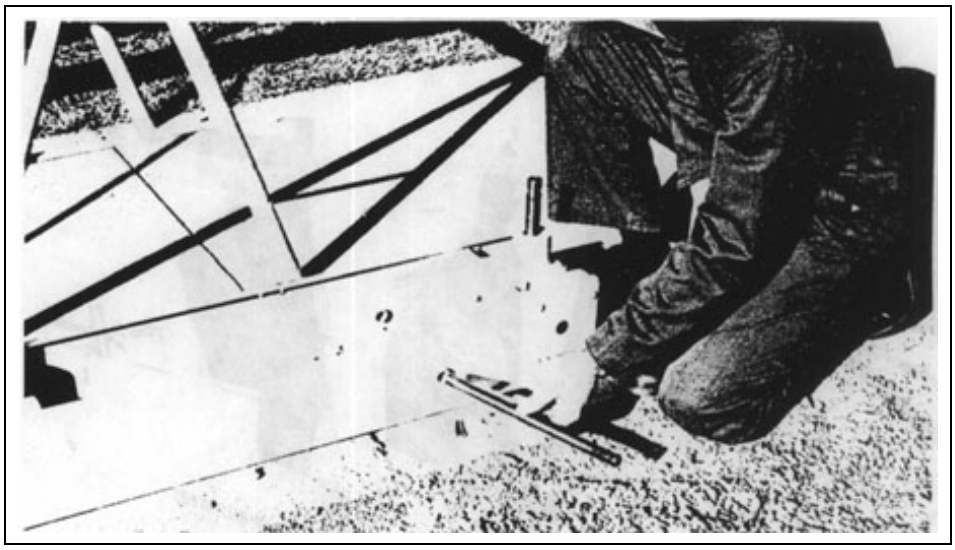


Figure 4I

14. Place trolley on to the main frame.

NOTE: *Trolleys are marked "CENTER OF BIN". Be sure trolley is upon main frame with the decal on the proper end. Be sure poly-wheels are setting properly on the rim of the frame.* *(See Figure 4J.)*

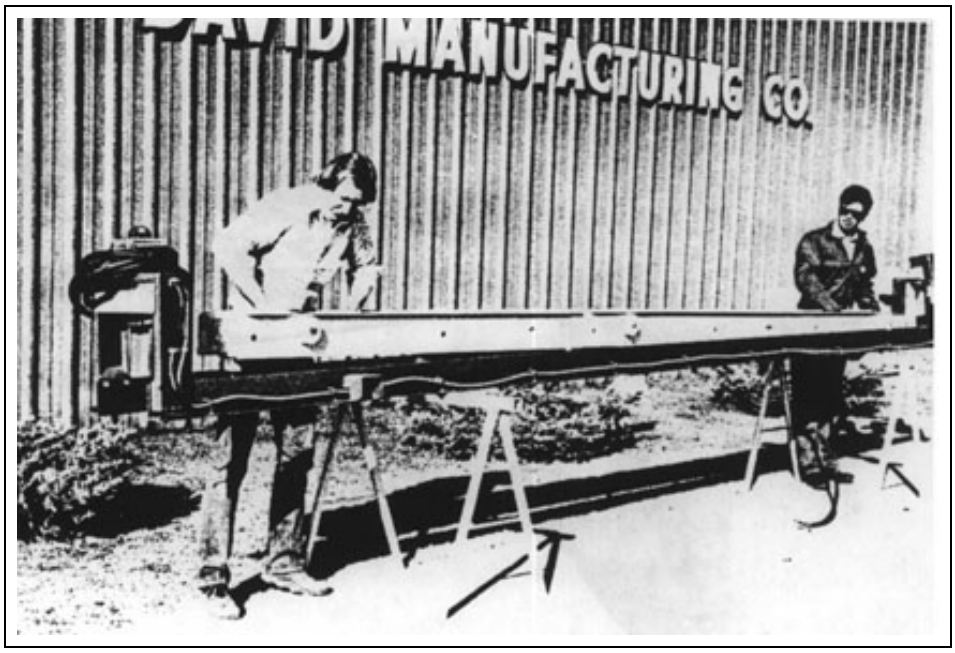


Figure 4J

15. Next install the hold-down bracket, using four (4) 5/16" x 3/4" hex head bolts with lock washers and nuts. Two (2) sets of holes are punched in the bracket. Use the TOP HOLES when installing the hold-down bracket on a 6 AUGER UNIT and the BOTTOM HOLES are provided for use when installing a 4 AUGER UNIT.

    NOTE: *Be sure the bolts are put in from the outside to the inside with the lock washer and nuts on the inside of the trolley frame.*

    Two (2) hold-downs are used on either a 4 or 6 auger unit. When hold-downs are properly positioned, there will be 1/4" clearance between the hold-down and the main frame. *(See Figure 4K.)*

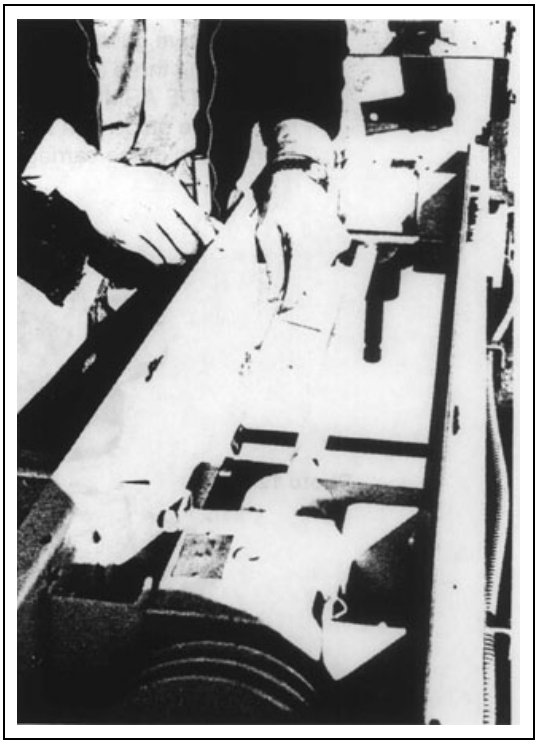


Figure 4K

16. **Chain Idler Support Yoke:** Bolt chain idler support yoke on to the main frame, positioning support yoke with spring-loaded idler on the same side of the main frame as the heavy electrical wires. Secure, using four (4) 5/16" x 1" hex head bolts, lock washers and nuts. *(See Figure 4L and Page 54.)*

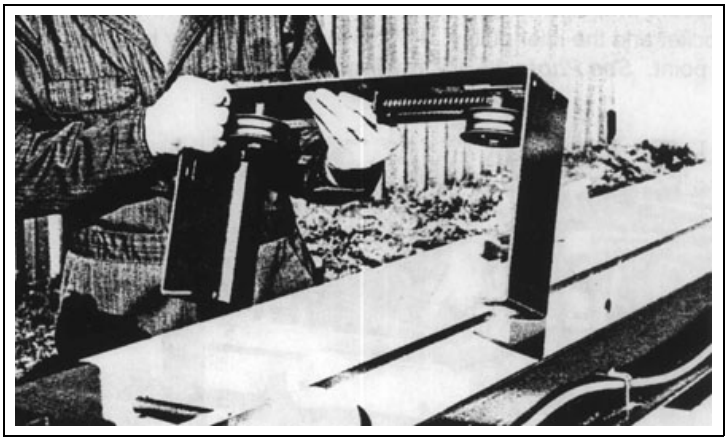


Figure 4L

17. Bolt the drive guide arm on to the center inboard pivot and chain idler support yoke, using three (3) 1/4" x 3/4" carriage bolts with lock washers and nuts. BE SURE THE GUIDE ARM IS POSITIONED AS SHOWN IN *Figure 4M*. *(See Page 54.)* The bolt holding the guide arm to the chain idler support yoke needs to be positioned with round head of the carriage bolt in the channel of the drive arm guide.

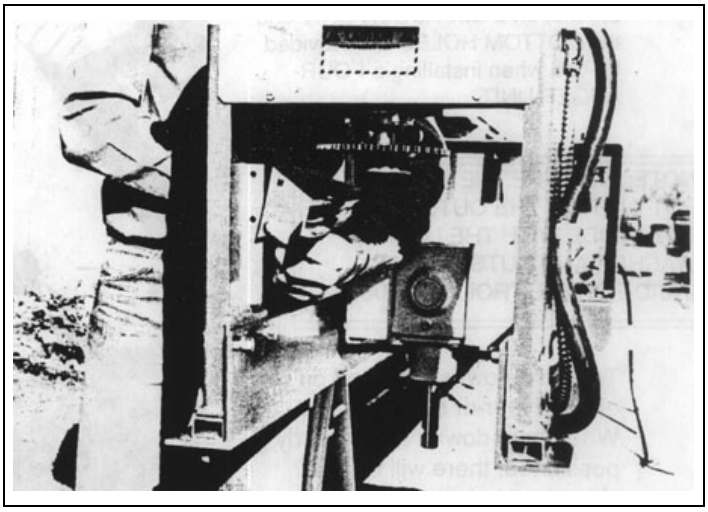


Figure 4M

18. Install center drive roller chain with connecting angle to the outside as shown in *Figure 4N*.

> **CAUTION** ***CONNECTING ANGLE MUST BE AS SHOWN IN Figure 4N or chain will lock up when going around the sprocket and pulleys.***

To assure proper chain tension, grasp the chain at the halfway point between the sprocket and the idler pulley. 3/4" Movement each way is all that is advisable at this point. *(See Figure 4N and Figure 7C on Page 72.)*

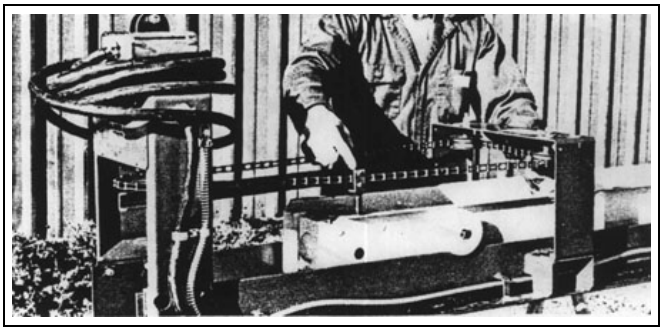


Figure 4N

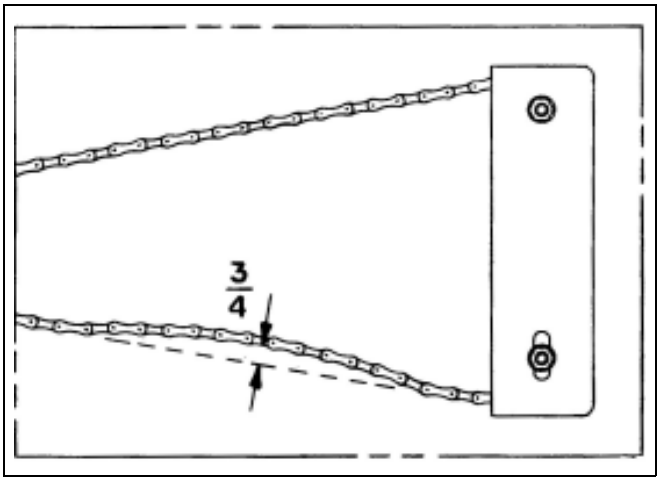


Figure 4O

19. Install motor mount, with support plate, using six (6) 5/16" x 3/4" hex head bolts with lock washers and nuts. Bolt mount bracket in 3rd hole from the outboard end on trolley side rail. BE SURE MOUNTING PLATE IS ON THE SAME SIDE AS ELECTRICAL CORDS. *(See Figure 4P and Page 44.)*

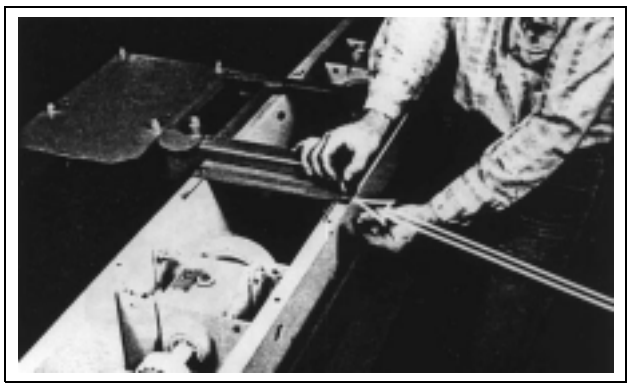


Figure 4P

20. Top drive shaft assembly. First place two (2) BX-48 matched V-belts on the 11-3/8" pulley. Then securely bolt top drive shaft assembly on to the trolley, using four (4) 5/16" x 3/4" bolts, with lock washers and nuts. Place the 11-3/8" pulley toward the outboard end of the main frame, as shown in *Figure 4Q or See Page 44*. Be sure the belt idlers are opposite the motor mount.

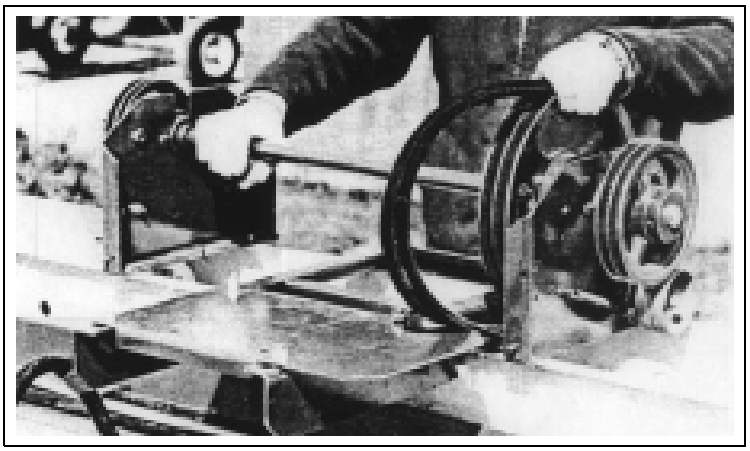


Figure 4Q

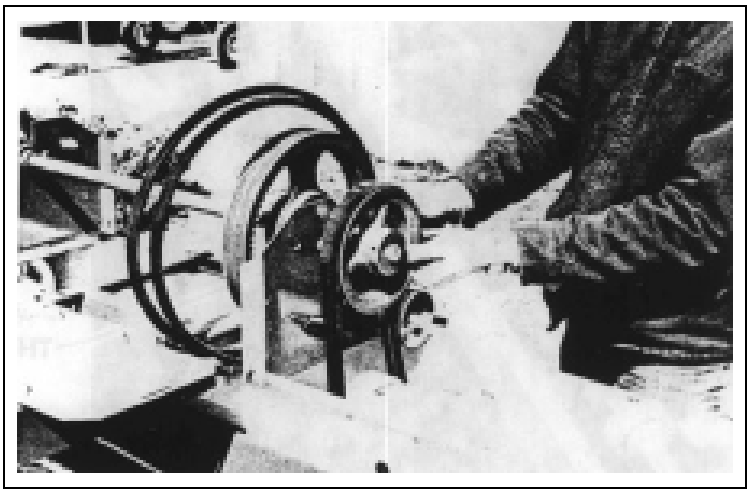


Figure 4R

21. Installation of gearbox drive belts - **4 Auger Unit**: Using two (2) set of AX-38 V-belts, install one matched set on each end of top drive assembly. Check to be sure belt alignment is proper. Also, be sure clutch idlers are positioned as shown in *Figure 4R on Page 23 and Figure 4S*.

    Installation of gearbox drive belts - **6 Auger Unit**: First, follow the instructions given for the 4 auger unit. Then, proceed to bolt bearing bracket and clutch idler on to the top of the 6 auger trolley. *(See Figure 4T and Page 60.)* Next, bolt 6 auger extension drive shaft into place, using two (2) carriage bolts, 5/16" x 3/4", with lock washers and nuts. DO NOT TIGHTEN THE 5/16" x 3/4" CARRIAGE BOLTS AT THIS TIME. BE SURE BEARING IS BOLTED IN POSITION AS SHOWN IN *Figure 4U*.

    Using extension shaft Delrin coupler, connect extension shaft to top drive shaft assembly as shown in *Figure 4V on Page 25*. Secure Delrin coupler with drive-in pin or with steel pin and clip. Now tighten securely the 5/16" x 3/4" carriage bolts. Complete installation by installing matched pair of AX-38 V-belts.

    BE SURE CLUTCH IDLER IS INSTALLED AS SHOWN IN *Figure 4R on Page 23, Figure 4S below and Figure 4W on Page 25* WHEN INSTALLATION IS COMPLETE.

    DO NOT FORGET TO FILL GEARBOXES WITH #90 OIL.

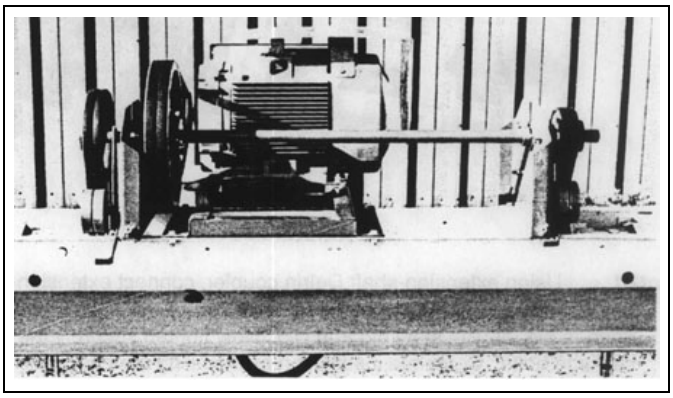


Figure 4S

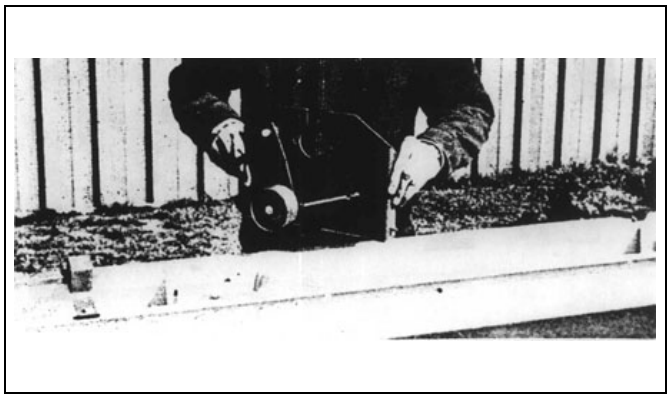


Figure 4T

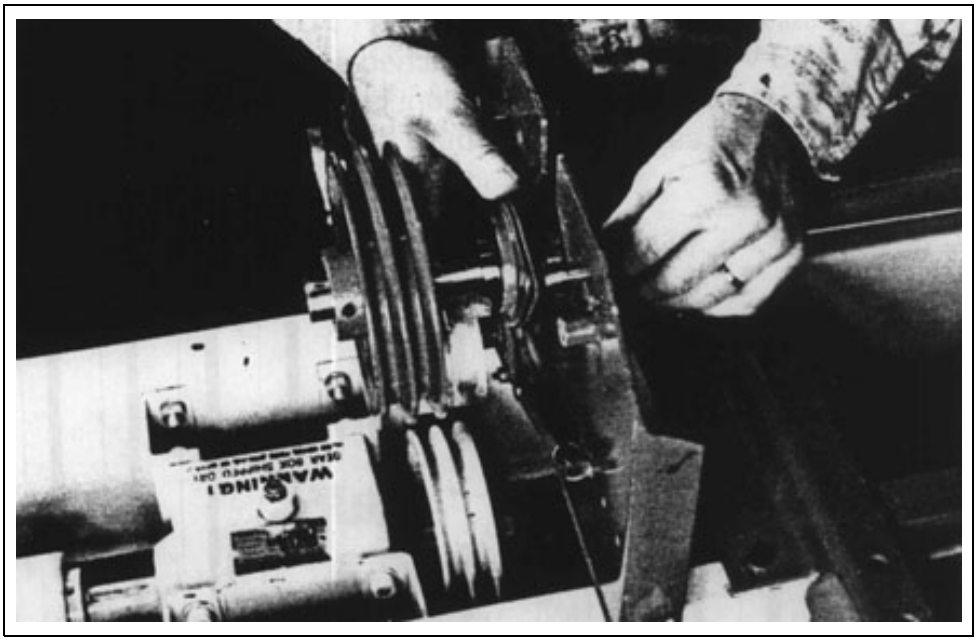


Figure 4U

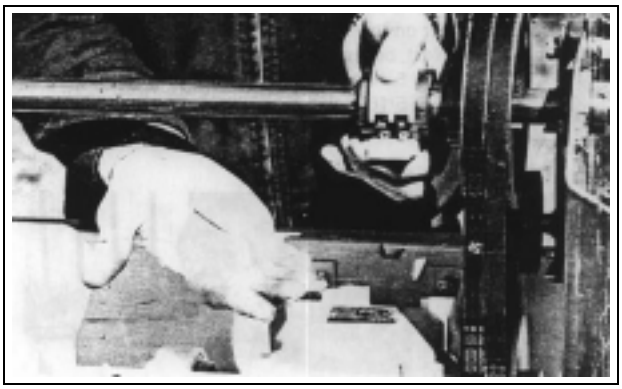


Figure 4V

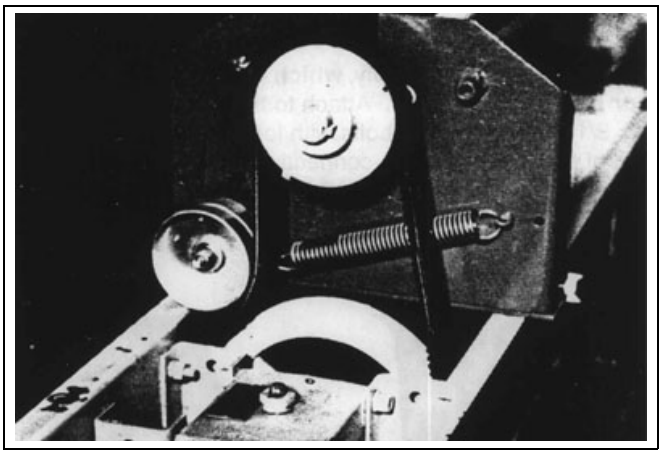


Figure 4W

22. Installation of gearbox connecting shaft shields using two (2) shields for 4 auger unit and three (3) shields for 6 auger unit. Simply place shield in position as shown in *Figure 4X*. Firmly place notched end of shield between gearbox mounting brackets and complete installation by hooking spring to the bottom side of the trolley frame. *(See Figure 4X and Page 40.)*

    Greenfield shown in photo has been replaced with 14-3 rubber covered wire.

    PROPER INSTALLATION GREATLY REDUCES SERVICE CALLS.

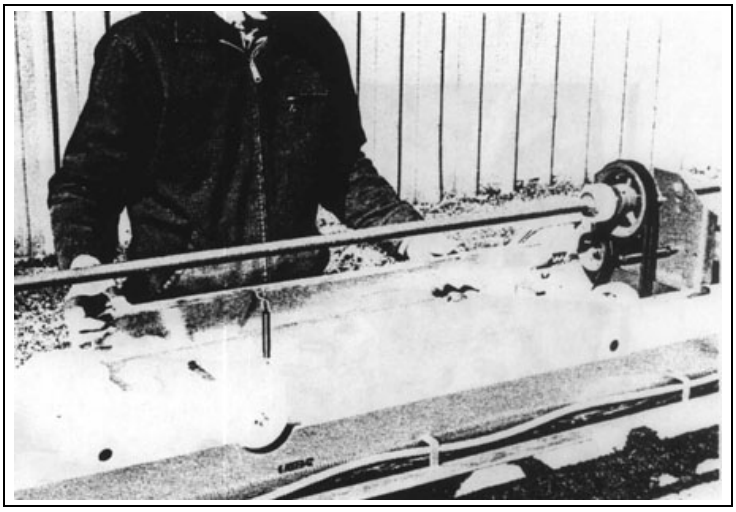


Figure 4X

23. Installation of trolley drive arm assembly, which consists of three (3) pieces: *(See Page 44 or Page 60.)* Attach to the trolley as shown in *Figure 4Y* using two (2) 5/16" x 1" hex head bolts with lock washers and nuts. Attach opposite end of drive arm to chain connecting angle, using one 5/8" SAE washer and one 5/32" x 1" cotter pin. *(See Figure 4Z and Page 54.)*

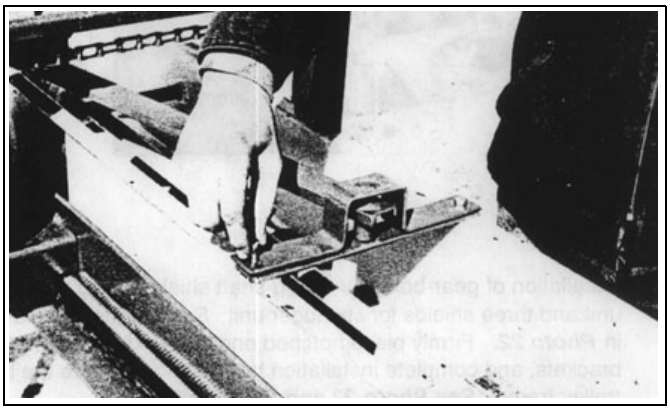


Figure 4Y

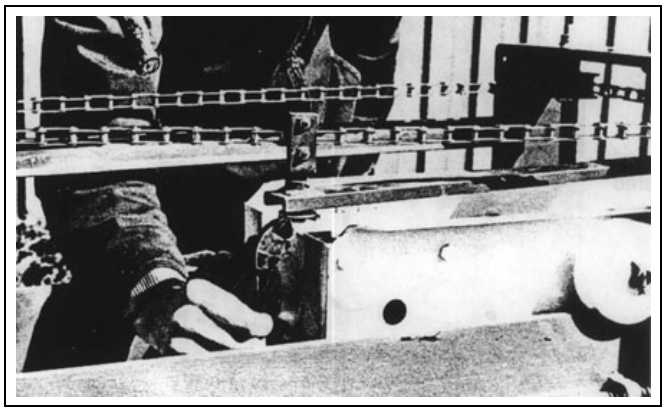


Figure 4Z

24. **Gear Motor Installation:** Place nylon flat washer on to track unit drive shaft. *(See Page 50.)* Then, install the 3/16" x 5/8" woodruff key into the track unit assembly drive shaft, after which you slide one half of the lovejoy coupler on to the drive shaft and secure. Next, place one nylon flat washer onto gear motor drive shaft and follow up with a 3/16" x 5/8" woodruff key. Then, place the other half of the lovejoy coupler on to the gear motor drive shaft and secure.

    Set the gear motor on to the mounting bracket, place flexible drive coupler between the two (2) halves of the lovejoy coupler, as the gear motor is moved into place, using four (4) 3/8" x 1" hex head bolts with lock washers and nuts. Secure motor to mounting bracket. BE SURE to place 1/2" cable clamp that holds the wire from gear motor to fuse holder under gear motor mounting bolt. *(See Figure 4AA below and Figure 4AB on Page 27.)*

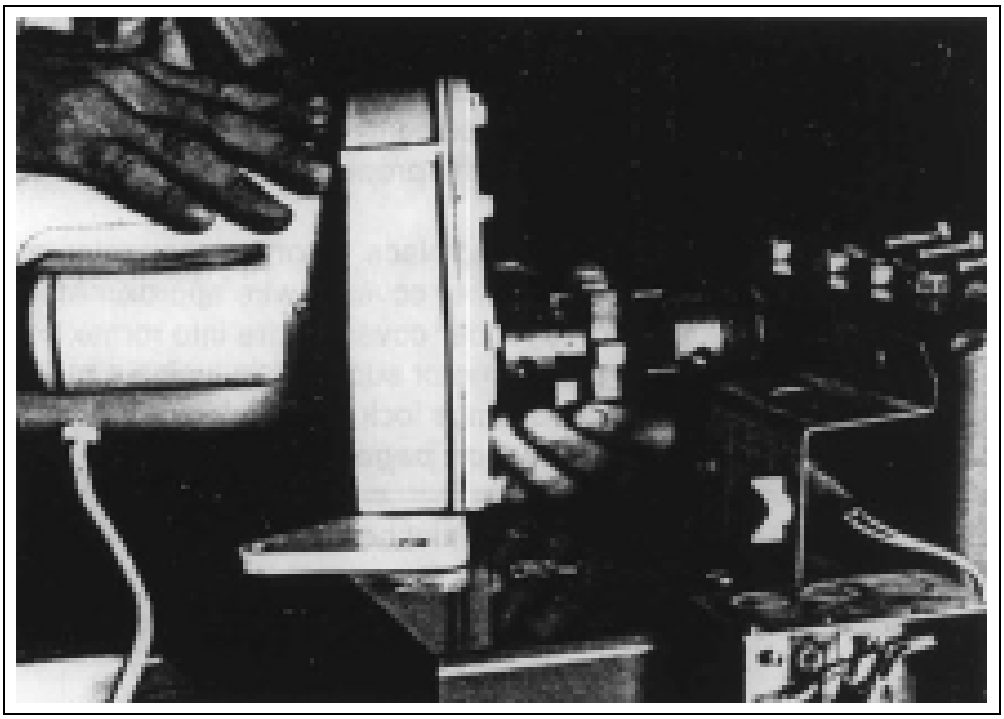


Figure 4AA

25. Take the gear motor power cord (14/3), hold it up to the fuse holder box and cut the cord length to fit up to the fuse holder box as shown in *Figure 4AB*. Connect the 14/3 cord to the box using the 1/2" MPT cord connector in the bottom of the box. Route the wire from the gear motor into the fuse holder box through the cord connector on the left side of the box as shown in *Figure 4AB*. Connect the black and white wires of the power cord to the electronic tilt switch power-in cord and connect the black and white wires of the gear motor wire to the electronic tilt switch power-out cord. See *Figure 4AC* for electronic tilt switch power-in and power-out wire locations. Connect the green wires of the power cord and the gear motor wire together (ground). See the wiring diagrams *on Pages 73-77* and see also *Page 71*.

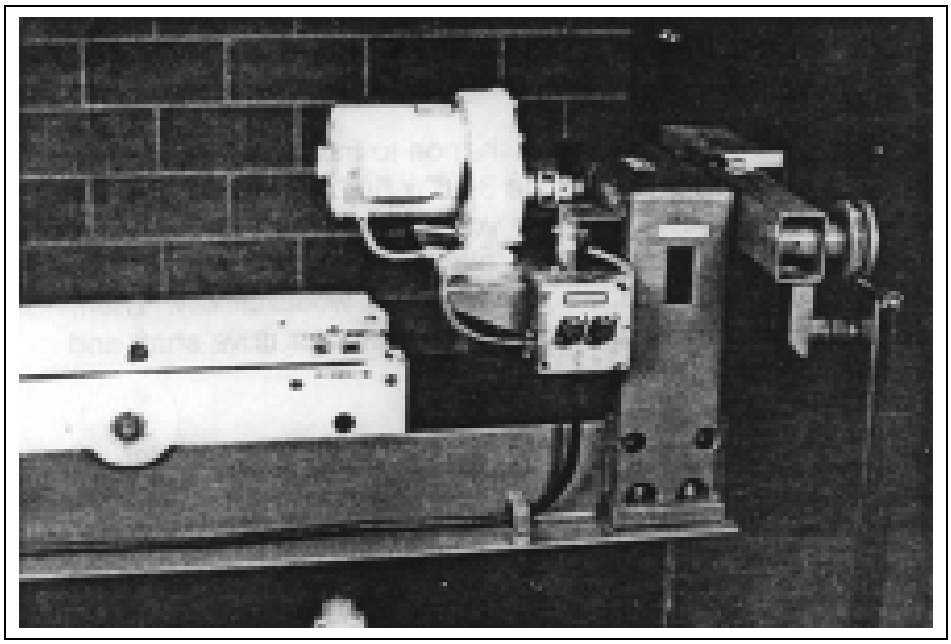


Figure 4AB

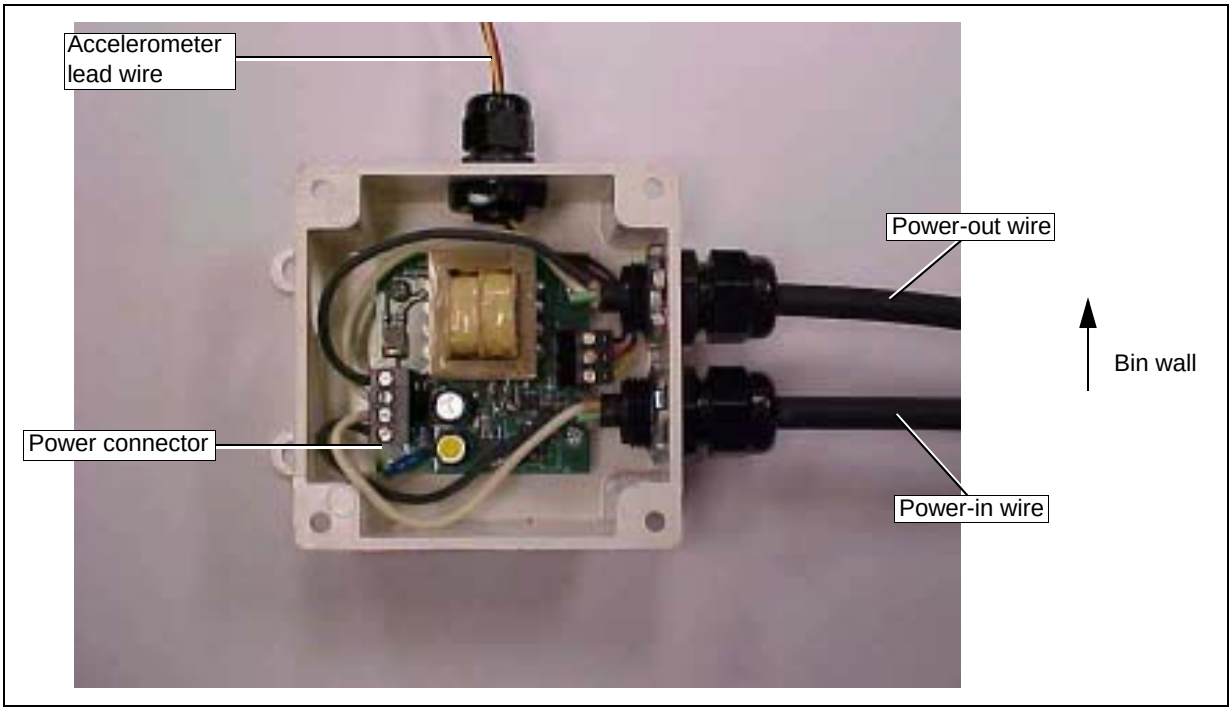


Figure 4AC *Electronic controller enclosure assembly power wire routing.*

Ensure that the tilt switch accelerometer assembly is installed with the arrows on the side of the accelerometer aligned with their respective directions SWEEP (meaning direction of travel) and EARTH. *(See Figure 4AD.)*

Figure 4AD *Accelerometer Assembly Installation*

26. Position 5, 7-1/2 or 10 HP motor, mating the motor mount holes to the motor mount plate holes and securing with four (4) 3/8" x 1-1/4" hex head bolts, flat washers, lock washers and nuts, DO NOT TIGHTEN BOLTS. Place 4" O.D., double B-groove pulley on to motor shaft, using 1/4" x 2" square key. *(See Page 44.)* Bolt the cam tightener ahead of the main motor directly to the motor mount plate, using one 3/8" x 1-3/4" hex head bolt and 3/8" lock nut. *(See Figure 4AF on Page 29.)* Next, place the matched BX-48 V-belts on to the 4" motor pulley, align and tighten to the proper tension as shown in *Figure 4AG on Page 29*.

    Next, remove the capacitor cover and place 1" romex connector into side of capacitor box. Strip heavy-duty rubber covered wire approximately one foot back and install this heavy-duty rubber covered wire into romex connector and secure. Fasten cord to left side of motor support leg, using a nylon cable clamp with a #10 hex flange screw and flange lock nut. Finish by wiring motor according to *Figure 4AE or Page 73*.

    NOTE: *Heavy rubber covered wire must be left long enough to accommodate trolley movement.*

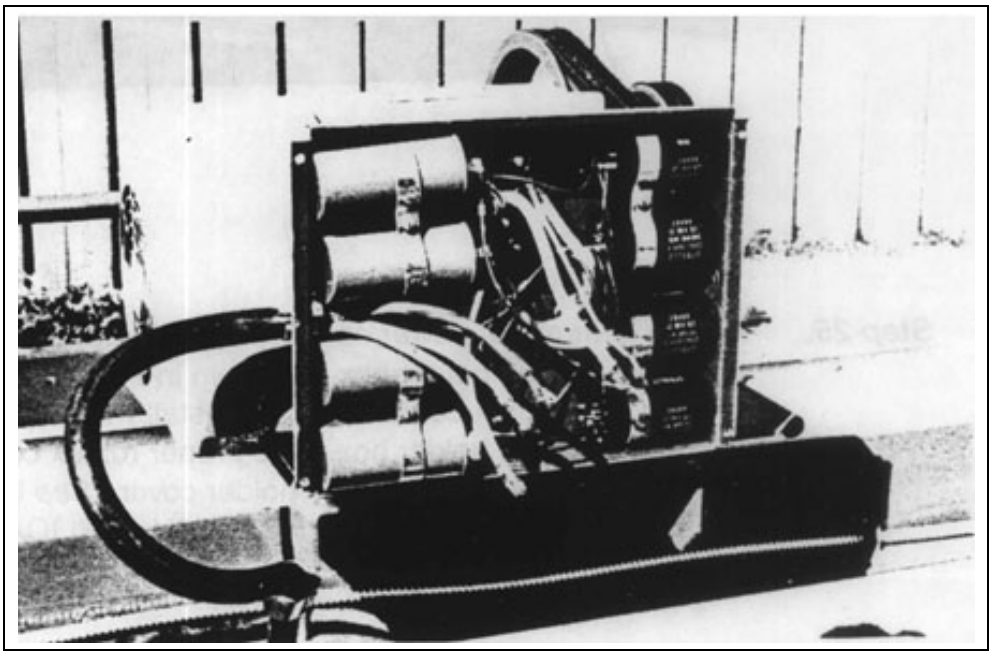


Figure 4AE

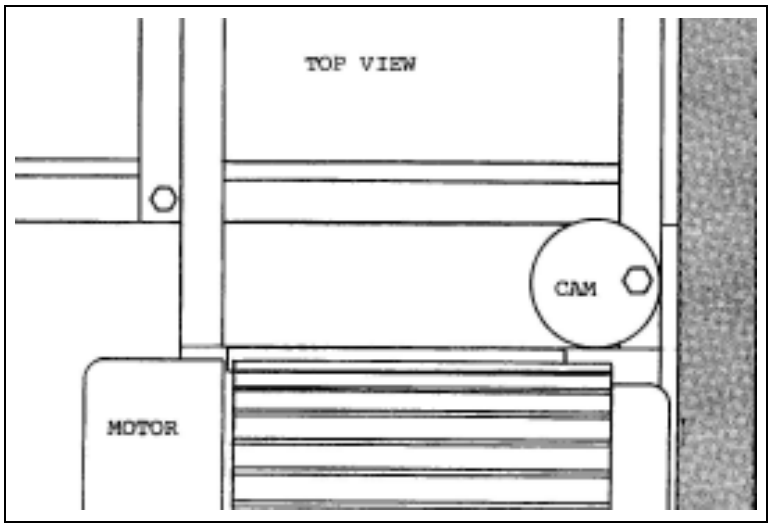


Figure 4AF

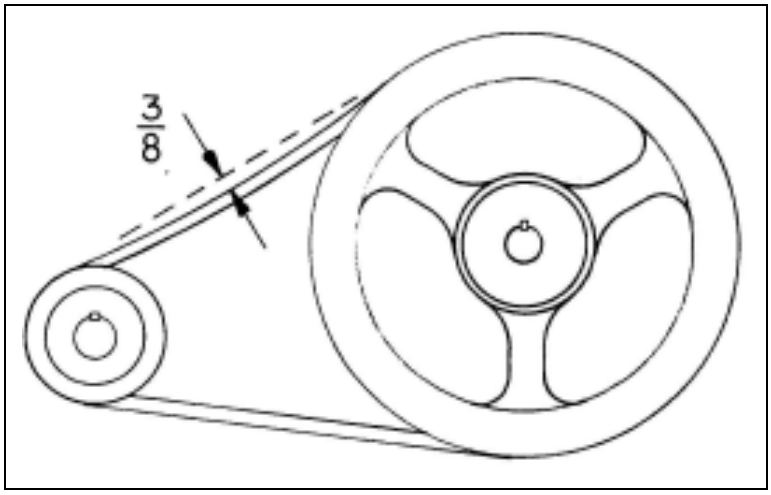


Figure 4AG

27. Place all belt shields as shown in *Figure 4AH on Page 30* (4 AUGER) - *Figure 4AI on Page 30* (6 AUGER) - *Figure 4AJ on Page 30* (OUTER SHIELD - 6 AUGER) - *Figure 4AK on Page 30* (4 AND 6 AUGER TRACK DRIVE UNIT SHIELD).

    If electric motors other than the ones provided by David Manufacturing Company are used, modification of the motor belt shield may become necessary.

WARNING

Cut shields to fit. Do not operate without shields being in place.

DID YOU PUT #90 OIL IN THE GEARBOXES?

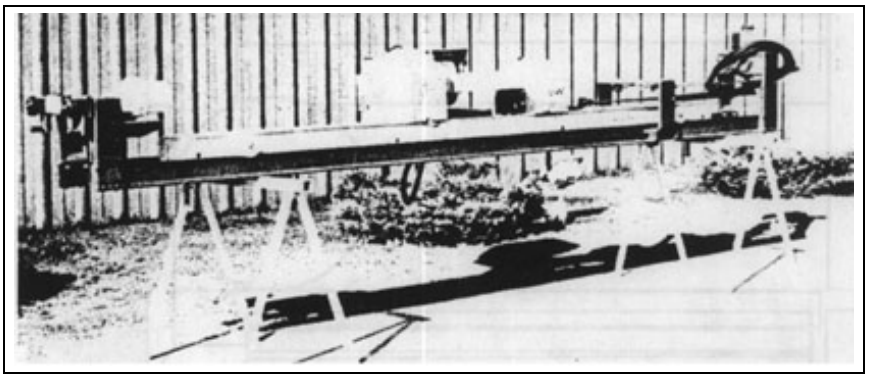


Figure 4AH

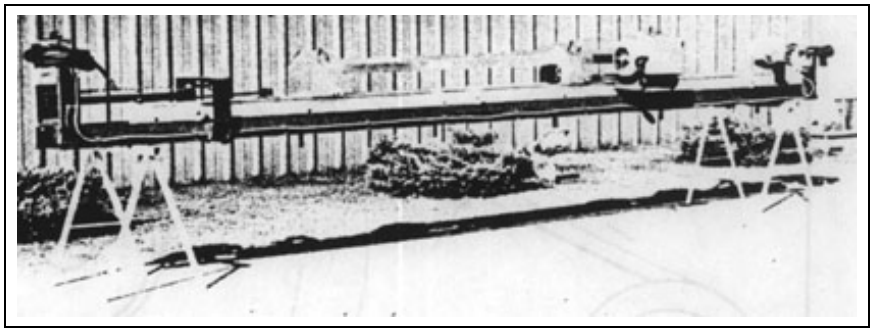


Figure 4AI

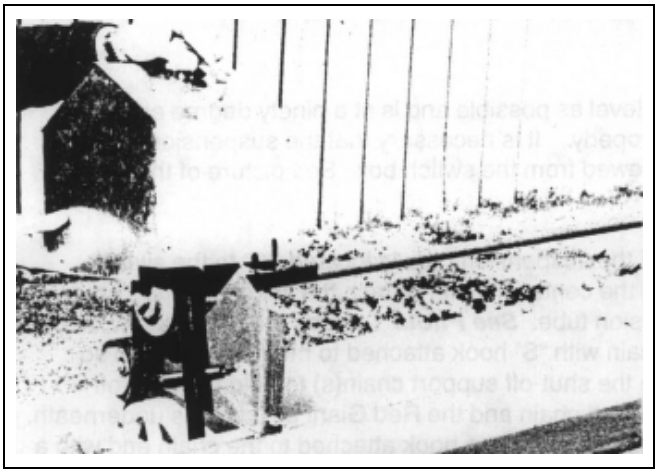


Figure 4AJ

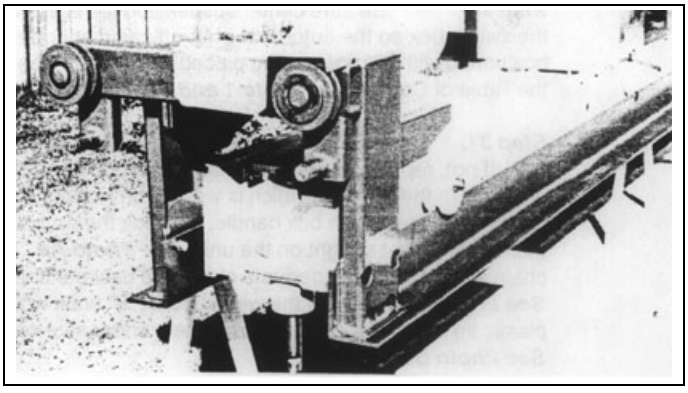


Figure 4AK

28. Assemble the 2 piece suspension 'T', using a 3/8" x 2-1/2" hex head bolt and 3/8" hex lock nut. *(See Figure 4AL or Page 40.)*

    a. Install link from center suspension tee into clevis. Install 1/2" x 2" bolt and securely tighten 1/2" lock nut. Take heavy electrical wire coming from center pivot junction box and pass through the "S" hook welded on top of suspension tee. Next, hook shut off chain on to the same "S" hook. *See Figure 4AL or Pages 40, 54 and 72*, respectively.

29. Raise unit into position with lift hooks as shown *on Page 72*. If installing the Red Giant Stir-Ator into a new bin, to allow for some roof settling, hang the Red Giant 1" to 1-1/2" higher at the center.

30. Be sure center suspension tee is as near level as possible and is at a 90° angle to the switch box so the automatic shut off chain operates properly. It is necessary that the suspension tee be positioned with "S" hook being placed to the right, when viewed from the switch box. See picture of the bin in the Table of Contents or *Figure 4B on Page 16* and *Figure 4AL*.

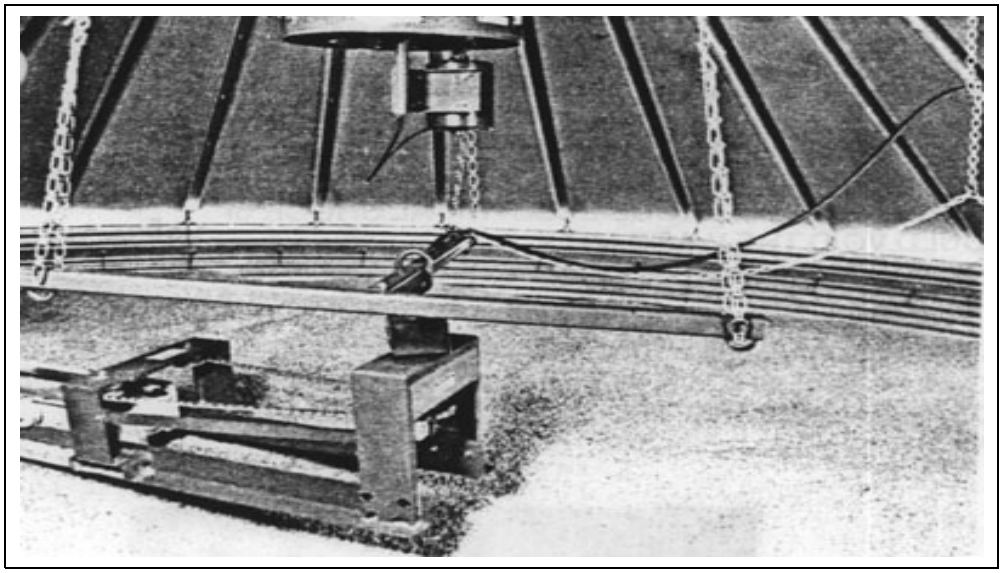


Figure 4AL

31. Check to be sure the shut off hook end of the suspension tube is located 90° to the switch box. If not, reposition the suspension chain hooks around the center fill hole. Attach the link end of the shut off chain to the "S" hook which is welded on to the suspension tube. *(See Figure 4B on Page 16.)* Hook the other end to the "S" hook on the switch box handle. Re-hook the excess chain with "S" hook attached to the shut off chain so that it will not get caught on the unit. *(See Figure 4AM on Page 32.)* Use the shut off support chain(s) to hold the shut off chain so that there is adequate clearance between the shut off chain and the Red Giant as it travels underneath. *(See Page 36 and Page 40.)* Remove the wire support "S" hook which is banded to the hook attached to the chain end with a plastic tie strap. Loop the support chain under shut off chain lifting it for clearance and hook to main strand. *(See Figure 4AN on Page 32.)*

    After all adjusting has been completed, "S" hooks on suspension chains and shut off chains should be closed. Hook wire support "S" hook to support chain - approximately 12" above shut off chain. *(See Figure 4AN on Page 32.)*

    String the lead-in wire through the chain link clevis on the bottom of the suspension bar toward the end of the bar with the safety chain "S" hook. (DO NOT ATTACH THE WIRE TO THE END OF THE SUSPENSION BAR.) The lead-in wire can then be suspended above the safety chain and routed to the switch box as shown in the owner's manual. *(See Figure 4AL and Figure 4AN on Page 32.)*

WARNING

The lead-in wire from Red Giant to the switch box must be longer and looser than the shut off chain itself. Should the Red Giant malfunction and engage the shut off, this prevents the lead-in wire from being torn from the switch box which could result in serious electrical shock.

WARNING

Operating the Red Giant Stir-Ator without shut off chain properly assembled and installed could result in SERIOUS ELECTRICAL SHOCK or BODILY INJURY and WOULD VOID THE WARRANTY.

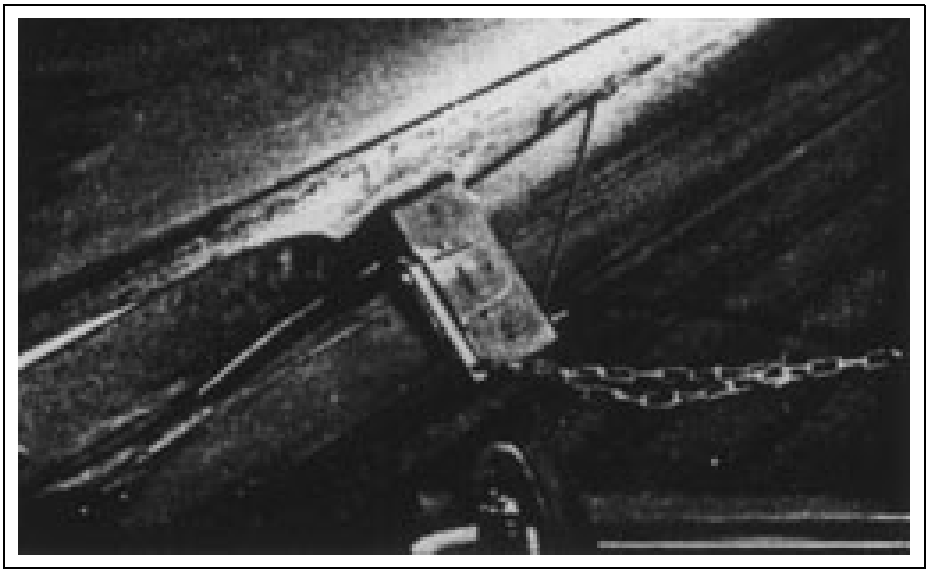


Figure 4AM

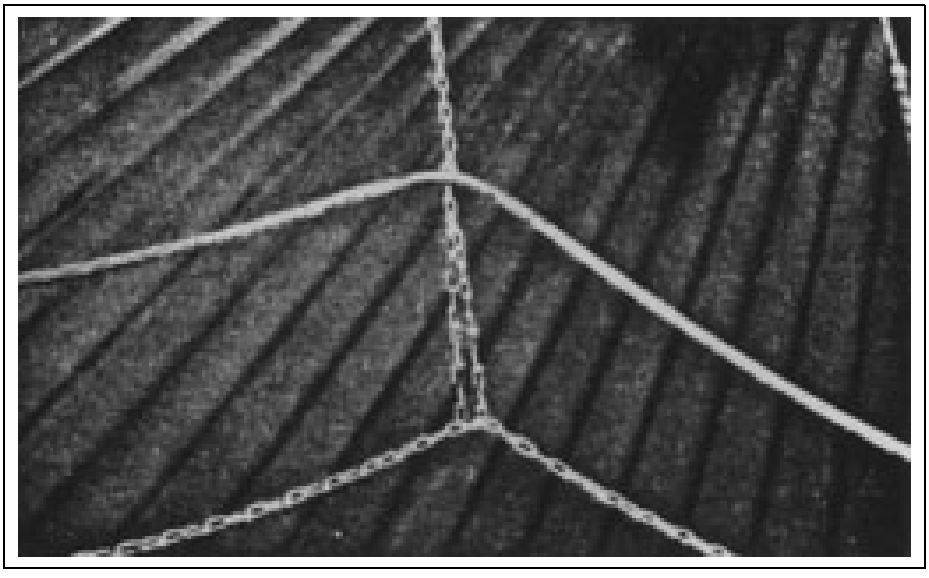


Figure 4AN

32. After the Red Giant Stir-Ator has been put into position in the bin, BE SURE THE TWO (2) TRACK HOLD-DOWN ROLLERS ARE PUT INTO PLACE AS SHOWN IN *Figure 4AQ on Page 34* and *See Page 50*. IF THESE HOLD-DOWNS ARE NOT INSTALLED, THE RED GIANT STIR-ATOR COULD COME OFF THE TRACK WHILE IN OPERATION.

    NOTE: *When shortening a down auger, cut from the **bottom** and be sure the flighting is re-welded properly. **Cutting the auger from the top will void the warranty.***

    NOTE: *DMC has a one-season warranty on its down augers up to 22' long. DMC offers NO WARRANTY on 24' long down augers.*

33. The last step is the installation of the down augers. Determine the proper length by standing the auger up along the side of the trolley and measuring the amount that will be cut-off.

    NOTE: *The augers should clear the floor by 3" for bins up to 30' or 4" for bins 33' and over. (See Figure 4AO.) If a Grain Flow system or bin sweep is installed or is to be installed, refer to the owner's manual for those products or contact your dealer or the GSI Group for auger floor clearance specifications.*

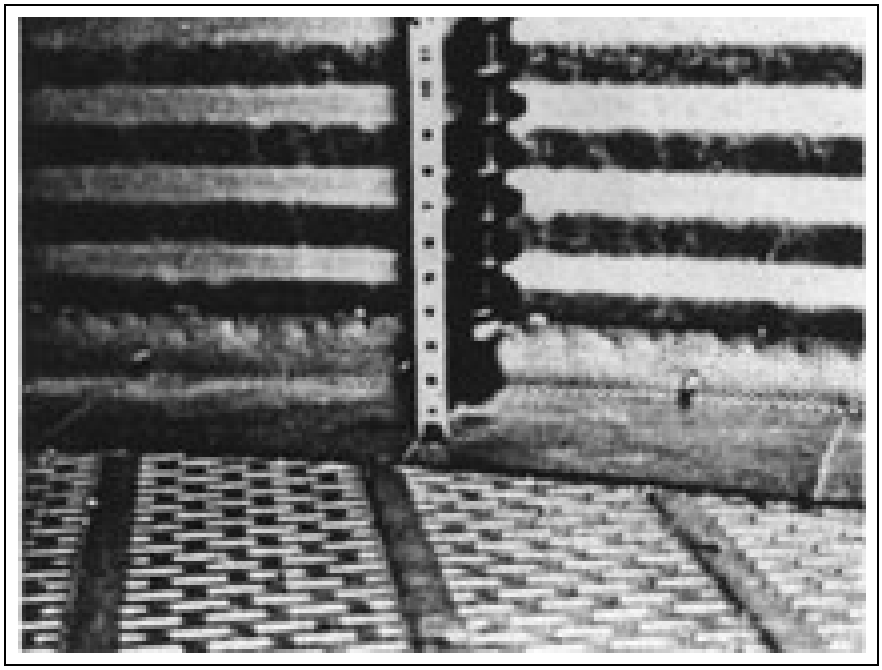


Figure 4AO

The augers are manufactured to allow them to be shortened by cutting off from the bottom end instead of the top. All augers have flighting to within 8" of the top and hardsurfaced augers will have all but the top pitch of flighting hardsurfaced. Lay the auger down and mark where the auger will be cut-off. Weld the flighting to the shaft in three (3) places within the first pitch just above this mark before cutting off the bottom part of the auger. *(See Figure 4AP and Figure 4AR on Page 34.)* File a notch on each side of the shaft, 3/4" down from the top end of the auger. Install the augers to the gearbox output shafts with the 2 piece auger couplers. Tighten the clamping bolts uniformly on each side of the clamp to ensure that the auger is aligned to the output shaft. *(See Figure 7F on Page 72.)*

NOTE: *Do not weld the flighting to the shaft at the top of the auger. To do so voids the warranty. The flighting and shaft must remain unwelded to minimize distortion and weakening of the shaft.*

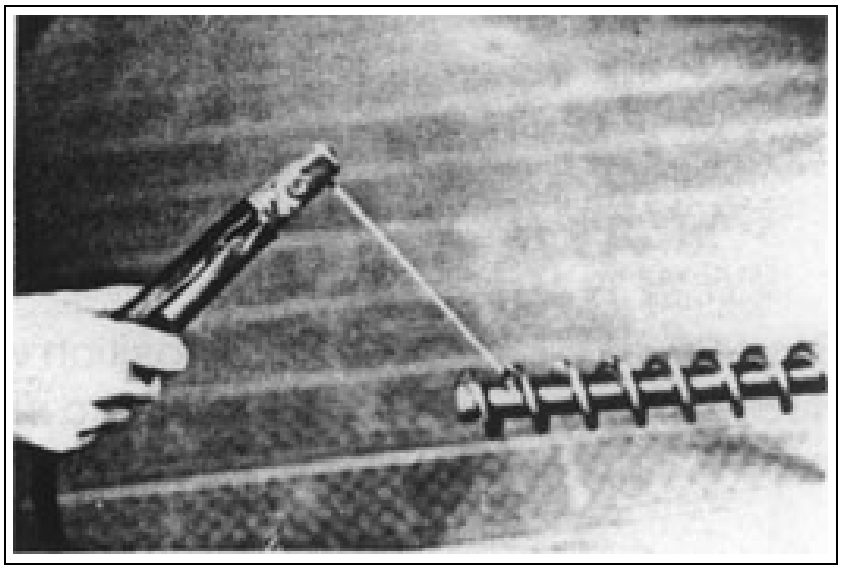


Figure 4AP

34. A professional electrician should be employed to bring power line to the Red Giant Stir-Ator. IF EQUIPPED WITH 3 PHASE, THE CUSTOMER MUST PROVIDE MOTOR PROTECTION, EITHER MANUAL OR MAGNETIC. THE BIN MUST BE GROUNDED.

35. To test Stir-Ator operation in an empty bin, be sure no one is inside the bin, then turn “ON” and “OFF” immediately. DO NOT OPERATE THE RED GIANT STIR-ATOR IN AN EMPTY BIN.

    Install the “Danger” decals on the bin. One on the inside of the walk-in door and one on the inside of the manhole door. Place the “DMC - Red Giant” decal on the outside of the walk-in door.

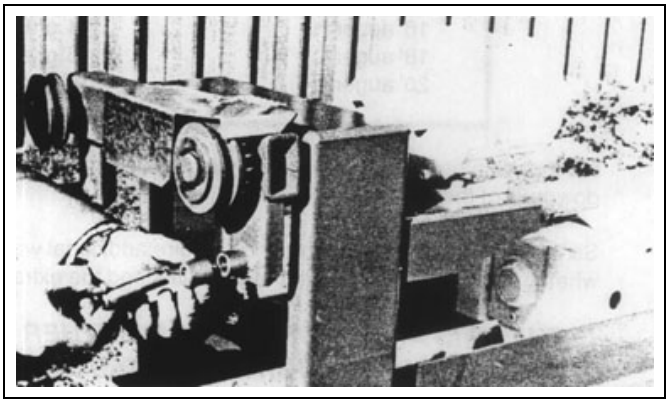


Figure 4AQ

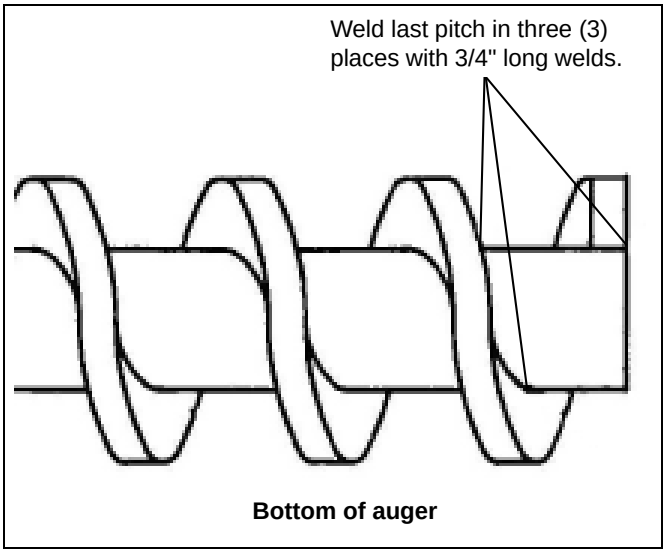


Figure 4AR *Auger Cut-off Diagram*

Read the following data for bin wall stresses.

There are two (2) important facts to be considered concerning the extra stress that is placed on the drying bin wall. You will find two (2) charts, Chart 1 and Chart 2. One is the shipping weights of the Model 176 Red Giant Stir-Ator and Chart 2 sets out the amount of weight each auger can place on the bin wall during operation.

Most grain bins do not have any problem supporting the weight of the 4 auger Red Giant, plus the downpull of the augers.

6 Auger Red Giant Stir-Ators may require additional wall support. Check the charts closely to see whether or not the particular bin can withstand the extra stress.

IF THERE IS ANY DOUBT AS TO WHETHER OR NOT THE BIN CAN WITHSTAND THE ADDITIONAL WEIGHTS, CONTACT THE BIN DEALER OR MANUFACTURER.

Chart 1

Red Giant **shipping weight** equipped as follows:
GE. Motor, 16' Plain Augers

4 Auger

24'	27'	30'	33'
1184#	1225#	1268#	1309#

6 Auger

36'	40'	42'	48'
1694#	1753#	1781#	1872#

Add on for the following:
18' Augers - 5# per Auger
20' Augers - 10# per Auger

Century or Baldor motors -
Add per motor: 51# for 5 HP motor
81# for 7-1/2 HP motor
96# for 10 HP motor

Total crate weight - 4 and 6 Auger units: 180#

Chart 2

Auger downpull in pounds:
Initial start-up (wet grain)

16' Auger	14' Grain	368# per Auger
18' Auger	16' Grain	390#
20' Auger	18' Grain	410#

Auger downpull in pounds:
Normal operation

16' Auger	14' Grain	207#
18' Auger	16' Grain	241#
20' Auger	18' Grain	300#

Red Giant Stir-Ator Overall Size and Dimensions

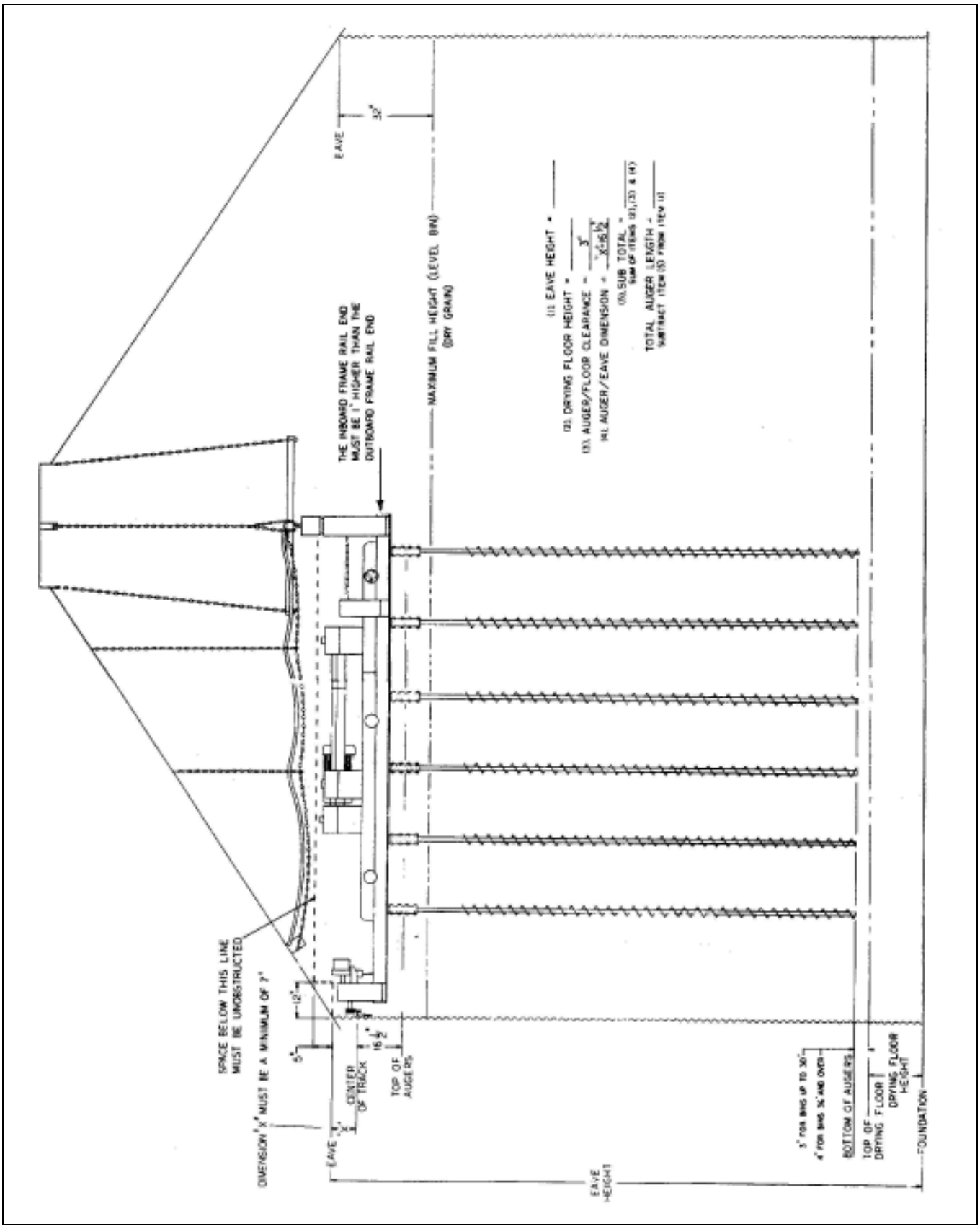


Figure 6A

Red Giant Stir-Ator Overall Size and Dimensions (Continued)

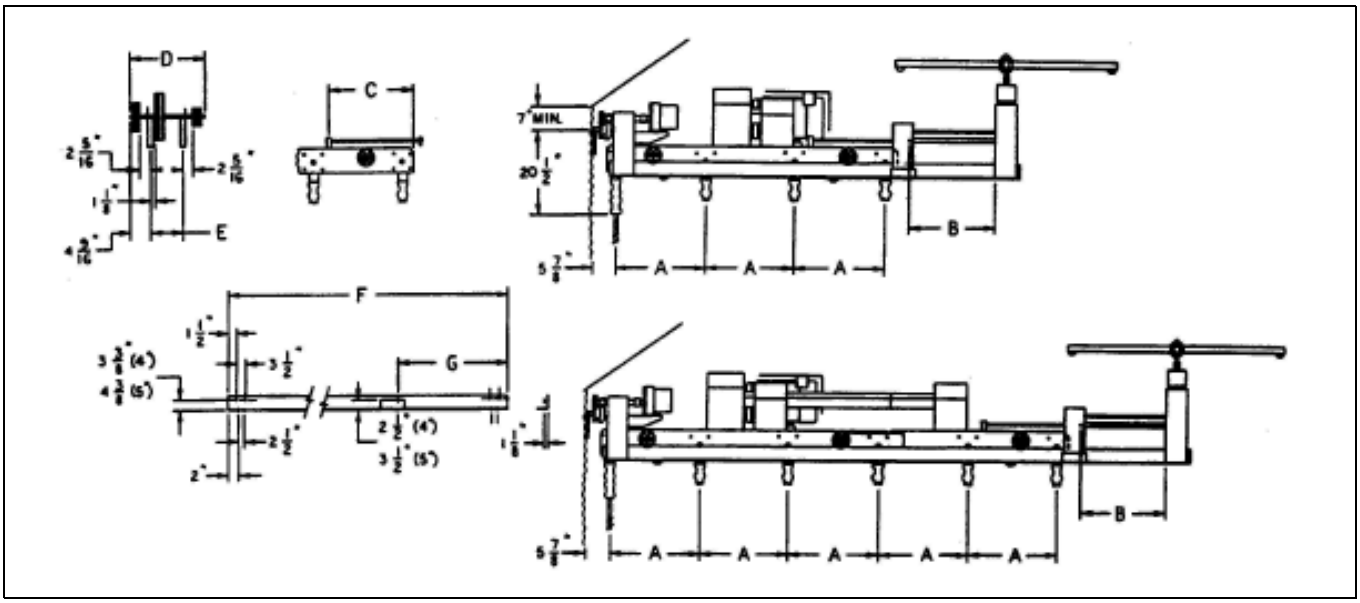


Figure 6B

Bin Diameter	24' 4A	27' 4A	27' 10" 4A	30' 4A	33' 4A	36' 4A	42' 4A	36' 6A	40' 6A	42' 6A	48' 6A
Dimension A	35"	39"	41"	44"	48"	52-1/2"	61"	35"	39"	41"	48"
Drive Arm Guide	DAVID0375	DAVID0376	DAVID0377	DAVID0378	DAVID0390	DAVID0391	DAVID0392	DAVID0375	DAVID0376	DAVID0377	DAVID0390
Dimension B	26-5/8"	29-1/2"	32-1/2"	34-1/2"	38-1/2"	43-1/8"	57-1/2"	26-5/8"	29-1/2"	32-1/2"	38-1/2"
Dimension C	36-1/2"	37-1/2"	37-1/2"	35-1/2"	33-1/2"	33-1/2"	33-1/4"	34-1/2"	33-1/2"	34-1/2"	39-1/2"
Top Drive Shaft	DAVID0433	DAVID0434	DAVID0435	DAVID0436	DAVID0437	DAVID0438	DAVID0439	DAVID0433	DAVID0434	DAVID0435	DAVID0437
Dimension D	30-3/4"	34-3/4"	36-3/4"	39-3/4"	43-3/4"	47-1/8"	55-5/8"	30-3/4"	34-3/4"	36-3/4"	43-3/4"
Shaft Assembly	DAVID0440	DAVID0441	DAVID0442	DAVID0443	DAVID0444	DAVID0445	DAVID0448	DAVID0446	DAVID0447	DAVID0449	DAVID0450
Dimension E	20-1/2"	24-1/2"	26-1/2"	29-1/2"	33-1/2"	38"	46-1/2"	20-1/2"	24-1/2"	26-1/2"	33-1/2"
Front Rail	DAVID0533	DAVID0536	DAVID0537	DAVID0539	DAVID0541	DAVID0552	DAVID0553	DAVID0542	DAVID0543	DAVID0544	DAVID0547
Rear Rail	DAVID0509	DAVID0512	DAVID0513	DAVID0515	DAVID0517	DAVID0549	DAVID0550	DAVID0518	DAVID0519	DAVID0520	DAVID0523
Dimension F	142"	160"	165"	178"	196"	214"	247"	214"	238"	250"	286"
Dimension G	32"	35"	28"	40"	44"	48-1/2"	58-3/4"	32"	35"	38"	44"

Dimension G is from the end of the angle to the center of the first hole in the idler yoke mount.

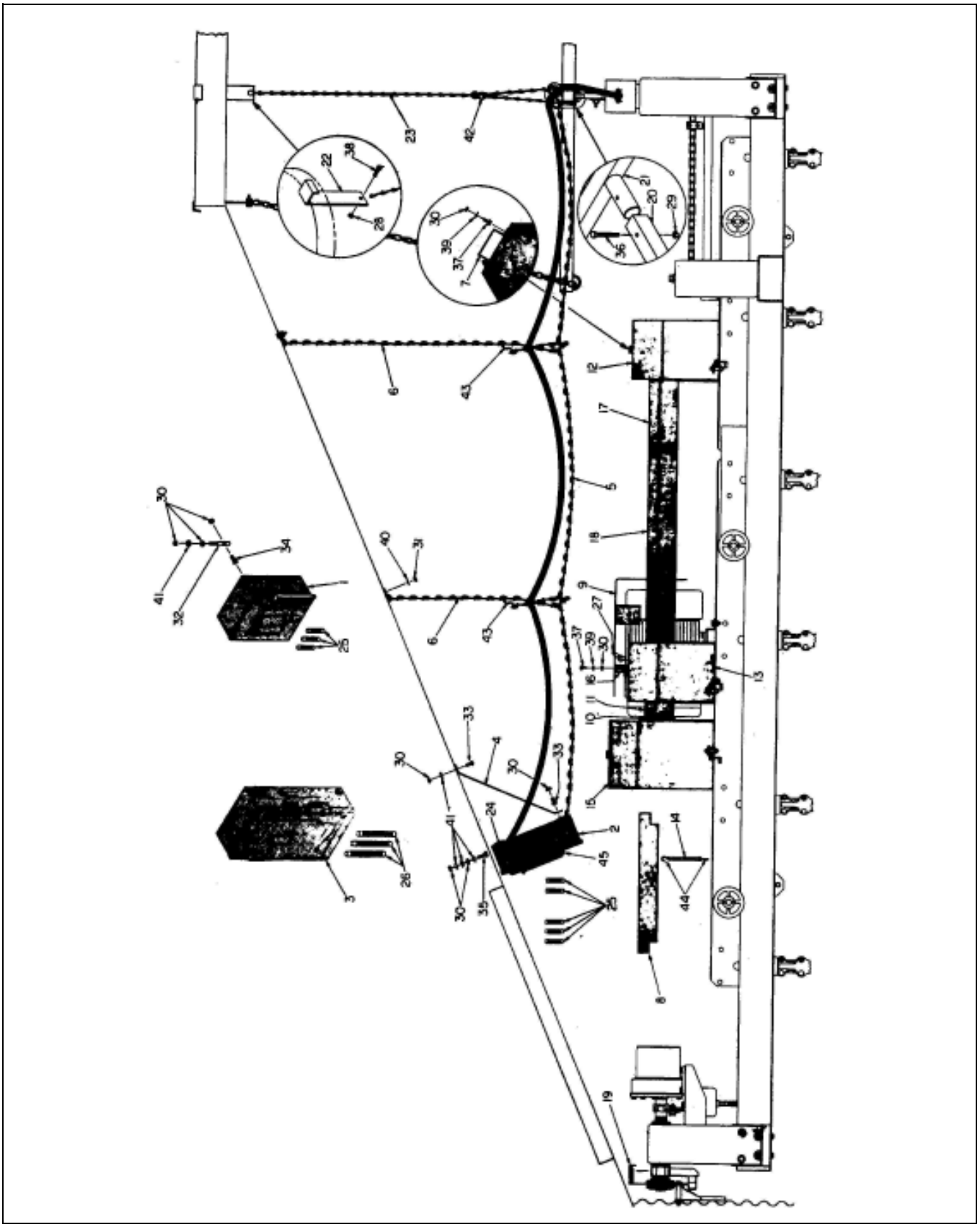
Frame Rail Material	
24' to 33' Bin Diameter 4 Auger	3" x 4" x 1/4" Angle
36' to 42' Bin Diameter 6 Auger	3" x 5" x 1/4" Angle
48' Bin Diameter 6 Auger	3" x 5" x 5/16" Angle
36' and 42' Bin Diameter 4 Auger	3" x 5" x 1/4" Angle

6. Overall Size and Dimensions

Bin Diameter	4 Auger							6 Auger			
	24'	27'	27' 10"	30'	33'	36'	42'	36'	40'	42'	48'
Part #	DAVID0888	DAVID0889	DAVID0889	DAVID0889	DAVID0890	DAVID0890	DAVID0891	DAVID0890	DAVID0891	DAVID0891	DAVID0891
Suspension Chain	8'	10'	10'	10'	13'	13'	16'	13'	16'	16'	16'
Part #	DAVID0879	DAVID0880	DAVID0881	DAVID0881	DAVID0882	DAVID0883	DAVID0885	DAVID0883	DAVID0885	DAVID0885	DAVID0887
Shut Off Chain	10'	11' 6"	13'	13'	14' 6"	16'	19'	16'	19'	19'	22'
Part #	105A0066-3'	105A0066-6'	105A0066-6'	105A0066-6'	105A0066-6'	105A0066-6'	105A0066-6'	105A0066-6'	105A0066-6'	105A0066-6'	105A0066-6'
	-	-	-	-	-	105A0066-9'	105A0066-9'	105A0066-9'	105A0066-9'	105A0066-9'	105A0066-9'
Support Chain	3'	6'	6'	6'	6'	(1) 6' and (1) 9'	(1) 6' and (1) 9'	(1) 6' and (1) 9'	(1) 6' and (1) 9'	(1) 6' and (1) 9'	(1) 6' and (1) 9'
Part #	DAVID0357	DAVID0358	DAVID0359	DAVID0360	DAVID0361	DAVID0362	DAVID0363	DAVID0357	DAVID0358	DAVID03S9	DAVID0361
Center Drive Chain	85"	91"	97"	101"	109"	119"	139"	85"	91"	97"	109"
Part #	DAVID0423	DAVID0424	DAVID0425	104B2004-30	DAVID0426	104B2004-36	104B2004-42	DAVID0423	DAVID0424	DAVID0425	DAVID0426
Drive Shaft Gearbox	23-5/8"	27-5/8"	29-5/8"	32-5/8"	36-5/8"	41-1/8"	49-5/8"	23-5/8"	27-5/8"	29-5/8"	36-5/8"
Part #	104B2031-32	104B2031-36	104B2031-38	104B2031-41	104B2031-45	104B2031-49	104B2031-58	104B2031-32	104B2031-36	104B2031-36	104B2031-45
Drive Shaft Shield	32"	36"	38"	41"	45"	49-1/2"	58"	32"	36"	38"	45"
Part #	-	-	-	-	-	-	-	104B2057-36	104B2057-40	104B2057-42	104B2057-48
Drive Shaft Extension	-	-	-	-	-	-	-	68-9/16"	76-9/16"	80-9/16"	94-9/16"
Part #	104B2041	104B2042	104B2043	104B2044	104B204S	104221S3	10422140	104B2041	104B2042	104B2043	104B204S
Trolley Side Frame	110-1/2"	122-1/2"	128-1/2"	137-1/2"	149-1/2"	163"	188-1/2"	110-1/2"	112-1/2"	128-1/2"	149-1/2"
Part # Front	-	-	-	-	-	-	-	104B2033	104B2034	104B2035	104B2036
Part # Rear	-	-	-	-	-	-	-	104B2037	104B2038	104B2039	104B2040
Side Frame Extension	-	-	-	-	-	-	-	83-3/8"	91-3/8"	95-3/8"	109-3/8"
Part #	106C063	106C063	106C063	106C063	106C063	106C063	106C063	106C063	106C063	106C063	106C063
Track Bracket	76	88	96	96	104	114	132	114	132	132	152
Part #	106C074	106C074	106C074	106C074	106C074	106C074	106C074	106C074	106C074	106C074	106C074
Track	8	9	10	10	11	12	14	12	14	14	16
Part #	1EL3058	1EL3058	1EL3058	1EL3058	1EL3058	1EL3058	1EL3058	1EL3060	1EL3060	1EL3060	1EL3060
Lead-in Wire 230V 1 PH	14' (8/3)	15' (8/3)	17' (8/3)	17' (8/3)	18' 6"	20'	23'	26' (6/3)	26' (6/3)	26' (6/3)	26' (6/3)
Part #	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048
Lead-in Wire 230V 3 PH	14' (10/4)	15' (10/4)	15' 6" (10/4)	23' (10/4)	23' (10/4)	23' (10/4)	23' (10/4)	26' (10/4)	26' (10/4)	26' (10/4)	26' (10/4)
Part #	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052
Lead-in Wire 440V 3 PH	14' (14/4)	15' (14/4)	15' 6" (14/4)	23' (14/4)	23' (14/4)	23' (14/4)	23' (14/4)	26' (14/4)	26' (14/4)	26' (14/4)	
Part #	1EL3058	1EL3058	1EL3058	1EL3058	1EL3058	1EL3058	1EL3058	1EL3060	1EL3060	1EL3060	1EL3060
Motor Wire 230V 1 PH	14' (8/3)	15' (8/3)	14' 6" (8/3)	20' (8/3)	18' 6"	20'	23'	24' 5" (6/3)	24' 5" (6/3)	24' 5" (6/3)	24' 5" (6/3)
Part Number	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048	1EL3048
Motor Wire 230V 3 PH	14' (10/4)	15' (10/4)	14' 6" (10/4)	20' (10/4)	20' (10/4)	20' (10/4)	23' (10/4)	24' 5" (10/4)	24' 5" (10/4)	24' 5" (10/4)	24' 5" (10/4)
Part #	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052	1EL3052
Motor Wire 440V 3 PH	14' (14/4)	15' (14/4)	14' 6" (14/4)	20' (14/4)	23' (14/4)	19' 7"(14/4)	23' (14/4)	24' 5" (14/4)	24' 5" (14/4)	24' 5" (14/4)	24' 5" (14/4)
Part #	CORD3/C-14	CORD3/C-14	CORD3/C-14	CORD3/C-14	CORD3/C-14	CORD3/C-14	CORD3/C-14	CORD3/C-14	CORD3/C-14	CORD3/C-14	CORD3/C-14
Gear Motor Wire	14' 6" (14/3)	16' (14/3)	17' 6" (14/3)	23' 3" (14/3)	23' 3" (14/3)	23' 3" (14/3)	23' 3" (14/3)	26' 3" (14/3)	26' 3" (14/3)	26' 3" (14/3)	26' 3" (14/3)

1. 4-6 Auger Shields and Electrical Switch Boxes - Model 176 Red Giant Stir-Ator
2. 4-6 Auger Trolley Base Unit - Model 176 Red Giant Stir-Ator
3. Outboard Pivot End and Track Section - Model 176 Red Giant Stir-Ator
4. Center Inboard Pivot End - Model 176 Red Giant Stir-Ator
5. 6 Auger Trolley Extension
6. Stir-Guard
7. Pinion Shafts
8. Gearbox #128 (104B2133) (Von Ruden)
9. Gearbox #129 (104B2134) (Von Ruden)
10. Gearbox #137 (104B2132) (Von Ruden)
11. Gearbox #150 (104B2135) (Von Ruden)

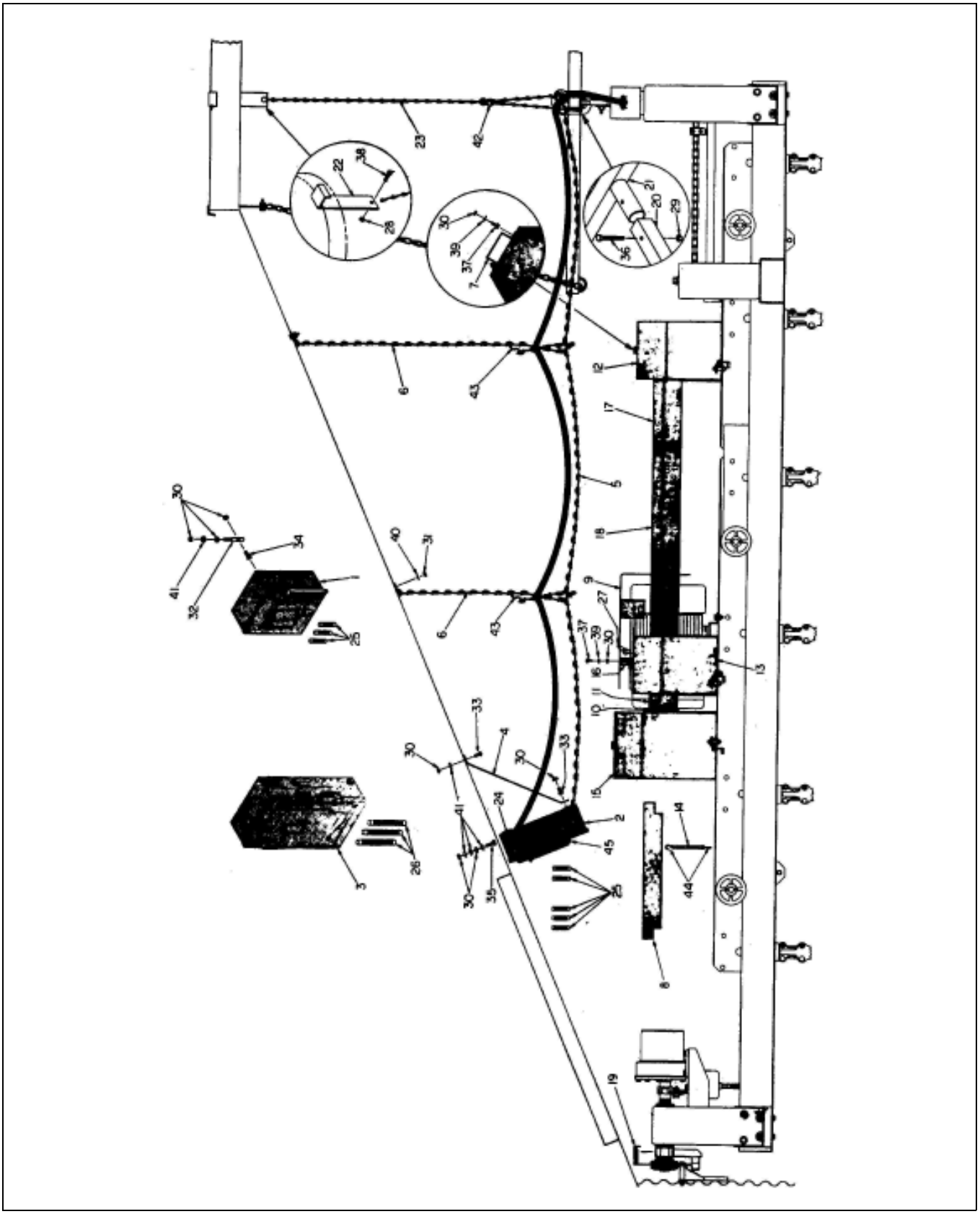
4-6 Auger Shields and Electrical Switch Boxes - Model 176 Red Giant Stir-Ator



4-6 Auger Shields and Electrical Switch Boxes - Model 176
Red Giant Stir-Ator Parts List

Ref #	Part #	Description	Qty
1	103E0006	Power Switch Box - 3 Phase 230V 30 Amp	1
2		**Power Switch Box**	
	106E083	1 Phase 230V 60 Amp	1
	104E2002	3 Phase 230V 60 Amp	1
3	104E0026	Power Switch Box - 3 Phase 440V 30 Amp	1
4		**Brace - Switch Box**	
	103E0009	For 30 Amp 3 Phase 230V Switch Box	1
	103E0010	For 60 Amp 3 Phase 230V Switch Box	1
	103E0011	For 30 Amp 3 Phase 440V Switch Box, 60 Amp, 1 Phase	1
5		**Safety Shut Off Chain**	
	DAVID0879	21' 1" to 24'	1
	DAVID0880	24' 1" to 27'	1
	DAVID0881	27' 1" to 30'	1
	DAVID0882	30' 1" to 33'	1
	DAVID0883	33' 1" to 36'	1
	DAVID0884	36' 1" to 39"	1
	DAVID0885	39' 1" to 42'	1
	DAVID0886	42' 1" to 45'	1
	DAVID0887	45' 1" to 48'	1
6		**Shut Off Support Chain**	
	105A0066-3'	24'	1
	105A0066-6'	27'-48'	1
	105A0066-9'	36'-48'	1
7		**Shield Handle**	
	104B0084	4 Auger	2
	104B0084	6 Auger	3
8		**Gearbox Connecting Shaft Shield - Less Hold-Downs**	
	104B2031-32	24' 4 Auger	2 at 32"
	104B2031-36	27' 4 Auger	2 at 36"
	104B2031-38	27' 10" 4 Auger	2 at 38"
	104B2031-41	30' 4 Auger	2 at 41"
	104B2031-45	33' 4 Auger	2 at 45"
	104B2031-49	36' 4 Auger	2 at 49-1/2"
	104B2031-58	42' 4 Auger	2 at 58"
	104B2031-32	36' 6 Auger	2 at 32"
	104B2031-36	40' 6 Auger	3 at 36"
	104B2031-38	42' 6 Auger	3 at 38"
	104B2031-45	48' 6 Auger	3 at 45"
9	104B2046	Motor Trash Shield (All Motors)	1
10	104B2048	Line Shaft Telescoping Shield (Inside Section)	1
11		**Line Shaft Telescoping Shield**	1
	104B2049-12	4 Auger 24', 27', 27' 10" and 6 Auger 36', 40', 42'	1
	104B2049-19	4 Auger 30', 33' and 6 Auger 48'	1
	104B2049-24	4 Auger 36'	1
	104B2049-32	5 Auger 42'	1
12	104B2052	Gearbox Drive Belt Shield 6 Auger (Closed End)	1

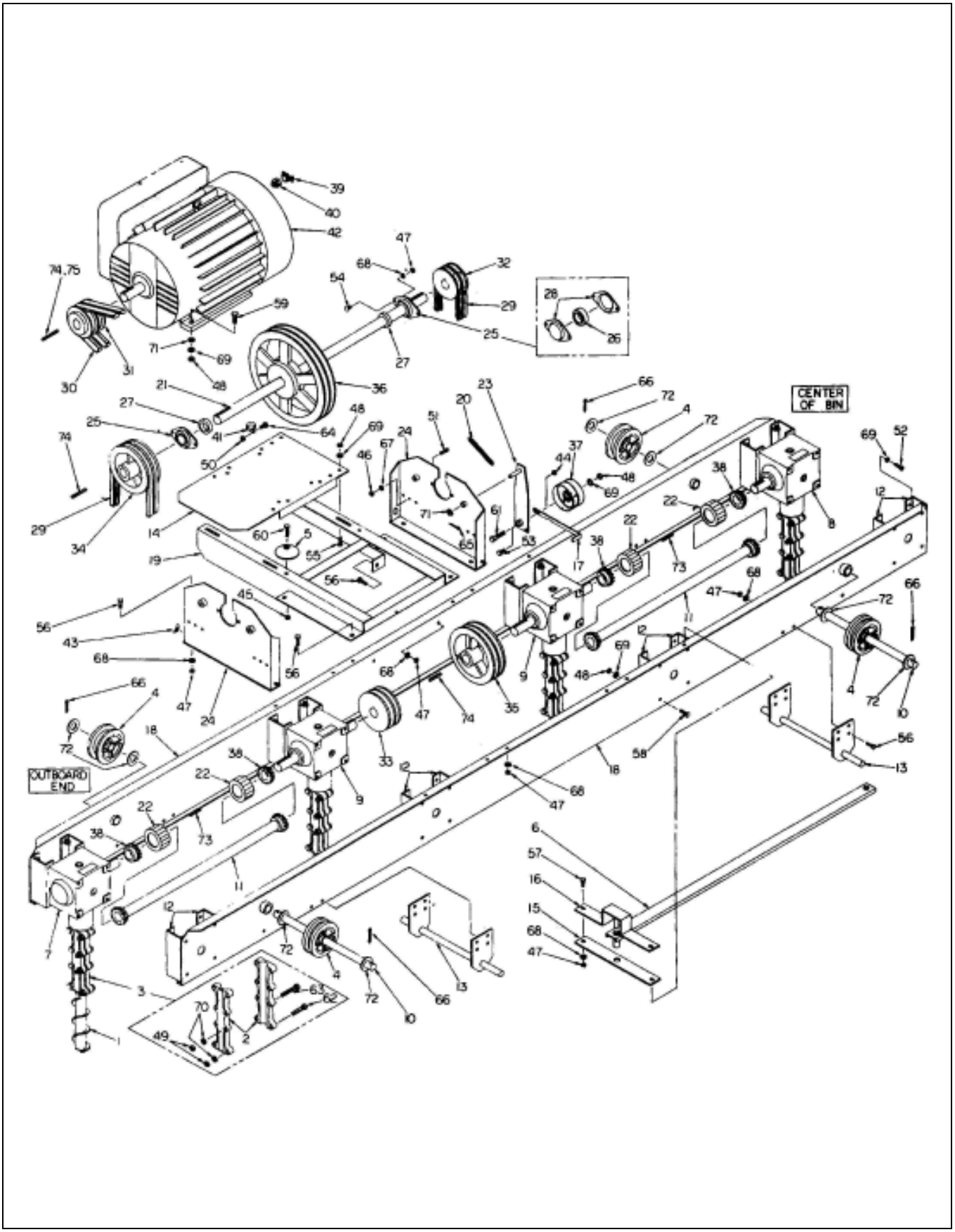
4-6 Auger Shields and Electrical Switch Boxes - Model 176 Red Giant Stir-Ator (Continued)



4-6 Auger Shields and Electrical Switch Boxes - Model 176
Red Giant Stir-Ator Parts List (Continued)

Ref #	Part #	Description	Qty
13	104B2052	Gearbox Drive Belt Shield 4 Auger	1
	104B2061	Gearbox Drive Belt Shield 6 Auger	1
14		**Extension Springs - Shield Hold-Down**	
	104B2056	4 Auger	2
	104B2056	6 Auger	3
15	104B2065	Main Motor Belt Shield	1
16	104B2067	Line Support Bracket - Trash Shield	1
17	104B2069	Line Shaft Extension - Telescoping Shield - 6 Auger (Inside Section)	1
18	104B2070	Line Shaft Extension - Telescoping Shield - 6 Auger (Outside Section)	1
19	104C2036	Shield, Track Unit	1
20	105A0051	Center Suspension - Cross Bar	1
21	105A0052	Center Suspension - Tee Bar	1
22	106A077	Suspension Hook	3
23		**Suspension Chain**	
	DAVID0888	4 Auger 24'	3
	DAVID0889	4 Auger 27', 27' 10", 30'	3
	DAVID0890	4 Auger 33', 36' and 6 Auger 36'	3
	DAVID0891	4 Auger 42' and 6 Auger 40', 42', 48'	3
24	1EL0430	Connector, 3/4"	1
25		**Fuse - 230 Volt**	
	1EL0732	5 HP 1 Phase 40 Amp	2
	1EL0735	7-1/2" and 10 HP 1 Phase 60 Amp	2
	1EL0730	5 and 7-1/2 HP 3 Phase 30 Amp	3
	1EL0732	10 HP 3 Phase 30 Amp	3
26		**Fuse - 440 Volt**	
	1EL0740	5 HP 3 Phase 15 Amp	3
	1EL0741	7-1/2 and 10 HP 3 Phase 20 Amp	3
27	1EL2115	Plastic Tie	1
28	S-4663	Hex Lock Nut, 3/8"	3
29	S-4663	Hex Lock Nut, 3/8"	1
30	S-7215	Hex Flange Whiz Lock Nut, 1/4"-20 UNC	As Required
31	S-396	Hex Nut, 5/16"	2
32	2FH0420	1/4" x 2-3/8" Spade Bolt	2
33	S-9142	1/4" x 1" Round Head Machine Screw	2
34	2FH0747	Pan Head Machine Screw, 1/4"-20 x 1/2"	2
35	S-7643	Hex Bolt, 1/4" x 1-1/4"	2
36	S-7808	Hex Bolt, 3/8" x 2-1/2"	1
37	S-8087	Hex Flange Head Screw, 1/4" x 5/8" - 4 Auger	5
	S-8087	Hex Flange Head Screw, 1/4" x 5/8" - 6 Auger	7
38	S-9065	Bolt - Flange Whiz Lock, 3/8"-16 UNC x 1"	3
39	S-2041	Lock Washer, 1/4" Medium - 4 Auger	5
	S-2041	Lock Washer, 1/4" Medium - 6 Auger	7
40	S-845	Flat Washer, 5/16"	2
41	3FH0977	Cupped Washer, 5/16" x 7/8" O.D.	As Required
42	5FH0081	Heavy “S” Hook, 5/16" Wire Diameter	3
43	5FH0082	“S” Hook, #4	As Required
44	5FH0083	“S” Hook, 10 Gauge Wire 4 Auger	4
	5FH0083	“S” Hook, 10 Gauge Wire 6 Auger	6
45	5FH0094	Swiver Snap, #34	1

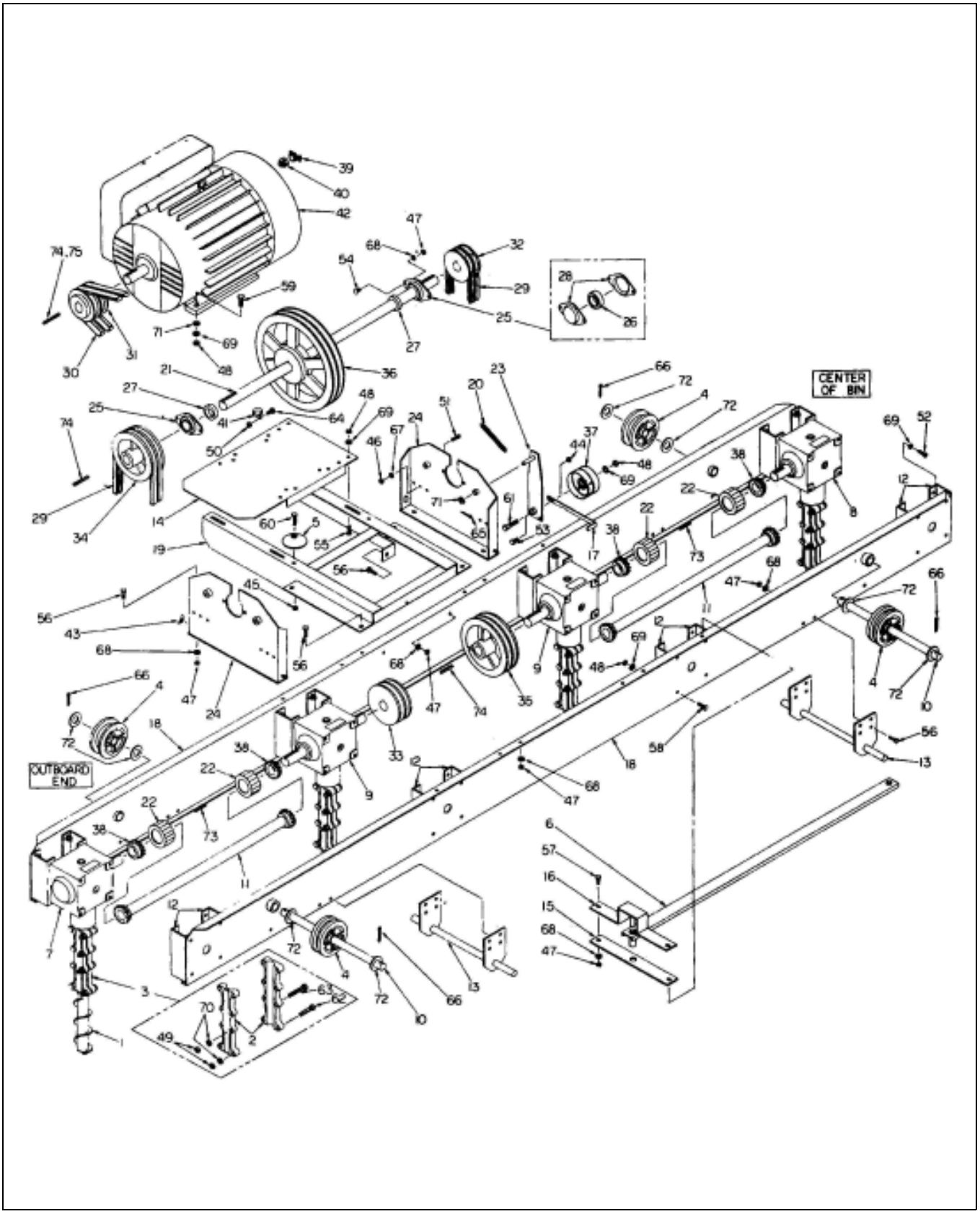
4-6 Auger Trolley Base Unit - Model 176 Red Giant Stir-Ator



4-6 Auger Trolley Base Unit - Model 176 Red Giant Stir-Ator Parts List

Ref #	Part #	Description	Qty
1	103B0015	16' Plain Auger	4
	103B0016	16' Hardsurfaced Auger	4
	105B0079	18' Plain Auger	4
	105B0080	20' Plain Auger	4
	105B0081	21' Plain Auger	4
	105B0082	18' Hardsurfaced Auger	4
	105B0083	20' Hardsurfaced Auger	4
	105B0084	21' Hardsurfaced Auger	4
2	103B0020	Auger Coupler (Half Section) 1"	2
3	103B0025	Auger Coupler, 1" w/ Bolts	4
4		**Wheel - Trolley**	
	104B0008	24' Diameter to 33' Diameter 4 Auger	4
	104B0008	36' Diameter and 42' Diameter 4 Auger and All 6 Auger	6
5	104B0009	Cam Tightener	1
6	104B0041	Drive Arm - Trolley	1
7	104B2132	Gearbox #137 Outboard End	1
8	104B2135	Gearbox #150 4 Auger Center of Bin	1
	104B2133	Gearbox #128 6 Auger 3rd in from Center	1
9	104B2134	Gearbox #129 All Dual Outputs	1
10		**Axle - Wheel**	
	104B2002	24' Diameter to 33' Diameter 4 Auger	2
	104B2002	36' Diameter 4 Auger	3
11		**Drive Shaft w/ Sprockets - Gearbox**	
	DAVID0423	4 Auger 24' and 6 Auger 36'	2
	DAVID0424	4 Auger 27' and 6 Auger 40'	2
	DAVID0425	4 Auger 27' 10" and 6 Auger 42'	2
	DAVID0426	4 Auger 33' and 6 Auger 48'	2
	104B2004-30	4 Auger 30'	2
	104B2004-36	4 Auger 36'	2
	104B2004-42	4 Auger 42'	2
12	104B2007	Spacer Bracket - Gearbox Side	16
13	104B2012	Hold-Down - Trolley Frame	2
14	104B2017	Motor Mount Plate	1
15	104B2019	Pivot Bracket Plate	1
16	104B2020	Pivot Bracket - Drive Arm	1
17	104B2024	Handle Latch - Idler Arm	2
18		**Trolley Side Frame Base**	
	104B2041	24' Diameter 4 Auger or 36' Diameter 6 Auger	2
	104B2042	27' Diameter 4 Auger or 40' Diameter 6 Auger	2
	104B2043	27' 10" Diameter 4 Auger or 42' Diameter 6 Auger	2
	104B2044	30' Diameter 4 Auger	2
	104B2045	33' Diameter 4 Auger or 48' Diameter 6 Auger	2
	10422153	36' Diameter 4 Auger (Rear)	1
	10422153	36' Diameter 4 Auger (Front)	1
	10422140	42' Diameter 4 Auger (Front)	2

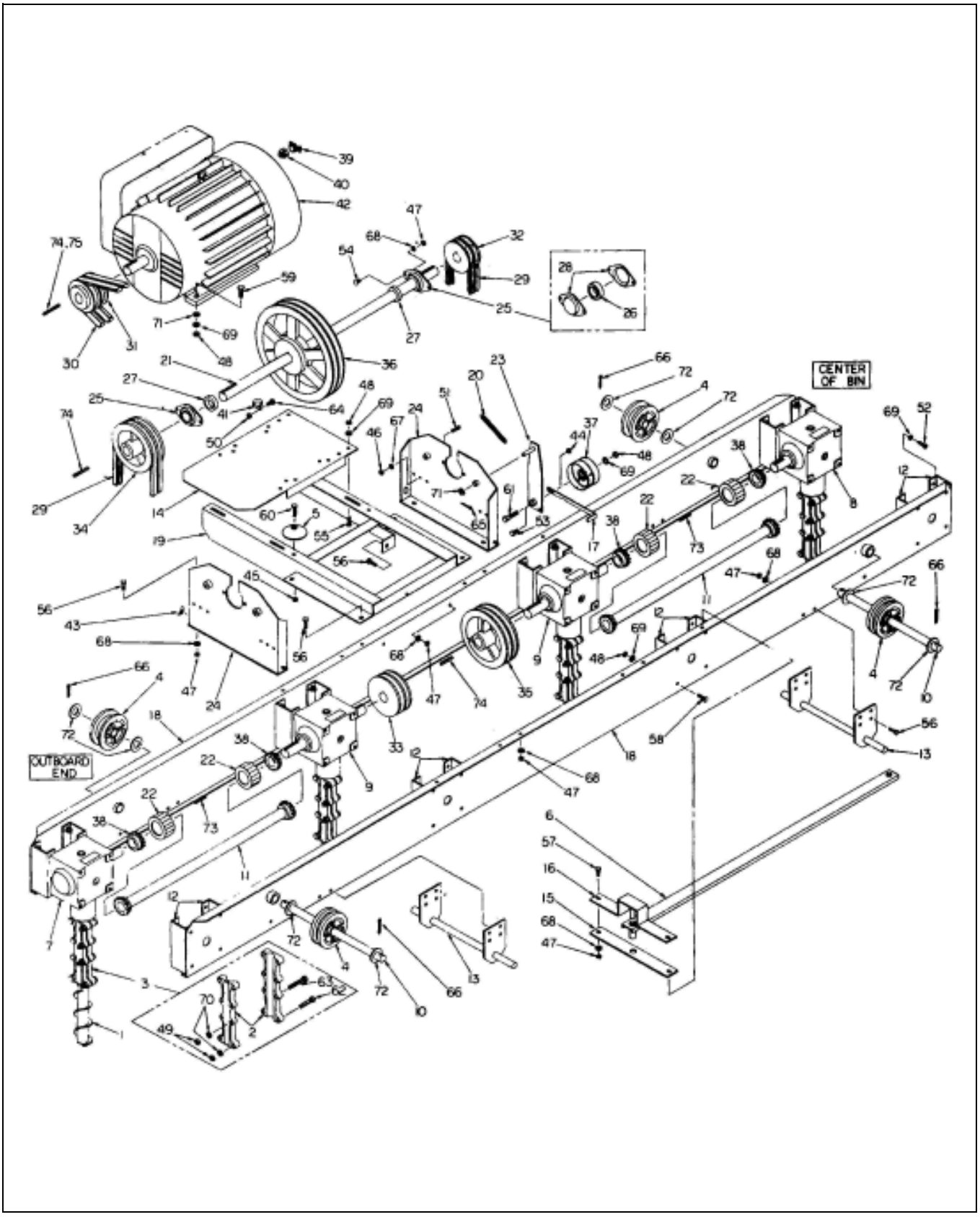
4-6 Auger Trolley Base Unit - Model 176 Red Giant Stir-Ator (Continued)



4-6 Auger Trolley Base Unit - Model 176 Red Giant Stir-Ator Parts List (Continued)

Ref #	Part #	Description	Qty
19	104B2051	Motor Mount Support	1
20	104B2053	Extension Spring - Belt Idler	2
21		**Shaft - Main Top Drive**	
	DAVID0433	4 Auger 24' and 6 Auger 36'	1
	DAVID0434	4 Auger 27' and 6 Auger 40'	1
	DAVID0435	4 Auger 27' 10" and 6 Auger 42'	1
	DAVID0436	4 Auger 33' and 6 Auger 48'	1
	DAVID0437	4 Auger 30'	1
	DAVID0438	4 Auger 36'	1
	DAVID0439	4 Auger 42'	1
22	104B2075	Flexible Coupler Chain - Delrin #40 Double Strand	4
23	104B2079	Idler Arm	2
24	104B2080	Bearing Bracket - Top Drive Shaft	2
25	PT0119	Bearing, 1" Complete w/ Flanges	2
26	PT0223	Bearing - Sealed w/ Eccentric Lock, 1"	1
27	PT0401	Collar - Eccentric Lock, 1"	2
28	PT0420	Bearing Flange, 2 Hole	2
29	PT0485	V-Belt - AX-38 (Matched)	4
30	GC06680	V-Belt - BX-48 (Matched)	2
31		**Pulley - Motor, Double Groove**	
	PT0642	1-1/8" x 4" - 2B (5 HP and 7-1/2 HP)	1
	PT0643	1-3/8" x 4" - 2B (10 HP)	1
32	PT0645	Pulley - Double Groove - 1" x 4-1/4", A Section (24'-33' 4 Auger)	1
	PT0651	Pulley - Double Groove - 1" x 6", A Section (All 6 Auger and 36' 4 Auger) and 42' 4 Auger	1
33	PT0648	Pulley - Double Groove - 1" x 5-1/4" A Section	1
34	PT0656	Pulley - Double Groove - 1" x 7" A Section	1
35	PT0662	Pulley - Double Groove - 1" x 8", A Section (24'-33' 4 Auger)	1
	PT0651	Pulley - Double Groove - 1" x 6", A Section (All 6 Auger and 36' and 42' 4 Auger)	1
36	PT0678	Pulley - Main Drive, Double Groove, 1" x 11-3/8", B Section	1
37	PT0709	Flat Idler Pulley, 3-1/4" O.D. x 3/8"	2
38	PT1115	Sprocket - #40-16T	4
39	1EL0430	Connector, 3/4"	1
40	1EL0481	Enlarger Fitting, 3/4" x 1"	1
41	1EL2090	Nylon Cable Clamp	1
42		**Electric Motor**	
	500-1	5 HP - 1 Phase	1
	500-3	5 HP - 3 Phase	1
	712-1	7.5 HP - 1 Phase	1
	3EL5117	7.5 HP - 3 Phase	1
	1000-1	10 HP - 1 Phase	1
	1000-3	10 HP - 3 Phase	1

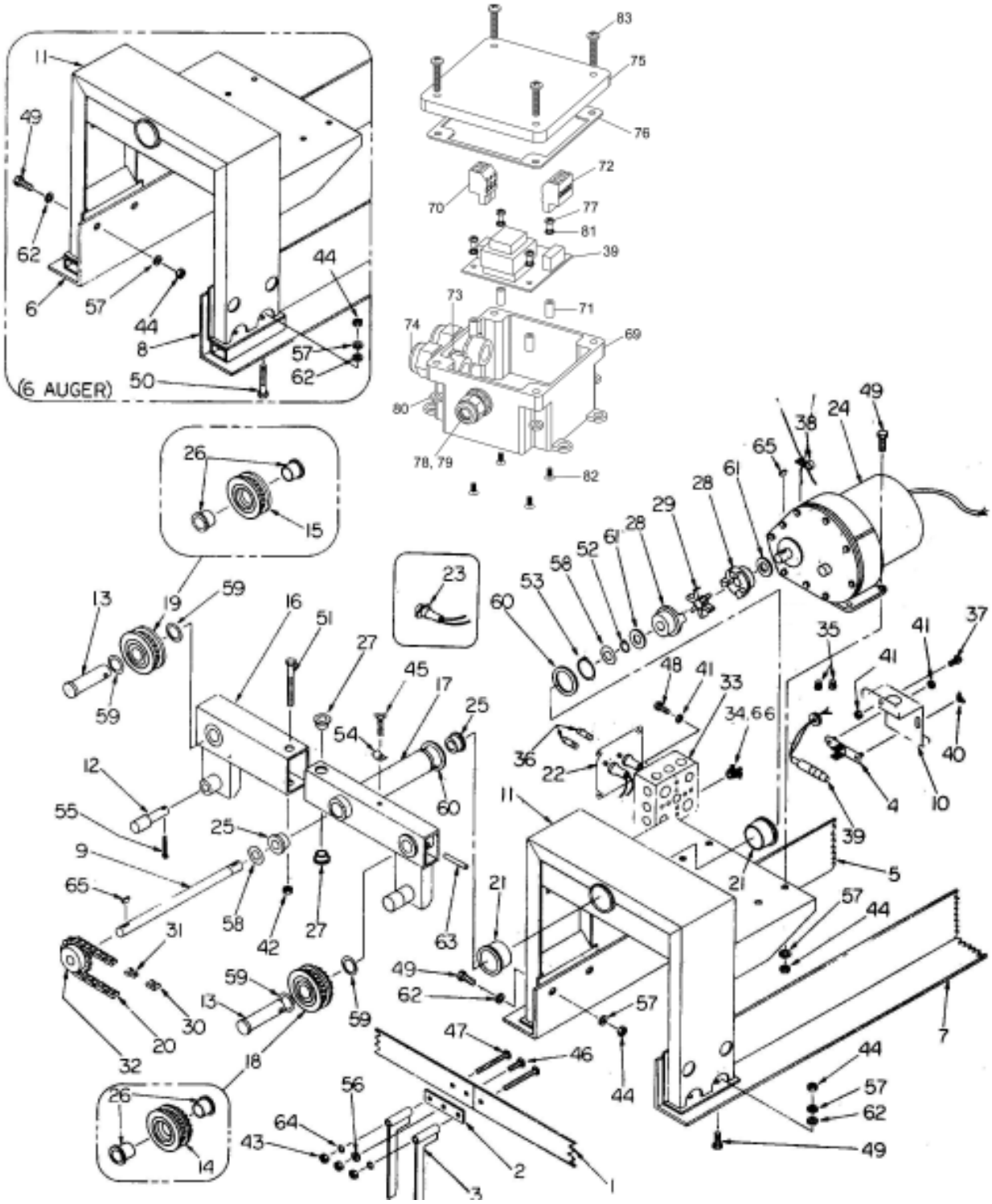
4-6 Auger Trolley Base Unit - Model 176 Red Giant Stir-Ator (Continued)



4-6 Auger Trolley Base Unit - Model 176 Red Giant Stir-Ator Parts List (Continued)

Ref #	Part #	Description	Qty
43	S-6781	Self Locking Wing Nut, 1/4"	4
44	S-2010	Hex Lock Nut, #10	2
45	S-4663	Hex Lock Nut, 3/8"	1
46	S-1102	Hex Nut, 1/4"	2
47	S-396	Hex Nut, 5/16"	24
48	S-456	Hex Nut, 3/8"	42
49	S-860	Hex Nut, 7/16"	8
50	1FH0981	Hex Flange Lock Nut, #10-24 UNC	1
51	2FH0425	Eye Screw, 1/4" x 3/4"	2
52	S-8898	Socket Head Cap Screw, 3/8" x 3/4"	32
53	2FH0453	Hex Machine Bolt, #10 x 3/4"	2
54	2FH0645	Carriage Bolt, 5/16" x 3/4"	4
55	S-3585	Carriage Bolt, 3/8" x 1"	4
56	S-8072	Hex Bolt, 5/16" x 3/4"	18
57	S-1146	Hex Bolt, 5/16" x 1"	2
58	S-7520	Hex Bolt, 3/8" x 1"	32
59	S-7767	Hex Bolt, 3/8" x 1-1/4"	4
60	S-7395	Hex Bolt, 3/8" x 1-3/4"	1
61	S-7808	Hex Bolt, 3/8" x 2-1/2"	2
62	S-8401	Hex Bolt, 7/16" x 2-1/4"	4
63	S-7013	Hex Bolt, 7/16" x 2-1/2"	4
64	2FH0978	Hex Flange Screw, #10 x 24 UNC x 5/8"	1
65	S-4196	Cotter Pin, 5/32" x 1"	2
66		**Cotter Pin, 3/16" x 1-1/4"**	
	S-9161	24' Diameter to 33' Diameter 4 Auger	4
	S-9161	36' Diameter 4 Auger	6
67	S-2041	Lock Washer, 1/4" Medium	2
68	S-1147	Lock Washer, 5/16" Medium	24
69	S-1054	Lock Washer, 3/8" Medium	74
70	S-7014	Lock Washer, 7/16" Medium	8
71	S-845	Flat Washer, 5/16"	6
72		**Flat Washer, 3/4" SAE**	
	S-7624	24' Diameter to 33' Diameter 4 Auger	8
	S-7624	36' Diameter 4 Auger	12
73	S-9168	Square Key, 1/4" x 1"	4
74	S-4513	Square Key, 1/4" x 2"	6
75	S-8430	Square Key, 5/16" x 2" (10 HP Only)	1

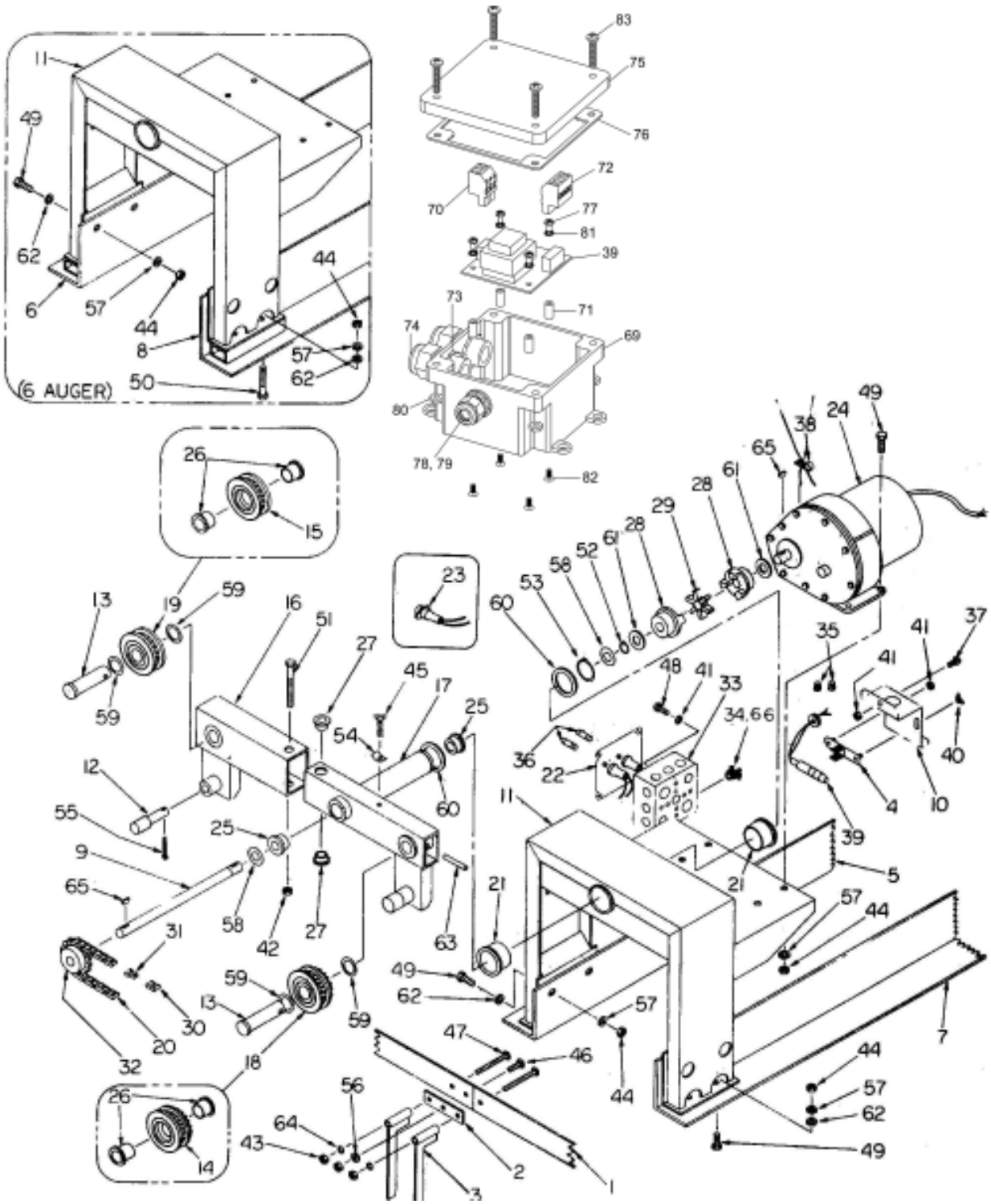
Outboard Pivot End and Track Section - Model 176
Red Giant Stir-Ator



Outboard Pivot End and Track Section - Model 176
Red Giant Stir-Ator Parts List

Ref #	Part #	Description	Qty
1	106C074	Track - Bin Wall - 16' Length	As Required
2	103C0038	Track Connector Plate	As Required
3	106C063	Track Bracket - Bin Wall, Galvanized	As Required
4	104C0017	Tilt Switch Holder	1
5 6 7 8		**Rails**	
	DAVID0533	142" Long 24' 4 Auger	Front Rail
	DAVID0509		Rear Rail
	DAVID0536	160" Long 27' 4 Auger	Front Rail
	DAVID0512		Rear Rail
	DAVID0537	165" Long 27' 10" 4 Auger	Front Rail
	DAVID0513		Rear Rail
	DAVID0539	178" Long 30' 4 Auger	Front Rail
	DAVID0515		Rear Rail
	DAVID0541	196" Long 33' 4 Auger	Front Rail
	DAVID0517		Rear Rail
	DAVID0552	214" Long 36' 4 Auger	Front Rail
	DAVID0549		Rear Rail
	DAVID0553	247" Long 42' 4 Auger	Front Rail
	DAVID0550		Rear Rail
	DAVID0542	217" Long 36' 6 Auger	Front Rail
	DAVID0518		Rear Rail
	DAVID0543	238" Long 40' 6 Auger	Front Rail
	DAVID0519		Rear Rail
	DAVID0544	250" Long 42' 6 Auger	Front Rail
	DAVID0520		Rear Rail
	DAVID0547	286" Long 48' 6 Auger	Front Rail
	DAVID0523		Rear Rail
9	104C2013	Gear Motor Drive Shaft	1
10	104C2014	Support Cover - Mercury Switch	1
11	104C2017	Outboard End Pivot Yoke	1
12	104C2018	Hold-Down Roller - Track	2
13	104C2025	Pin - Drive Wheel	2
14	104C2026	Front Drive Wheel w/ Sprocket	1
15	104C2027	Rear Track Wheel w/o Sprocket	1
16	104C2034	Track Unit - Rear Extension	1
17	104C2035	Track Unit w/ Pivot (Drive Section)	1
18	104C2037	Front Drive Wheel w/ Sprocket and Bushings	1
19	104C2038	Rear Track Wheel w/ Bushings	1
20	104C2039	Roller Drive Chain - Track Unit #40	1
21	104C2041	Bushing - Flanged, 1-1/2" I.D. x 1-3/4" O.D. x 1-1/2"	2
22	104E2014	Cover and Fuse Holder Assembly w/o Fuses	1
23	105E0021	Fuse Holder w/o Fuses	2
24	DMC20089	Gear Motor - Trolley, 230V, 60 Hz/50 Hz, 1.1/1.3 Amp	1
25	PT0881	Bushing - Flanged, 3/4" I.D. x 1" O.D. x 3/4"	2
26	PT0883	Bushing - Flanged, 1" I.D. x 1-1/4" O.D. x 3/4"	4
27	PT0886	Bushing - Flanged, 1/2" I.D. x 3/4" O.D. x 1/2"	2
28	PT0925	Flexible Drive Coupler Section, 3/4"	2
29	PT0926	Flexible Drive Coupler Insert	1
30	D02-0031	Connecting Link, #40	1
31	7099955	#40 Offset Link	1
32	PT1101	Roller Chain Sprocket, #40 - 14'	1

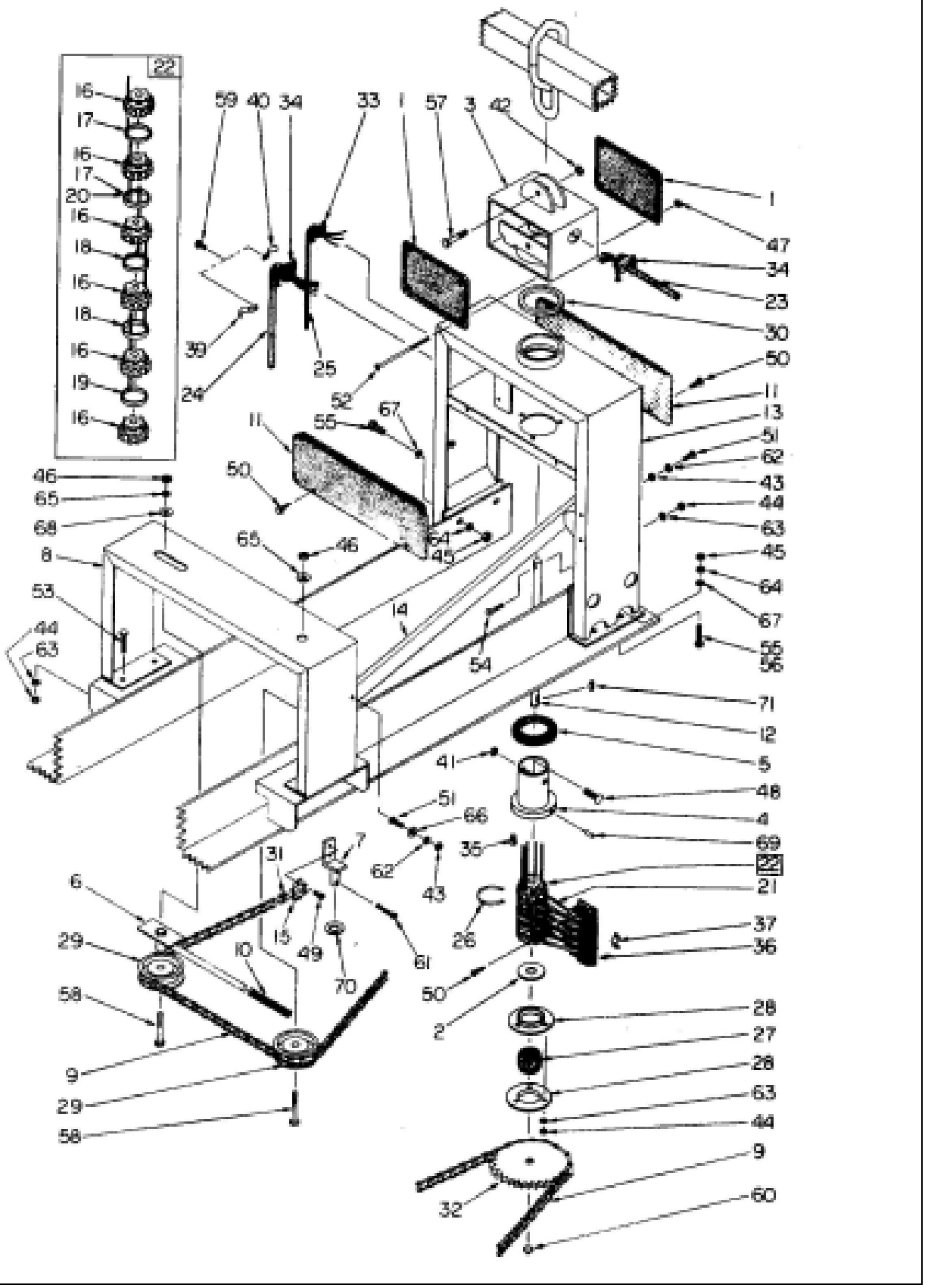
Outboard Pivot End and Track Section - Model 176 Red Giant Stir-Ator (Continued)



Outboard Pivot End and Track Section - Model 176 Red Giant Stir-Ator Parts List (Continued)

Ref #	Part #	Description	Qty
33	1EL0361	Outlet Box, 4" x 4"	1
34	1EL0410	Connector, 1/2" MPT	1
35	401176	Wire Twist Connector	2
36	1EL0727	Fuse - Gear Motor 220V 1.8 Amp	2
37	S-1429	Hex Bolt, 1/4"-20 x 3/4"	5
39	106E110	Kit, PCB and Accelerometer Assembly - Electronic Tilt Switch	1
40	S-6781	Wing Nut - Self Locking, 1/4"	1
41	S-4310	Hex Lock Nut, 1/4"	9
42	S-6493	Hex Lock Nut, 1/2"	1
43	S-396	Hex Nut, 5/16"	As Required
44	S-456	Hex Nut, 3/8"	12
45	2FH0426	Wing Thumbscrew, 1/4" x 1-1/2"	1
46	S-8059	Carriage Bolt, 5/16" x 1"	As Required
47	S-9094	Carriage Bolt, 5/16" x 3" Grade 5	As Required
48	S-1101	Hex Bolt, 1/4" x 1/2"	5
49	S-7520	Hex Bolt, 3/8" x 1" (4 Auger)	12
	S-7520	Hex Bolt, 3/8" x 1" (6 Auger and 36' 4 Auger)	8
50	S-7522	Hex Bolt, 3/8" x 2" (6 Auger or 36' 4 Auger)	4
51	S-7532	Hex Bolt, 1/2" x 3-1/2"	1
52	3FH0562	Snap Ring - External, 3/4"	1
53	3FH0566	Snap Ring - External, 1-1/2"	1
54	3FH0601	Push on Fastener	1
55	S-4196	Cotter Pin, 5/32" x 1"	2
56	S-1147	Lock Washer, 5/16" Medium	As Required
57	S-1054	Lock Washer, 3/8" Medium	12
58	3FH0828	Machinery Bushing, 3/4" I.D. x 1-1/4" O.D. x 14 Gauge	2
59	3FH0831	Machinery Bushing, 1" I.D. x 1-1/2" O.D. x 14 Gauge	4
60	3FH0832	Machinery Bushing, 1-1/2" I.D. x 2-1/4" O.D. x 14 Gauge	2
61	3FH0850	Nylon Flat Washer, 25/32" I.D. x 1-3/8" O.D.	2
62	S-845	Flat Washer, 5/16"	8
63	S-7244	Spring Pin, 1/4" x 1-1/2"	2
64	3FH0977	Cupped Washer, 5/16" x 7/8" O.D.	As Required
65	S-8105	Woodruff Key, 3/16" x 5/8"	3
66	FH-1309	Lock Nut, 1/2" with Pipe Threads	2
67	1EL0425	Connector, 1/2" MPT (N/S)	1
68	104C2036	Shield, Track Unit (N/S)	1
69	106E095	Box, Drilled	1
70	D03-0188	Plug, 3 Pin for D03-0122	1
71	D03-0329	Stand Off, Nylon #6-32 x 1/2"	4
72	E240-1148	Connector, 4 Pin 0.200 PCB Plug	1
73	FH-1309	Lock Nut, 1/2" with Pipe Threads	2
74	FH-1310	Connector, Cord Heyco #3231	2
75	FLX-2689	Cover, Electrical Box	1
76	FLX-2690	Gasket, Electrical Box 4 x 4	1
77	S-7393	Screw, MS #6-32 x 1/4" PHP ZN Grade 2	4
78	S-7398	Connector, 3/8" Cord	1
79	S-7399	Jamb Nut, 3/8" for Connector, Heyco	1
80	S-7931	Hex Nut, # 10-24 SS	4
81	S-8753	Split Lock Washer, #6 ZN	4
82	S-8778	Screw, MS #6-32 x 1/4" FHS ZN Grade 2	4
83	S-995	Screw, MS #10-24 x 1" PHP SS	4

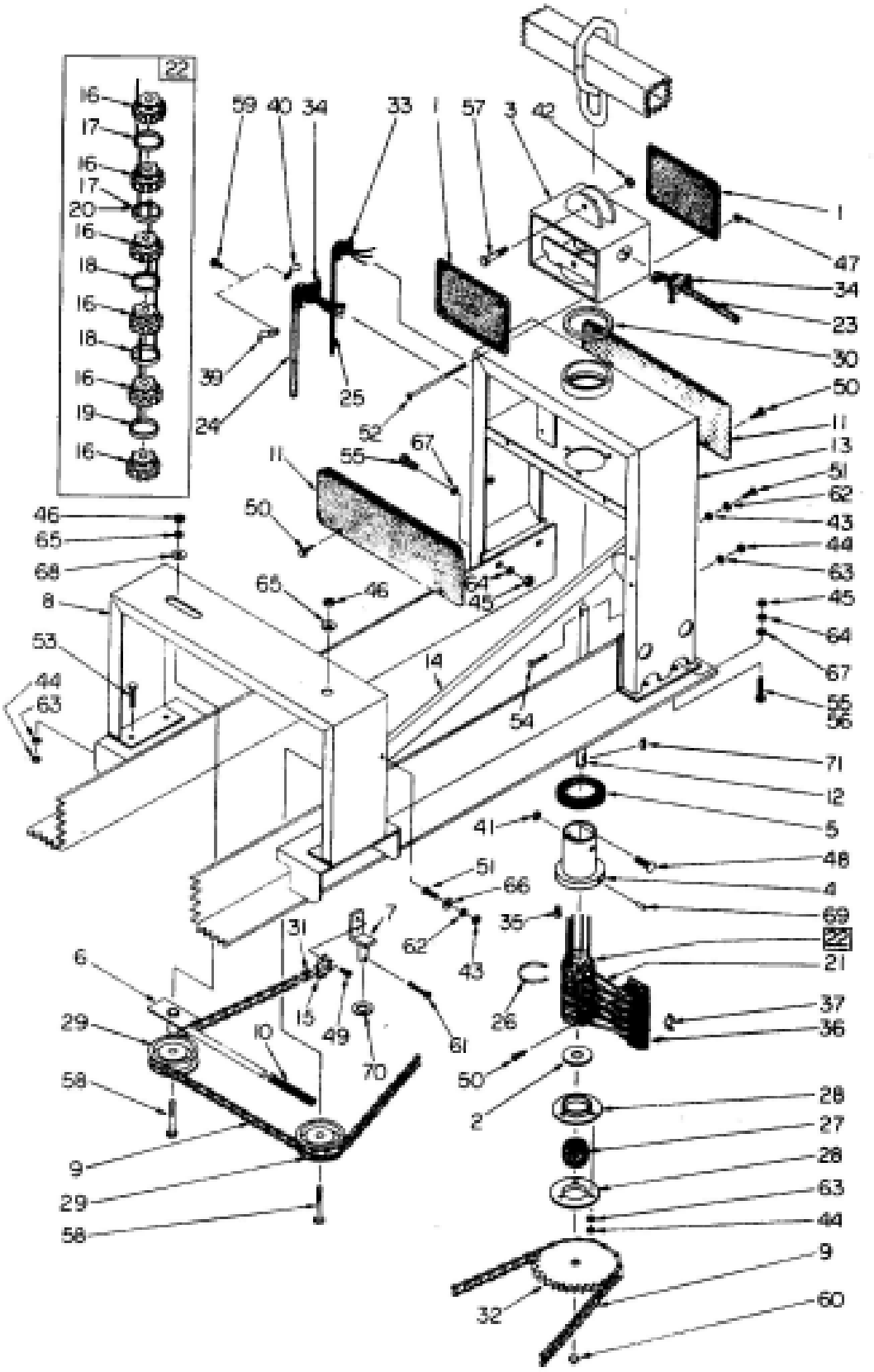
Center Inboard Pivot End - Model 176 Red Giant Stir-Ator



Center Inboard Pivot End - Model 176 Red Giant Stir-Ator Parts List

Ref #	Part #	Description	Qty
1	103A0003	Cover - Center Junction Box	2
2	103E0012	Insulating Spacer Washer	1
3	104A0005	Center Pivot Junction Box with Pin	1
4	106A055	Flanged Bushing - Center Pivot	1
5	104A0015	Nylon Thrust Bearing - Center Pivot	1
6	104A0026	Chain Idler Slide	1
7	104A0029	Connecting Angle	1
8	104A0031	Chain Idler Support Yoke	1
9		**Roller Chain - Center Drive #2040**	
	DAVID0357	85" Long Center Drive Chain 24' 4 Auger and 36' 6 Auger	As Required
	DAVID0358	91" Long Center Drive Chain 27' 4 Auger and 40' 6 Auger	As Required
	DAVID0359	97" Long Center Drive Chain 27' 10" Auger and 42' 6 Auger	As Required
	DAVID0360	101" Long Center Drive Chain 30' 4 Auger	As Required
	DAVID0361	109" Long Center Drive Chain 33' 4 Auger and 48' 6 Auger	As Required
	DAVID0362	119" Long Center Drive Chain 36' 4 Auger	As Required
	DAVID0363	139" Long Center Drive Chain 42' 4 Auger	As Required
10	104A0041	Compression Spring	1
11	104A2003	Swivel Cover - Center Pivot Yoke	2
12	104A2006	Drive Shaft - Center Sprocket	1
13	104A2008	Center Pivot Yoke	1
14		**Drive Arm Guide**	
	DAVID0375	26-5/8" Long Drive Arm Guide 24' 4 Auger and 36' 6 Auger	1
	DAVID0376	29-1/2" Long Drive Arm Guide 27' 4 Auger and 40' 6 Auger	1
	DAVID0377	32-1/2" Long Drive Arm Guide 27' 10" Auger and 42' 6 Auger	1
	DAVID0378	34-1/2" Long Drive Arm Guide 30' 4 Auger	1
	DAVID0390	38-1/2" Long Drive Arm Guide 33' 4 Auger and 48' 6 Auger	1
	DAVID0391	43-1/8" Long Drive Arm Guide 36' 4 Auger	1
	DAVID0392	57-1/2" Long Drive Arm Guide 42' 4 Auger	1
15	104A2012	Flanged Attachment Link, #2040	1
16	104E0001	Insulating Block - Electric Swivel	6
17	104E0007	Copper Ring w/ #10 Size Wire (White) 1 Phase	2
	104E0007	Copper Ring w/ #10 Size Wire (White) 3 Phase	1
18	104E0010	Copper Ring w/ #10 Size Wire (Black) 1 Phase	2
	104E0010	Copper Ring w/ #10 Size Wire (Black) 3 Phase	1
19	104E0012	Copper Ring w/ #10 Size Wire (Green)	1
20	104E0015	Copper Ring w/ #10 Size Wire (Red) 3 Phase Only	1
21	104E0020	Contact Strap - Electric Swivel 1 Phase	5
	104E0020	Contact Strap - Electric Swivel 3 Phase	4
22		**Electric Swivel (Complete)**	
	104E2003	#10 (5 Wire) 230V 1 Phase 5-10 HP	1
	104E2005	#10 (4 Wire) 230V or 440V 3 Phase 5-10 HP	1

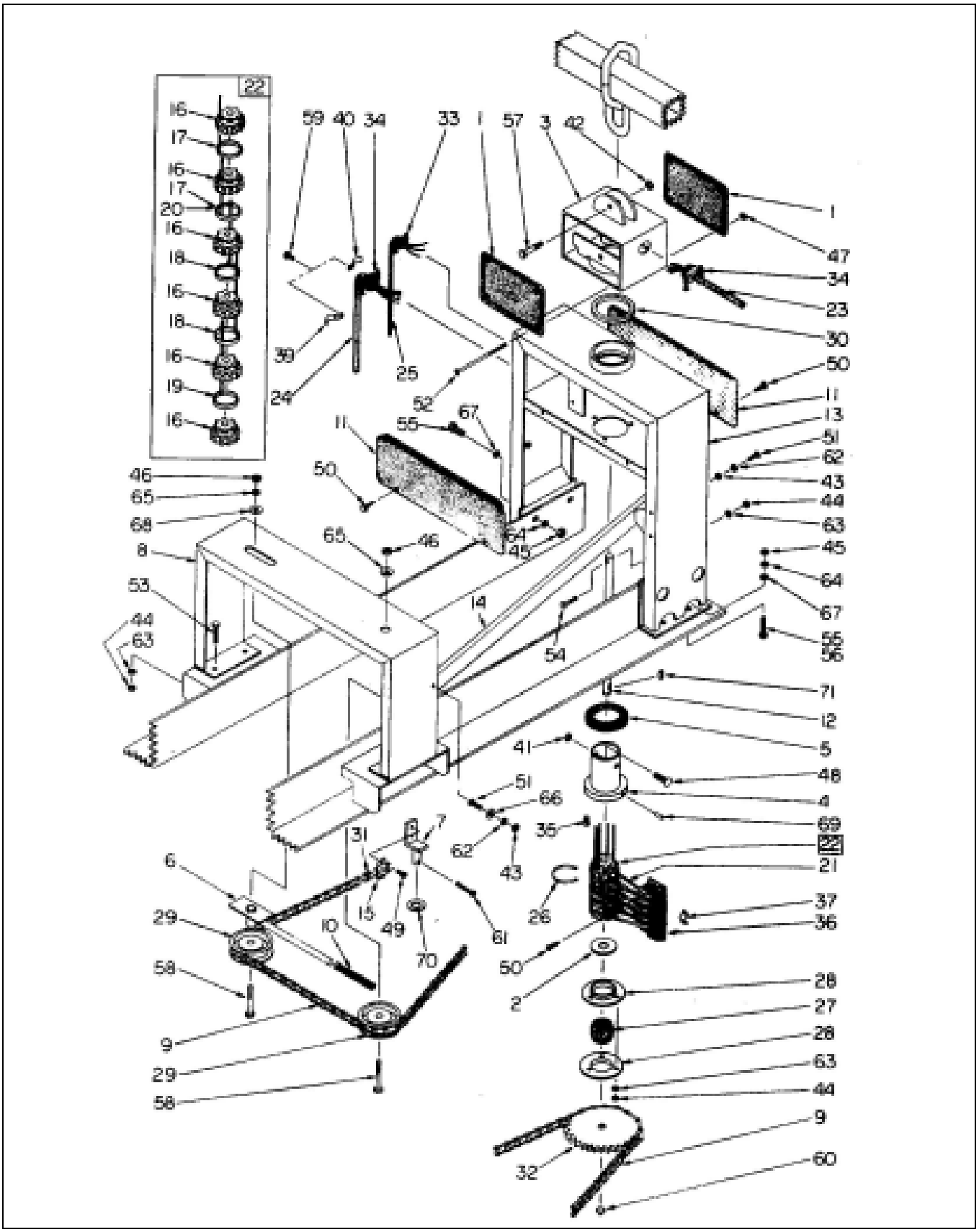
Center Inboard Pivot End - Model 176 Red Giant Stir-Ator (Continued)



Center Inboard Pivot End - Model 176 Red Giant Stir-Ator Parts List (Continued)

Ref #	Part #	Description	Qty
23	1EL3058 8/3	**Power Cord - Lead-in (Specify Unit and Wire Size) 1 Phase**	
		14' Long Cord for 24' 4 Auger	
		15' Long Cord for 27' 4 Auger	
		17' Long Cord for 27' 10" 4 Auger	
		17' Long Cord for 30' 4 Auger	
		18' 6" Long Cord for 33' 4 Auger	
		20' Long Cord for 36' 4 Auger	
		23' Long Cord for 42' 4 Auger	
	1EL3060 6/3	26' Long Cord for 36' 6 Auger	
		26' Long Cord for 40' 6 Auger	
		26' Long Cord for 42' 6 Auger	
		26' Long Cord for 48' 6 Auger	
	1EL3048 230V 3 PH 10/4 1EL3052 440V 3 PH 14/4	**Power Cord - Lead-in (Specify Unit and Wire Size) 3 Phase**	
		14' Long Cord for 24' 4 Auger	
		15' Long Cord for 27' 4 Auger	
		15' 6" Long Cord for 27' 10" 4 Auger	
		23' Long Cord for 30' 4 Auger	
		23' Long Cord for 33' 4 Auger	
		23' Long Cord for 36' 4 Auger	
		23' Long Cord for 42' 4 Auger	
		26' Long Cord for 36' 6 Auger	
		26' Long Cord for 40' 6 Auger	
		26' Long Cord for 42' 6 Auger	
		26' Long Cord for 48' 6 Auger	
24	1EL3058 8/3	**Power Cord - To Motor (Specify Unit and Wire Size) 1 Phase**	
		14' Long Cord for 24' 4 Auger	
		15' Long Cord for 27' 4 Auger	
		14' 6" Long Cord for 27' 10" 4 Auger	
		20' Long Cord for 30' 4 Auger	
		18' 6" Long Cord for 33' 4 Auger	
		20' Long Cord for 36' 4 Auger	
		23' Long Cord for 42' 4 Auger	
	1EL3060 6/3	24' 5" Long Cord for 36' 6 Auger	
		24' 5" Long Cord for 40' 6 Auger	
		24' 5" Long Cord for 42' 6 Auger	
		24' 5" Long Cord for 48' 6 Auger	
	1EL3048 230V 3 PH 10/4 1EL3052 440V 3 PH 14/4	**Power Cord - To Motor (Specify Unit and Wire Size) 3 Phase**	
		14' Long Cord for 24' 4 Auger	
		15' Long Cord for 27' 4 Auger	
		14' 6" Long Cord for 27' 10" 4 Auger	
		20' Long Cord for 30' 4 Auger	
		20' Long Cord for 33' 4 Auger	
		20' Long Cord for 36' 4 Auger	
		23' Long Cord for 42' 4 Auger	
		24' 5" Long Cord for 36' 6 Auger	
		24' 5" Long Cord for 40' 6 Auger	
		24' 5" Long Cord for 42' 6 Auger	
		24' 5" Long Cord for 48' 6 Auger	

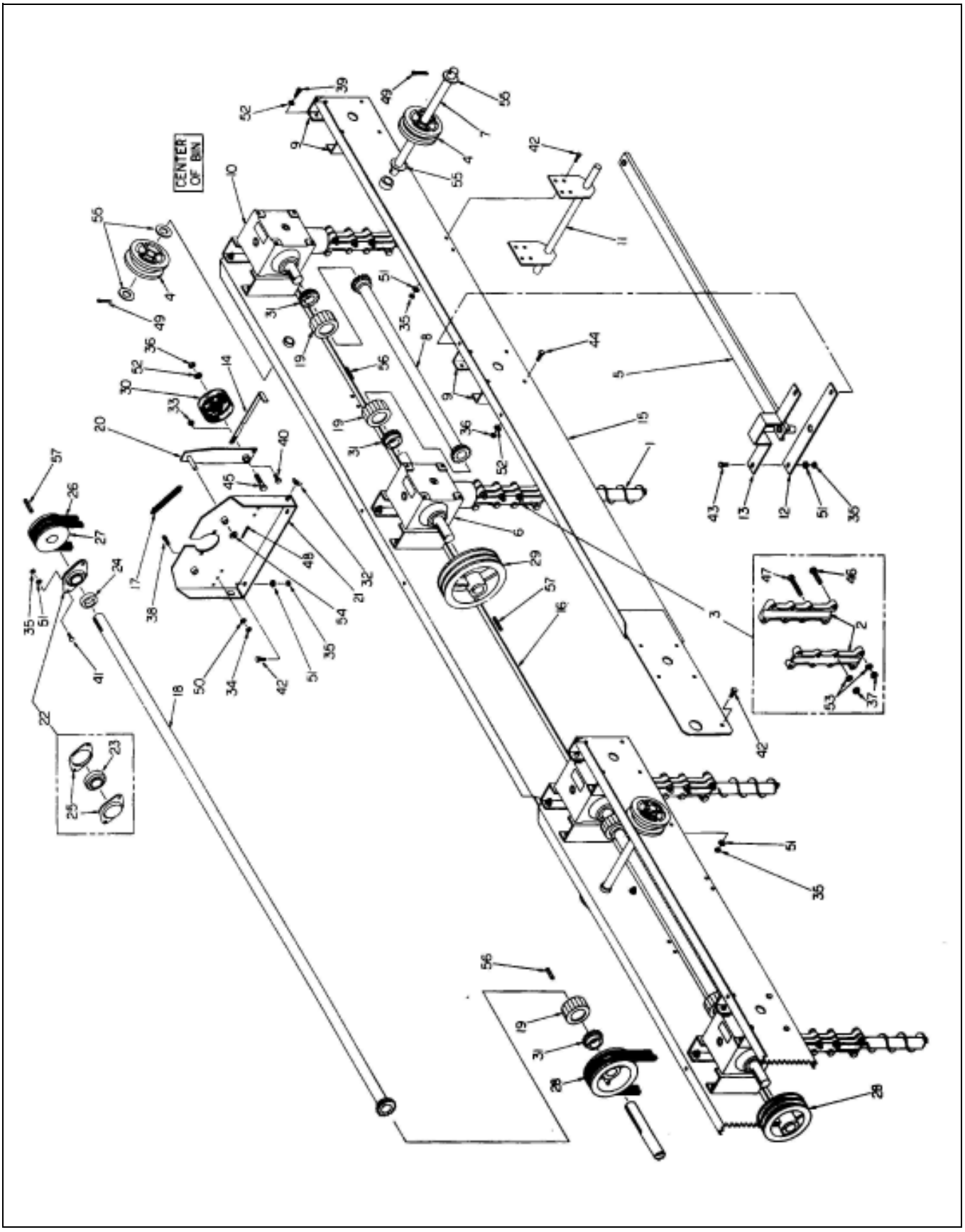
Center Inboard Pivot End - Model 176 Red Giant Stir-Ator (Continued)



Center Inboard Pivot End - Model 176 Red Giant Stir-Ator Parts List (Continued)

Ref #	Part #	Description	Qty
25	Cord3/C-14	**Power Cord - To Gear Motor (Specify Unit Size)**	
		14' 6" Long Cord for 24' 4 Auger	
		16' Long Cord for 27' 4 Auger	
		17' 6" Long Cord for 27' 10" 4 Auger	
		23' 3" Long Cord for 30' 4 Auger	
		23' 3" Long Cord for 33' 4 Auger	
		23' 3" Long Cord for 36' 4 Auger	
		23' 3" Long Cord for 42' 4 Auger	
		26' 3" Long Cord for 36' 6 Auger	
		26' 3" Long Cord for 40' 6 Auger	
		26' 3" Long Cord for 42' 6 Auger	
		26' 3" Long Cord for 48' 6 Auger	
26	105A0097	Swivel Spring Clip 1 Phase	5
	105A0097	Swivel Spring Clip 3 Phase	4
27	PT0235	Ball Bushing, 7/8"	1
28	PT0421	Flange - Ball Bushing	2
29	PT0711	Flange - Chain Idler Pulley, 3-1/4" O.D. x 1/2"	2
30	PT0808	Seal	1
31	PT01065	Offset Connecting Link # 2040	As Required
32	PT01110	Center Drive Sprocket #40-35' x 7/8"	1
33	1782	Connector, 3/8"	1
34	1EL0430	Connector, 3/4"	2
35	1EL0557	Twist Lock (Gray #8 Wire)	3
	1EL0559	Twist Lock (Large Blue #6 Wire)	3
36	1EL0885	Terminal Block	1
37	1EL0895	Jumper Strap - Terminal 3 Phase	1
	1EL0895	Jumper Strap - Terminal 1 Phase	3
39	1EL2104	Cord Clamp	1
40	1EL2105	Conduit Clamp	1
41	1FH0728	Hex Lock Nut, 1/2" - 20 UNF	2
42	S-6493	Hex Lock Nut, 1/2"	1
43	S-1102	Hex Nut, 1/4"	3
44	S-396	Hex Nut, 5/16"	8
45	S-456	Hex Nut, 3/8"	8
46	S-7510	Hex Nut, 1/2"	2
47	S-849	Hex Machine Screw Nut, #10	4
48	2FH0435	Knurled Shoulder Bolt, 1/2" UNF x 1"	2
49	2FH0441	Socket Head Cap Screw, #10-32 UNF x 5/8"	2
50	S-9019	Self-Tapping Screw, #10 x 1"	6
51	S-6369	Carriage Bolt, 1/4" x 3/4"	3
52	2FH0740	Machine Screw, #10 x 5"	4
53	S-1146	Hex Bolt, 5/16" x 1"	4
54	S-7149	Hex Bolt, 5/16" x 1-3/4" Grade 5	1
55	S-7520	Hex Bolt, 3/8" x 1" 4 Auger	8
	S-7520	Hex Bolt, 3/8" x 1" 6 Auger, 36' - 4 Auger	4
56	S-7522	Hex Bolt, 3/8" x 2" (6 Auger, 36' - 4 Auger)	4
57	S-7811	Hex Bolt, 1/2" x 2"	1
58	S-7946	Hex Bolt, 1/2" x 3-1/4"	2
59	S-8087	Hex Flange Head Screw, 1/4" x 5/8"	1
60	3FH0563	Snap Ring, 7/8"	1
61	S-4196	Cotter Pin, 5/32" x 1"	1
62	S-2041	Lock Washer, 1/4" Medium	3
63	S-1147	Lock Washer, 5/16" Medium	8
64	S-1054	Lock Washer, 3/8" Medium	8
65	S-236	Lock Washer, 1/2" Medium	2
66	S-1430	Flat Washer, 1/4"	1
67	S-845	Flat Washer, 5/16"	8
68	S-2121	Flat Washer, 1/2"	1
69	3FH0900	Spring Pin, 1/4" x 7/8"	1
70	S-7400	Flat Washer, 5/8" SAE	1
71	3FH0992	Woodruff Key, 3/16" x 1"	1

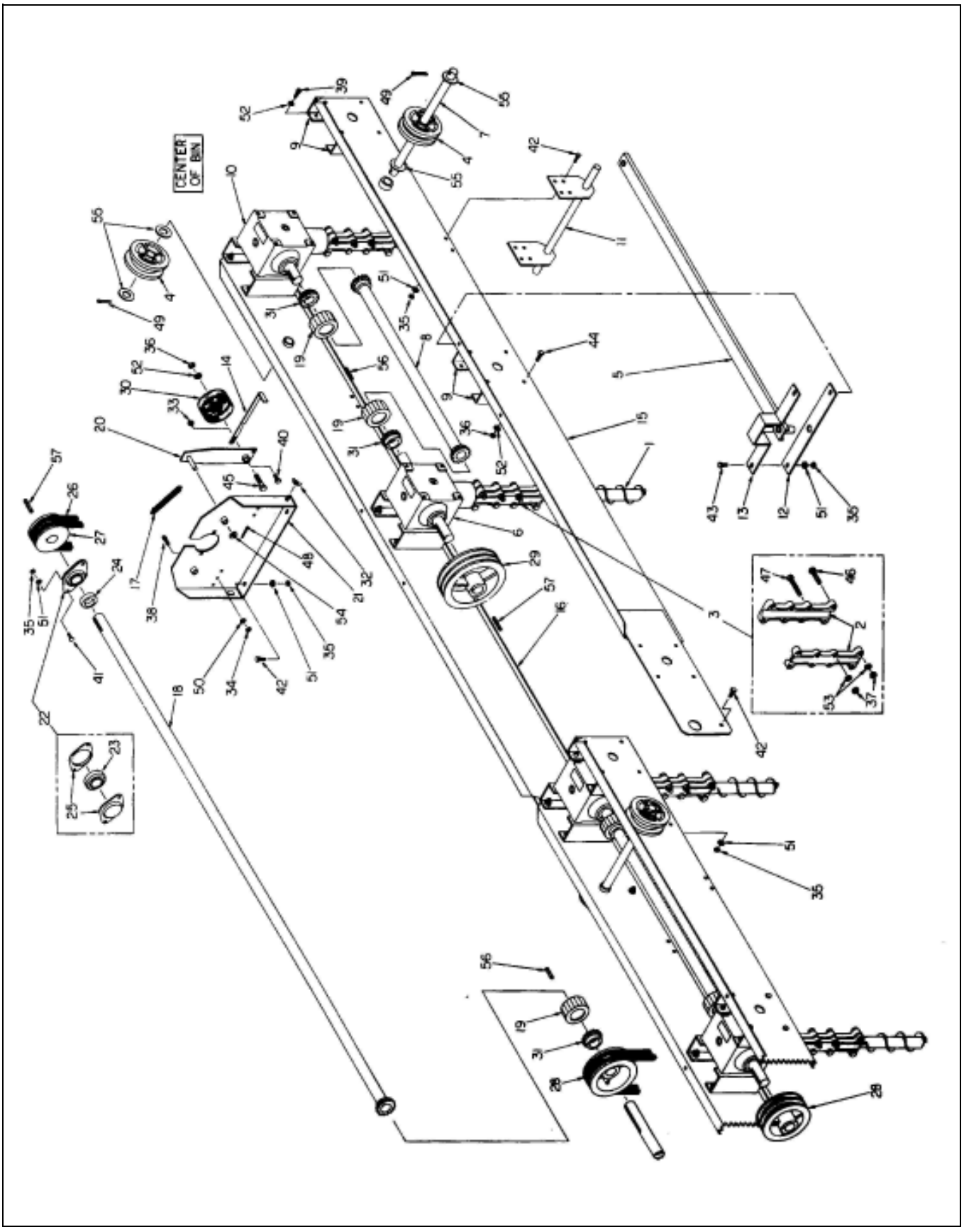
6 Auger Trolley Extension



6 Auger Trolley Extension Parts List

Ref #	Part #	Description	Qty
1	103B0015	16' Plain Auger	2
	103B0016	16' Hardsurfaced Auger	2
	105B0079	18' Plain Auger	2
	105B0080	20' Plain Auger	2
	105B0081	21' Plain Auger	2
	105B0082	18' Hardsurfaced Auger	2
	105B0083	20' Hardsurfaced Auger	2
	105B0084	21' Hardsurfaced Auger	2
2	103B0020	Auger Coupler, (Half Section) 1"	2
3	103B0025	Auger Coupler, 1" w/ Bolts	2
4	104B0008	Wheel - Trolley	2
5	104B0041	Drive Arm - Trolley	1
6	104B2134	Trolley Gearbox (Center) (Model #921228-129)	1
7	104B2002	Axle - Wheel	1
8	DAVID0423	23-5/8" Long Gearbox Drive Shaft 24' 4 Auger and 36' 6 Auger	1
	DAVID0424	27-5/8" Long Gearbox Drive Shaft 27' 4 Auger and 40' 6 Auger	1
	DAVID0425	29-5/8" Long Gearbox Drive Shaft 27' 10" 4 Auger and 42' 6 Auger	1
	104B2004-30	32-5/8" Long Gearbox Drive Shaft 30' 4 Auger	1
	DAVID0426	36-5/8" Long Gearbox Drive Shaft 33' 4 Auger and 48' 6 Auger	1
	104B2004-36	41-1/8" Long Gearbox Drive Shaft 36' 4 Auger	1
	104B2004-42	49-5/8" Long Gearbox Drive Shaft 42' 4 Auger	1
9	104B2007	Spacer Bracket - Gearbox Side	8
10	104B2135	Trolley Gearbox (Inboard) (Model #921304-150) 4 A.	1
11	104B2012	Hold-Down - Trolley Frame	1
12	104B2019	Pivot Bracket Plate	1
13	104B2020	Pivot Bracket Drive Arm	1
14	104B2024	Handle Latch - Idler Arm	1
15		**Trolley Side Frame Extension - Front**	
	104B2033	36' Diameter	1
	104B2034	40' Diameter	1
	104B2035	42' Diameter	1
	104B2036	48' Diameter	1
16		**Trolley Side Frame Extension - Rear**	
	104B2037	36' Diameter	1
	104B2038	40' Diameter	1
	104B2039	42' Diameter	1
	104B2040	48' Diameter	1
17	104B2053	Extension Spring - Belt Idler	1
18	104B2057-36	68-9/16" Drive Shaft Extension 36' 6 Auger	1
	104B2057-40	76-9/16" Drive Shaft Extension 40' 6 Auger	1
	104B2057-42	80-9/16" Drive Shaft Extension 42' 6 Auger	1
	104B2057-48	94-9/16" Drive Shaft Extension 48' 6 Auger	1

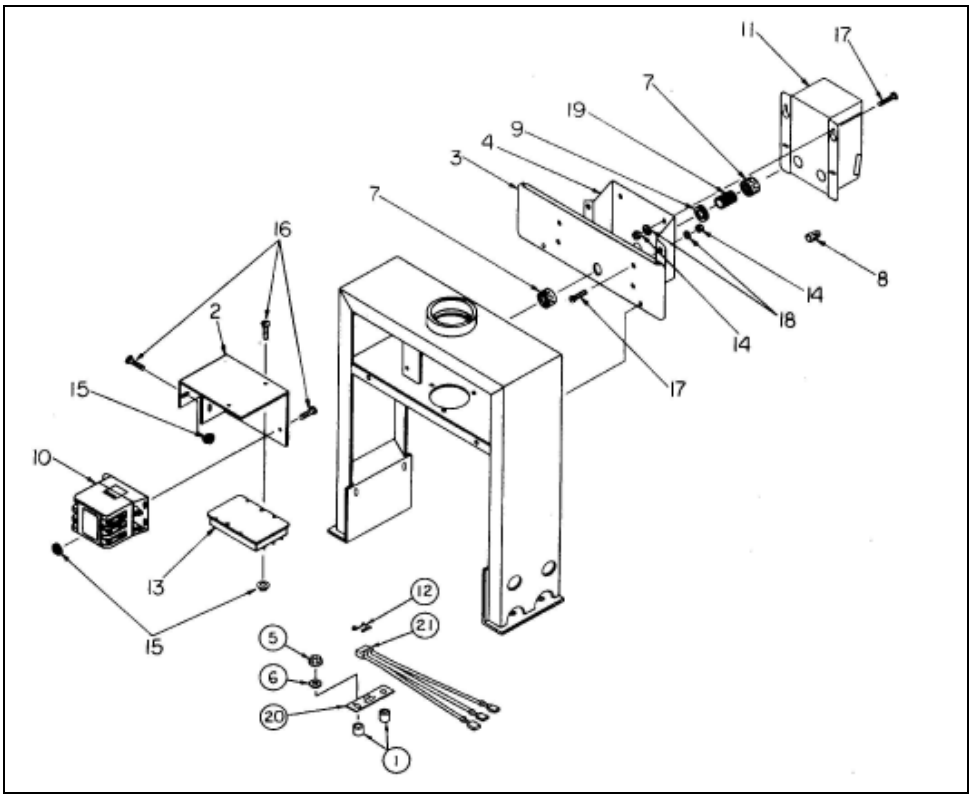
6 Auger Trolley Extension (Continued)



6 Auger Trolley Extension Parts List (Continued)

Ref #	Part #	Description	Qty
19	104B2075	Flexible Coupler Chain - Delrin #40 Double Strand	3
20	104B2079	Idler Arm	1
21	104B2080	Bearing Bracket - Top Drive Shaft	1
22	PT0119	Bearing, 1" Complete w/ Flanges	1
23	PT0223	Bearing - Sealed w/ Eccentric Lock, 1"	1
24	PT0401	Collar - Eccentric Lock, 1"	1
25	PT0420	Bearing Flange, 2 Hole	2
26	PT0485	V-Belt - AX 38 (Matched)	2
27	PT0645	Pulley - Double Groove - 1" x 4-1/4", A Section	1
28	PT0651	Pulley - Double Groove - 1" x 6", A Section	2
29	PT0662	Pulley - Double Groove - 1" x 8", A Section	1
30	PT0709	Flat Idler Pulley, 3-1/4" O.D. x 3/8"	1
31	PT1115	Sprocket - #40 16T	3
32	S-6781	Wing Nut - Self Locking, 1/4"	2
33	S-2010	Hex Lock Nut, #10	1
34	S-1102	Hex Nut, 1/4"	1
35	S-396	Hex Nut, 5/16"	12
36	S-7525	Hex Nut, 3/8"	17
37	S-860	Hex Nut, 7/16"	8
38	2FH0425	Eye Screw, 1/4" x 3/4"	1
39	S-8898	Socket Head Cap Screw, 3/8" x 3/4"	16
40	2FH0453	Hex Machine Bolt, #10 x 3/4"	1
41	S-6076	Carriage Bolt, 5/16" x 3/4"	2
42	S-8072	Hex Bolt, 5/16" x 3/4"	8
43	S-1146	Hex Bolt, 5/16" x 1"	2
44	S-7520	Hex Bolt, 3/8" x 1"	16
45	S-7808	Hex Bolt, 3/8" x 2-1/2"	1
46	S-8401	Hex Bolt, 7/16" x 2-1/4"	4
47	S-7013	Hex Bolt, 7/16" x 2-1/2"	4
48	S-4196	Cotter Pin, 5/32" x 1"	1
49	S-9161	Cotter Pin, 3/16" x 1-1/4"	2
50	S-2041	Lock Washer, 1/4" Medium	1
51	S-1147	Lock Washer, 5/16" Medium	12
52	S-1054	Lock Washer, 3/8" Medium	33
53	S-7014	Lock Washer, 7/16" Medium	8
54	S-845	Flat Washer, 5/16"	1
55	S-7624	Flat Washer, 3/4" SAE	4
56	S-9168	Square Key, 1/4" x 1"	3
57	S-4513	Square Key, 1/4" x 2"	2

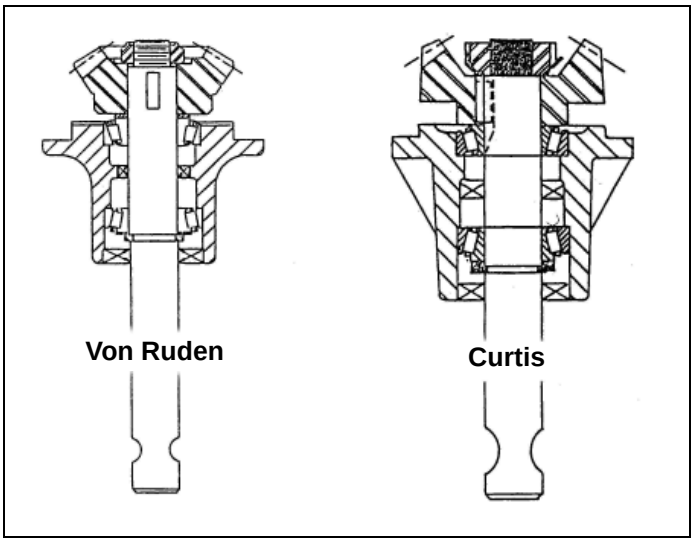
Stir-Guard



Stir-Guard Parts List

Ref #	Part #	Description	Qty
1	106E073	Switch Stand Off	2
2	104E2041	Stir-Guard Mounting Plate	1
3	104E2044	Cover and Transformer Mount	1
4	104E2047	Transformer Stand Off Bracket	1
5	S-7215	Hex Flange Whiz Lock Nut, 1/4"-20 UNC	2
6	S-1430	Flat Washer, 1/4"	2
7	019-1002-5	Insulating Bushing, 1/2"	2
8	053-1012-3	Wire Connector	6
9	1EL2041	Rubber Grommet, 1-5/16" x 11/16" x 3/8" Thick	1
10	2EL0245	Magnetic Contactor, 3 Pole, 40 Amp (3 Phase)	1
	2EL0246	Magnetic Contactor, 3 Pole, 50 Amp (1 Phase)	1
11	2EL0311	Transformer for 440V Only	1
	2EL0317	Transformer for 380V Only	1
	FH-6968	Transformer for 575V Only	1
12	2EL0641	Auxiliary Actuator, with Hardware	1
13	106E063	Solid State Timer, 45 Minutes	1
14	S-1102	Hex Nut, 1/4"	8
15	1FH0993	Hex Flange Whiz Lock Nut, #8-32	6
16	2FH0772	Pan Head Machine Screw, #8-32 UNC x 1/2"	6
17	2FH0747	Pan Head Machine Screw, 1/4"-20 x 1/2" (440V Only)	8
18	S-2041	Lock Washer, 1/4" Medium	8
19	4FH0531	Pipe Nipple, 1/2" x 2-1/2"	1
20	106E075	Switch Mounting Plate with Clinch Nuts	1
21	106E074	Switch with Leads	1

Pinion Shafts



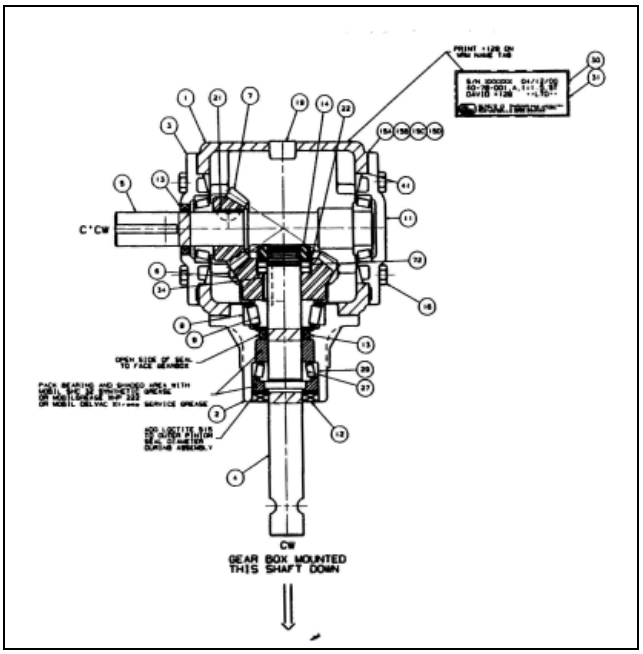
DMC #	Model #	Year First Used	Where Used	Complete Rebuilt #	Lower Pinion Shaft Assembly	Identifying Part
104B0048	Von Ruden #35137	1976	Next to Bin Wall	104B2109*	104B2113*	Bottom Fig., Square
104B2116	Von Ruden #40-74 (137)	1983	Next to Bin Wall	104B2109*	104B2130**	Bottom Fig., Rounded
104B2132	Curtis #921296 (137)	1988	Next to Bin Wall	104B2109*	104B2136**	Bottom Fig., Rd. w/ Gussets
104B2132	Von Ruden #40-174 (2000)	2000	Next to Bin Wall	N/A	N/A	Bottom Fig., Rounded
104B0049	Von Ruden #35128	1976	4th from Bin Wall, 6A.	104B2110*	104B2113*	Bottom Fig., Square
104B2117	Von Ruden #40-76 (128)	1983	4th from Bin Wall, 6A.	104B2110*	104B2130**	Bottom Fig., Rounded
104B2133	Curtis #921270 (137)	1988	4th from Bin Wall, 6A.	104B2110*	104B2136**	Bottom Fig., Rd. w/ Gussets
104B2133	Von Ruden #40-176 (2000)	2000	4th from Bin Wall, 6A.	N/A	N/A	Bottom Fig., Rounded
104B0050	Von Ruden #35129	1976	2nd, 3rd, 5th from Bin Wall, 6A. 2nd and 3rd from Bin Wall, 4A.	104B2111*	104B2113*	Bottom Fig., Square
104B2118	Von Ruden #40-73 (129)	1983	2nd, 3rd, 5th from Bin Wall, 6A. 2nd and 3rd from Bin Wall, 4A.	104B2111*	104B2130**	Bottom Fig., Rounded
104B2134	Curtis #921288 (129)	1988	2nd, 3rd, 5th from Bin Wall, 6A. 2nd and 3rd from Bin Wall, 4A.	104B2111*	104B2136**	Bottom Fig., Rd. w/ Gussets
104B2134	Von Ruden #40-173 (2000)	2000	2nd, 3rd, 5th from Bin Wall, 6A. 2nd and 3rd from Bin Wall, 4A.	N/A	N/A	Bottom Fig., Rounded
104B2009	Von Ruden #35150	1976	Center of Bin	104B2112*	104B2114*	Bottom Fig., Square
104B2119	Von Ruden #40-98 (150)	1983	Center of Bin	104B2112*	104B2131**	Bottom Fig., Rounded
104B2135	Curtis #921304 (150)	1988	Center of Bin	104B2112*	104B2137**	Bottom Fig., Rd. w/ Gussets
104B2135	Von Ruden #40-198 (2000)	2000	Center of Bin	N/A	N/A	Bottom Fig., Rounded

* Painted Black

** The lower pinion shaft assemblies are made by rebuilding returned complete gearboxes. If returned gearboxes are not available, a new gearbox must be taken apart.

A 21 tooth gear is on 104B2113, 104B2130, 104B2136 and a 32 tooth gear is on 104B2114, 104B2131, 104B2137. See diagrams for proper assemblies.

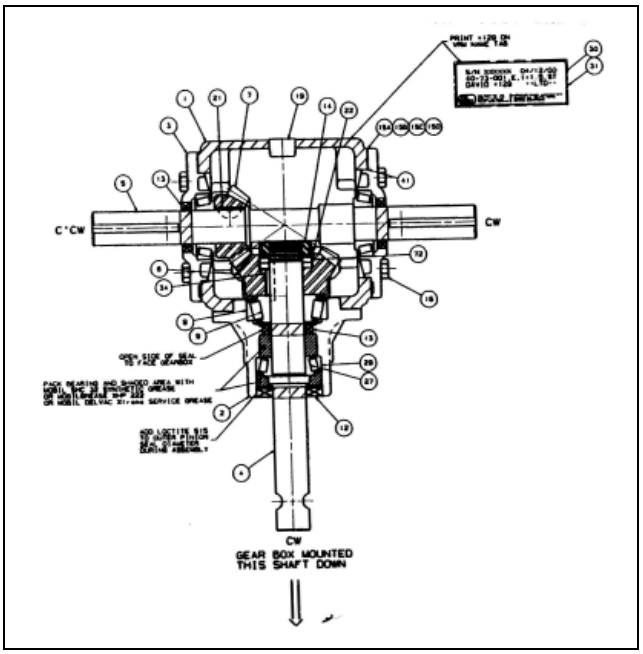
Gearbox #128 (104B2133) (Von Ruden)



Gearbox #128 (104B2133) (Von Ruden) Parts List

Ref #	Part #	Description	Qty
1	104B2121	Case	1
2	104B2123	Pinion Housing	1
3	33677	End Cap, Open	1
4	104B3069	Pinion Shaft	1
5	34532	Cross Shaft	1
6	104B0059	Gear, Straight, 21T	1
7	104B0058	Gear, Straight, 14T	1
8	10285	Bearing, Cup	1
9	10241	Bearing, Cone	1
11	34119	End Cap, Closed	1
12	PT0805	Seal, Large	1
13	PT0818	Seal, Small	2
14	1FH0845	Nut, N-05	1
15A	104B2124	Shim, 0.003" Green	As Required
15B	104B2125	Shim, 0.005", Blue	As Required
15C	104B2126	Shim, 0.010", Brown	As Required
15D	11347	Shim, 0.020", Yellow	As Required
16	2FH5268	Screw	12
19	4FH0824	Plug, 1/2" NPT	3
21	3FH0989	Key, 1/4" x 3/4" WDF	1
22	11658	Washer, TW105	1
27	PT0324	Bearing, Cone	3
29	PT0444	Bearing, Cup	3
30	63931	Model I.D. Tag	1
31	63931-TC	I.D. Tag Cover	1
34	BLK-11004	Square Key, 1/4" x 3/4"	1
41	11634	“O” Ring	3
72	11469	Spacer	2

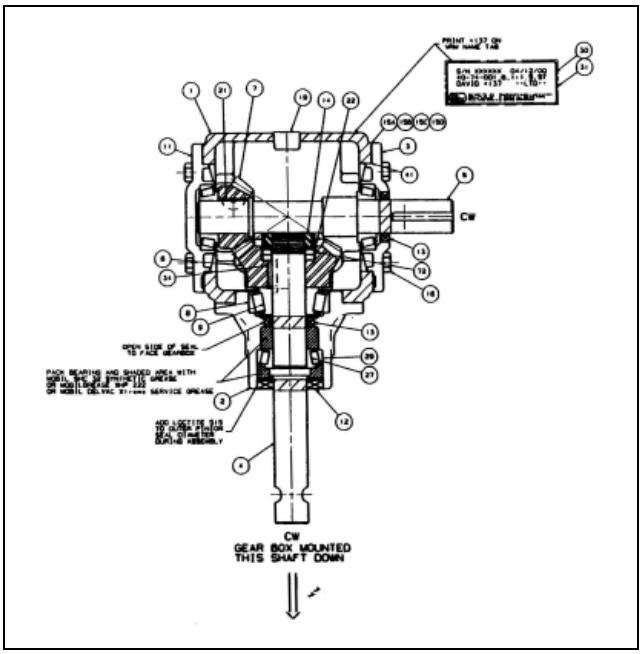
Gearbox #129 (104B2134) (Von Ruden)



Gearbox #129 (104B2134) (Von Ruden) Parts List

Ref #	Part #	Description	Qty
1	104B2121	Case	1
2	104B2123	Pinion Housing	1
3	33677	End Cap, Open	1
4	104B3069	Pinion Shaft	1
5	34529	Cross Shaft	1
6	104B0059	Gear, Straight, 21T	1
7	104B0058	Gear, Straight, 14T	1
8	10285	Bearing, Cup	1
9	10241	Bearing, Cone	1
11	34119	End Cap, Closed	1
12	PT0805	Seal, Large	1
13	PT0818	Seal, Small	2
14	1FH0845	Nut, N-05	1
15A	104B2124	Shim, 0.003" Green	As Required
15B	104B2125	Shim, 0.005", Blue	As Required
15C	104B2126	Shim, 0.010", Brown	As Required
15D	11347	Shim, 0.020", Yellow	As Required
16	2FH5268	Screw	12
19	4FH0824	Plug, 1/2" NPT	3
21	3FH0989	Key, 1/4" x 3/4" WDF	1
22	11658	Washer, TW105	1
27	PT0324	Bearing, Cone	3
29	PT0444	Bearing, Cup	3
30	63931	Model I.D. Tag	1
31	63931-TC	I.D. Tag Cover	1
34	BLK-11004	Square Key, 1/4" x 3/4"	1
41	11634	“O” Ring	3
72	11469	Spacer	2

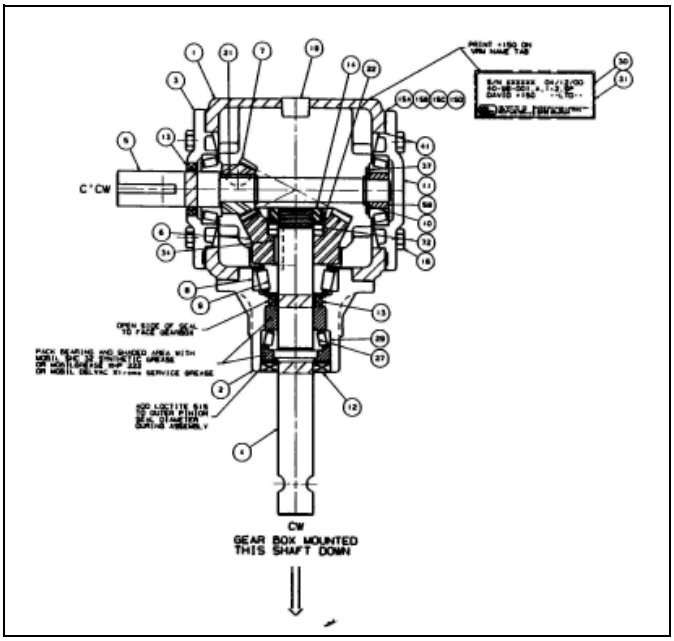
Gearbox #137 (104B2132) (Von Ruden)



Gearbox #137 (104B2132) (Von Ruden) Parts List

Ref #	Part #	Description	Qty
1	104B2121	Case	1
2	104B2123	Pinion Housing	1
3	33677	End Cap, Open	1
4	104B3069	Pinion Shaft	1
5	34530	Cross Shaft	1
6	104B0059	Gear, Straight, 21T	1
7	104B0058	Gear, Straight, 14T	1
8	10285	Bearing, Cup	1
9	10241	Bearing, Cone	1
11	34119	End Cap, Closed	1
12	PT0805	Seal, Large	1
13	PT0818	Seal, Small	2
14	1FH0845	Nut, N-05	1
15A	104B2124	Shim, 0.003" Green	As Required
15B	104B2125	Shim, 0.005", Blue	As Required
15C	104B2126	Shim, 0.010", Brown	As Required
15D	11347	Shim, 0.020", Yellow	As Required
16	2FH5268	Screw	12
19	4FH0824	Plug, 1/2" NPT	3
21	3FH0989	Key, 1/4" x 3/4" WDF	1
22	11658	Washer, TW105	1
27	PT0324	Bearing, Cone	3
29	PT0444	Bearing, Cup	3
30	63931	Model I.D. Tag	1
31	63931-TC	I.D. Tag Cover	1
34	BLK-11004	Square Key, 1/4" x 3/4"	1
41	11634	“O” Ring	3
72	11469	Spacer	2

Gearbox #150 (104B2135) (Von Ruden)

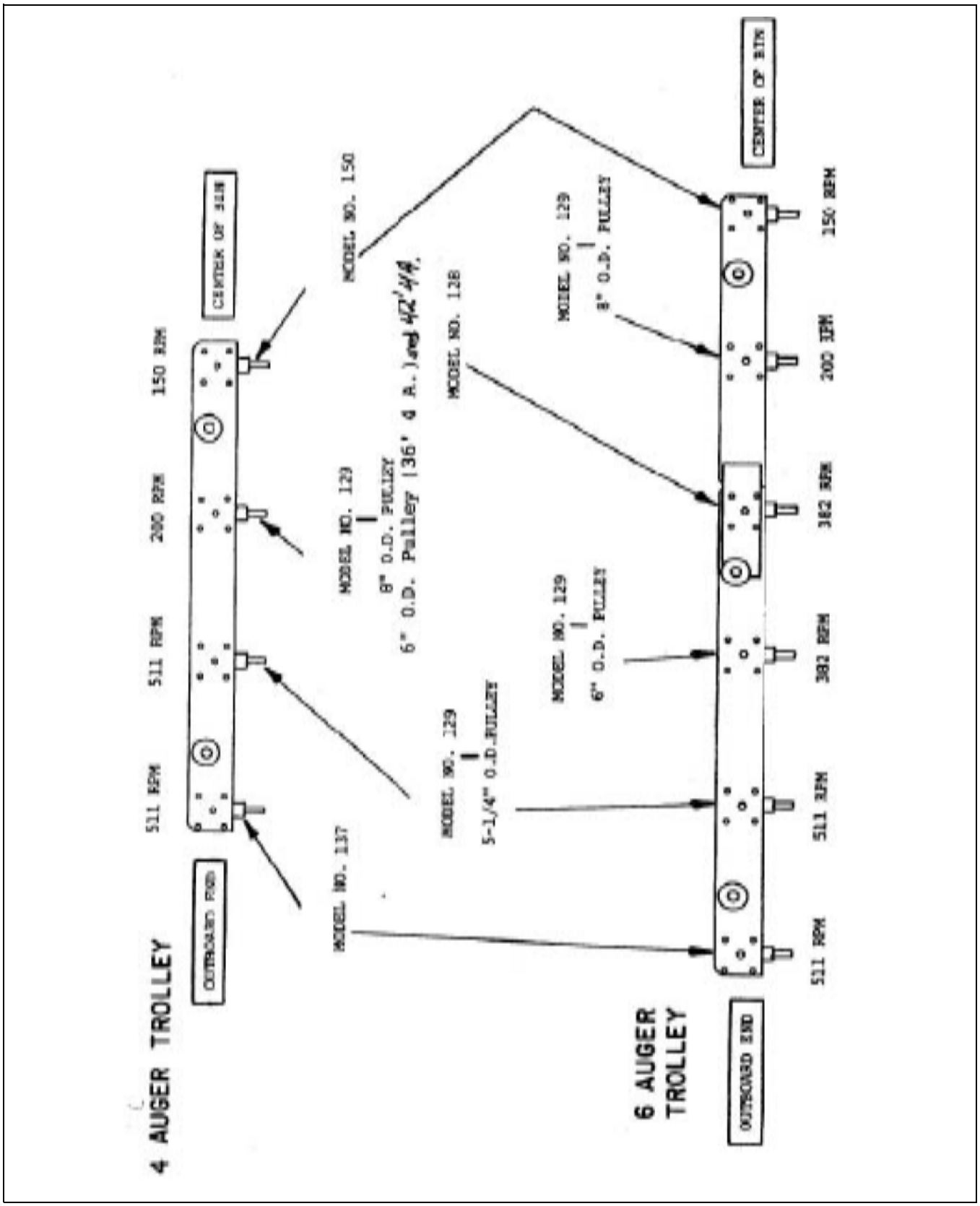


Gearbox #150 (104B2135) (Von Ruden) Parts List

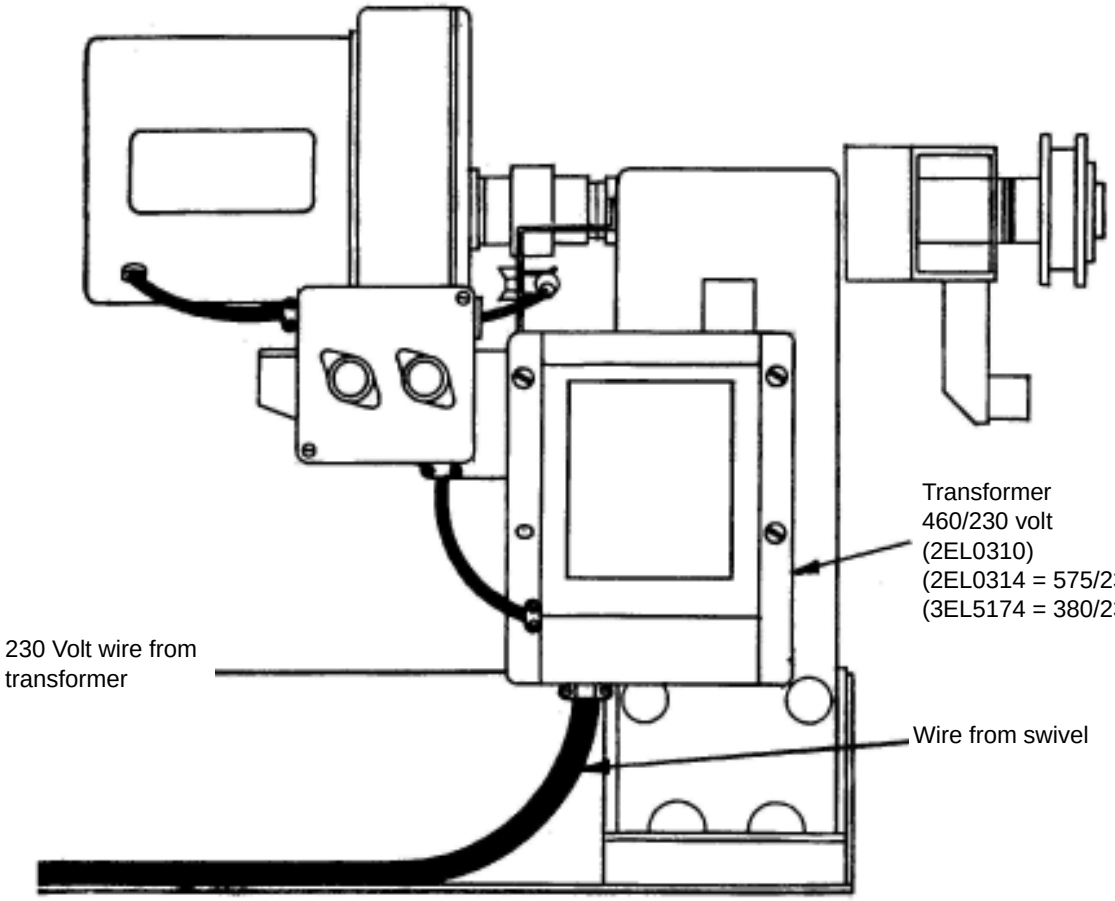
Ref #	Part #	Description	Qty
1	104B2121	Case	1
2	104B2123	Pinion Housing	1
3	33677	End Cap, Open	1
4	104B3069	Pinion Shaft	1
5	104B2127	Cross Shaft	1
6	104B2129	Gear, Straight, 32T	1
7	104B2128	Gear, Straight, 69T	1
8	10285	Bearing, Cup	1
9	10241	Bearing, Cone	1
10	3FH0572	Retaining Ring	2
11	34119	End Cap, Closed	1
12	PT0805	Seal, Large	1
13	PT0818	Seal, Small	2
14	1FH0845	Nut, N-05	1
15A	104B2124	Shim, 0.003" Green	As Required
15B	104B2125	Shim, 0.005", Blue	As Required
15C	104B2126	Shim, 0.010", Brown	As Required
15D	11347	Shim, 0.020", Yellow	As Required
16	2FH5268	Screw	12
19	4FH0824	Plug, 1/2" NPT	3
21	3FH0988	Key, 1/4" x 3/4" WDF	1
22	11658	Washer, TW105	1
27	PT0324	Bearing, Cone	3
29	PT0444	Bearing, Cup	3
30	63931	Model I.D. Tag	1
31	63931-TC	I.D. Tag Cover	1
34	BLK-11004	Square Key, 1/4" x 3/4"	1
37	S-7400	Flat Washer, 5/8" SAE	1
41	11634	“O” Ring	3
58	PT0880	Bushing	1
72	11469	Spacer	2

Red Giant Gearboxes

Identification Numbers - Box Locations Pulley Sizes - Auger RPM



Red Giant 460 Volt Transformer Hook-Up



Drawings

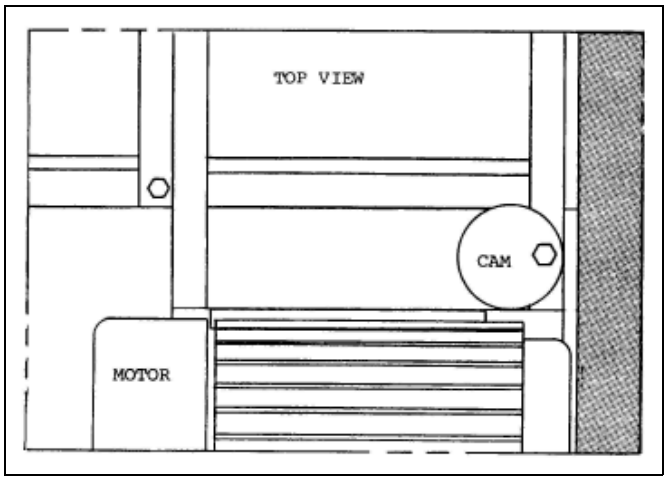


Figure 7A

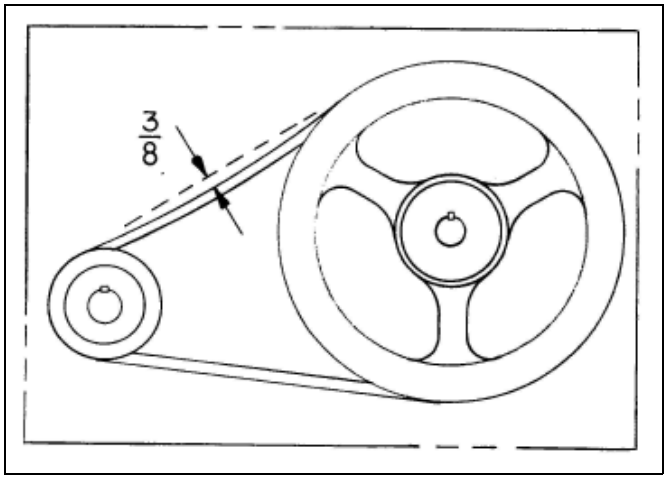


Figure 7B

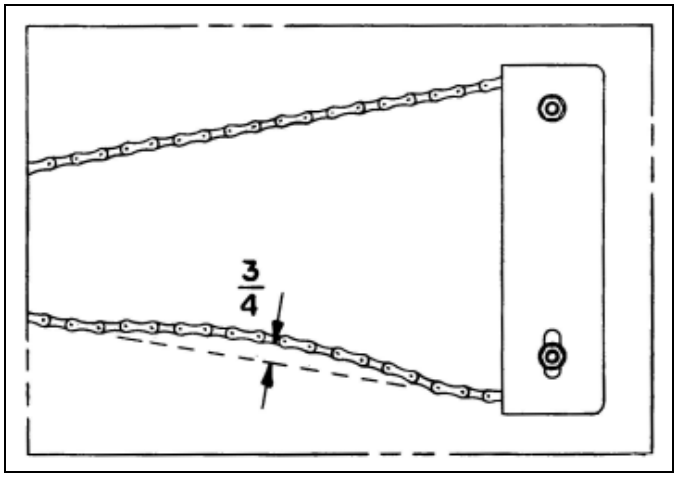


Figure 7C

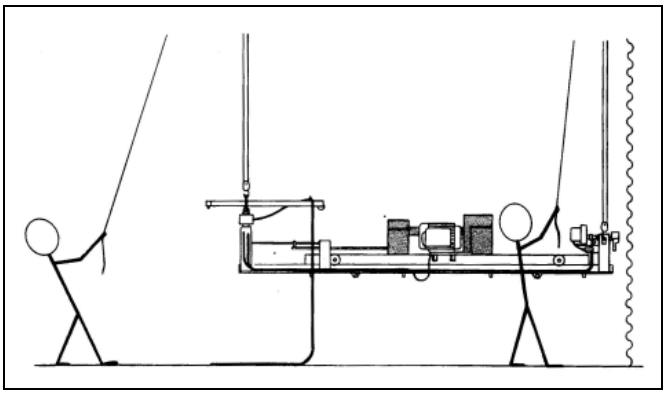


Figure 7D

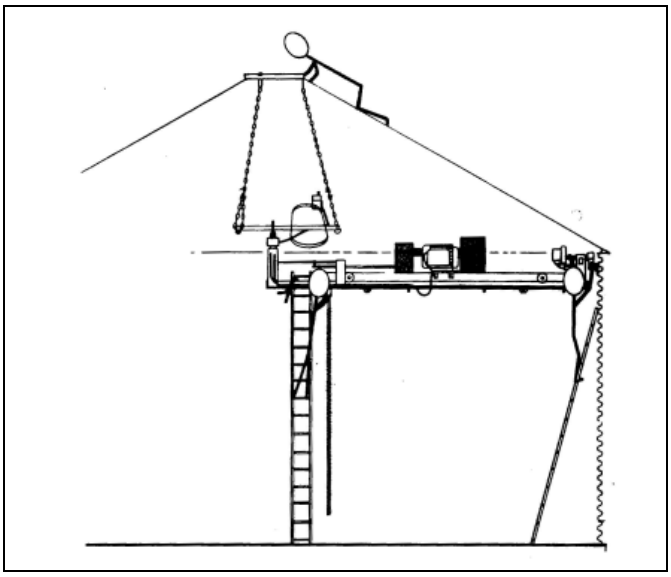


Figure 7E

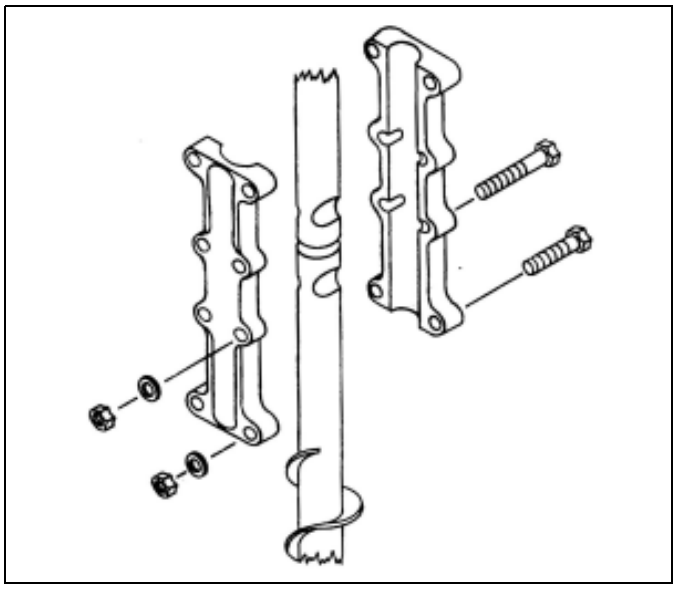
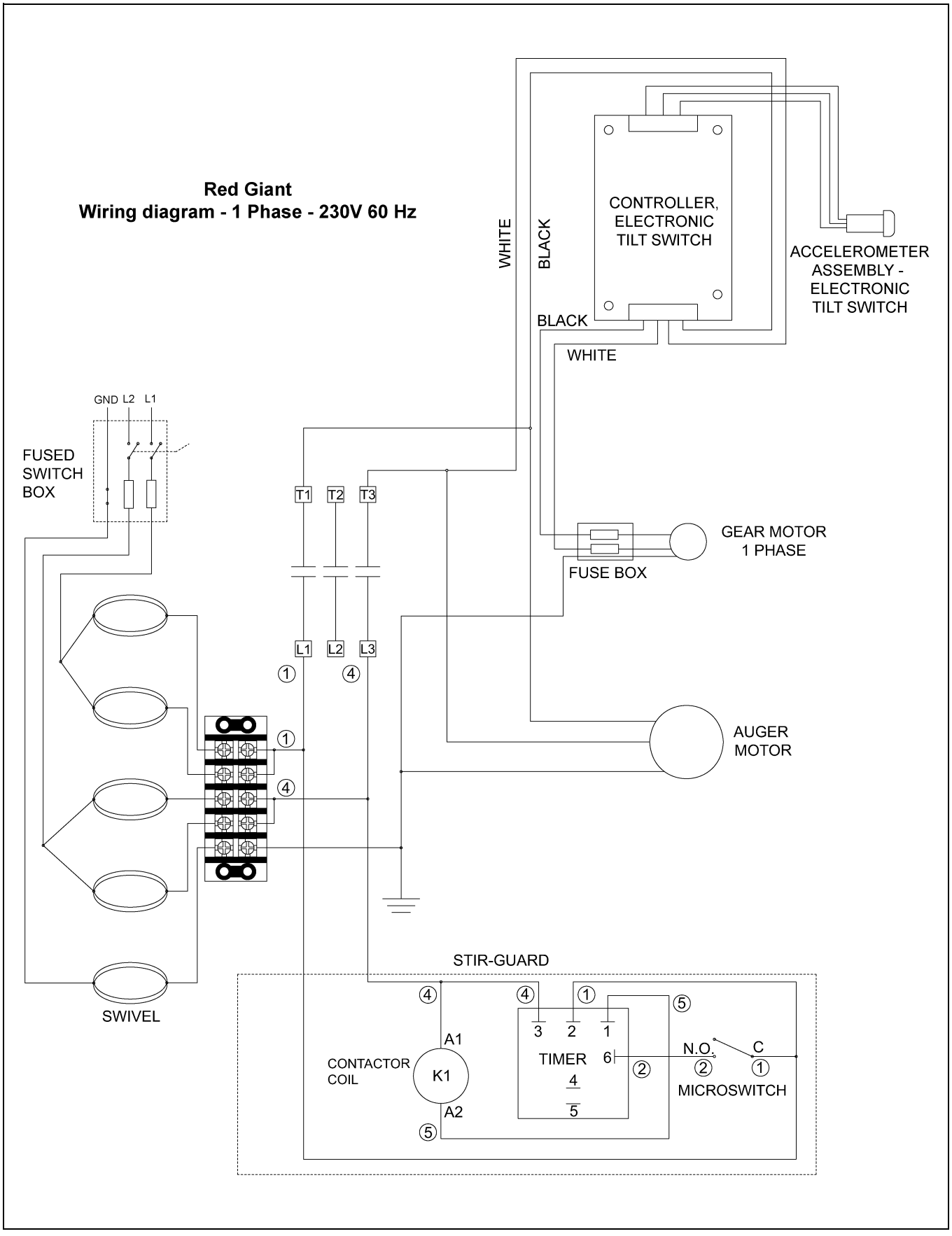
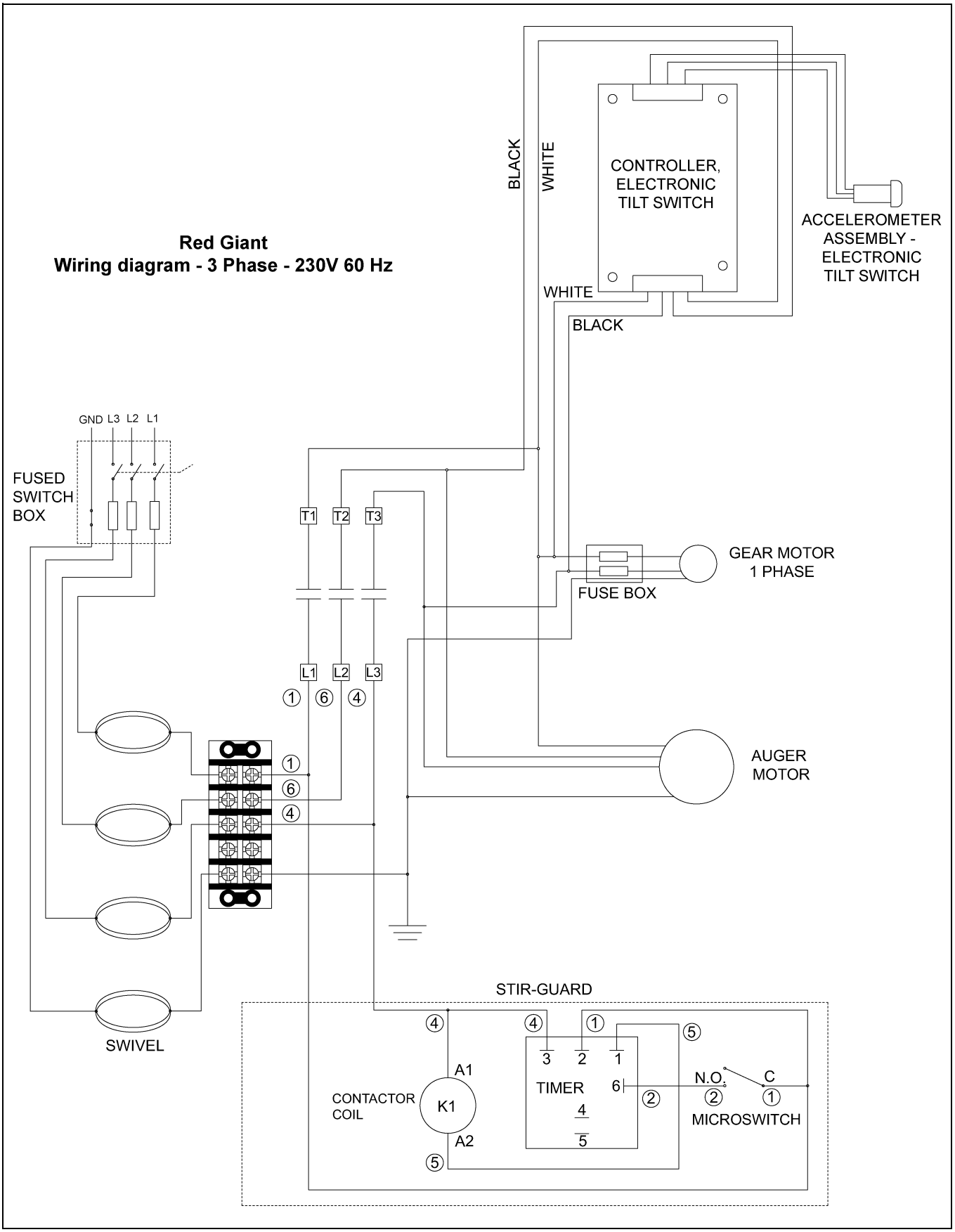


Figure 7F

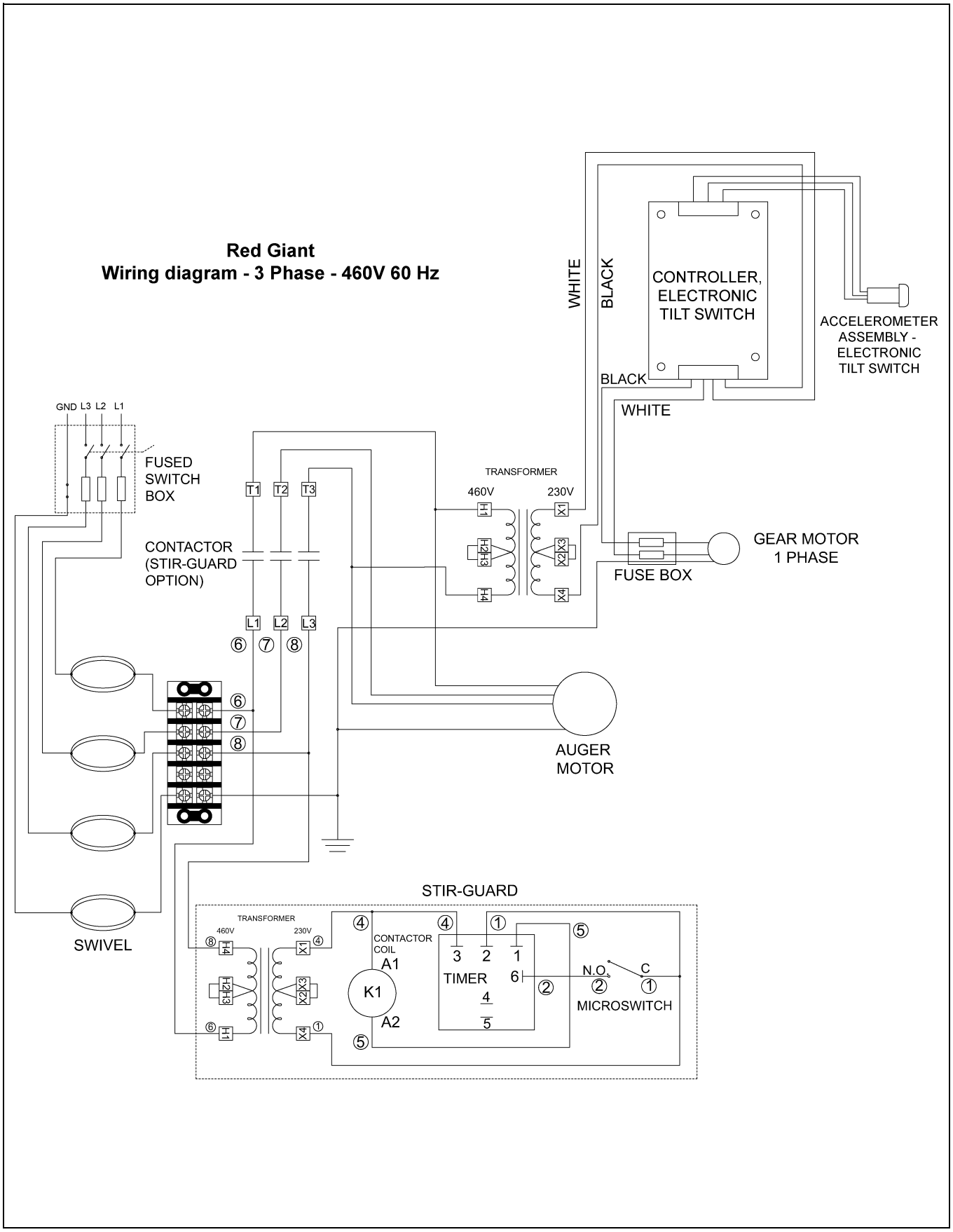
1 Phase - 230 Volt



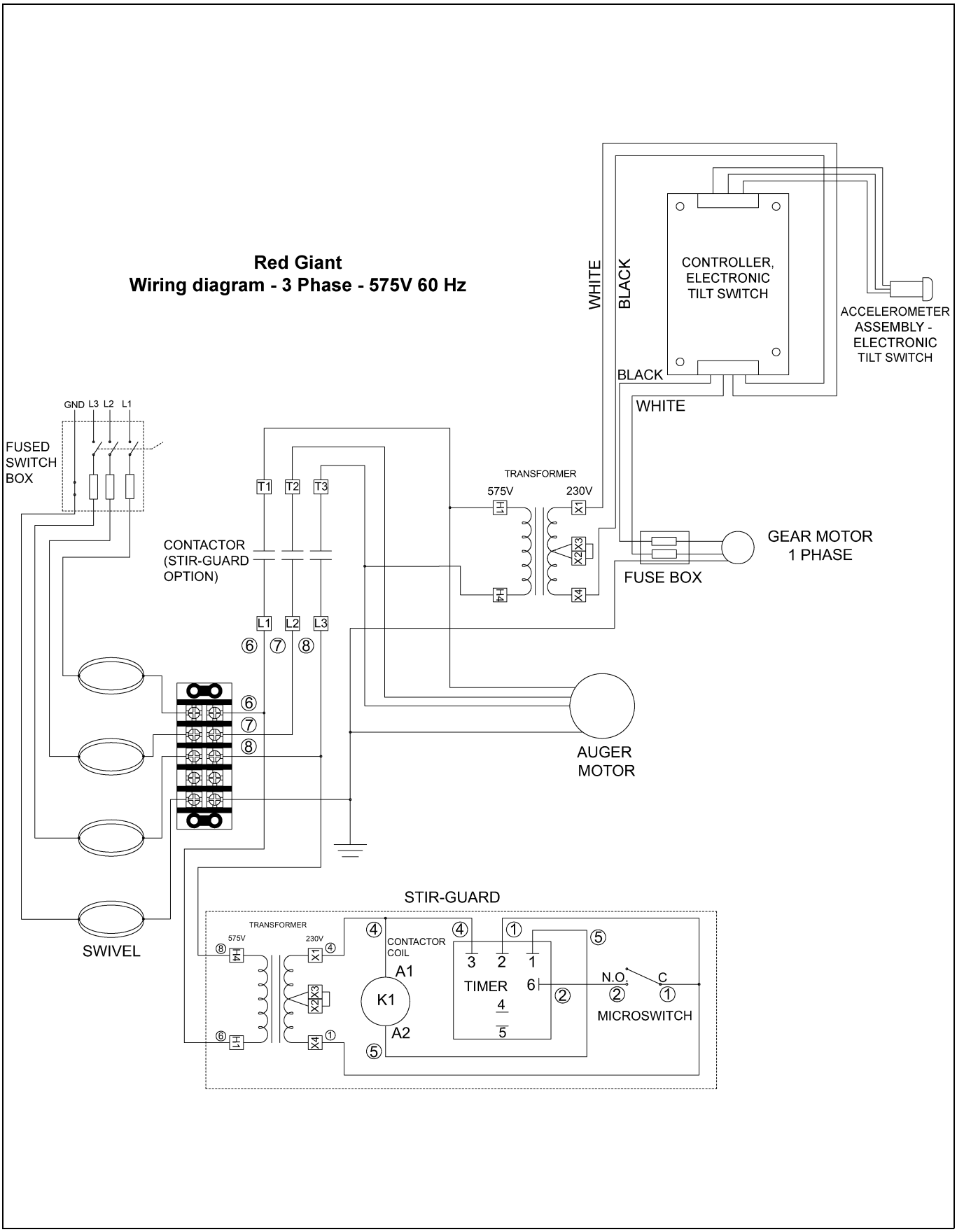
3 Phase - 230 Volt



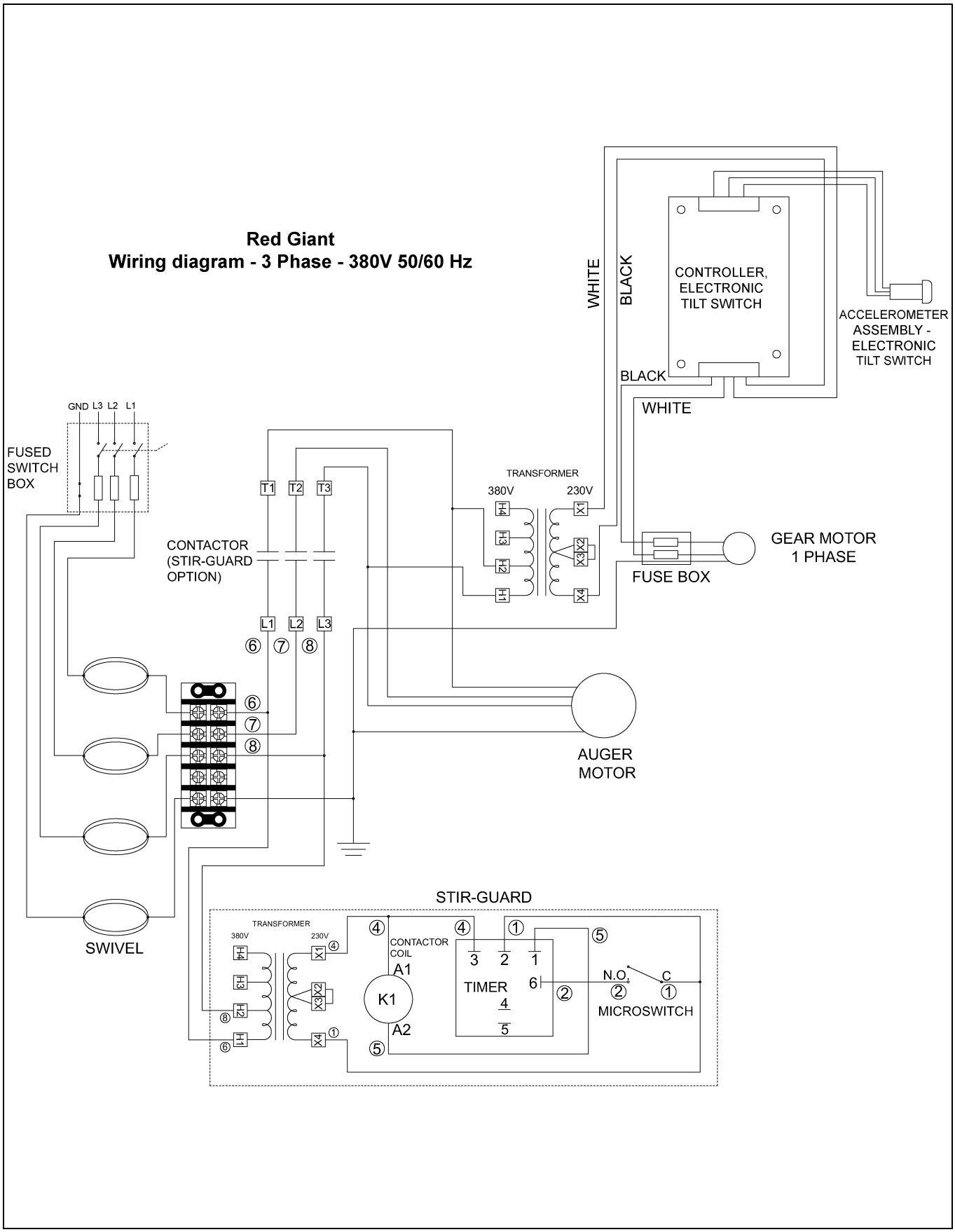
3 Phase - 460 Volt



3 Phase - 575 Volt



3 Phase - 380 Volt



DRYING IN GRAIN DEPTHS OF OVER 18' IS NOT ADVISED.

The recommendations below are for drying bins without wall-liners. If wall-liners are used, higher temperatures can be used without worry of bin wall moisture. Consequently, a faster fill rate also can be used.

20%-26% moisture grain from the field is the most profitable harvest-drying range. Grain depths of up to 15' can be used in one fill.

27%-30% moisture grain can be successfully harvested and dried; however, some caution should be used in the amount of grain that is put into the bin during the first fill. Under normal conditions, about 12' should not be exceeded during the first fill. This grain should then be dried down to the 20%-22% level and then additional grain can be added until the bin is full.

There could be times when drying 27%-30% grain that it would be feasible to keep the plenum temperature at 1000 or less for the first 6%-10% of moisture removed. This depends some what on what the ambient temperature is.

Drying grain with 30%-35% moisture is inefficient, but is sometimes done out of necessity. Under such conditions, three (3) fills of 5' to 6' each time are suggested, with temperatures not over 900 for the first 10 points of moisture removal.

Grain testing over 35% moisture should not be harvested for drying except under emergency conditions. Harvest damage will be excessive and drying will be very difficult and expensive. The only course to be followed under these conditions is to fill slowly and supervise constantly.

NOTE: *The higher the moisture of the grain, the lower the starting temperature should be, to minimize wall condensation and ensure highest quality of grain.*

Before starting the Red Giant Stir-Ator in a full bin of grain, hook the belt idlers into the neutral position. After the motor has been started, engage each idler slowly until all augers are rotating. If this procedure does not start the auger, you may have to break them loose with a pipe wrench. Care needs to be exercised when breaking auger loose with a pipe wrench or other means of leverage so the bin Stir-Ator and track is not damaged. Blocking the unit up might be necessary to break the augers loose.

To keep from bending the Red Giant Stir-Ator augers while emptying the bin, it may be necessary to run the unit intermittently.

DO NOT OPERATE THE RED GIANT STIR-ATOR IN AN EMPTY BIN AUGERS CAN WHIP AND ENTANGLE.

To get uniform drying of grain in a bin, a uniform flow of air through the grain is required. Some of the factors affecting this air flow are:

1. Grain cleanliness
2. Grain depth
3. Grain moisture

The amount of fines and trash in the grain is best controlled by use of a grain cleaner before the grain is put in the bin. A good spreader should also be used to distribute the fines and level the grain as much as possible.

Fines tend to congregate in the middle of the bin, thus leading to a restriction of the air flow in that area. So it is good to leave the center as much as 3'-4' low to balance the air flow between the center and the bin wall. The Red Giant will tend to continually level the grain.

Grain moisture of up to 26% is the optimum to dry in the bin with the Red Giant. Grain depths of up to 18' can be dried in a single fill with the Red Giant. Using air only (no heat) until grain depth reaches 6' to 8', helps establish a uniform drying front. If air tubes or liners are used, the grain should be at least 2' over the top of them before heat is added to prevent channeling a large amount of the air away from the middle. A fast fill is preferred and the Red Giant can be started when the grain depth is 3'-5'.

With 27%-30% moisture grain, some caution should be used in filling the bin above 15'. In this case, cleaning the grain becomes more important since more cracking is done to moist corn during combining. After the grain is dried below 25%, then additional grain can be added.

Drying grain with 30%-35% moisture is inefficient but is sometimes done out of necessity. Here again, filling twice is recommended - first cleaning the grain, then filling 10' to 15' deep, then drying down to 25%. After that, filling up to 18' depth will give better results.

Grain testing over 35% moisture should not be harvested for drying except under emergency conditions. Harvest damage will be excessive and drying will be very difficult and expensive. The only course to be followed under these conditions is to fill the bin slowly and supervise constantly.

NOTE: *The higher the moisture of the grain, the lower the starting temperature should be, to minimize wall condensation and ensure highest quality of grain.*

Disconnect all power to unit before using a pipe wrench (or other means of leverage) on the augers.

If the Red Giant is stopped in a full bin of grain, caution must be used when restarting to prevent damage to the machine and/or the grain bin. Before starting the Red Giant Stir-Ator, hook the belt idlers into the neutral position. After the motor has been started, engage each idler slowly until all augers are rotating. If this procedure does not start the auger, you may have to break them loose with a pipe wrench. Care needs to be exercised when breaking augers loose with a pipe wrench (or other means of leverage) so the bin Stir-Ator and track are not damaged. Blocking the unit up might be necessary to break the augers loose.

Operation Recommendations

To keep from bending the Red Giant Stir-Ator augers while emptying the bin, it may be necessary to run the unit intermittently.

Do not operate the Red Giant in an empty bin.

To test the Red Giant in an empty bin, be sure no one is inside the bin, then switch the power "ON" and "OFF" immediately. Do not leave power ON.

The Stir-Guard is designed to protect the grain by shutting off the Stir-Ator if the unit is not advancing around the bin normally. As the gear motor drives the unit around the bin, a microswitch actuator (which rides on the lower notched swivel block) sends a pulse to the solid state timer each time the roller advances one notch. If the unit does not advance forward enough to actuate the switch in 45 minutes, the timer will run out and the power to the motor(s) on the Stir-Ator will be shut off by the contactor located in the swivel box of the Stir-Ator.

To reset the Stir-Guard timer, move the switch box handle to the **“OFF”** position and then back **“ON”**. The unit will start up again. Before the Stir-Guard is reset, the problem that caused the Stir-Guard to shut the unit off should be located and corrected.

If adjustment of the microswitch roller actuator becomes necessary, turn OFF the power to the swivel at the switch box. Remove the right swivel box cover and loosen the nuts on the roller switch plate. Rotate the swivel block so the switch roller is riding on the peak of a swivel cog. *(See Figure 11A.)* Slide the roller switch plate slowly in until the microswitch just clicks, then move the switch an additional 1/16" and tighten the nuts. Rotate the swivel to assure the switch clicks **“ON”** and **“OFF”** as the roller rides in and out on the swivel cog. This is necessary for a pulse to be sent to the Stir-Guard timer.

See the troubleshooting guide on *Page 85* for assistance if a problem is present.

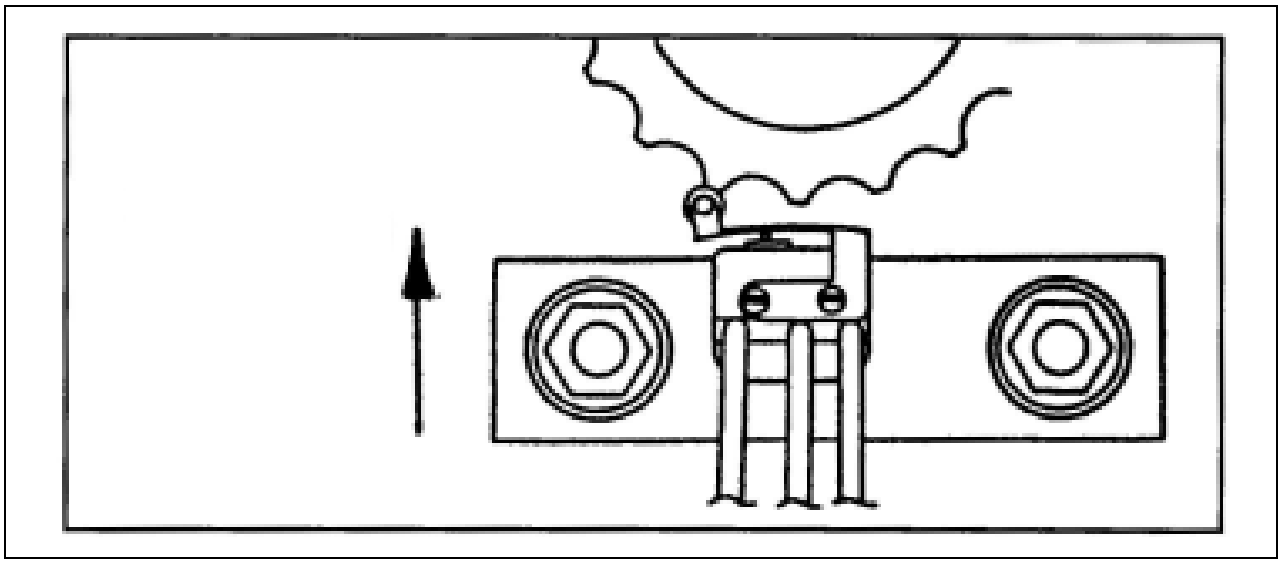


Figure 11A

Red Giant Stir-Ator

The Red Giant Grain Stir-Ator has been designed so that a minimum of maintenance and adjustment will be needed; however, as with any piece of machinery, some adjustments and periodic maintenance could become a necessity.

1. Check and fill to the proper level, all gearboxes, using 90 weight gear lube. This should be done every 25000 bushels dried or once a year, whichever occurs first.

All gearboxes are shipped from the factory without lubricant.

2. Auger flighting should be inspected yearly. Excessive auger flighting wear will cause poor, uneven stirring.
3. Augers should be replaced when cutting edge has been worn down so that instead of having a *1/4"* flat cutting edge, it is now razor sharp. Always replace worn augers in sets. Plain augers come as standard equipment on the Red Giant. Should you be experiencing excessive auger wear, perhaps you should be using a hardsurfaced auger. Hard surface augers are substantially more expensive to purchase; however, you can expect approximately three (3) times the life expentancy over plain augers. When installing new augers, be sure that they are cut-off 3" above the bin floor.
4. The cast auger couplers need to be tightened evenly to avoid excessive auger vibration. Should an auger coupler not draw up evenly, it can in most cases be remedied by simply taking the bolts loose and turn one half of the coupler over, then re-bolt and tighten all the bolts up in an even pattern. BE SURE THE AUGERS ARE NOTCHED and center coupler bolts are put through notches in gearbox stub shaft and also notches that have been filed in the auger shaft. *(See Figure 7F on Page 72.)*
5. **Belt Tension:** The BX-48 matched V-belts driving from the heavy-duty motor to the top drive shaft should be inspected after each bin of grain is dried. The belt tension is adjusted by loosening the heavy-duty motor and turning the cam *(See Figure 7A on Page 72)* until the proper belt tension is achieved which is *3/8"* deflection at 7 pounds of pressure. *(See Figure 7B on Page 72.)* The other matched V-belts have a spring-loaded clutch idler so proper tension is maintained at all times. Checking for proper belt alignment and proper clutch idler operation is all that is necessary.
6. **Roller Chain:** The roller chain center drive system moves the Red Giant trolley in and out, allowing it to stir the entire contents of the grain in the bin. This chain needs to be kept to the specifications shown in *Figure 7C on Page 72*. If this chain is operating when the tension is too tight, it will place undue wear on the idler pulleys. If it is too loose, it is possible for it to come off the drive sprocket.

7. **Tilt Switch Adjustment Procedure:**

   a. A solid state electronic tilt switch controls the trail-back of the auger. The tilt switch is set at the factory for normal trail-back and should stop the movement of the machine when the bottom of the augers are from 12"-20" back of a vertical line from the auger shaft bearing to the floor.

   b. In order to check the electronic tilt switch function and make trail-back adjustments, the electronic tilt switch must have power applied to the controller.

Failure to follow these instructions may result in injury or death.

   c. Turn OFF the main power at the shut off switch box mounted to the inside of the bin roof near the rood manhole opening.

   d. Disengage all the down auger belt drives on the trolley to prevent down auger operation and remove the fuses from the fuse holders in the track drive gear motor fuse box to prevent track drive operation.

   e. In the fuse box, connect a 230 volt test light or a voltmeter to the electronic tilt switch controller power-out black and white wires. There is also a red indicator light (LED) on the controller printed circuit board which will illuminate when the controller is ON and sending power to the track motor and may be used to observe power ON and OFF for trail-back adjustment. The cover of the controller enclosure must be removed to see this indicator light.

   f. Turn ON the main power at the shut off switch box mounted to the inside of the bin roof near the roof manhole opening to apply power to the Stir-Ator and the electronic tilt switch controller.

   g. Adjust down auger trail-back by observing the test light, voltmeter or controller indicator light to determine when the track drive gear motor will turn ON. Move the tilt switch accelerometer assembly (installed in the tilt switch mounting bracket) down for more trail-back or up for less trail-back. It is recommended that the tilt switch accelerometer assembly not be moved more than 1/8" at a time.

   h. When adjustment is complete, disconnect power; remove the test light or voltmeter; re-engage the trolley down auger belt drives; and re-install the track drive gear motor fuses.

8. **Front Wheel Drive:** The front drive wheel propels the Red Giant Stir-Ator around the bin on the wall track. This drive wheel should be inspected often to be sure that the teeth that run on the track are not worn so badly that the wheel is slipping on the track, hindering the forward movement. If excessive wear is noted, front drive wheel (part #104C2037) must be replaced.

9. **Track Drive Sprocket Chain:** Check the #40 roller chain for excessive wear and proper tension. To tighten the chain, a half link or a whole link can be removed. This chain does not need to be excessively tight for it does operate at a very slow RPM. However, should it become too loose, it could catch on a bin bolt.

10. The automatic shut off chain is for safety, it is designed to shut off the electrical power to the unit should the trolley or swivel unit bind up preventing normal travel of the Stir-Ator. To properly attach, hook the chain end with the open loop to the “S” hook welded to the suspension bar. Hook the other end of the chain onto the “S” hook in the switch box handle.

    Use the “S” hook on the end of the shut off chain to hook any excess chain slack back to the chain itself, this allows the length of the shut off chain to be adjusted at the switch box. *(See Figure 4AM on Page 32.)* There should only be enough slack in the chain, with the unit running, so the switch box handle is not pulled down during normal operation. Too much slack in the chain will not shut the unit off if there is a problem and can get caught in the machine itself as the Stir-Ator passes under the shut off chain.

    Hold shut off chain and the electrical wire above the Stir-Ator with the provided shut off support chain(s). *(See Figure 4AN on Page 32 or Page 40.)*

    The electrical wire should be held with the extra “S” hook found tied to the end of the support chains. Pass the electrical wire through the large loop of the “S” hook and then hook the cord up on the support chain so it clears the shut off chain and the Stir-Ator.

    Electrical cord must have more slack than the shut off chain so in case of a shut off, the electric cord is not ripped from the switch box. This could cause electrical shock or bodily injury.

Locking collars on bearing should always be tightened in the same direction as shaft rotation.

NOTE: ***Stir-Ator*** *is a registered trade mark of David Manufacturing Company.*

Electrical Problems

Electrical problems need not be a catastrophe if the process of elimination is used in finding the difficulty.

1. Trip to the “OFF” position, the Stir-Ator switch box under the bin roof and check incoming electricity to the switch box. It should be 230 volts.
2. Turn the electrical power ON, check all fuses or fusetrons in the system and if no fuses or fusetrons are blown, this assures you that the electrical main system is OK.
3. Should fuses blow, see swivel problems *below*.
4. Using the process of elimination, you can greatly help find an electrical problem by simply disconnecting the gear motor and the main motor. Then proceed to connect up one motor at a time. If fuses blow after hooking up either motor, it is an indication of the problem. See gear motor *on Page 86* or motor for augers *on Page 87*.

Swivel

1. Braided connecting straps are loose or broken. (Replace strap.)
2. Loose wires within swivel box or junction box directly above swivel. (Reconnect.)
3. Wire loose or bare going to the copper slip-ring. (Swivel must be disassembled to repair.)
4. Braided contact strap does not fit tightly enough around slip-ring. (Put on the swivel spring clip or replace the swivel strap.)
5. Braided contact strap has become coated with oil or other foreign material, preventing proper contact. (Clean or replace strap.)

Tilt Switch

1. Wires coming from swivel to the electronic tilt switch not hooked up properly.
2. Electronic tilt switch assembly incorrectly placed in clip holder. *(See Step 25 on Page 27.)*
3. Electronic tilt switch not properly adjusted. (See adjustments *on Page 83*.)
4. Electronic tilt switch malfunction - see following operational check:
    a. Take cover off of white box located on the trolley junction box.
    b. Red LED on printed circuit board indicates motor state.
    c. LED should turn ON and OFF with change in accelerometer angle. The adjustable bracket should have enough range to turn the track motor ON and OFF.
    d. If LED is ON there should be 230 VAC going to the gear motor leads.
    e. If LED is OFF there should be 0 VAC going to the gear motor leads.
    f. If any of 3 through 5 are not true replace tilt switch.

Stir-Guard

The Red Giant does not operate. The Stir-Guard has shut the unit OFF. To reset Stir-Guard, move switch box lever to the OFF position and then back ON. If the Red Giant does not start, check the following:

1. Check for proper voltage.
2. The contactor or solid state module is bad. (Replace.)
3. If only the contacts operate, check for dirty or burned contactor. (See electrical problems *on Page 85*.)
   If the Red Giant Stir-Ator stops after 45 minutes of operation, check the following:
   a. Check for mechanical or electrical problems which might hinder the forward movement of the Stir-Ator.
   b. Check the microswitch for proper adjustment. Adjust be bending the switch activator arm. If bending does not solve the problem, replace the switch.
   c. The solid state module is defective.
   d. Check all the wires for good connection.

Gear Motors

1. Fusetrons burned out.
2. Loose wires.
3. Severe misalignment of gear motor versus drive shaft of track unit which creates a tremendous bind in the gear motor. This can ruin the gear motor. (Place shims under gear motor until/proper alignment is achieved.)
4. Low voltage or gear motor is wired for 115 volts instead of 230 volts. (Check wiring diagram to see that wires are properly placed.)
5. Electronic tilt switch not properly adjusted. (See adjustments *on Page 83*.)
6. Defective electronic tilt switch. (Replace.)
7. Set screws in lovejoy coupler may have worked loose, causing disengagement which results in no forward movement.
8. Nylon flat washers have not been installed on either side of the lovejoy coupler, allowing the lovejoy coupler to spread apart and become disengaged.
9. Flexible drive coupler insert worn. (Replace.) *(See Page 50.)*
10. If motor hums, but output shaft does not rotate, something has malfunctioned in the gear motor transmission. (See your dealer.)

Motor for Augers

1. Blown fuses. (Motor shorted out or broken wires in electrical systems, (See Dealer or electrician.)
2. Loose or broken wires.
3. Low voltage.
4. Motor overload or reset button kicked out. (Press reset.)
    a. Combination motor running temperature and ambient temperature too high for reset specifications.
5. Motor overloaded.
    a. Augers too long.
    b. Too much wet grain.
    c. Wrong motor size.
6. Wiring inadequate - 115 volt instead for 230 volt.

Stir-Ator Shut Off Chain

The automatic shut off chain on the Red Giant Stir-Ator is designed as a safety device. However, at times it can cause problems in normal operation.

1. If shut off chain is too tight, it will shut unit off too easily.
2. Switch box handle moves too freely, causing premature shut off. To correct, hook a common door spring on to the handle and attach the other end somewhere to the bin roof.
3. Center sprocket drive shaft running through the swivel is binding up, causing automatic shut off.
4. Red Giant Stir-Ator augers are touching the drying floor.
5. Foreign objects or material are in the grain.
6. Hold-down on trolley is set too close to the main frame.
7. 5/16" x 1-3/4" bolt attaching center sprocket drive shaft to center pivot junction box could be broken. (Replace.) *(See Page 54.)*

Electric cord must have more slack than the restraining chain so that in case of a shut off, the electric cord is not ripped from the switch box.

Track Unit

1. Drive chain too loose. (Tighten.)
2. Excessive drag of track unit on wall track.
3. Teeth in front drive wheel worn excessively, causing slippage.
4. Poorly constructed track splice can give undue track drive problems, catching or derailing the unit.
5. Badly bent track will cause derailing or hang-up problems.
6. Unit catching on bin wall bolts. (Cut-off.)

Trolley Problems

1. Center drive roller chain too loose. (See adjustment *on Page 82*.)
2. Trolley wheels off main frame.
3. Trolley hold-downs not properly positioned.
4. Belt idler clutches out of alignment causing belt failure.
5. Belt idler clutch spring broken - not enough tension on drive belts.
6. Lack of #90 grease in gearboxes.

Augers

1. IF SHORTENING A DOWN AUGER, CUT FROM THE **BOTTOM** AND **BE SURE THE FLIGHTING IS RE-WELDED FIRMLY. *CUTTING THE AUGER FROM THE TOP WILL VOID THE WARRANTY.*** ***See*** *Pages 33 and 34* ***for correct procedure.***
2. Use of a torch to notch or cut an auger to correct length in the field will crystalize the upper portion of the auger shaft, increasing the possibility of breakage greatly.
3. Mercury switch set improperly, allowing too much trail-back of the augers or faulty mercury switch also will result in auger breakage.
4. Auger worn out. The average life when used in shell corn of a plain auger is roughly 35000 bushels. Hardsurfaced augers have a life span of approximately 100000 bushels.
5. Bent augers vibrate considerably, eventually breaking, causing damage to other parts of the Red Giant Stir-Ator.
6. Stir-Ator installed too low at the center of the bin, allowing augers to drag the bin floor.
7. Auger coupler not properly drawn up, causing severe vibration when running. (To correct, simply turn on-half of the coupler over and re-assemble. If this does not correct the problem, a groove in the coupler may have to be remilled or replaced.)
8. Center coupler bolts must go through notches on gearbox stub shaft and the filed notches on top of auger.

Auger Stuck in the Grain

1. Latch all spring-loaded tighteners and then slowly engage one belt idler at a time until all augers are started.
2. If the above does not work, block up the Red Giant Stir-Ator and turn each auger with a pipe wrench until free. Then repeat item “1”.

Caution needs to be exercised when breaking augers loose with a pipe wrench so that excessive down pull on the Red Giant does not cause wall buckling or track failure.

3. V-belts from motor to 11-3/8" cast pulley too loose. (See adjustment *on Page 82*.)

Storage

The Red Giant Stir-Ator is an excellent tool to aid in the preservation of grain stored in a drying bin. Occasionally, during the storage period, the Stir-Ator should be operated, along with the fan and heater for best quality grain. Grain stores the best when kept at a temperature relatively close to the ambient temperature.

Some experimentation has been done with the storage of grain in the 16%-20% range by using the Stir-Ator in conjunction with a fan and heater. A slower rate of drying can actually take place and if undertaken for a long enough period of time, the grain can be dried down considerably and in some cases, become top quality grain. Such a program should be undertaken with caution and frequent inspections made. Overstirring of grain can cause some additional crackage of the grain.

Users of the Red Giant Stir-Ator sometimes want to utilize more of the capacity of the bin for dry grain storage by heaping dried grain on top of the Stir-Ator. This is NOT recommended because the downward pull of the grain on the Stir-Ator could possibly bend or break parts of the unit or collapse the bin roof.

Installation Data

Date of Purchase_____ **Model #** _____

Serial #_____ **Bin Size**_____

Auger Length_____ **# of Acres**_____

Name of Dealer_____

GSI Group, LLC Limited Warranty

The GSI Group, LLC ("GSI") warrants products which it manufactures to be free of defects in materials and workmanship under normal usage and conditions for a period of 12 months after sale to the original end-user or if a foreign sale, 14 months from arrival at port of discharge, whichever is earlier. The end-user's sole remedy (and GSI's only obligation) is to repair or replace, at GSI's option and expense, products that in GSI's judgment, contain a material defect in materials or workmanship. Expenses incurred by or on behalf of the end-user without prior written authorization from the GSI Warranty Group shall be the sole responsibility of the end-user.

Warranty Extensions:

The Limited Warranty period is extended for the following products:

	Product	Warranty Period
AP Fans and Flooring	Performer Series Direct Drive Fan Motor	3 Years
	All Fiberglass Housings	Lifetime
	All Fiberglass Propellers	Lifetime
Cumberland Feeding/Watering Systems	Feeder System Pan Assemblies	5 Years **
	Feed Tubes (1-3/4" and 2.00")	10 Years *
	Centerless Augers	10 Years *
	Watering Nipples	10 Years *
Grain Systems	Grain Bin Structural Design	5 Years
Grain Systems Farm Fans Zimmerman	Portable and Tower Dryers	2 Years
	Portable and Tower Dryer Frames and Internal Infrastructure †	5 Years

* Warranty prorated from list price:
0 to 3 years - no cost to end-user
3 to 5 years - end-user pays 25%
5 to 7 years - end-user pays 50%
7 to 10 years - end-user pays 75%

** Warranty prorated from list price:
0 to 3 years - no cost to end-user
3 to 5 years - end-user pays 50%

† Motors, burner components and moving parts not included. Portable dryer screens included. Tower dryer screens not included.

GSI further warrants that the portable and tower dryer frame and basket, excluding all auger and auger drive components, shall be free from defects in materials for a period of time beginning on the twelfth (12^{th}) month from the date of purchase and continuing until the sixtieth (60^{th}) month from the date of purchase (extended warranty period). During the extended warranty period, GSI will replace the frame or basket components that prove to be defective under normal conditions of use without charge, excluding the labor, transportation, and/or shipping costs incurred in the performance of this extended warranty.

Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH ABOVE. SPECIFICALLY, GSI MAKES NO FURTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) PRODUCT MANUFACTURED OR SOLD BY GSI OR (II) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCTS.

GSI shall not be liable for any direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. The sole and exclusive remedy is set forth in the Limited Warranty, which shall not exceed the amount paid for the product purchased. This warranty is not transferable and applies only to the original end-user. GSI shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor.

GSI assumes no responsibility for claims resulting from construction defects or unauthorized modifications to products which it manufactured. Modifications to products not specifically delineated in the manual accompanying the equipment at initial sale will void the Limited Warranty.

This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained. This Limited Warranty extends solely to products manufactured by GSI.

Prior to installation, the end-user has the responsibility to comply with federal, state and local codes which apply to the location and installation of products manufactured or sold by GSI.

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This equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.

For more information, contact the DMC Distribution Center closest to you.

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