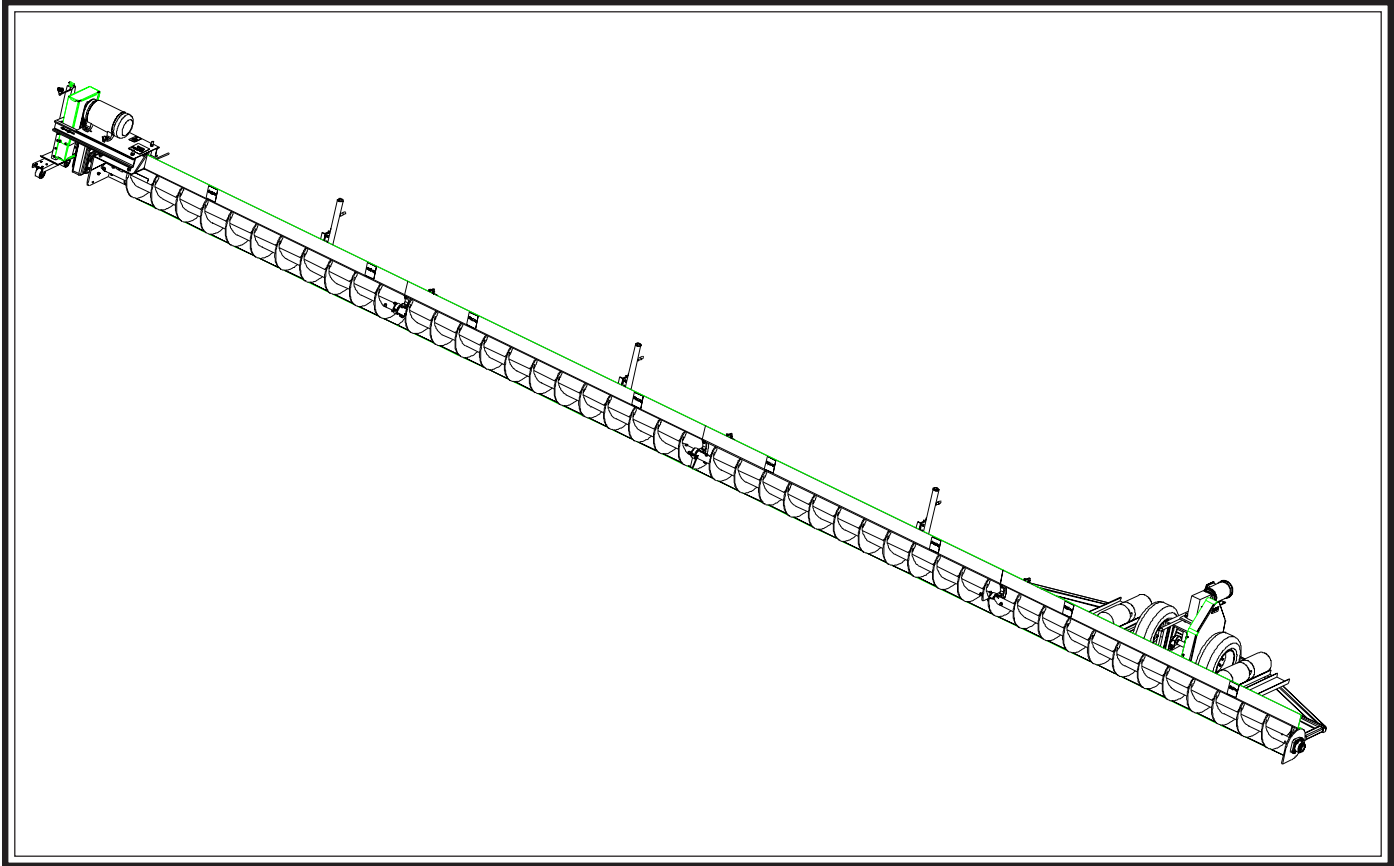


PNEG-720-KD
4-20-04



12" & 16" Series II Knock Down Sweep

Owner's Manual



Model Number of My Sweep:

Date Delivered:

Date Installed:

Personnel operating or working around this equipment should read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment. Any misuse of the equipment may void the warranty.

TABLE OF CONTENTS

Introduction	4
Safety	5
Decals	13
Operator Qualifications	17
General Product Information	18
Assembly Section	
Main Sweep Components	22
Head Section	22
Intermediate Section	22
Tail Section	23
Tractor Mount	23
Tractor Drive Stand	24
Back Tail Frame	24
Counter Weight Channels	25
Splice Plates	25
Back Shield	26
End Casters	27
Flighting	28
Hanger Bracket	29
Flange Bearing	30
Gear Reducer	30
Drive Axle & Bearing Support	31
Reducer Mounting Plate & Reducer	33
Tractor Motor	33
Guard Assembly	34
Tractor Wheel Assembly	35
Counter Weight	36
Weight Channel Extension Kit	37
Motor Jack & Base Assembly	38
Motor Installation	39
Sheave Installation	40
Electrical Assembly	42
Jack Support	48
Center Pivot	50
Control Panel	53
Start-Up	55
Operation	57
Shutdown	59
Maintenance	60
Control Panel Schematics	67
Troubleshooting	70
Part Lists	71
Warranty	Inside Back Cover

Introduction

PRODUCT INTRODUCTION

Congratulations! Your selection of the GSI Series 2 Sweep was a wise investment. It will give you years of dependable service. The main function of the Series 2 Sweep is to clean out the remaining grain after all gravity unloading has finished. The GSI Series 2 Sweep is a single pass sweep only. The unit will only operate in a round grain bin equipped with a center sump in the bin floor. **NOTE: The bin manufacturer should be contacted for their recommendations on your bin's structural integrity.** The following are sweep criteria recommendations.

ISSUES

RECOMMENDATIONS

Flooring.

The flooring type of choice is concrete. However, the sweep can be used on a full aeration floor. When installing a sweep on a full aeration floor, the floor manufacturer should be contacted for proper recommendation concerning supporting of the floor. It is recommended to lay a track under the sweep at the points of contact on any type of aeration flooring, even in bins with a concrete cap.

Center sump size.

When installing a 12" standard sweep, the minimum recommended opening is 36" x 36". With a 16" standard sweep, it is 42" x 42". If installing a sump with collector ring, the opening will be 42" x 42" for both sweep sizes.

Number of intermediate sumps.

It is recommended to install the intermediate sumps on a maximum of 10' centers where the sweep will be parked during storage. The extra sumps will help clean out the grain in front of the sweep reducing the start-up load. Doing this will save labor dollars and hours of work to uncover the sweep and can help the sweep during start-up.

Routing the power supply to the sweep.

There are three (3) options for routing the power. The most used option is to run the cords out the door in the sidewall. Another option is to use the hopper sump with collector ring. This allows the power to be transferred through a mechanical device in the center sump and does not twist any cords. This method is popular overseas. Last, is by using the pivot kit, which routes the power cord through the center sump. Using this kit requires the sweep to be backed up to the start point after sweeping. The pivot kit is not the preferred choice due to the cord twisting repeatedly.


SAFETY 1st

Replace missing guards and shields
FREE OF CHARGE!

GSI equipment is built to provide many years of dependable service to our customers through durable craftsmanship.

One of the most important aspects of GSI engineering is **SAFETY 1st** design throughout all product lines. At GSI - safety is NO ACCIDENT!

That is why GSI is implementing its **SAFETY 1st** program. Should you ever need guards, shields, safety decals, or owner/operator manuals, simply contact GSI, and we will supply you with them **FREE OF CHARGE!**

While it is our main goal for GSI to be the world leader in auger manufacturing, it is always our first priority to keep our customers safe.

If you need any of the above listed safety items or have safety questions, please contact GSI:

The GSI Group
PO Box 20
1004 E. Illinois Street
Assumption, IL 62510
Ph: 217-226-4421

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**

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

 **WARNING**

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

 **CAUTION**

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTE

NOTE indicates information about the equipment that you should pay special attention to.

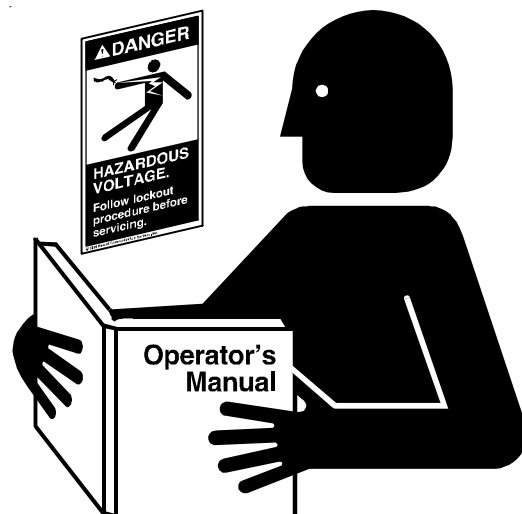
FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and safety signs on your equipment. 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 and need assistance, contact your dealer.



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 from rotating belt and idlers.

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



Safety

WEAR PROTECTIVE CLOTHING

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

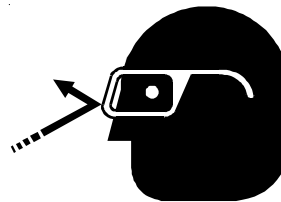
Safety glasses should be worn at all times to protect eyes from debris.

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

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

Wear hard hat and steel toe boots to help protect your head and toes from falling debris.

Eye Protection



Gloves



Steel Toe Boots



Respirator



Hard Hat

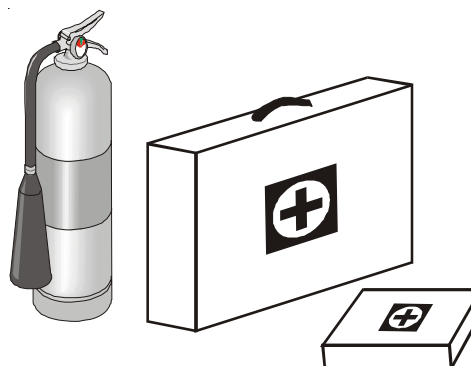


PREPARE FOR EMERGENCIES

Be prepared if fire starts.

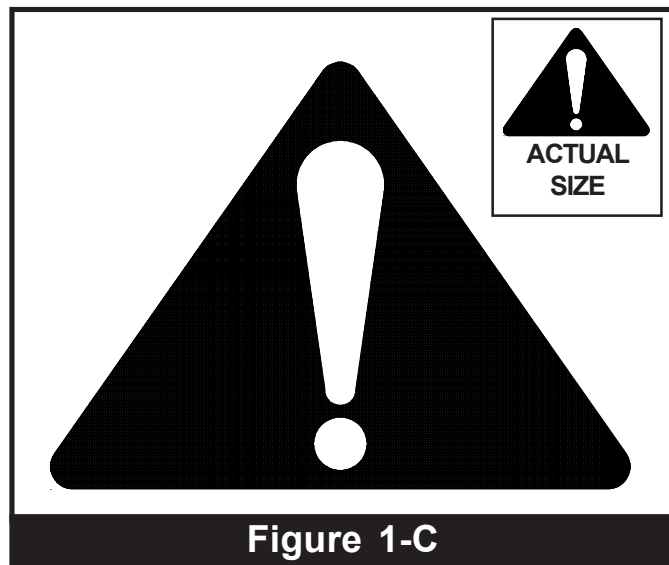
Keep a first aid kit and fire extinguisher handy.

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



1. GENERAL SAFETY STATEMENTS

- A. GSI's principle concern is your safety and the safety of others associated with grain handling 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.
- B. 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.
- C. Figure 1-C shows the symbol used to call attention to instructions concerning your personal safety. Watch for this symbol; it points out important safety precautions. It means "ATTENTION", "WARNING", "CAUTION", and "DANGER". Read the message that follows, and be cautious to the possibility of personal injury or death.
- D. 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.



1. GENERAL SAFETY STATEMENTS (cont.)

- E. Untrained operators subject themselves and others to **SERIOUS INJURY** or **DEATH**. **NEVER** allow untrained personnel to operate this equipment.

- F. Keep children and other unqualified personnel out of the working area at **ALL** times.

- G. **NEVER** start equipment until **ALL** persons are clear of the work area.

- H. Be sure **ALL** operators are adequately rested and prepared to perform **ALL** functions of operating this equipment.

- I. Keep hair, loose clothing, and shoestrings away from rotating and moving parts. **NEVER** wear loose fitting clothing when working around augers.

- J. **NEVER** allow any person intoxicated or under the influence of alcohol or drugs to operate the equipment.

- K. **NEVER** allow anyone inside a bin, truck or wagon which is being unloaded by an auger or conveyor. Flowing grain can trap and suffocate in seconds.

- L. Make sure someone is nearby who is aware of the proper shutdown sequence in the event of an accident or emergency.

- M. **NEVER** work alone.

- N. **ALWAYS** think before acting. **NEVER** act impulsively around the equipment.

- O. Make sure **ALL** equipment is locked in position before operating.

- P. Keep hands and feet away from the auger intake and other moving parts.

- Q. **NEVER** attempt to assist machinery operation or to remove trash from equipment while in operation.

1. GENERAL SAFETY STATEMENTS (cont.)

- R. NEVER drive, stand or walk under the equipment.
- S. Use caution not to hit the auger when positioning the load.
- T. Use ample overhead lighting after sunset to light the work area.
- U. ALWAYS lockout ALL power to the equipment when finished unloading a bin.
- V. Keep area around intake free of obstacles such as electrical cords, blocks, etc. that might trip workers.
- W. Always turn off and lock out all power sources before performing any maintenance

2. IN AN EMERGENCY, SHUT DOWN THE POWER SOURCE.

3. PINCH POINTS

- A. Be aware of Pinch Points. A Pinch Point is a narrow area between two surfaces that is likely to trap or catch objects and so is a potential safety hazard.
- B. Components of this equipment have sharp edges which can scrape and/or cut an operator.
- C. A moving auger can sever an operator's limbs or even kill.

4. SHIELDS AND GUARDS

- A. ALWAYS keep belt and chain guards in place during operation.

Safety

5. PERSONAL PROTECTIVE EQUIPMENT

A. The proper personal protective equipment should be worn at ALL times by anyone in the work area.



B. ALWAYS wear safety glasses when in the work area.

C. The operator should NEVER wear jewelry.



D. Loose clothing should not be worn. Any clothing that becomes loosened should be tucked in tightly.



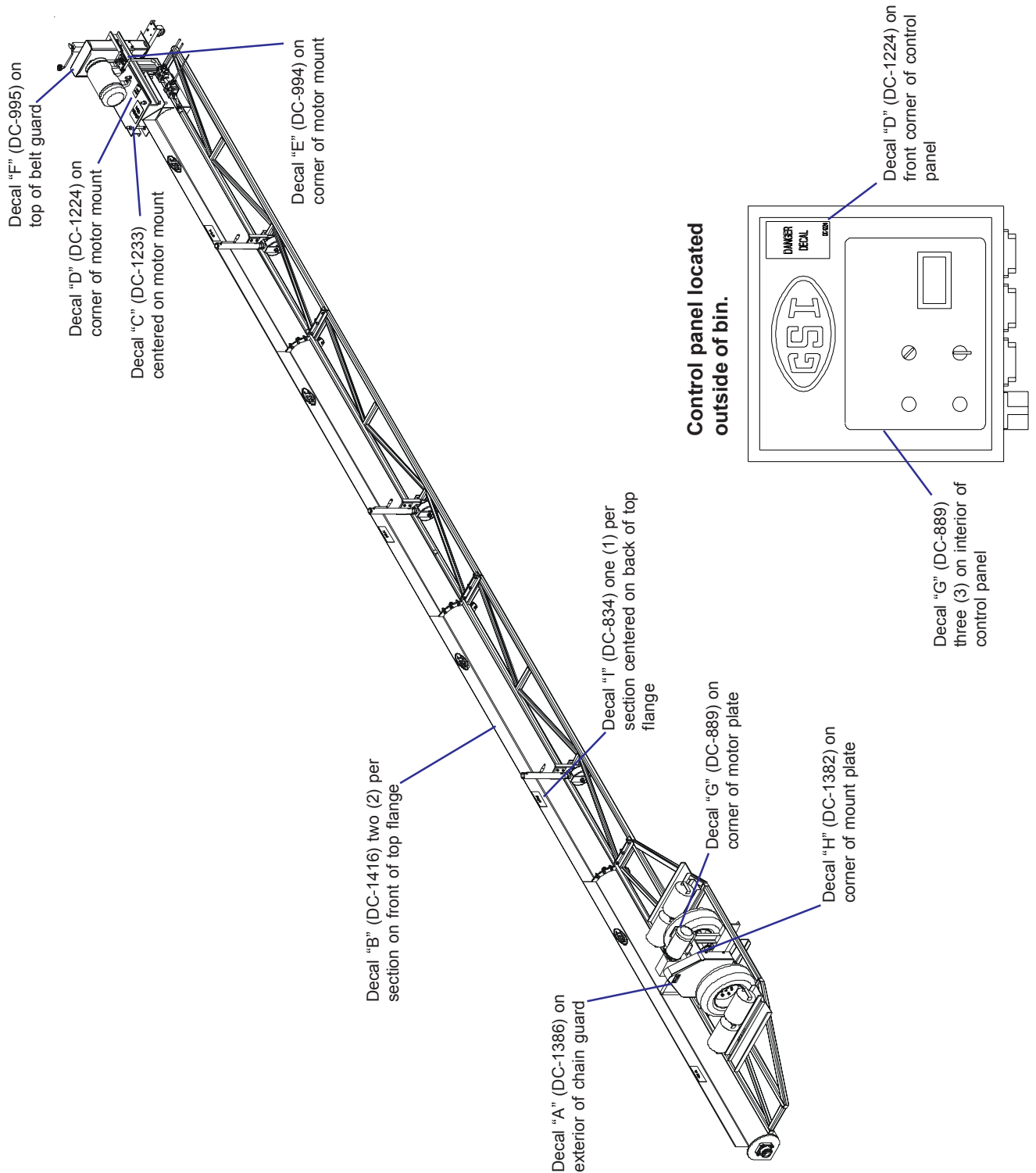
E. Loose shoe strings or dangling shoe strings should be tucked in.

F. Long hair should be tied up and/or back.



6. DECALS

A. The images below show the location of the decals and safety signs which should appear on the Series II Sweep. (refer to pg. 13-15 for decals)



*** Please remember safety signs provide important safety information for people working near bin unloading equipment that is in operation. Any safety signs that are worn, missing, illegible or painted over should be replaced immediately. Obtain *FREE* replacements by contacting GSI.**

Decals

6. DECALS (CONT.)



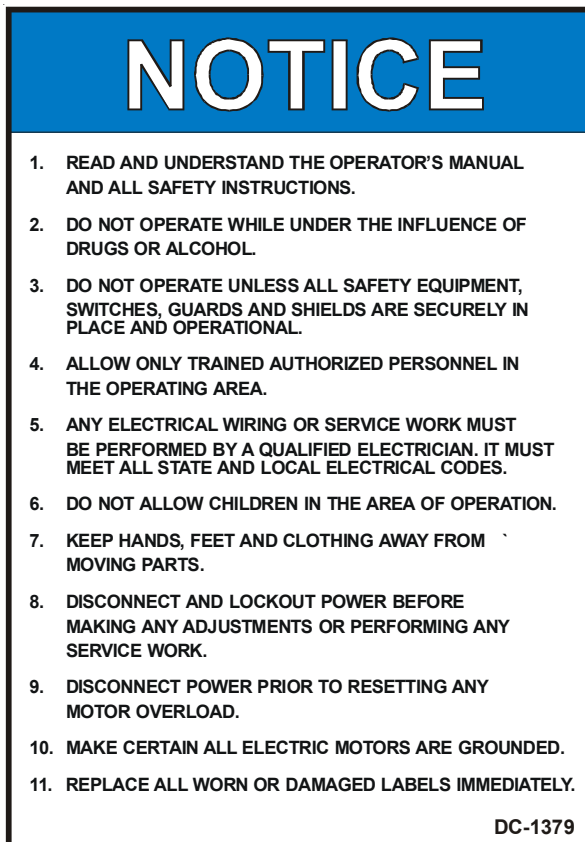
Decal "A"

Location: Exterior of chain guard
 Size: 2" x 4 1/2"
 Part No.: DC-1386



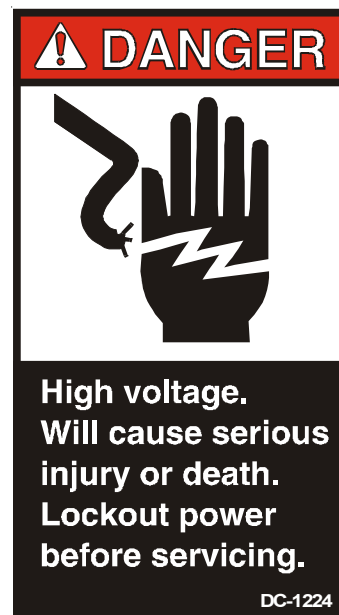
Decal "B"

Location: Two (2) per section on front of top flange
 Size: 4 5/16" x 5 7/16"
 Part No.: DC-1416



Decal "C"

Location: Centered on motor mount
 Size: 5 1/2" x 7 3/8"
 Part No.: DC-1379



Decal "D"

Location: Corner of motor mount
 Size: 2 7/8" x 5"
 Part No.: DC-1224

6. DECALS (CONT.)



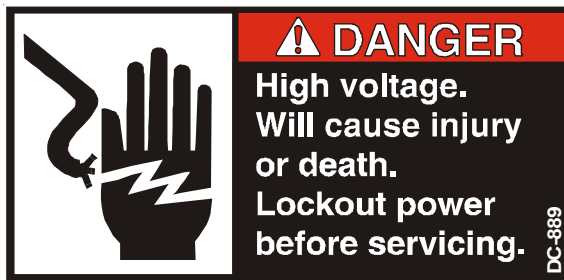
Decal "E"

Location: Corner of motor mount
 Size: 4 1/2" x 2"
 Part No.: DC-994



Decal "F"

Location: Top of belt guard
 Size: 4 1/2" x 2"
 Part No.: DC-995



Decal "G"

Location: Corner of motor plate
 Size: 2 13/16" x 1 7/16"
 Part No.: DC-889



Decal "H"

Location: Corner of mount plate
 Size: 4" x 1 3/4"
 Part No.: DC-1382



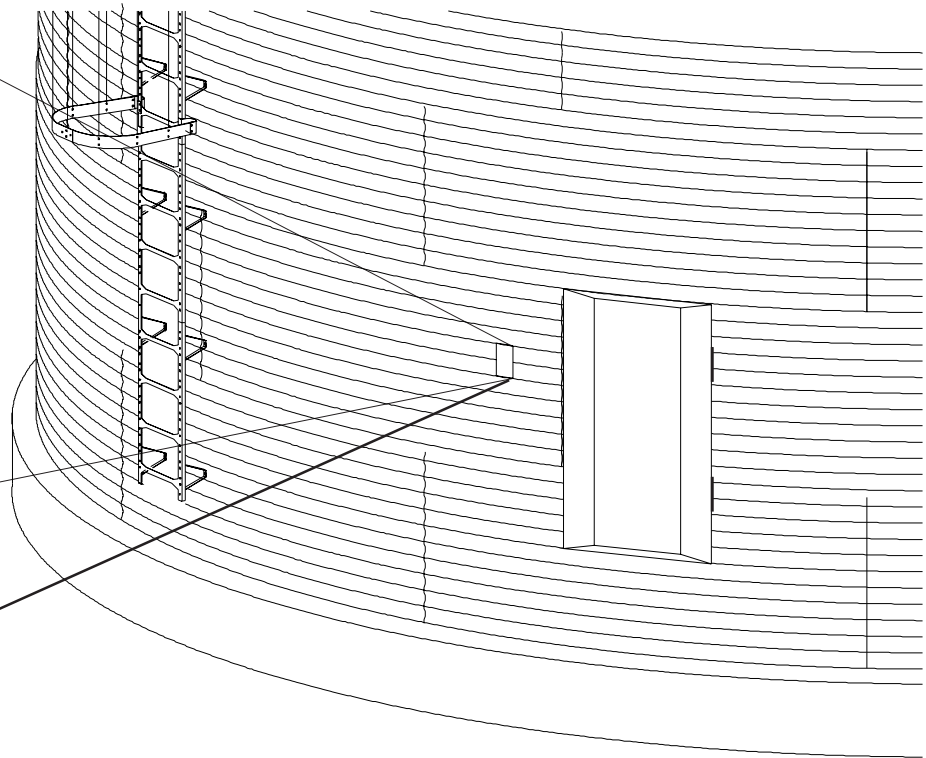
Decal "I"

Location: One (1) per section centered on back of top flange
 Size: 9" x 3 3/4"
 Part No.: DC-834

6. DECALS (CONT.)

- A. DANGER Sign No. DC-1395 was supplied with your bin unloading equipment. This safety sign should be applied to the side of the bin near the bin opening, so it will be viewed by people entering into the bin storage building. Do not cover any safety signs or any other signs that are already there.
- B. If the safety sign location suggested is not in full view because of equipment modifications, other equipment in the area or any reason, then locate the safety sign in a more suitable location.
- C. Be certain the surface is clean, dry and free of dirt and oil. Peel paper backing from decals and stick into place. The adhesive backing will bond on contact.

*** Please remember, safety signs provide important safety information for people working near bin unloading equipment that is in operation.**



NOTE: Install bin decal on opposite side of door hinges so door will not cover decal when open.

*** If the Safety Sign cannot be easily read for any reason or has been painted over, replace it immediately. Additional Safety Signs may be obtained free of charge from your dealer, distributor or ordered from the factory.**

Order SAFETY SIGN NO. DC-1395

7. 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:
1. Any person who has not read and/or does not understand all operation and safety instructions is not qualified to operate any auger systems.
 2. 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.
 3. Unqualified or incompetent persons are to remain out of work area.
 4. O.S.H.A. (Occupational Safety & 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 & Health Standards for Agriculture. Sub part D, Section 19287.57 (a) (6).
- B. As a requirement of OSHA, it is necessary for the employer to train the employee in the safe operating and safety procedures for this auger. We included this sign-off sheet for your convenience and personal record keeping. All unqualified people are to stay out of the work area at all times. It is strongly recommended that another qualified person who knows the shutdown procedure is in the area in the event of an emergency. A person who has not read this manual and understands all operating and safety instructions, is not qualified to operate the machine.

<i>Date</i>	<i>Employees Name (printed)</i>	<i>Employees Signature</i>
	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
	25	

General Product Information

1. PRODUCT INFORMATION



Attention! This Series 2 Sweep is a single pass sweep. Consult the manufacturer of your storage tank regarding the requirements or restrictions of the sweeping process. The manufacturer may require a multiple pass sweep.

- A. The Series 2 Sweep includes the following components:
- control panel
 - two (2) motors
 - motor covers
 - motor mount
 - auger flighting
 - auger backshield assembly
 - jack supports
- B. The unit will operate only in a round grain bin equipped with a center sump in the bin floor.



NEVER enter a grain bin unless ALL power driven equipment has been shut down. Disconnect and lockout power before entering the bin or servicing the equipment.

2. GENERAL INFORMATION.

- A. GSI reserves the right to improve its product whenever possible and practical to do so. We reserve the right to change, improve and modify products at any time without obligation to make changes, improvements and modifications on equipment sold previously.
- B. This new bin sweep auger has been engineered and manufactured to give years of dependable service. The care and maintenance of this equipment will affect the satisfaction and service obtained. By following the instructions and suggestions recommended, the owner should receive quality service for many years. If additional information or assistance should be required, please contact GSI.
- C. It is important to check both the quantity of parts and their descriptions with the packing list enclosed within each package. All claims for freight damage or shortage must be made by the consignee within ten (10) days from the date of the occurrence of freight damage. The consignee should accept the shipment after noting the damage or loss.

General Product Information

2. GENERAL INFORMATION (CONT.)

D. The chart below shows radius dimensions locating the points of contact between the sweep and the bin floor. The dimensions may be used to figure material quantities of track to support the sweep across the aeration flooring. The track material is not supplied with the sweep and must be supplied by the installer. The dimensions are approximate and the assembled sweep should be checked for exact point of contact.

RADIUS DIMENSIONS								
Bin Dia.	Sections	Head	Intermediate	Intermediate	Inside Tire	Outside Tire	End Caster 16" Only	Extension
36'	2	36"			109"	139"	198"	
37'	2	44"			121"	151"	210"	
39'	2	52"			133"	163"	222"	
40'	2	52"			133"	163"	222"	
42'	2	60"			145"	175"	234"	
43'	2	64"			157"	187"	246"	
45'	2	64"			157"	187"	246"	
48'	2	84"			181"	211"	270"	
49'	2	84"			181"	211"	270"	
51'	2	92"			193"	223"	282"	
54'	3	64"	144"		217"	247"	306"	
55'	3	64"	144"		217"	247"	306"	
57'	3	76"	156"		229"	259"	318"	
59'	3	84"	168"		241"	271"	330"	
60'	3	92"	180"		253"	283"	342"	
62'	3	92"	188"		265"	295"	354"	
63'	3	92"	188"		265"	295"	354"	
66'	3	92"	204"		289"	319"	378"	
68'	3	92"	212"		301"	331"	390"	
69'	3	92"	212"		301"	331"	390"	
72'	3	92"	228"		325"	355"	414"	
75'	3	92"	236"		337"	367"	426"	
78'	4	92"	212"	288"	361"	391"	450"	
80'	4	92"	220"	300"	373"	403"	462"	
81'	4	92"	220"	300"	373"	403"	462"	
84'	4	92"	236"	324"	397"	427"	486"	
87'	4	92"	236"	332"	409"	439"	498"	
88'	4	92"	236"	340"	421"	451"	510"	
90'	4	92"	236"	348"	433"	463"	522"	
91'	4	92"	236"	348"	433"	463"	522"	
92'	4	92"	236"	356"	445"	475"	534"	
95'	4	92"	236"	364"	457"	487"	546"	
98'	4	92"	236"	380"	481"	511"	570"	
105'	5	92"	236"	372"	469"	499"		608"
113'	5	92"	236"	380"	481"	511"		656"
120'	5	92"	236"	380"	481"	511"		704"

General Product Information

3. CAPACITIES AND SPECIFICATIONS



Electrical controls and wiring should be installed by a qualified electrician. The motor disconnect switches and conductor cables should comply with the National Electrical code and any local codes which apply. Reset and motor starting stations should be located so the operator can see that all personnel are clear of the equipment.

A. Use the chart below to determine the horsepower required.

Bin Diameter	12" SERIES II SWEEP					16" SERIES II SWEEP				
	Drive H.P.	Bushe/MT Per Hour Horsepower			Length Pivot to End	Drive H.P.	Bushe/MT Per Hour Horsepower			Length Pivot to End
		5000/125	6000/155	7000/180			8000/205	9000/230	10000/255	
36'	1	7.5	7.5	7.5	16.79' (5.12m)	2	7.5	7.5	7.5	16.85' (5.14m)
37'	1	7.5	7.5	7.5	17.79' (5.43m)	2	7.5	7.5	7.5	16.85' (5.14m)
39'	1	7.5	7.5	7.5	18.79' (5.73m)	2	7.5	7.5	7.5	17.85' (5.44m)
40'	1	7.5	7.5	7.5	18.79' (5.73m)	2	7.5	7.5	7.5	18.75' (5.72m)
42'	1	7.5	7.5	7.5	19.79' (6.04m)	2	7.5	7.5	10	19.85' (6.05m)
43'	1	7.5	7.5	7.5	20.79' (6.34m)	2	7.5	7.5	10	19.85' (6.05m)
45'	1	7.5	7.5	7.5	20.79' (6.34m)	2	7.5	7.5	10	20.85' (6.36m)
48'	1	7.5	7.5	7.5	22.79' (6.95m)	2	7.5	10	10	22.85' (6.96m)
49'	1	7.5	7.5	7.5	22.79' (6.95m)	2	7.5	10	10	22.85' (6.96m)
51'	1	7.5	7.5	10	23.79' (7.26m)	2	7.5	10	10	23.85' (7.27m)
54'	1	7.5	7.5	10	25.79' (7.86m)	2	10	10	10	25.85' (7.88m)
55'	1	7.5	7.5	10	25.79' (7.86m)	2	10	10	10	25.85' (7.88m)
57'	1	7.5	7.5	10	26.79' (8.17m)	2	10	10	10	26.85' (8.18m)
59'	1	7.5	7.5	10	27.79' (8.47m)	2	10	10	15	27.85' (8.49m)
60'	1	7.5	7.5	10	28.79' (8.78m)	2	10	10	15	28.85' (8.79m)
62'	2	7.5	7.5	10	29.79' (9.08m)	2	10	10	15	29.85' (9.10m)
63'	2	7.5	7.5	10	29.79' (9.08m)	2	10	10	15	29.85' (9.10m)
66'	2	7.5	7.5	10	31.79' (9.69m)	2	10	15	15	31.85' (9.71m)
68'	2	7.5	7.5	10	32.79' (10.00m)	2	10	15	15	32.85' (10.01m)
69'	2	7.5	7.5	10	32.79' (10.00m)	2	10	15	15	32.85' (10.01m)
72'	2	7.5	7.5	10	34.79' (10.61m)	2	15	15	15	34.85' (10.62m)
75'	2	10	10	10	35.79' (10.91m)	2	15	15	15	35.85' (10.93m)
78'	2	10	10	10	37.79' (11.52m)	2	15	15	15	37.85' (11.54m)
80'	2	10	10	10	38.79' (11.83m)	2	15	15	15	38.85' (11.84m)
81'	2	10	10	10	38.79' (11.83m)	2	15	15	15	38.85' (11.84m)
84'	2	10	10	15	40.79' (12.44m)	2	15	15	15	40.85' (12.45m)
87'	2	10	10	15	41.79' (12.74m)	2	15	15	20	41.85' (12.76m)
88'	2	10	10	15	42.79' (13.05m)	2	15	15	20	42.85' (13.06m)
90'	2	10	10	15	43.79' (13.35m)	2	15	15	20	43.85' (13.37m)
91'	2	10	10	15	43.79' (13.35m)	2	15	15	20	43.85' (13.37m)
92'	2	10	10	15	44.79' (13.66m)	2	15	20	20	44.85' (13.67m)
95'	2	10	15	15	45.79' (13.97m)	2	15	20	20	45.85' (13.98m)
98'	2	10	15	15	47.79' (14.57m)	2	15	20	20	47.85' (14.58m)
105'	3	15	15	20	50.79' (15.48m)	3	20	20	20	50.85' (15.50m)
113'	3	15	15	20	54.79' (16.70m)	3	20	20	20	54.85' (16.72m)
120'	3	15	15	20	58.79' (17.92m)	3	20	20	20	58.85' (17.94m)

Due to continual improvements, GSI designs and specifications are subject to change without notice.

* The horsepower recommendations are for augering reasonably dry grain. High moisture grain (greater than 15%) will require greater power for maximum capacity. The maximum capacity will be less with high moisture grain than with dry grain.

ALSO NOTE: Sweep drive and carrier wheels require plates or track over aeration flooring for travel and supports not supplied with the sweep unit. Contact your installer or flooring provider for possible source and details.

3. CAPACITIES AND SPECIFICATIONS (CONT.)

- B. A magnetic starter should be used to protect the motor when starting and stopping. It should stop the motor in case of power interruption, conductor fault, low voltage, circuit interruption or motor over load. The motor must be restarted manually. Some motors have built-in thermal overload protection. If this is the type of motor being used, use only those with a manual reset.
- C. The motor starting controls must be located outside the bin. They must NEVER be installed on the Series II auger inside the bin.
- D. Disconnect and lockout the power before resetting motor overloads.
- E. Disconnect and lockout the power before entering the bin.
- F. Disconnect and lockout the power before servicing the equipment.
- G. Position the reset and motor starting controls so that the operators have full view of the equipment



There should ALWAYS be two (2) people in the work area.

- H. Make sure electric motors are grounded.

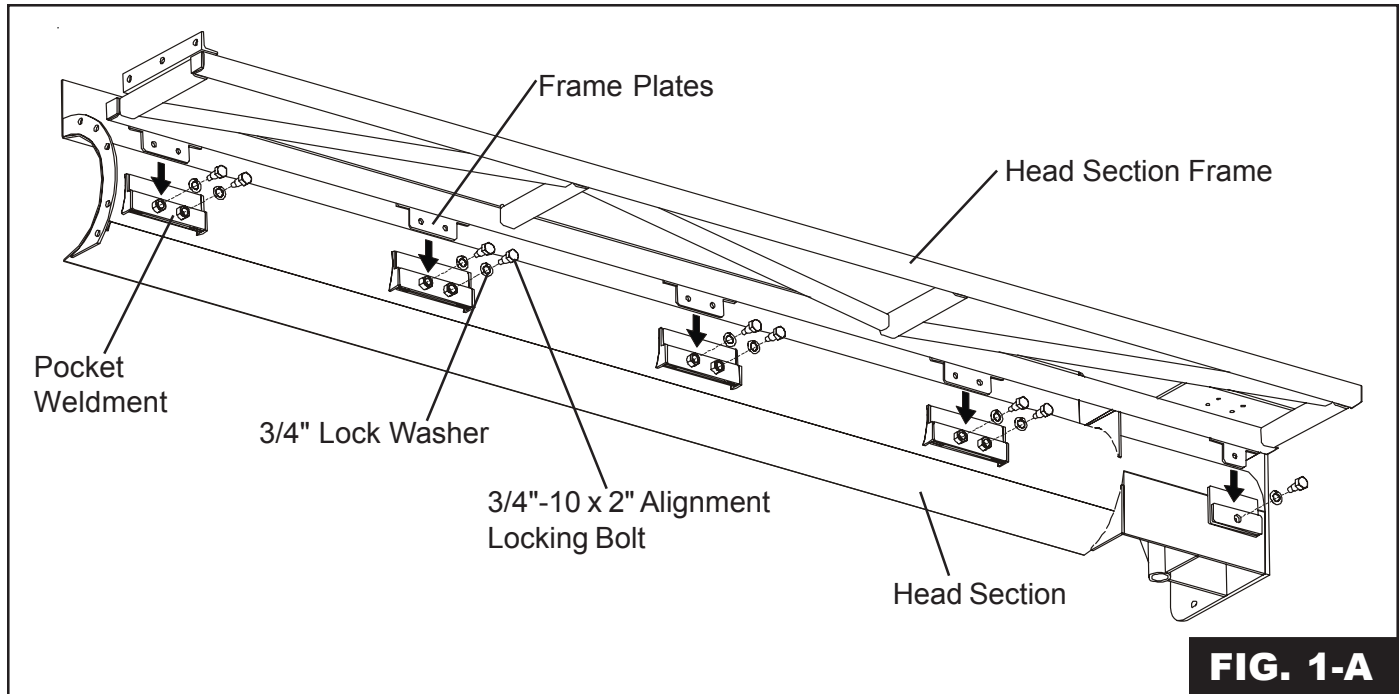
*** A main power disconnect switch capable of being locked only in the OFF position should be used. It should be locked whenever work is being done on the Series II Sweep.**

Assembly

1. ASSEMBLE MAIN SWEEP COMPONENTS

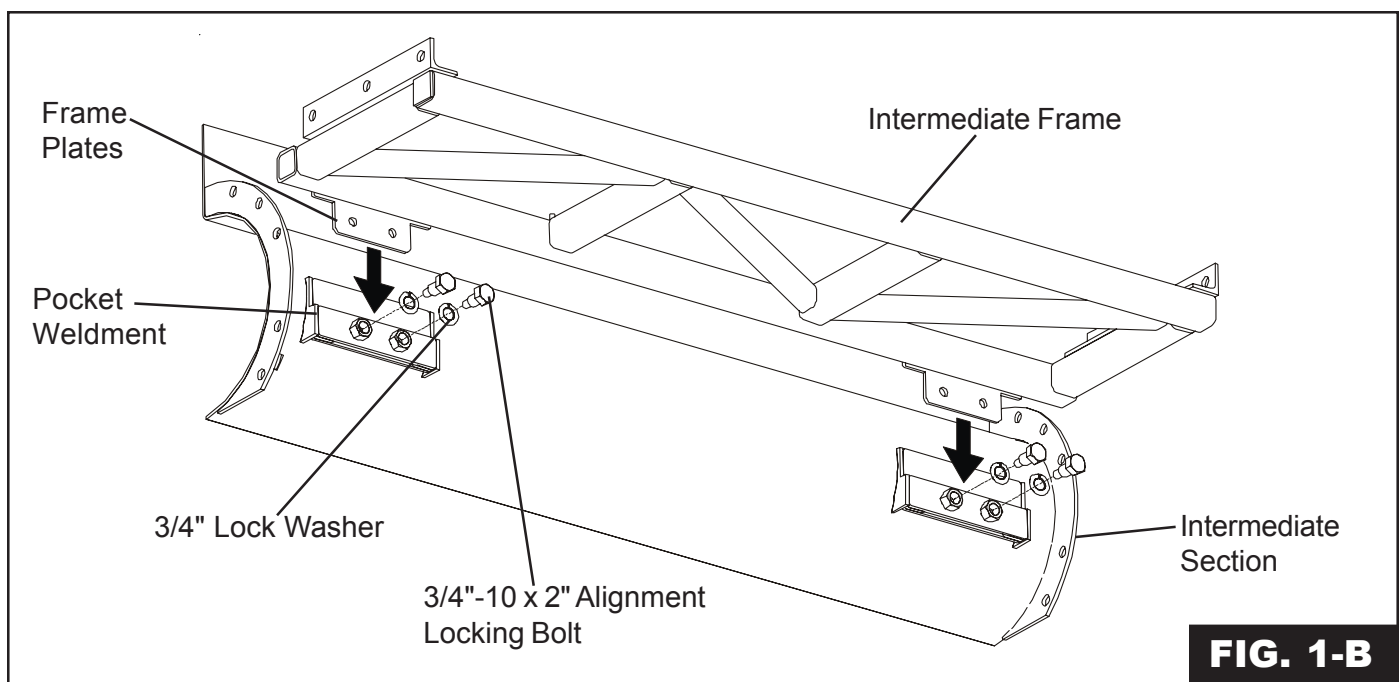
A. Assemble Head Section

1. Insert Frame Plates into the Pocket Weldments located on the back of the Head Section.
2. Fasten together using (9) 3/4"-10 x 2" alignment locking bolts and lock washers. (See Fig. 1-A)



B. Assemble Intermediate Section

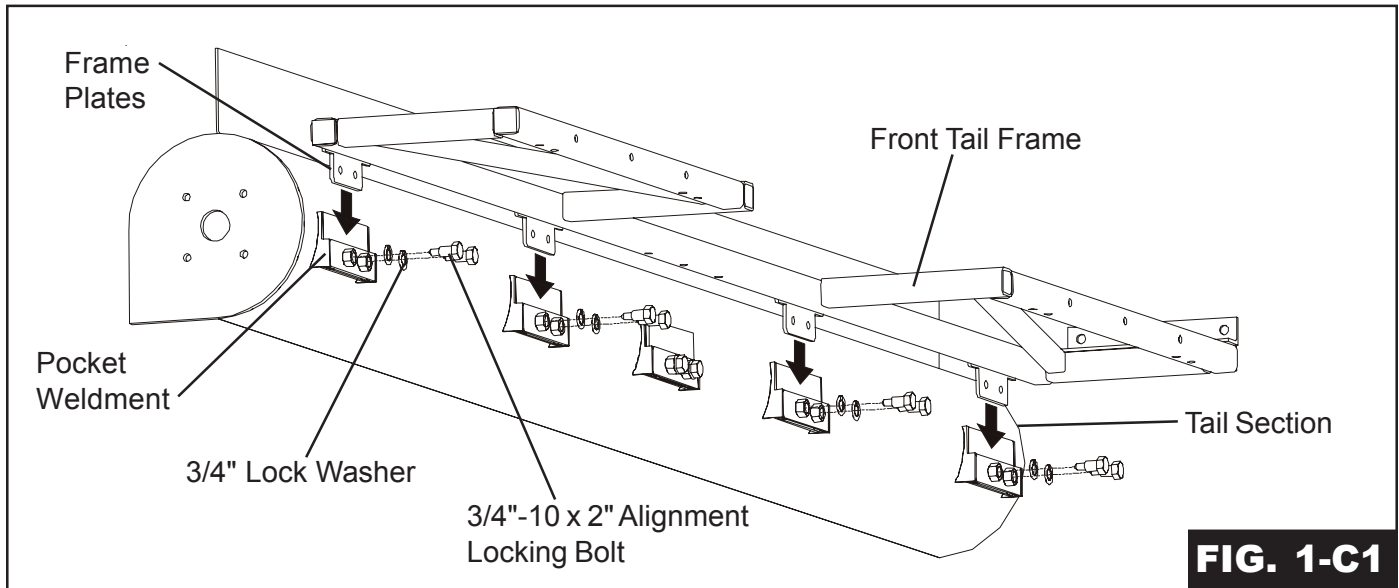
1. Insert Frame Plates into the Pocket Weldments located on the back of the Intermediate Section.
2. Fasten together using (4) 3/4"-10 x 2" alignment locking bolts and lock washers. (See Fig. 1-B)



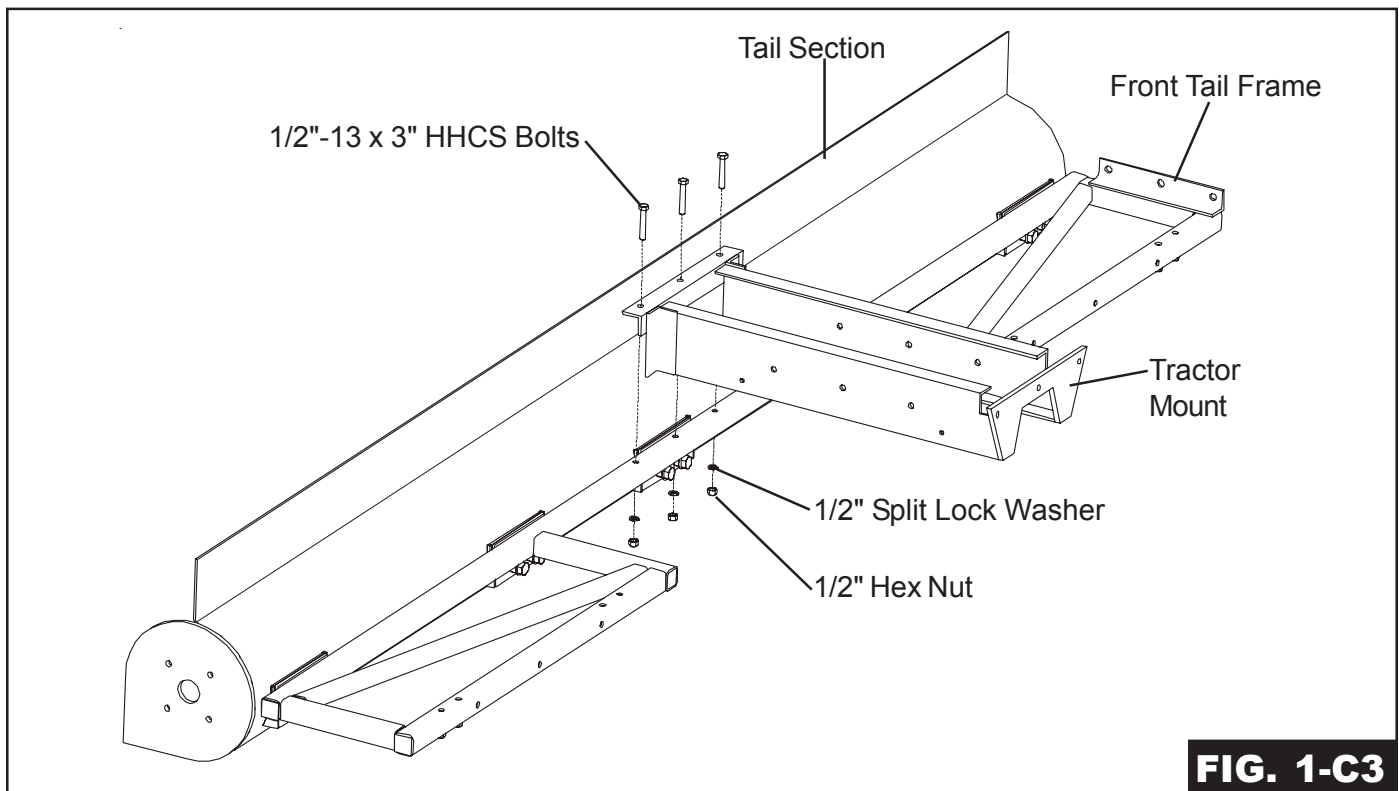
1. ASSEMBLE MAIN SWEEP COMPONENTS (CONT.)

C. Assemble Tail Section

1. Insert Frame Plates into the Pocket Weldments located on the back of the Tail Section.
2. Fasten Front Tail Frame to Tail Section using (4) 3/4"-10 x 2" alignment locking bolts and lock washers. (See Fig. 1-C1)



3. Fasten Tractor Mount to Front Tail Frame using (3) 1/2"-13 x 3" HHCS bolts, split lock washers, & hex nuts. (See Fig 1-C3)

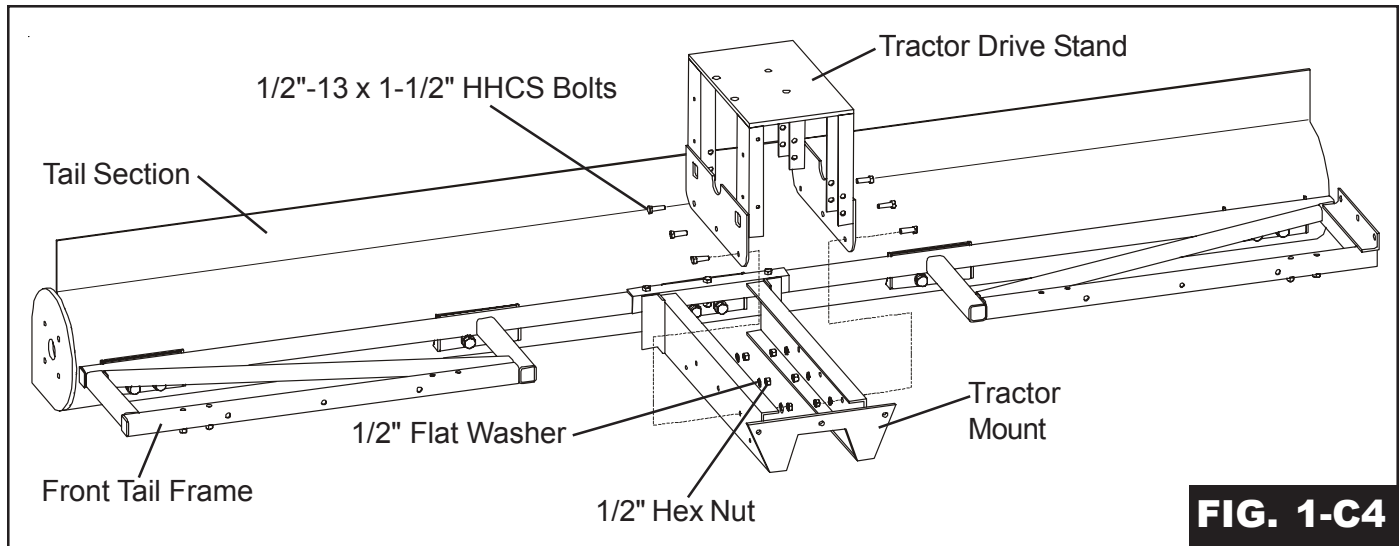


Assembly

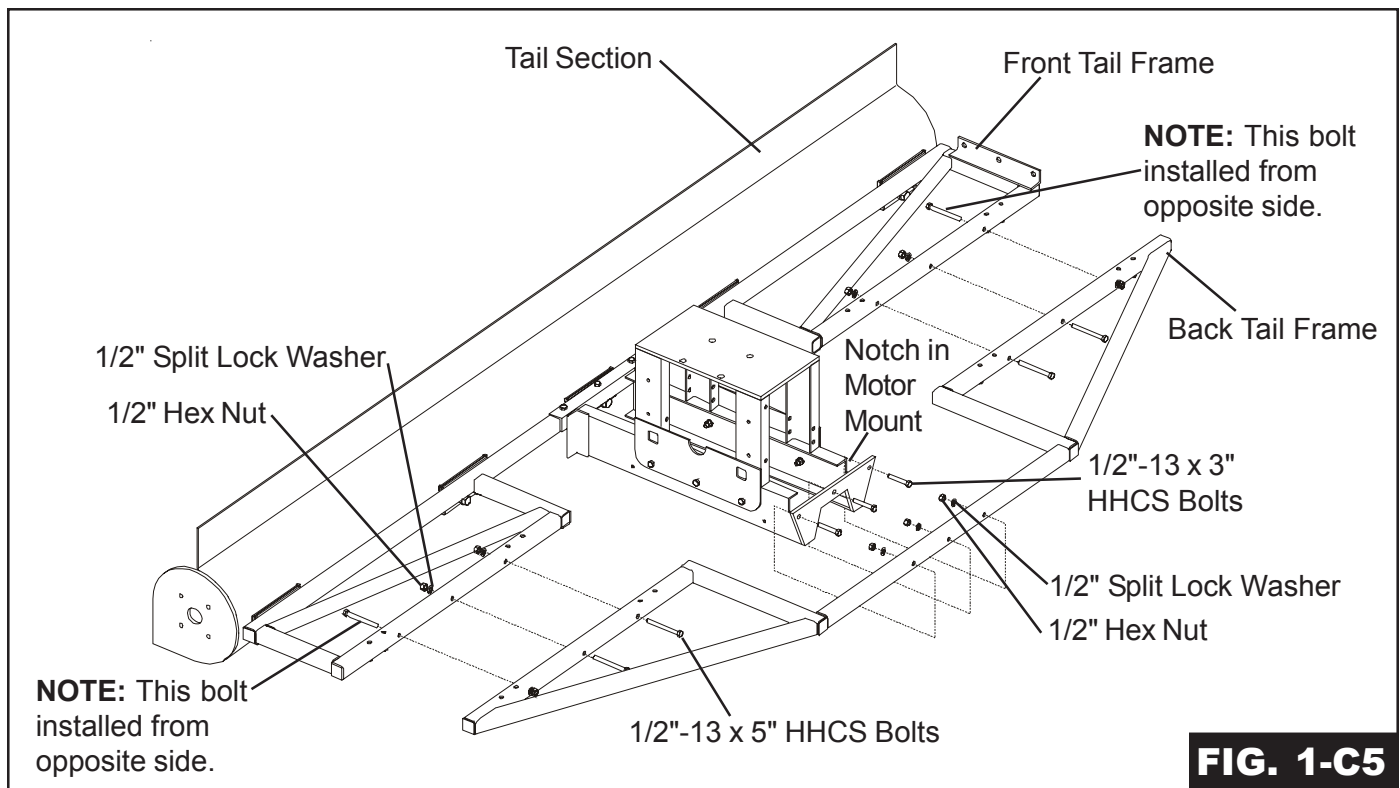
1. ASSEMBLE MAIN SWEEP COMPONENTS (CONT.)

C. Assemble Tail Section (cont.)

4. Fasten Tractor Drive Stand to Tractor Mount using (6) 1/2"-13 x 1-1/2" HHCS bolts, flat washers, & hex nuts. (See Fig. 1-C4)



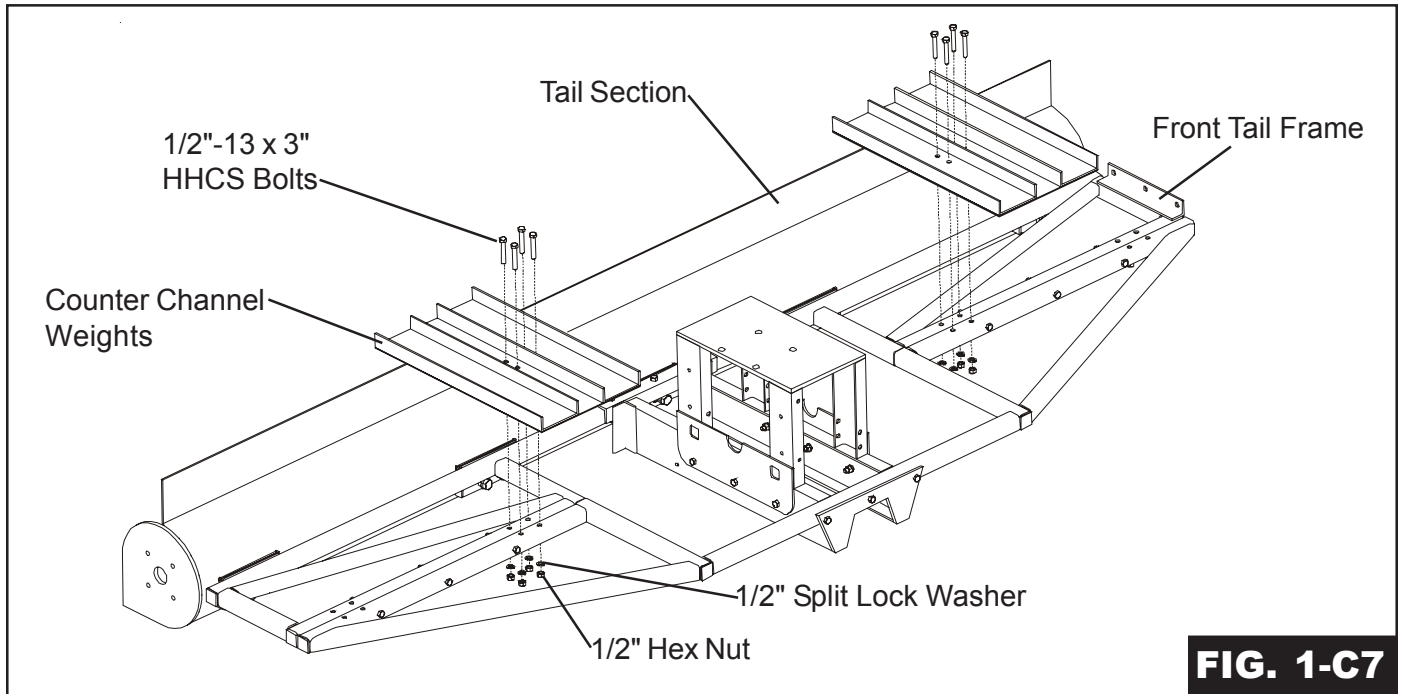
5. For 12" sweep place Back Tail Frame into notch at back of Motor Mount. For 16" sweep place Back Tail Frame on top motor mount. Fasten using (3) 1/2"-13 x 3" HHCS bolts, split lock washers, and hex nuts. (See Fig. 1-C5)
6. Fasten Back Tail Frame to Front Tail Frame using (6) 1/2"-13 x 5" HHCS bolts, split lock washers, and hex bolts.



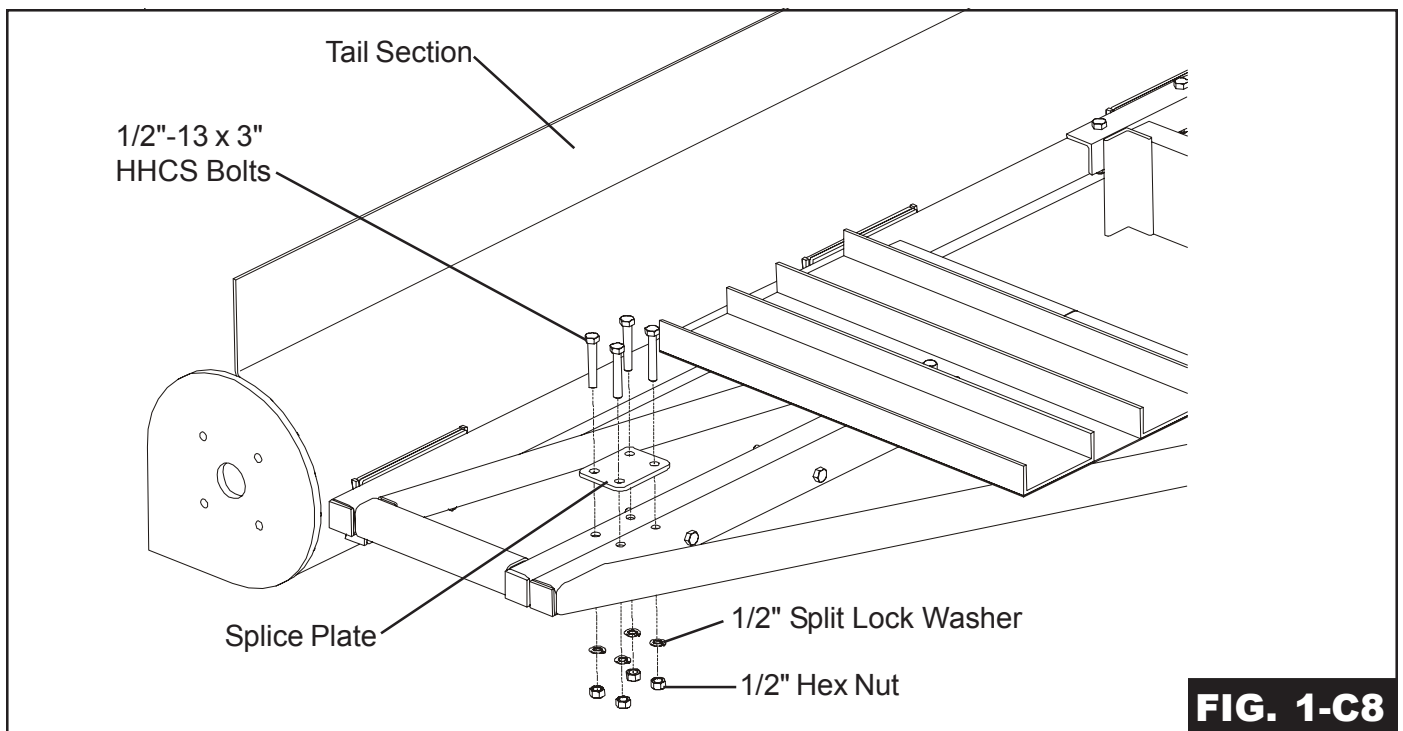
1. ASSEMBLE MAIN SWEEP COMPONENTS (CONT.)

C. Assemble Tail Section (cont.)

7. Fasten Counter Weight Channels to Tail Frame using (8) 1/2"-13 x 3" HHCS bolt, split lock washers, and hex nuts. (See Fig. 1-C7)



8. Fasten Splice Plates to Tail Frame using (8) 1/2"-13 x 3" HHCS bolt, split lock washers, and hex nuts. (See Fig. 1-C8.) **NOTE:** Only left side splice plate shown.



Assembly

1. ASSEMBLE MAIN SWEEP COMPONENTS (CONT.)

D. BACK SHIELD ASSEMBLY

- The sweep has been broken down into four(4) different section types. The head section, intermediate section, tail, and extension section.

*** Use the charts below to determine the number of sections and the section sizes required for the length of sweep to be used.**

12" Series II Sweep Sections

16" Series II Sweep Sections

Bin Dia.	Sec.	Head	Int.	Int.	Int.	Tail	Ext.	Pivot to End
36'	2	52				149.5		16.79'
37'	2	64				149.5		17.79'
39'	2	76				149.5		18.79'
40'	2	76				149.5		18.79'
42'	2	88				149.5		19.79'
43'	2	100				149.5		20.79'
45'	2	100				149.5		20.79'
48'	2	124				149.5		22.79'
49'	2	124				149.5		22.79'
51'	2	136				149.5		23.79'
54'	3	100	60			149.5		25.79'
55'	3	100	60			149.5		25.79'
57'	3	112	60			149.5		26.79'
59'	3	124	60			149.5		27.79'
60'	3	136	60			149.5		28.79'
62'	3	136	72			149.5		29.79'
63'	3	136	72			149.5		29.79'
66'	3	136	96			149.5		31.79'
68'	3	136	108			149.5		32.79'
69'	3	136	108			149.5		32.79'
72'	3	136	132			149.5		34.79'
75'	4	136	144	60		149.5		40.79'
78'	4	136	108	60		149.5		37.79'
80'	4	136	120	60		149.5		38.79'
81'	4	136	120	60		149.5		38.79'
84'	4	136	144	60		149.5		40.79'
87'	4	136	144	72		149.5		41.79'
88'	4	136	144	84		149.5		42.79'
90'	4	136	144	96		149.5		43.79'
91'	4	136	144	96		149.5		43.79'
92'	4	136	144	108		149.5		44.79'
95'	4	136	144	120		149.5		45.79'
98'	4	136	144	144		149.5		47.79'
105'	5	136	144	132	144	53.5		50.79'
113'	5	136	144	144	144	89.5		54.79'
120'	5	136	144	144	144	137.5		58.79'

Bin Dia.	Sec.	Head	Int.	Int.	Int.	Tail	Ext.	Pivot to End
36'	2	52				150.25		16.85'
37'	2	52				150.25		16.85'
39'	2	64				150.25		17.85'
40'	2	76				150.25		18.85'
42'	2	88				150.25		19.85'
43'	2	88				150.25		19.85'
45'	2	100				150.25		20.85'
48'	2	124				150.25		22.85'
49'	2	124				150.25		22.85'
51'	2	136				150.25		23.85'
54'	3	100	60			150.25		25.85'
55'	3	100	60			150.25		25.85'
57'	3	112	60			150.25		26.85'
59'	3	124	60			150.25		27.85'
60'	3	136	60			150.25		28.85'
62'	3	136	72			150.25		29.85'
63'	3	136	72			150.25		29.85'
66'	3	136	96			150.25		31.85'
68'	3	136	108			150.25		32.85'
69'	3	136	108			150.25		32.85'
72'	3	136	132			150.25		34.85'
75'	4	136	144	60		150.25		40.85'
78'	4	136	108	60		150.25		37.85'
80'	4	136	120	60		150.25		38.85'
81'	4	136	120	60		150.25		38.85'
84'	4	136	144	60		150.25		40.85'
87'	4	136	144	72		150.25		41.85'
88'	4	136	144	84		150.25		42.85'
90'	4	136	144	96		150.25		43.85'
91'	4	136	144	96		150.25		43.85'
92'	4	136	144	108		150.25		44.85'
95'	4	136	144	120		150.25		45.85'
98'	4	136	144	144		150.25		47.85'
105'	5	136	144	132	144	54.25		50.85'
113'	5	136	144	144	144	90.25		54.85'
120'	5	136	144	144	144	138.25		58.85'

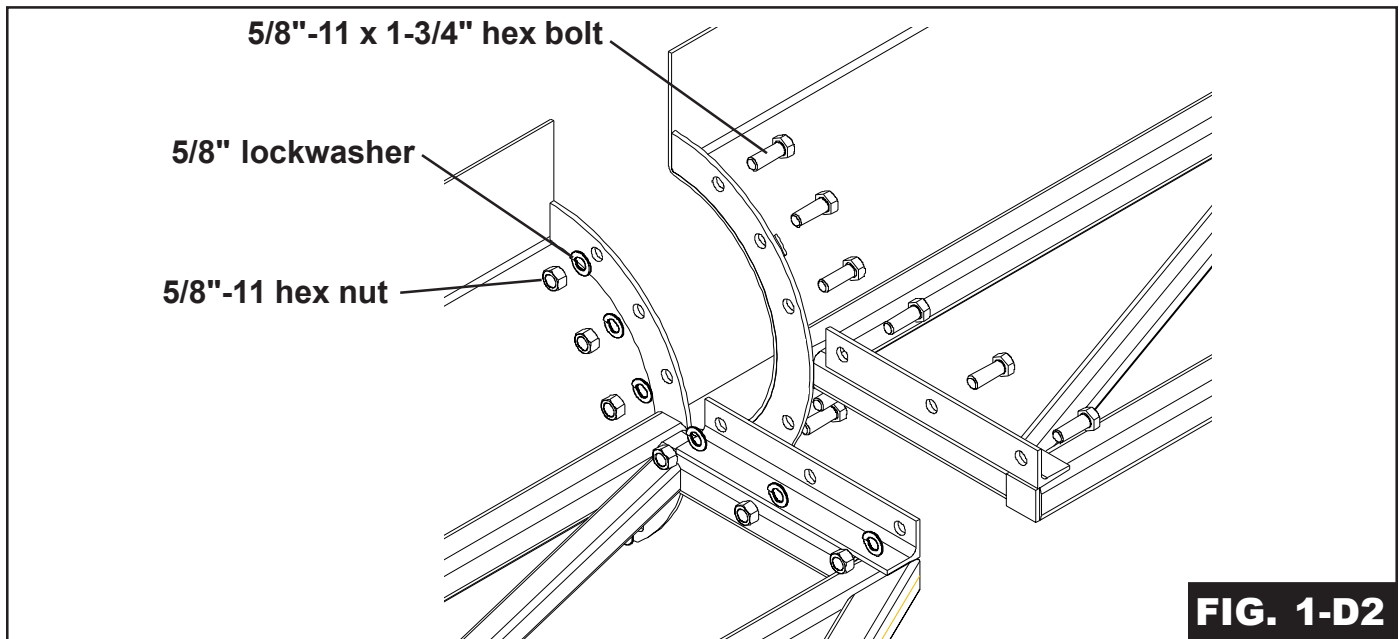
*** The section sizes are total length given in inches. The head section has 8" subtracted from the shield length due to the pivot pipe location. The 12" tail section has 5-1/2" added to the shield length due to the end shaft length. The 16" tail section has 6-1/4" added to the shield length due to the end shaft length.**

1. ASSEMBLE MAIN SWEEP COMPONENTS (CONT.)

D. BACK SHIELD ASSEMBLY (cont.)

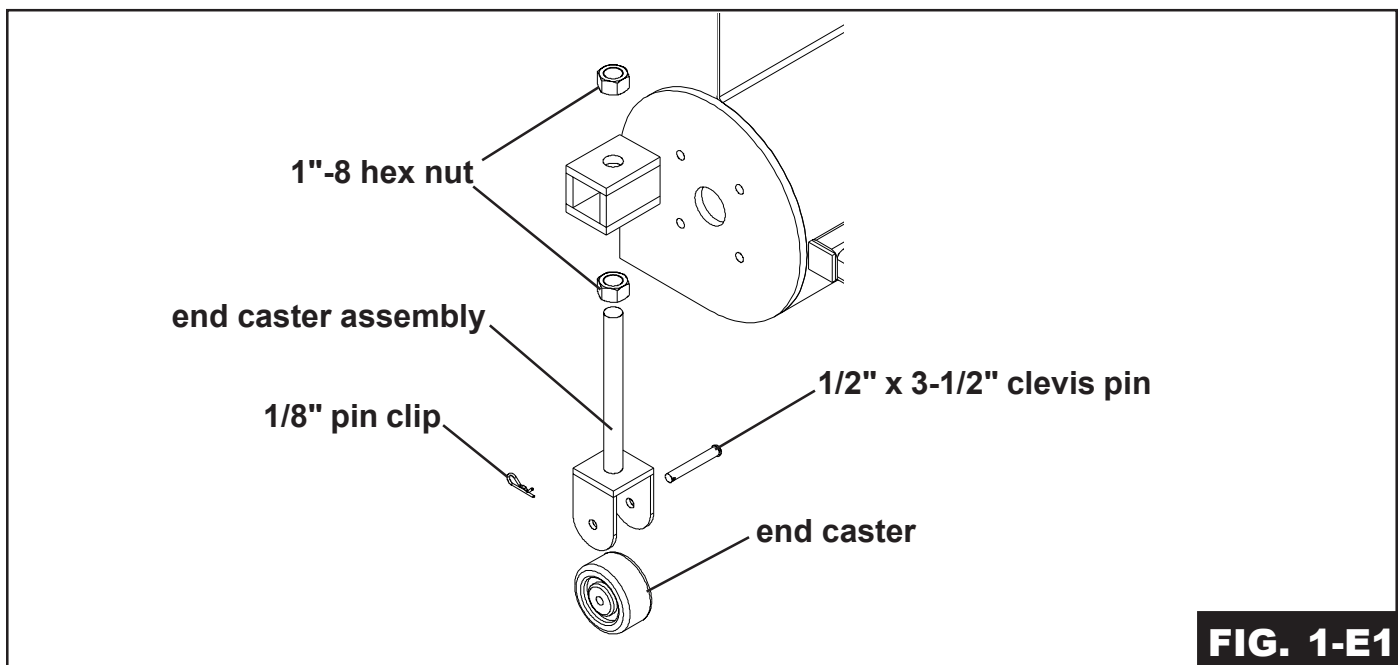
2. Fasten shields and frame sections together using eight (8) 5/8"-11 x 1-3/4" grade 8 hex bolts, lock washers, and hex nuts at each connection location. (See Fig. 1-D2)

*** The bolts MUST be installed as shown below.**



E. End Caster Assembly (cont.)

1. *(All 16" Models and 12" Models with extensions)* Assemble the caster assembly using the 1/2" x 3-1/2" clevis pin and 1/8" pin clip. (Fig. 1-E1)
2. Attach the end caster assembly to the end of the tail section using two (2) 1"-8 hex nuts.

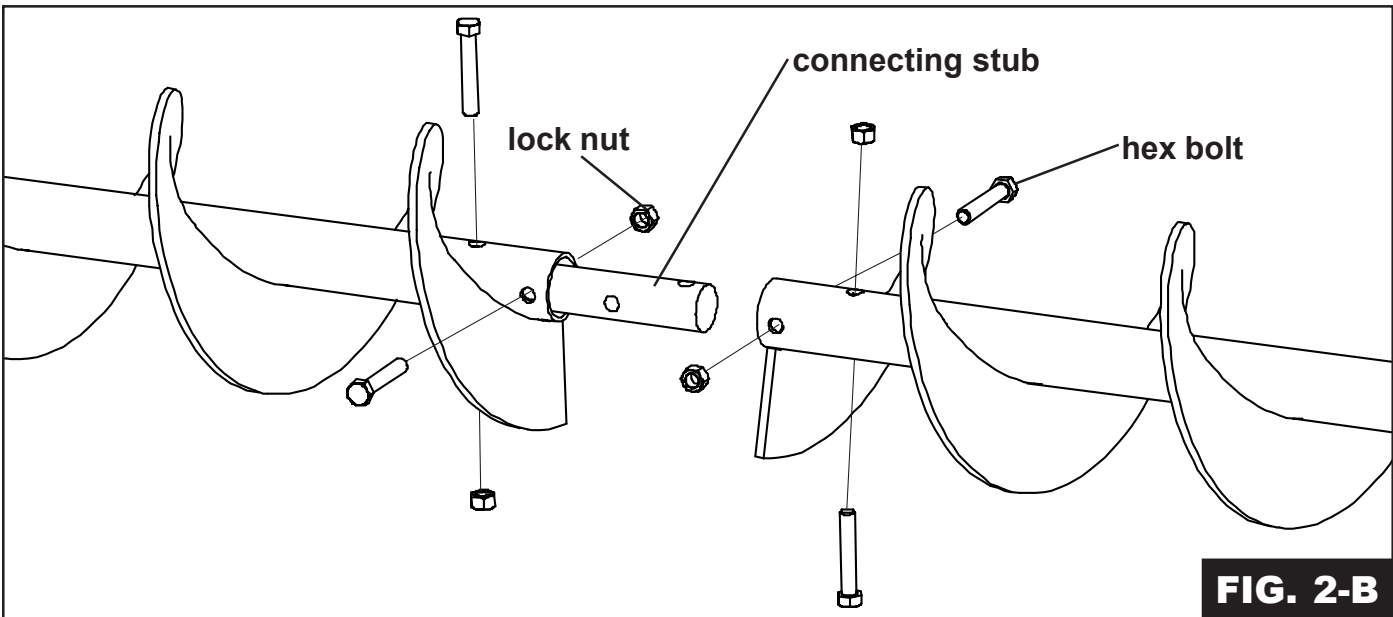


Assembly

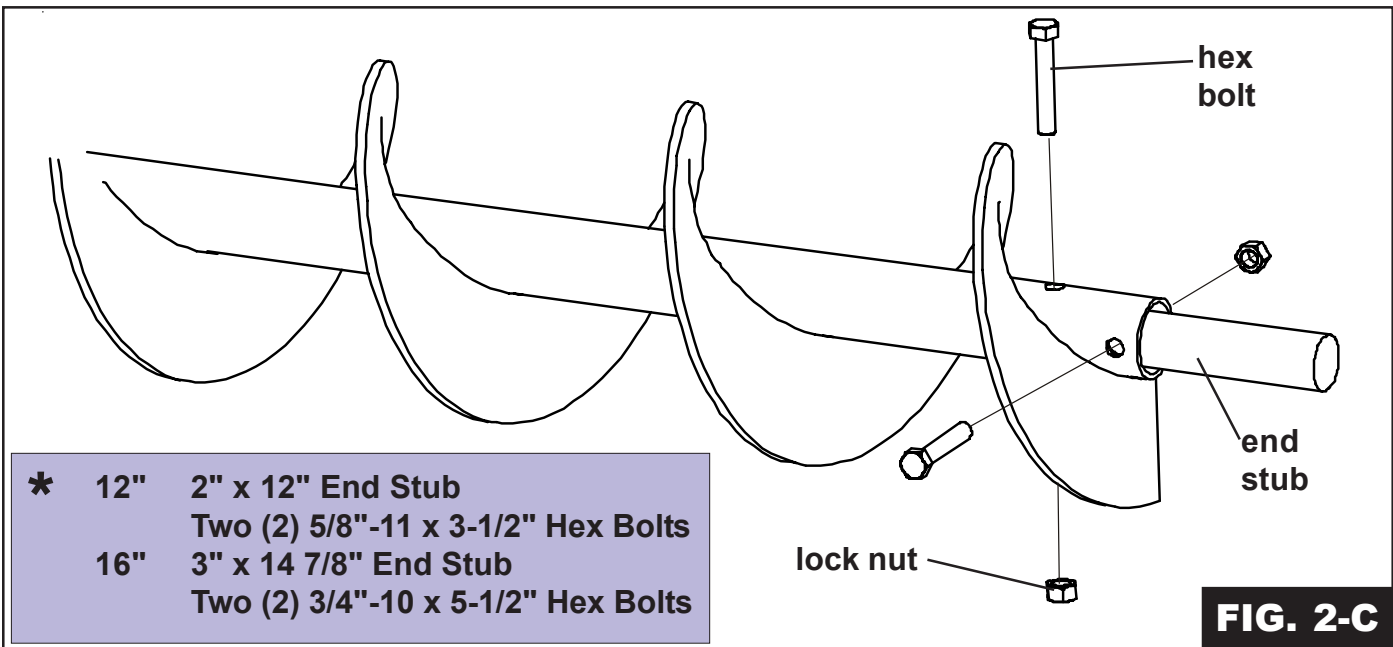
2. FLIGHTING ASSEMBLY

- A. Layout the flight sections in order of assembly starting with the head flight working towards the tail flight.
- B. Using the connecting stubs, bolt the flight sections together with hex bolts and lock nuts. Make sure the flight ends are in time with each other.

*	12"	2" x 11 1/2" Connecting Stub
		Four (4) 5/8"-11 x 3 1/2" Hex Bolts
	16"	3" x 13" Connecting Stub
		Four (4) 3/4"-10 x 5 1/2" Hex Bolts



- C. Slide the end stub through the bearing plate on the tail section and into the tail flight securing it with hex bolts and lock nuts.

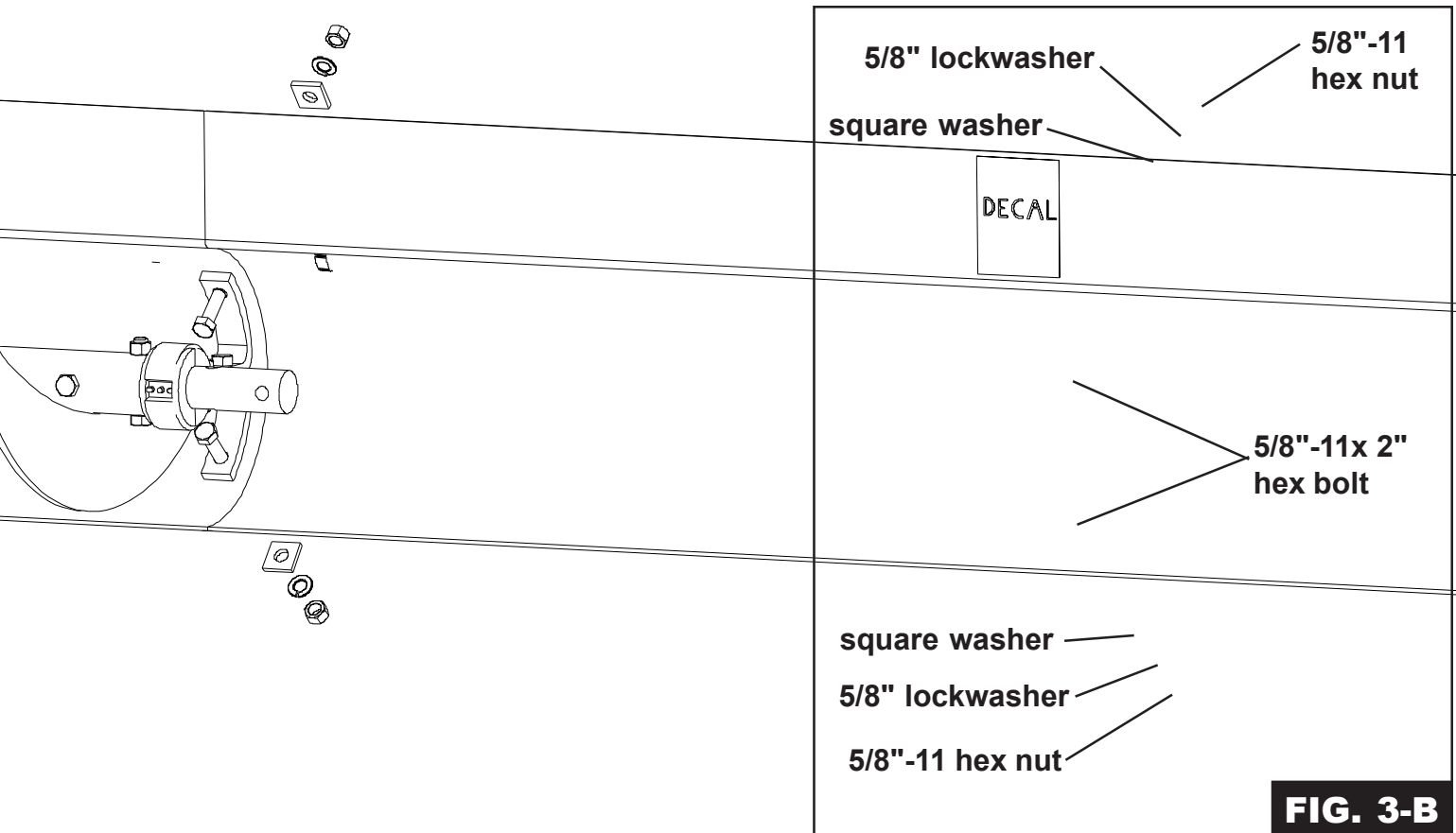
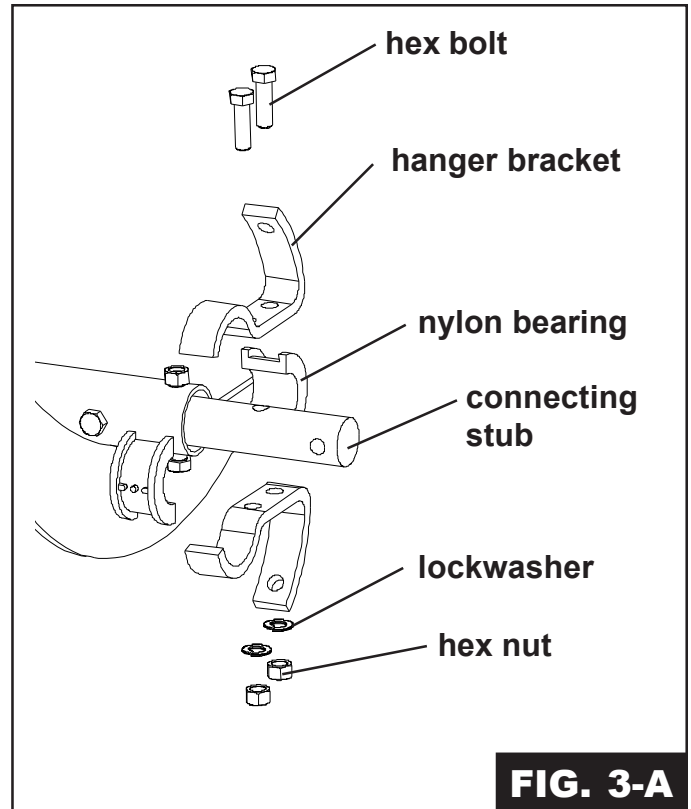


*	12"	2" x 12" End Stub
		Two (2) 5/8"-11 x 3-1/2" Hex Bolts
	16"	3" x 14 7/8" End Stub
		Two (2) 3/4"-10 x 5-1/2" Hex Bolts

3. HANGER BRACKET ASSEMBLY

- A. Bolt the nylon bearings and hanger brackets to the connecting stubs using hex bolts, lockwashers, and hex nuts.

* 12" Two (2) 5/8"-11 x 2" Hex Bolts
16" Two (2) 1/2"-13 x 2 1/4" Hex Bolts



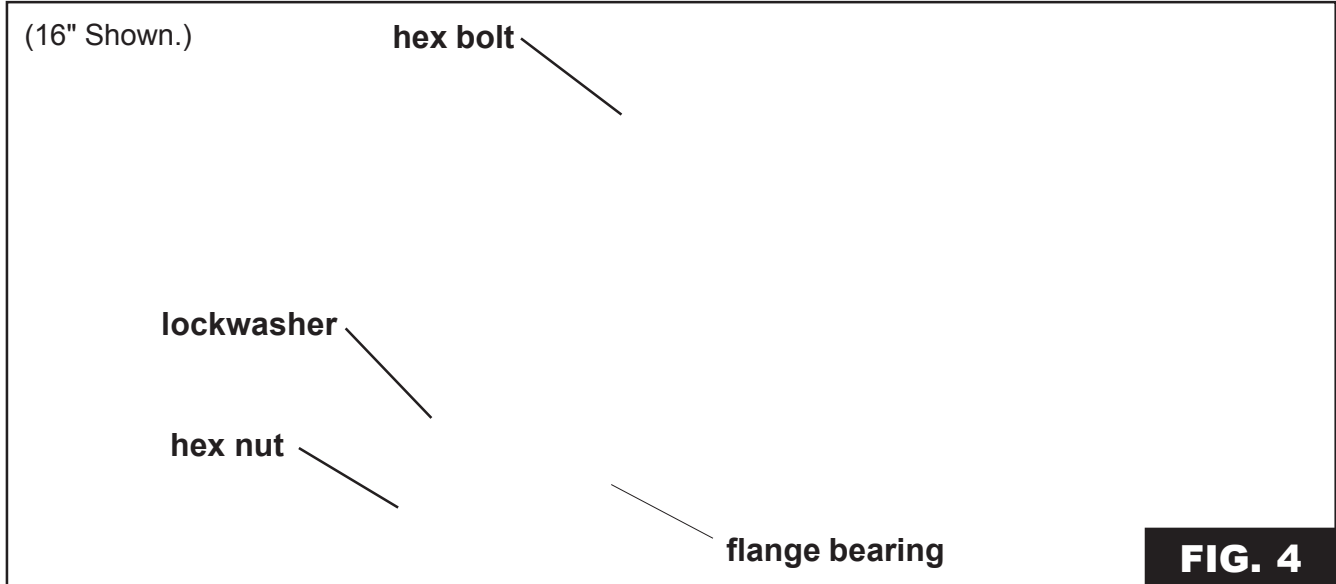
4. FLANGE BEARING ASSEMBLY

- A. Slide the flange bearing onto the end stub and bolt it to the end plate using hex bolts, lockwashers, and hex nuts.

- * 12" Sweep 2" Flange Bearing
Four (4) 1/2"-13 x 2-1/2" Hex Bolts
- 16" Sweep 3" Flange Bearing
Four (4) 3/4"-10 x 3-1/2" Hex Bolts

- * Do not tighten the set screws on the bearing at this time. This can be done after the gear reducer is installed.

- * Caster assembly only used on all 16" sweeps & 12" sweeps with extensions.



5. GEAR REDUCER ASSEMBLY

- A. Slide the output shaft of the reducer through the end plate of the head section and into the end of the head flight and secure it the shafts with hex bolts and lock nuts. (See Figure 5)

- * 12" Two (2) 5/8"-11 x 3-1/2" Hex Bolts
- 16" Two (2) 3/4"-10 x 5-1/2" Hex Bolts

- B. Bolt the reducer to the end plate of the head section using hex bolts, flat washers, & lockwashers, supplied with the reducer. (See Figure 5)

- * 12" Four (4) 5/8"-11 x 2-1/2" Hex Bolts
- 16" Four (4) 3/4"-10 x 2-3/4" Hex Bolts

5. GEAR REDUCER ASSEMBLY (CONT.)

* The input shaft of the reducer **MUST** be to the top of the reducer. Refer to the owner's manual supplied with the reducer for proper vent plug, fill plug, and drain plug locations.

input shaft

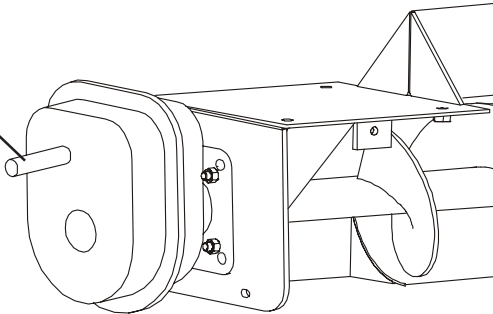
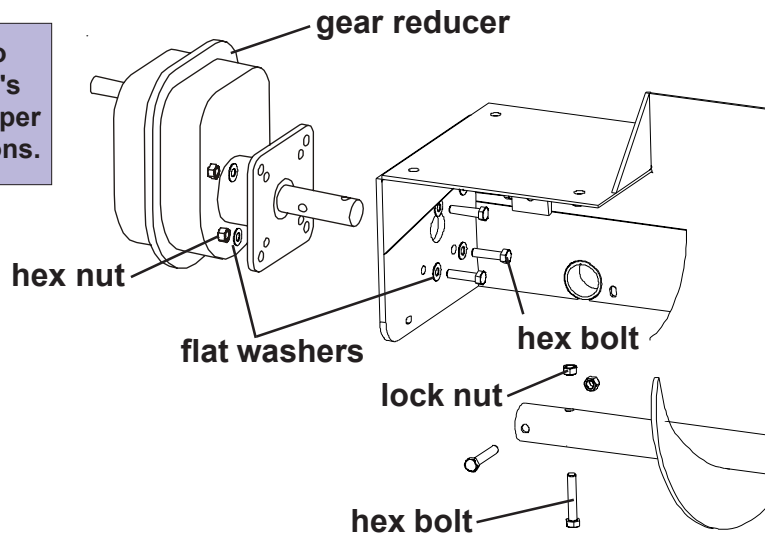


FIG. 5



The gear reducer is **NOT** filled with oil from the factory. For gear reducer specifications and oil fill recommendations, refer to the lubrication section of this manual.

6. DRIVE AXLE ASSEMBLY & BEARING SUPPORT

- Loosen set screws on bearings.
- Replace standard grease zerks with 90° grease zerks on both bearings. Make sure the 90° grease zerk is turned as shown in Fig. 6-B, so the zerks are accessible from the center of the tractor drive stand.
- Slide the axle assembly between the legs of the tractor drive stand as shown in Fig 6-C.

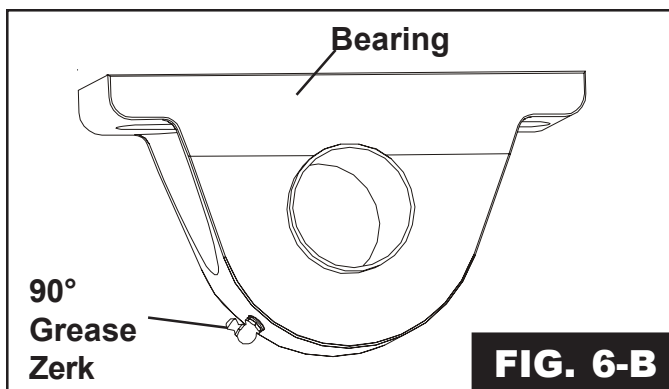


FIG. 6-B

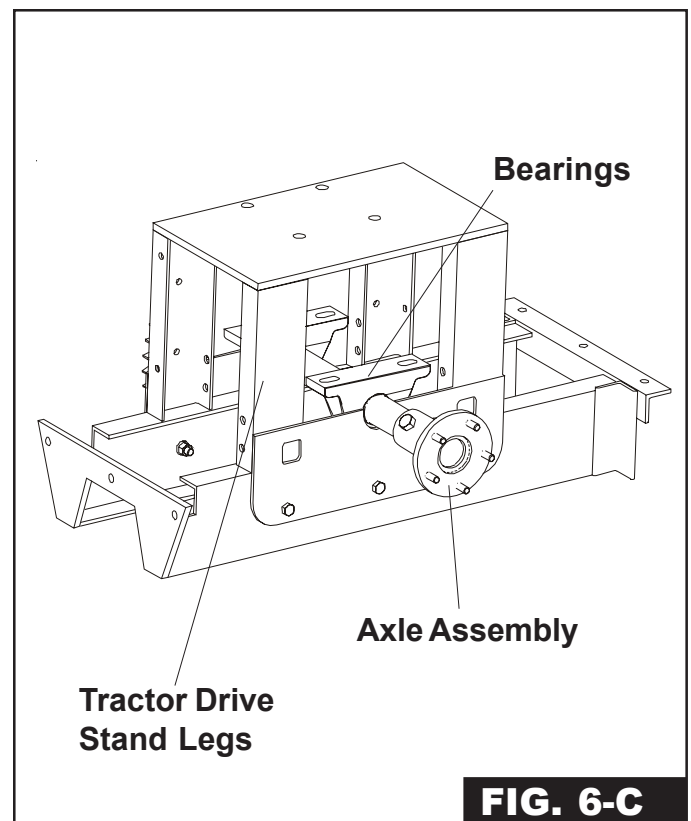
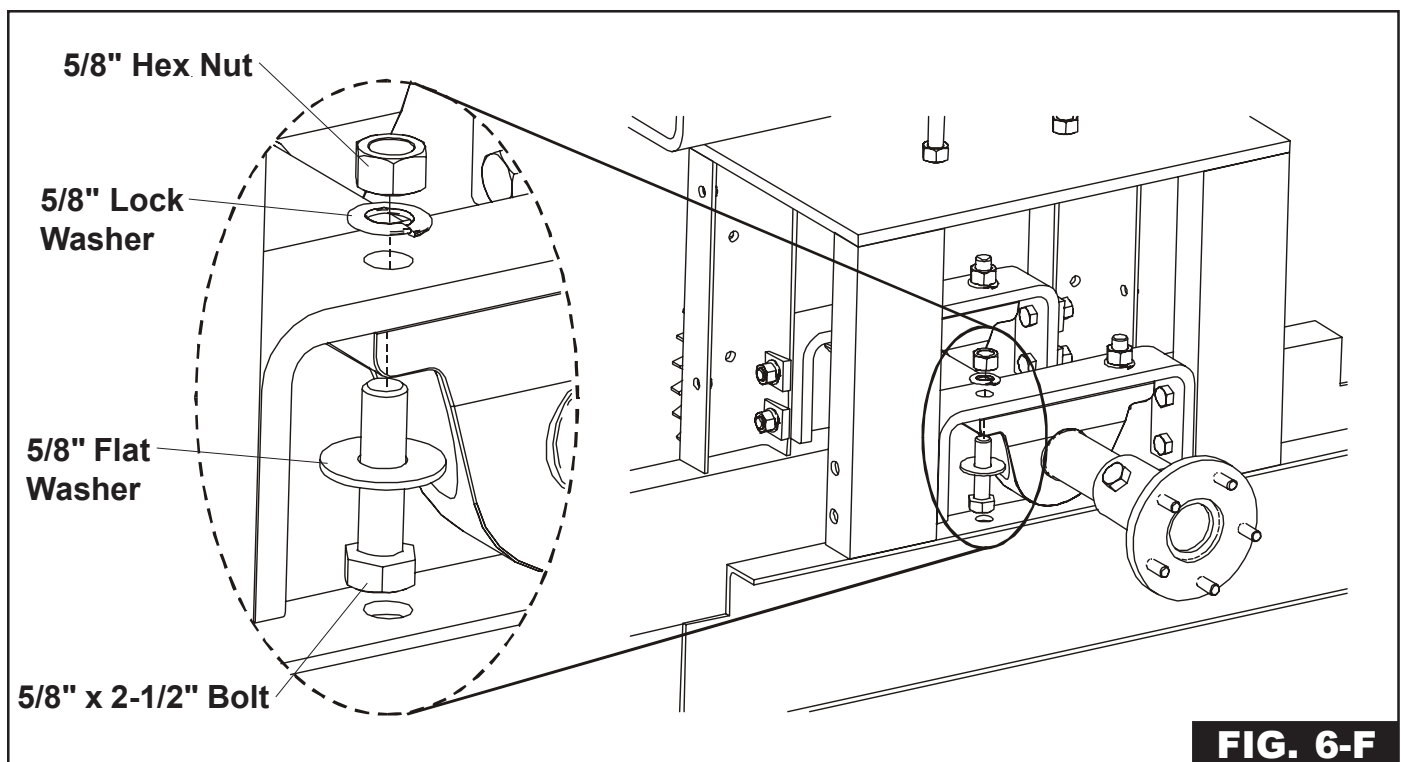
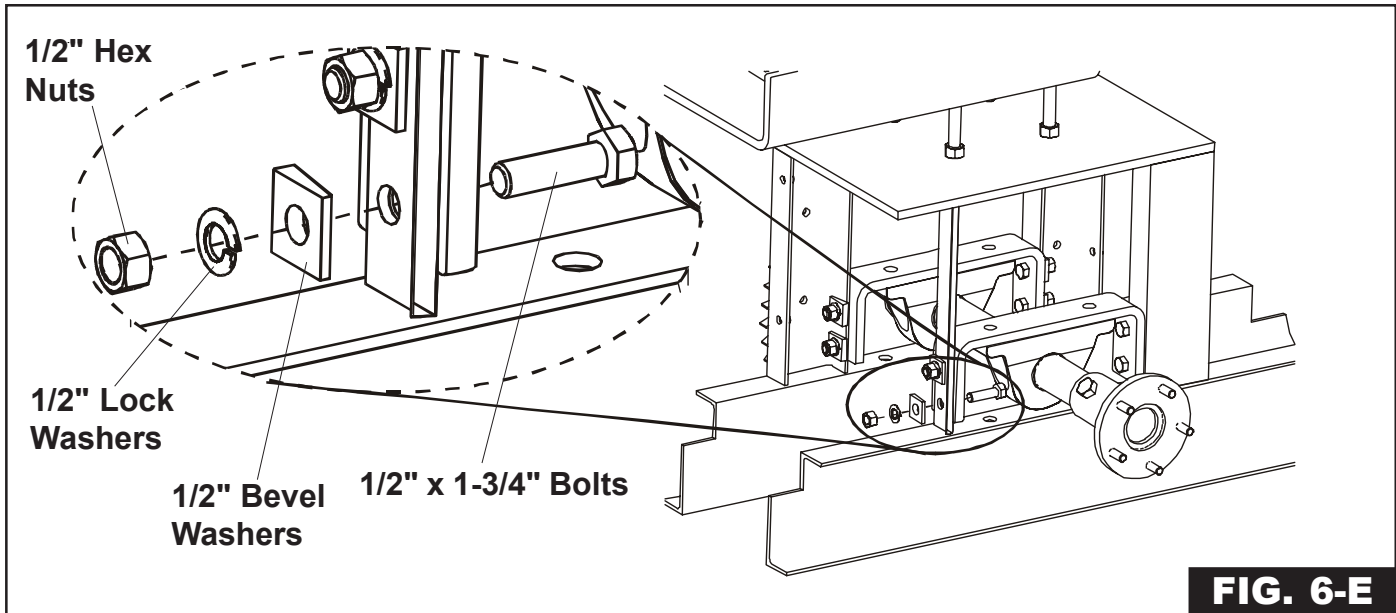


FIG. 6-C

Assembly

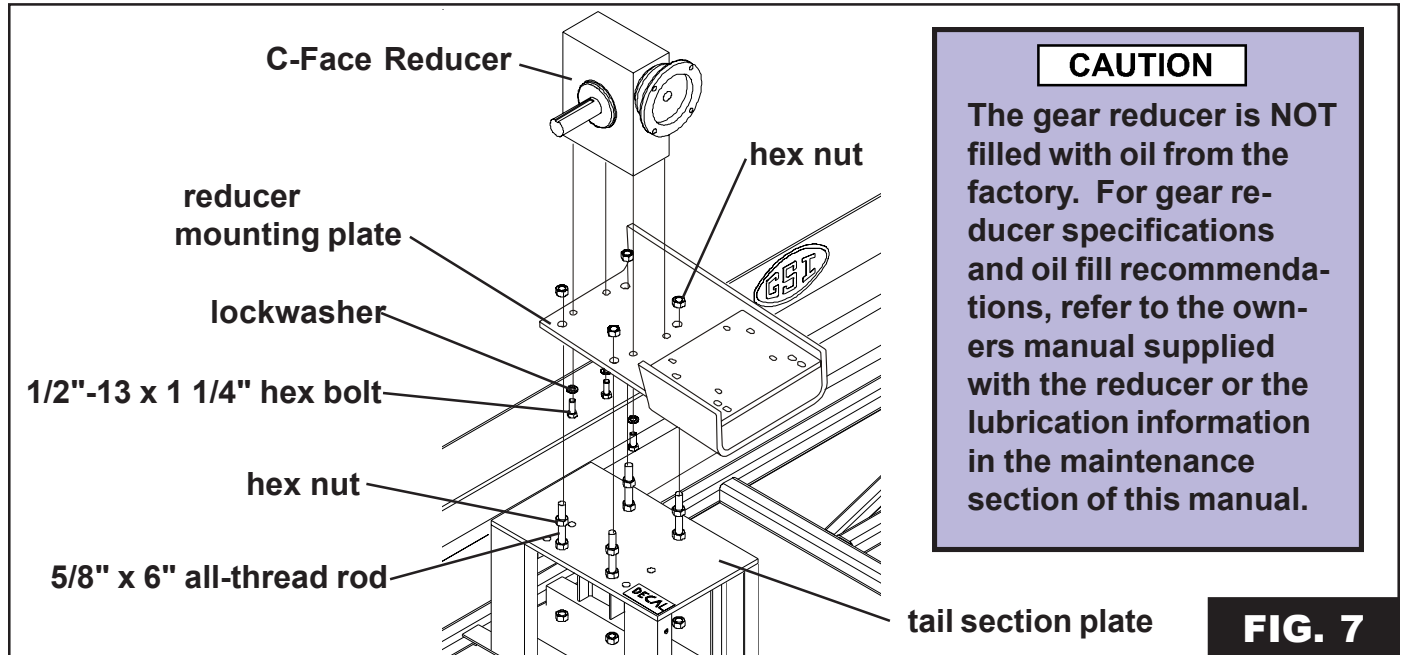
6. DRIVE AXLE ASSEMBLY & BEARING SUPPORT (CONT.)

- D. Rotate the pillow block bearings until the bases are facing up. (See Fig 6-C)
- E. Bolt the bearing support brackets to the legs of the tractor drive stand using $\frac{1}{2}$ " x $1\frac{3}{4}$ " bolts, $\frac{1}{2}$ " lock washers, $\frac{1}{2}$ " bevel washers, and $\frac{1}{2}$ " hex nuts. (See Fig. 6-E)
- F. Attach pillow block bearings to the bearing brackets using $\frac{5}{8}$ " x $2\frac{1}{2}$ " bolts, $\frac{5}{8}$ " lock and flat washers, and $\frac{5}{8}$ " hex nuts. (See Fig 6-F)
- G. Tighten set screws on pillow block bearings.
- H. Tighten all hardware.



7. INSTALL REDUCER MOUNTING PLATE & REDUCER

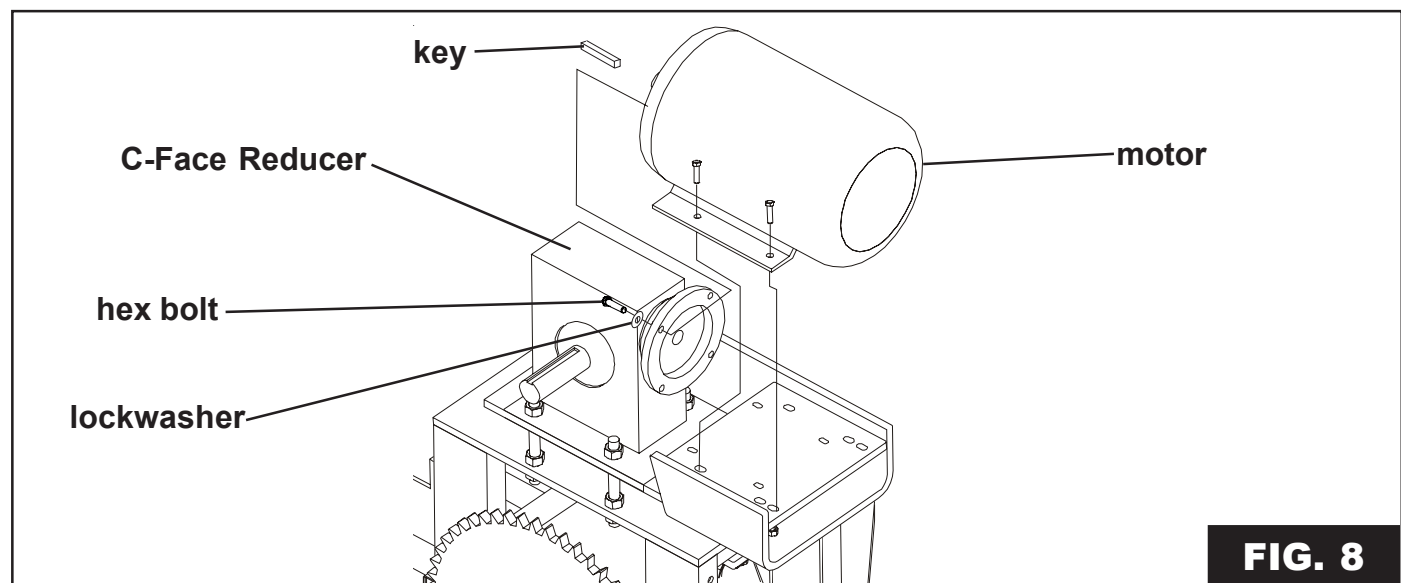
- A. Attach the C-Face reducer to the mounting plate using four (4) 1/2"-13 x 1-1/4" hex bolts and lockwashers.
- B. Fasten the mounting plate to the tail section plate using four (4) 5/8"-11 x 6" all-thread rods and sixteen (16) hex nuts. Adjust the mounting plate as close as possible to the tail section plate.



8. INSTALL TRACTOR DRIVE MOTOR

- A. Bolt the C-Face motor to the reducer using hex bolts, lockwashers, and a key.
(See note below for bolt size.)

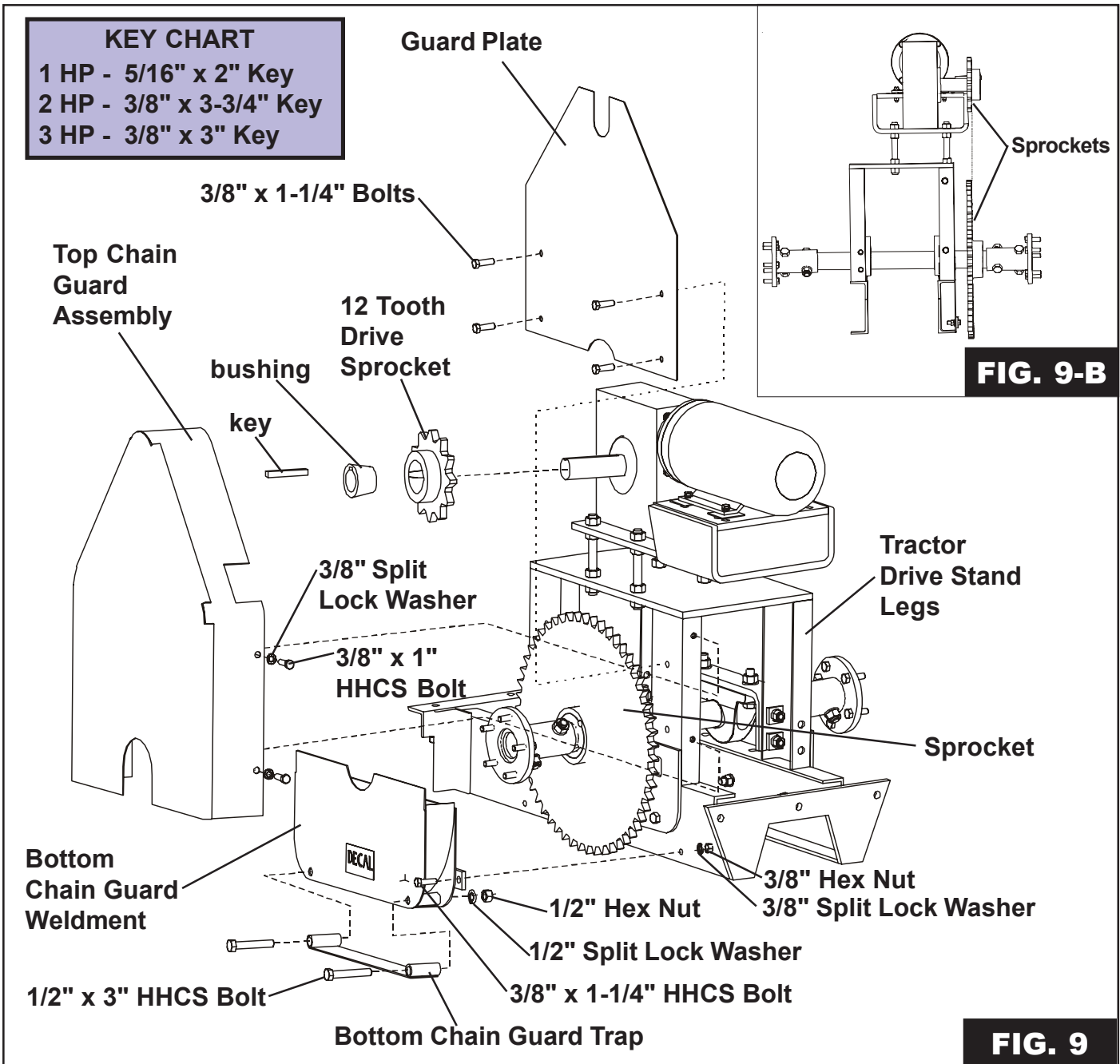
*	56C Frame	Four (4) 3/8"-16 x 1 1/4"	Hex Bolts & 3/16" x 3/16" x 1"	Key
	143TC Frame	Four (4) 3/8"-16 x 1 1/4"	Hex Bolts & 3/16" x 3/16" x 1"	Key
	182TC Frame	Four (4) 1/2"-13 x 1 1/4"	Hex Bolts & 1/4" x 1/4" x 1"	Key



Assembly

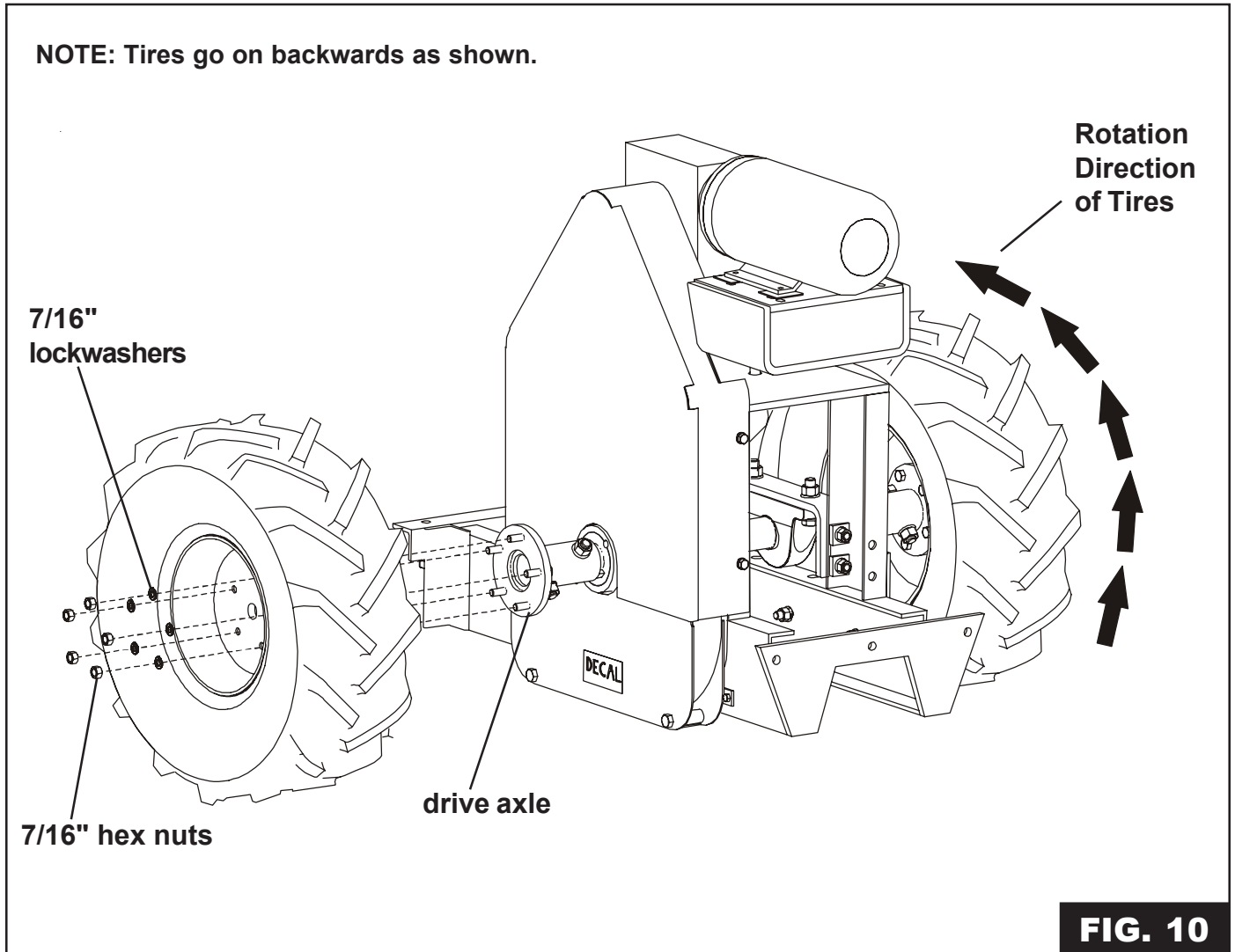
9. GUARD ASSEMBLY

- A. Attach the Guard Plate to the Tractor Drive Stand Legs using 1/2" bolts and nuts before attaching the drive sprocket. (See Fig 9)
- B. Slide the twelve tooth drive sprocket, bushing, & key (see key chart for your size key) onto the output shaft of the reducer, make sure both sprockets line up. (See Fig 9 & 9-B)
- C. Assemble the Bottom Chain Guard Trap to the Bottom Chain Guard Weldment using 1/2" x 3" HHCS Bolts
- D. Attach Bottom Chain Guard Weldment to Tractor Drive Stand using 3/8" x 1-1/4" HHCS Bolts, 3/8" Split Lock Washers, and 3/8" Hex Nuts.
- E. Attach Top Chain Guard Assembly to Tractor Drive Stand using 3/8" x 1" bolts, 3/8" Split lock washers and 3/8" hex nuts.



10. TRACTOR WHEEL ASSEMBLY

- A. Assemble the tires to the drive axle assembly using ten (10) 7/16" lockwashers, and hex nuts.
(See Fig 10)



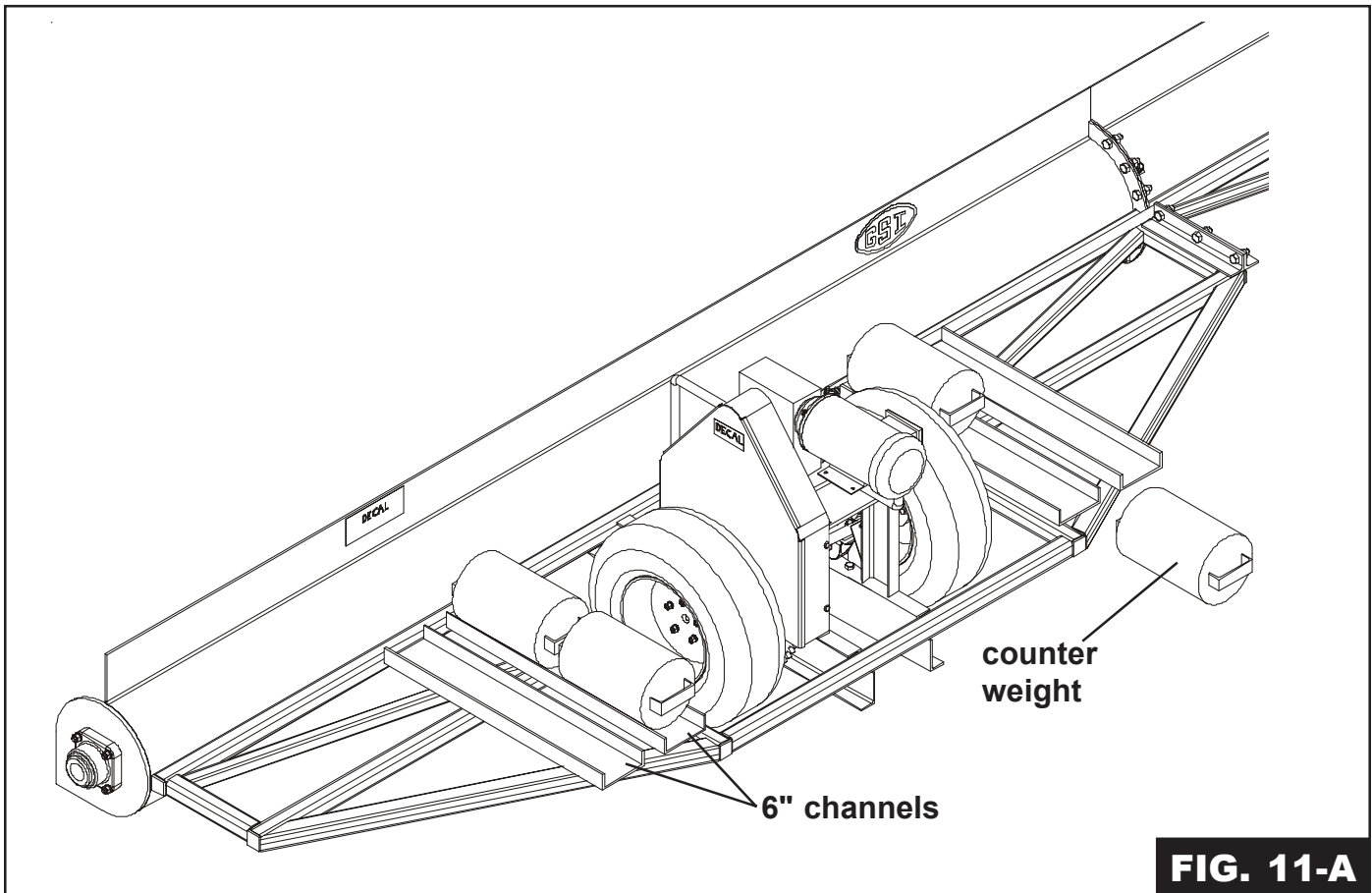
Assembly

11-A. COUNTER WEIGHT PLACEMENT

- A. Place the equal number of counter weights each side of the drive assembly on the six inch (6") channels that are welded to the tail section.

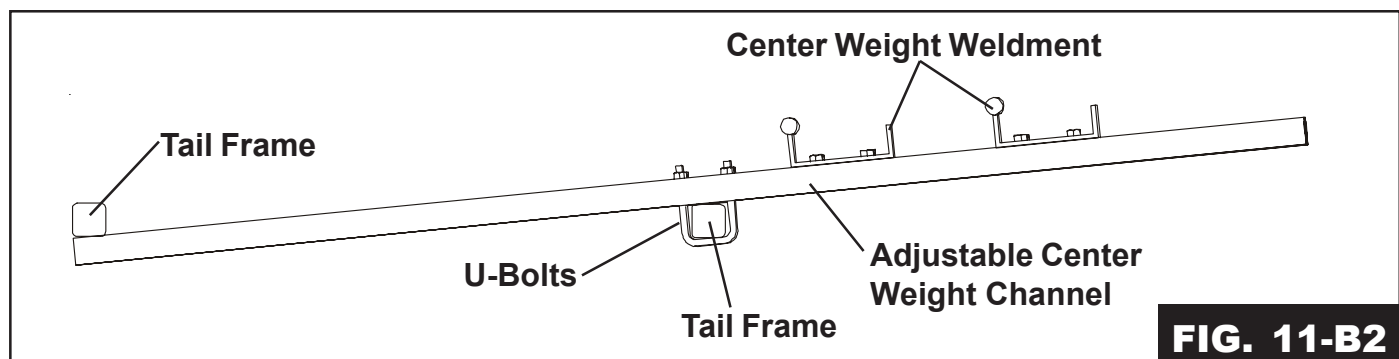
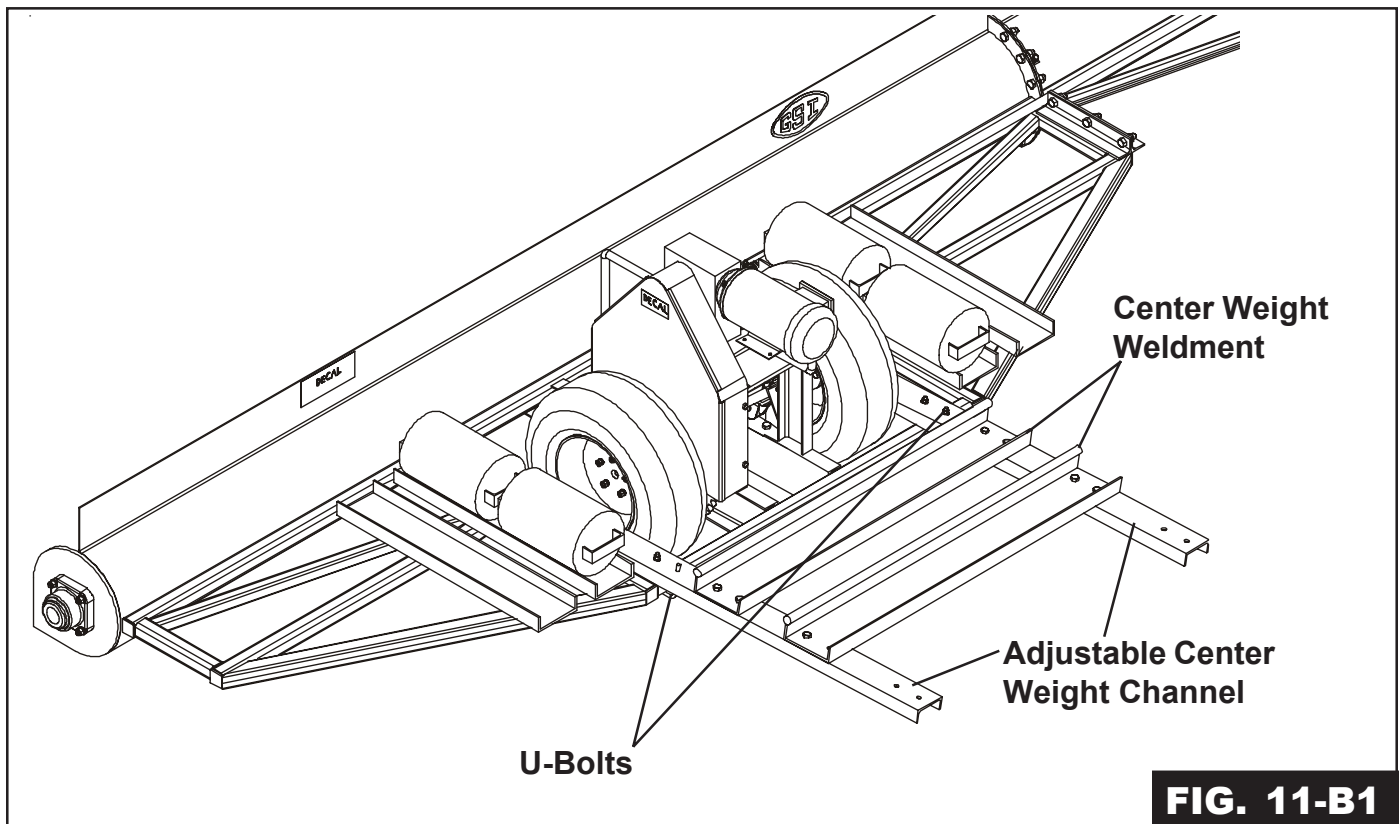


Caution! Use proper lifting procedures and equipment when lifting counter weights (175 pounds each).



11-B. CHANNEL EXTENSION KIT FOR SWEEPS USED IN 72' DIA. BINS & LARGER

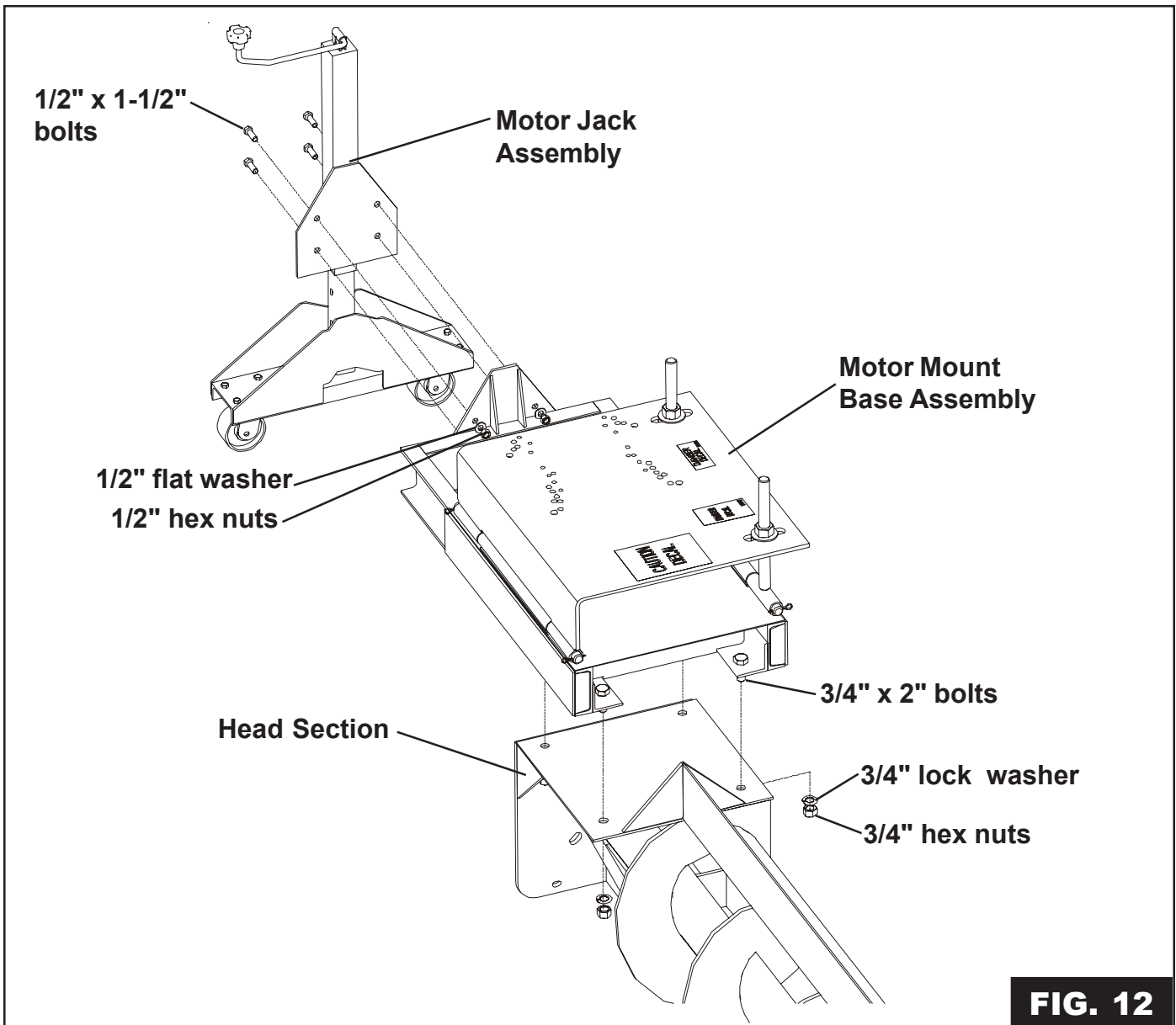
- A. 72' sweeps and larger need an extension kit installed.
- B. Attach the center weight weldments to the adjustable center weight channel using eight (8) 1/2" x 1-1/4" bolts, split lockwashers, & hex nuts. The adjustable center weight has three sets of holes for the center weight weldments so you can adjust the weights accordingly. (See Fig. 11-B1)
- C. Place assembly on top of the back tail section, around the tires. The end of the adjustable center weight should be placed under the tail frame. (See Fig. 11-B2)
- D. Fasten assembly to tail section using two (2) 3/8" x 2-7/16" u-bolts, four (4) 3/8" lockwashers, & four (4) 3/8" hex nuts.



Assembly

12. MOTOR JACK AND BASE ASSEMBLY

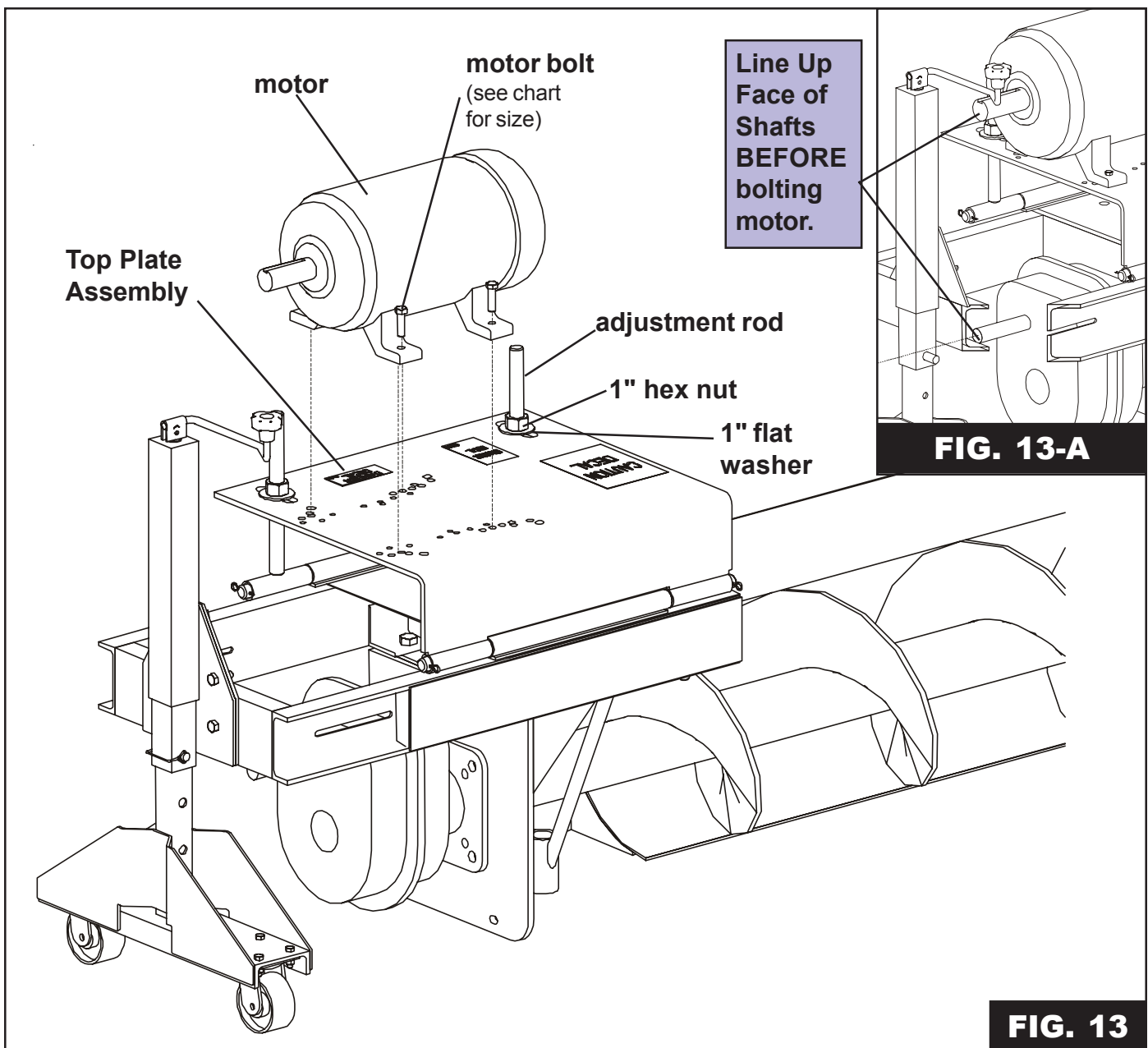
- A. Attach the Motor Mount Base Assembly to the Head Section using four (4) 3/4"x 2"bolts, lock washers and hex nuts. (See Fig 12)
- B. Attach the Motor Jack Assembly to the Motor Mount Base Assembly using four (4) 1/2"-13 x 1-1/2" bolts, 1/2" flat washers and 1/2" hex nuts.



13. MOTOR INSTALLATION

- A. Level the Top Plate Assembly by adjusting the 1" nuts and washers on the adjustment rods. (See Fig 13)
- B. Line up the end face of the shafts as closely as possible before bolting motor to mounting plate. (See Fig 13-A)
- C. Fasten the motor to the motor mount using hex bolts, lockwashers, and hex nuts. (See Motor Bolt Chart for bolt sizes.)

Motor Bolt Chart		
Motor Size	Hex Bolt Size	Qty.
213T	3/8"-16 x 1-1/4"	4
215T	3/8"-16 x 1-1/4"	4
254T	1/2"-13 x 1-3/4"	4
256T	1/2"-13 x 1-3/4"	4
284T	1/2"-13 x 1-3/4"	4
286T	1/2"-13 x 1-3/4"	4



Assembly

14. SHEAVE INSTALLATION



Warning! To ensure that the drive is not unexpectedly started, turn off and lock out or tag out the power source before proceeding. Failure to observe these precautions could result in bodily injury.

- A. Loosely bolt the bushing and large sheave together with the screws provided with the bushing.
- B. Slide the bushing and large sheave onto the auger gear reducer input shaft with a key. (See Fig. 14-A)

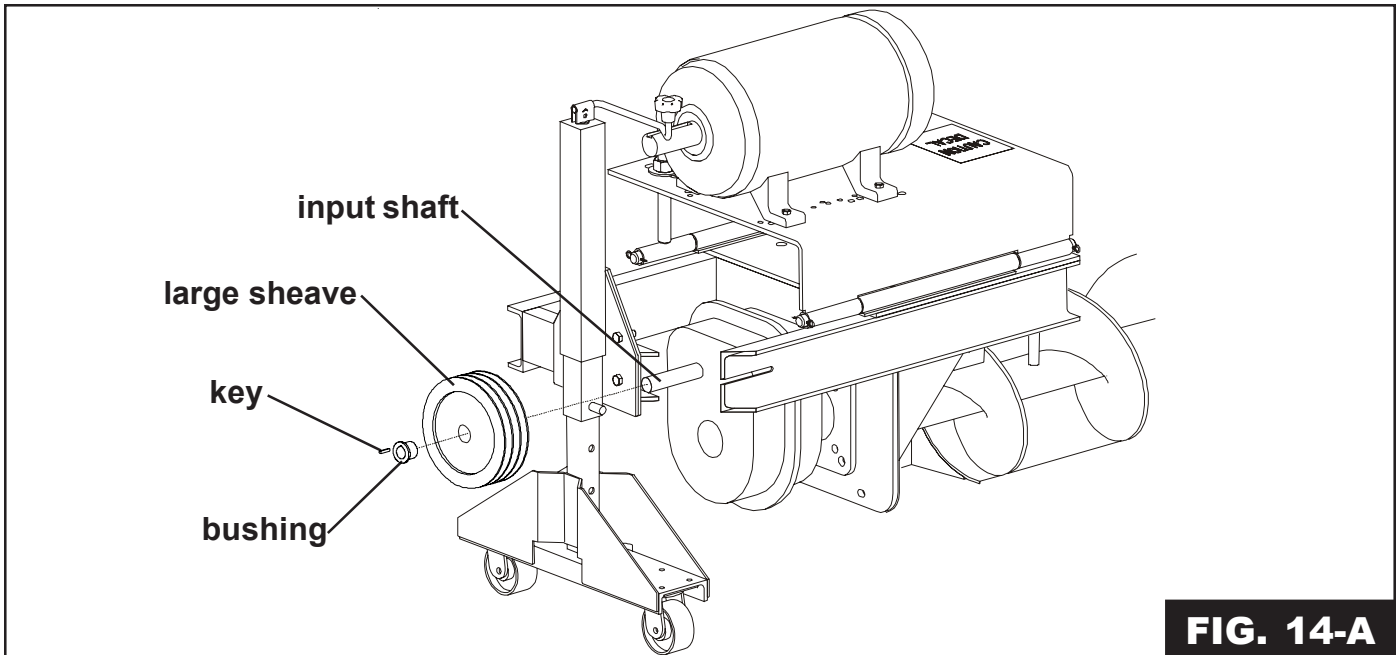


FIG. 14-A

- C. Loosely bolt the bushing and small sheave together with the screws provided with the bushing.
- D. Slide the bushing and small sheave onto the motor shaft with a key. (See Fig. 14-B)

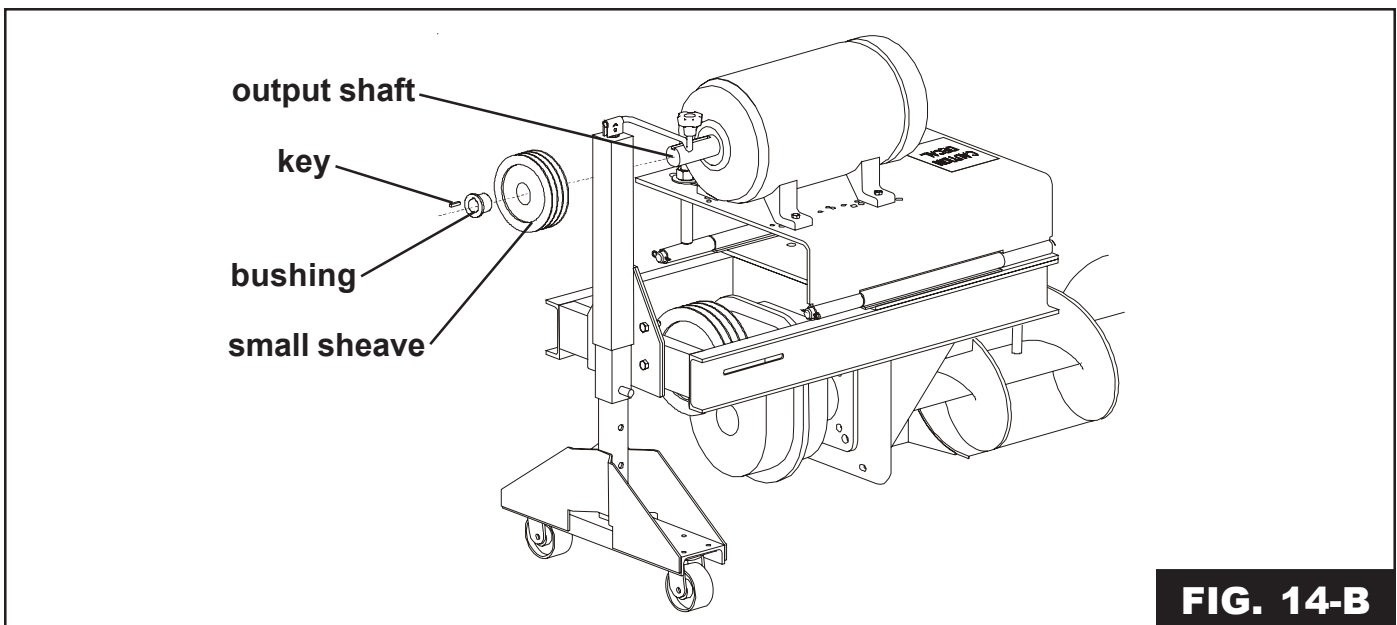


FIG. 14-B

14. SHEAVE INSTALLATION (cont.)

- E. Align the sheaves with a straight edge to assure proper alignment and tighten the screws on the bushings.
- F. Carefully install the belts.

*** Adjust the all-thread nuts on the motor mount to attain correct belt tension while making sure the motor mount is level on both rods. This will also affect sheave alignment.**

- G. Bolt the bottom belt guard to the motor mount using four (4) 3/8"-16 x 1" hex bolts, flat washers, and lock washers. (See Fig. 14-C)

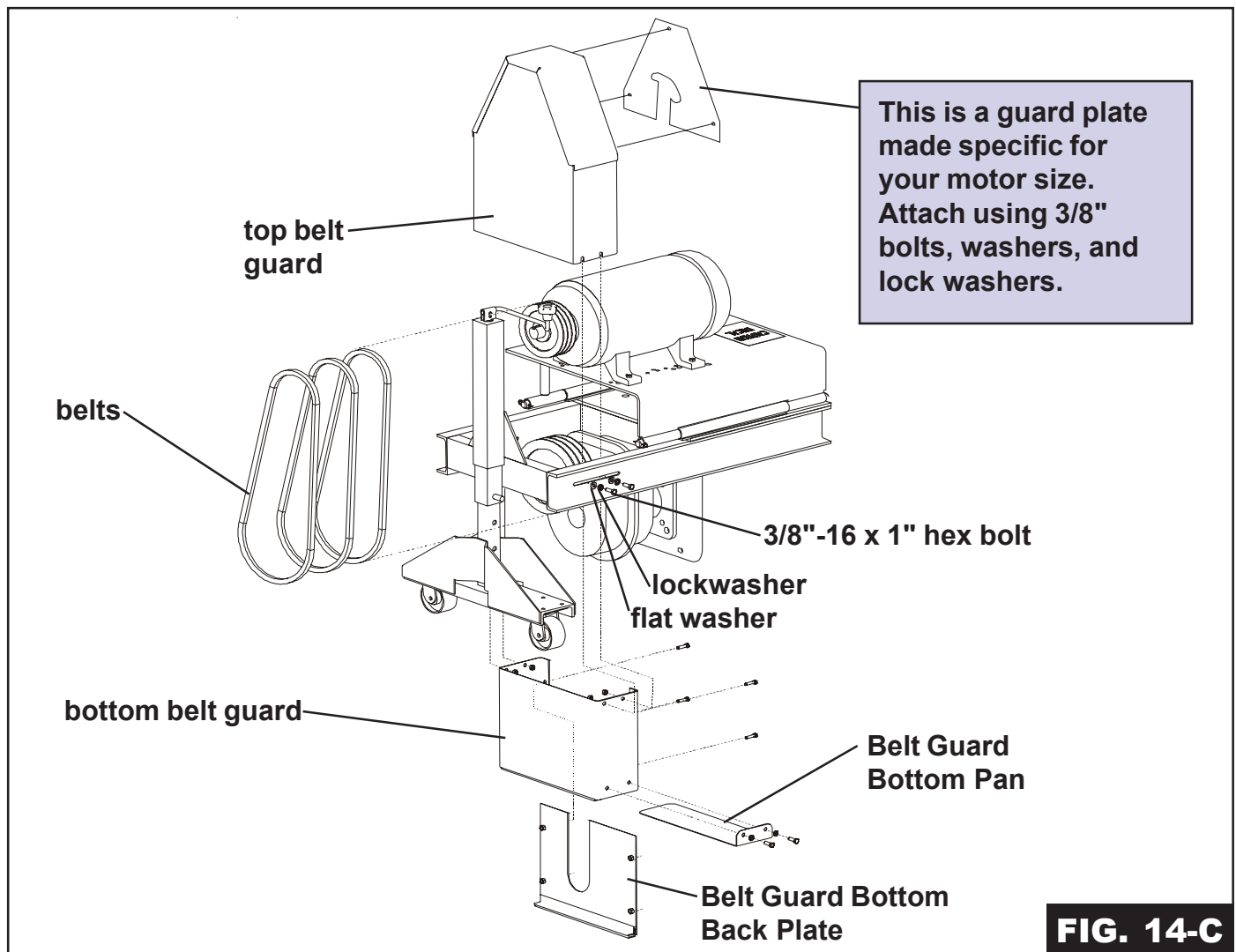


FIG. 14-C

- H. Slide the top belt guard over the bottom belt guard and tighten bolts.

15. ELECTRICAL ASSEMBLY



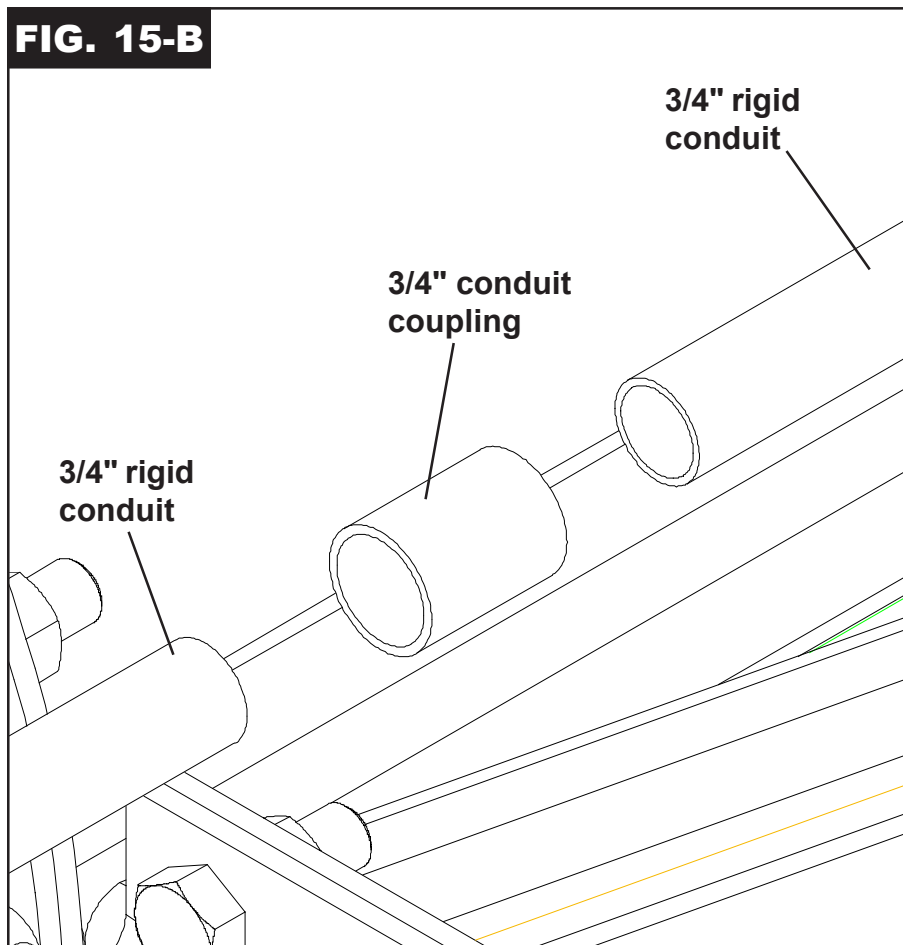
Caution! All electrical wiring and service work must be performed by a qualified electrician and must meet all State and Local electrical codes.

***** See the chart for the correct size of conduit to the corresponding sweep size.

- A. Place the 3/4" rigid conduit in order starting with the head section and working towards the tail or extension section.
- B. Connect the rigid conduit together using one (1) 3/4" conduit coupling between each piece of conduit.

Sweep Section Conduit Sizes

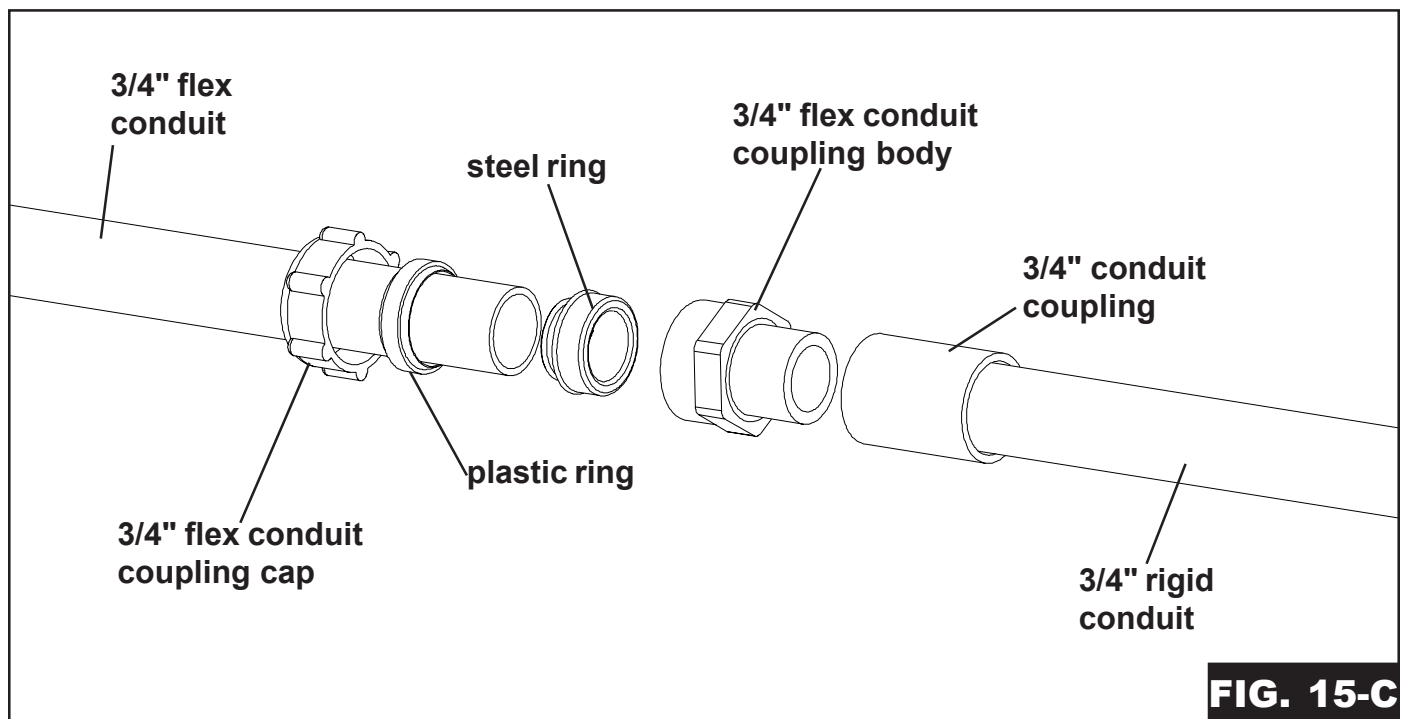
Bin Diameter	10' Conduit Pieces	Other Pieces
36'	N/A	1 @ 9'
37'	1	N/A
39'-40'	1	1 @ 1'
42'	1	1 @ 2'
43'-45'	1	1 @ 3'
48'-49'	1	1 @ 5'
51'	1	1 @ 6'
54'-55'	1	1 @ 8'
57'	1	1 @ 9'
59'	2	N/A
60'	2	1 @ 1'
62'-63'	2	1 @ 2'
66'	2	1 @ 4'
68'-69'	2	1 @ 5'
72'	2	1 @ 7'
75'	2	1 @ 8'
78'	3	N/A
80'-81'	3	1 @ 1'
84'	3	1 @ 3'
87'	3	1 @ 4'
88'	3	1 @ 5'
90'-91'	3	1 @ 6'
92'	3	1 @ 7'
95'	3	1 @ 8'
98'	4	N/A
105'	3	1 @ 9'
113'-120'	4	N/A



15. ELECTRICAL ASSEMBLY (cont.)

C. Connect the 3/4" x 48" liquid-tight flex conduit to the drive end of the 3/4" rigid conduit using one (1) 3/4" conduit coupling and one (1) 3/4" liquid-tight flex conduit coupling.

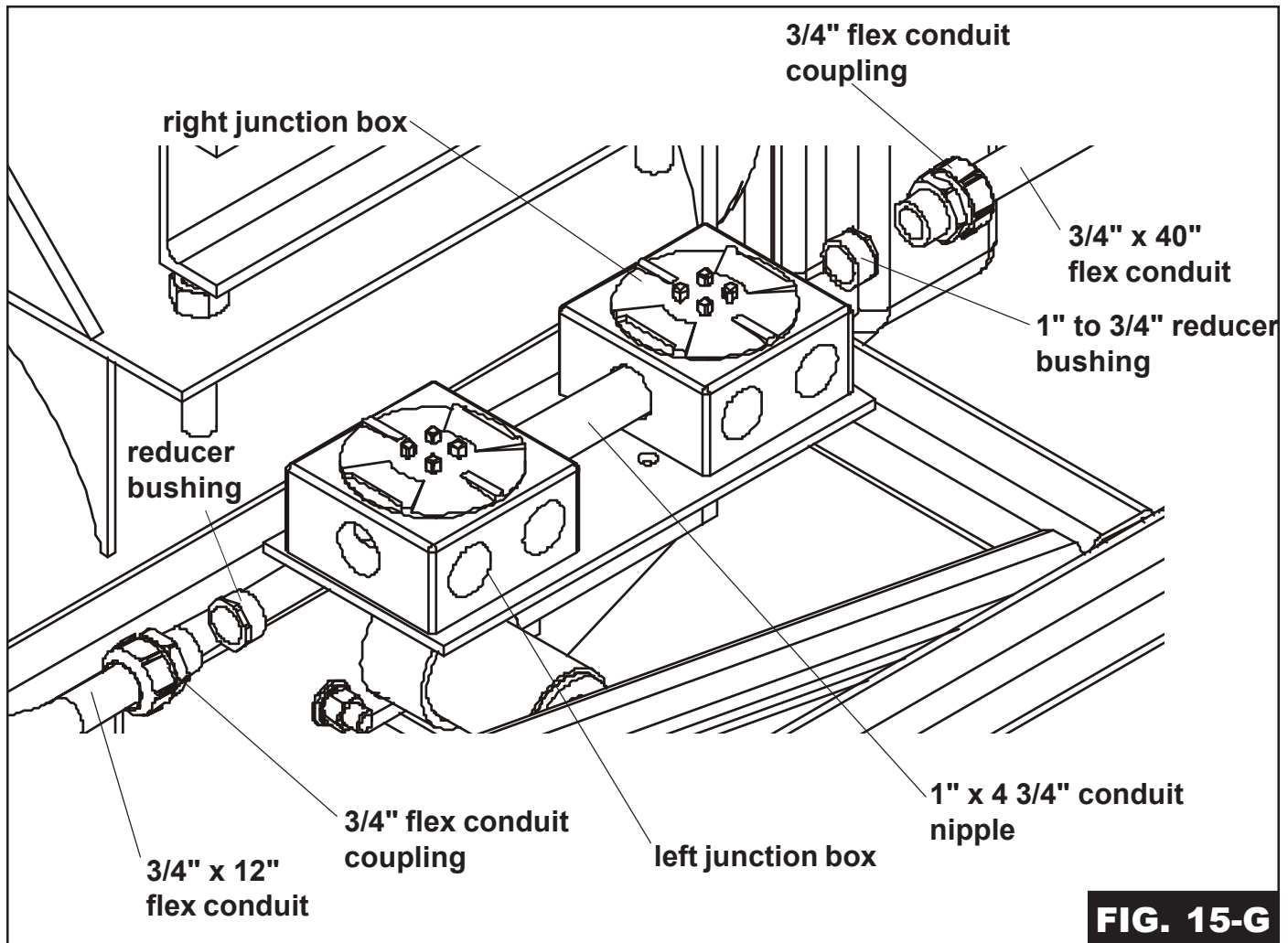
1. Thread a 3/4" conduit coupling onto the 3/4" rigid conduit.
2. Thread a 3/4" flex conduit coupling body onto the 3/4" conduit coupling.
3. Slide a 3/4" flex conduit coupling cap onto the 3/4" flex conduit followed by a plastic ring.
4. Thread a steel ring into the 3/4" flex conduit.
5. Thread the 3/4" flex conduit coupling cap onto the 3/4" flex conduit coupling body.



Assembly

15. ELECTRICAL ASSEMBLY (cont.)

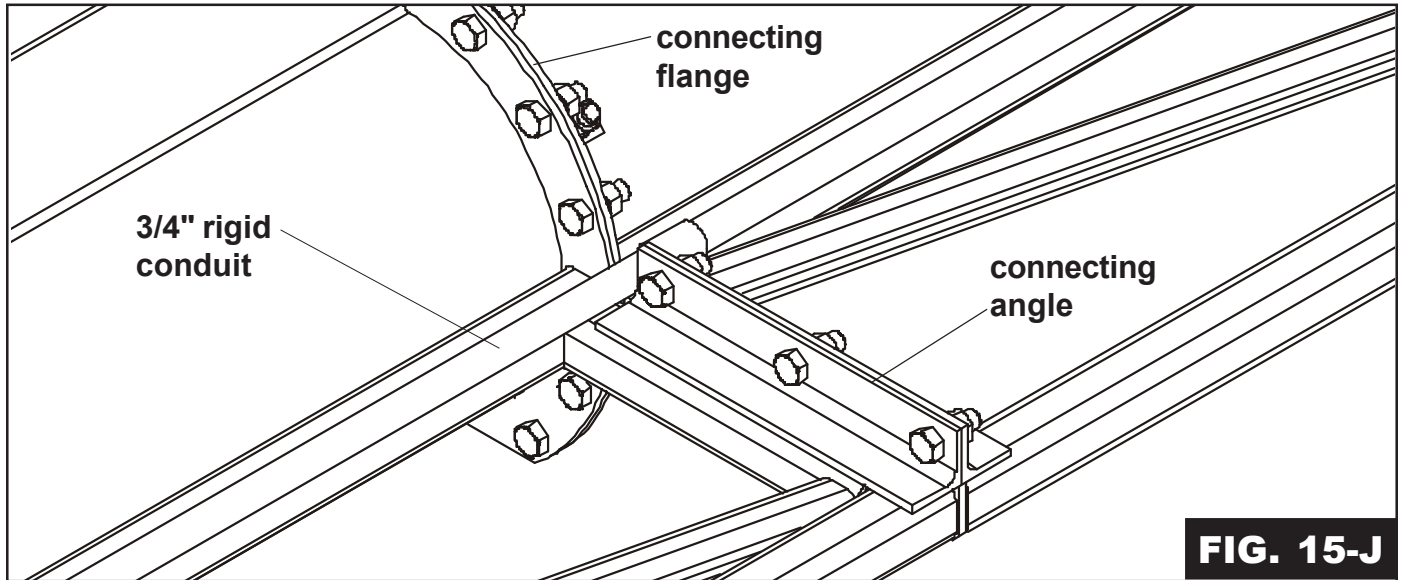
- D. Attach the 3/4" x 12" liquid-tight flex conduit to the other end of the rigid conduit using one (1) 3/4" conduit coupling and one (1) 3/4" liquid-tight flex conduit coupling.
- E. Connect the two (2) junction boxes together using the 1" x 4 3/4" conduit nipple.
- F. Connect the 3/4" x 12" liquid-tight flex conduit to the left junction box using one (1) 3/4" liquid-tight flex conduit coupling and one (1) 1" to 3/4" reducer bushing.
- G. Attach the 3/4" x 40" liquid-tight flex conduit to the right junction box using one (1) 3/4" liquid-tight flex conduit coupling and one (1) 1" to 3/4" reducer bushing.



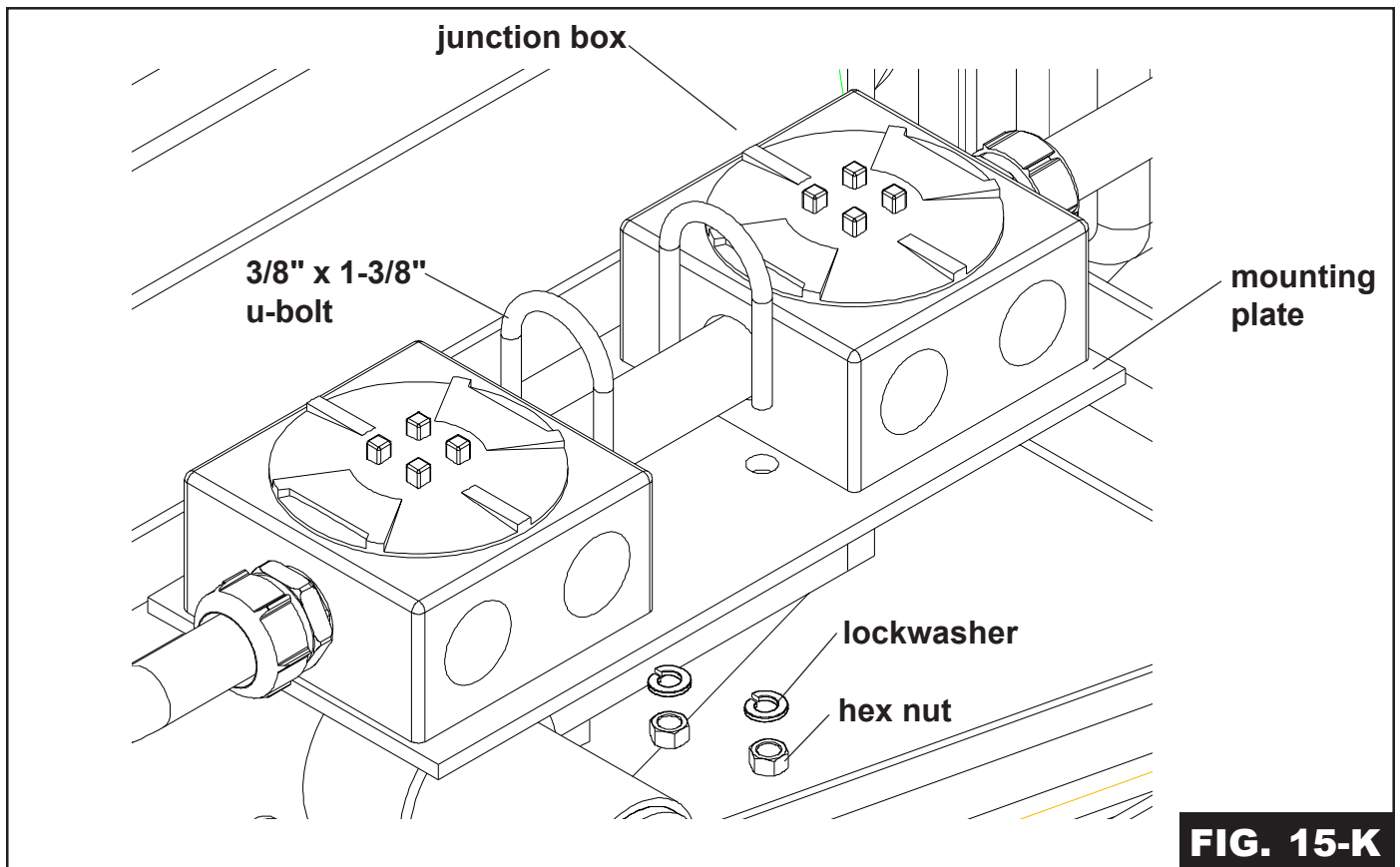
- H. Feed each of the six (6) 14 AWG stranded wires through the 3/4" rigid conduit assembly and cut them off, leaving six inches (6") at both the left junction box and drive motor.
- I. Feed each of the six (6) 10 AWG stranded wires cord through the 3/4" x 40" liquid tight flex conduit and cut four (4) of them off, leaving six inches (6") at both the right junction box and auger motor. Cut the 10 AWG blue and yellow wires longer so they can be connected to the 14 AWG blue and yellow wires in the left junction box.

15. ELECTRICAL ASSEMBLY (cont.)

- J. Place the 3/4" rigid conduit assembly onto the back frame of the sweep between the connecting angle and connecting flange.



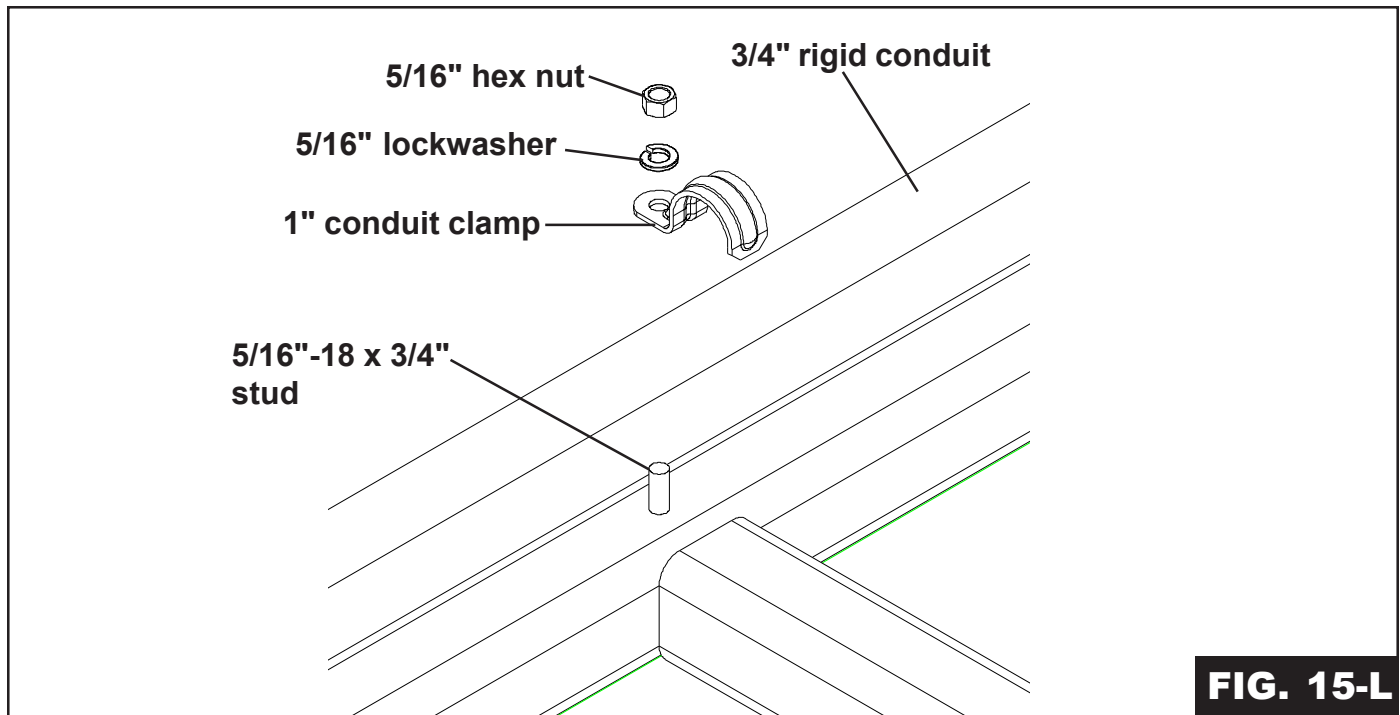
- K. Fasten the junction boxes to the mounting plate using two (2) 3/8"-16 x 1 3/8" u-bolts, four (4) lockwashers, and hex nuts.



Assembly

15. ELECTRICAL ASSEMBLY (cont.)

- L. Attach the 3/4" rigid conduit assembly to the sweep using the 5/16"-18 x 3/4" studs welded to the sweep using 1" conduit clamps, lockwashers, and hex nuts.



- M. Run the 14 AWG stranded wires into the drive motor and fasten the 3/4" x 48" liquid-tight flex conduit to the motor using one (1) 3/4" liquid-tight flex conduit coupling. Some motors may require a reducer bushing not supplied with the sweep. Connect the leads as required.
- N. Run the 10 AWG stranded wires into the auger motor and fasten the 3/4" x 40" liquid-tight flex conduit to the motor using one (1) 3/4" liquid-tight flex conduit coupling. Some motors may require a reducer bushing not supplied with the sweep. Connect the leads as required.

*** If you are using the pivot kit, skip to page 46 and refer to step "17A".**

- O. Slide a 5/8" to 3/4" cord connector six inches (6") onto one (1) end of the 10 AWG/4 and 14 AWG/4 wire cords and fasten them to the junction boxes using two (2) 1" to 3/4" reducer bushings. Connect the leads as required.
- P. Slide a 1/2" to 5/8" cord connector six inches (6") onto the end of the 14 AWG/3 wire cord and fasten it to the junction box using one (1) 1" to 3/4" reducer bushings. Connect the leads as required.
- Q. Use the plugs provided with the junction boxes to close the holes not being used.

15. ELECTRICAL ASSEMBLY (CONT.)

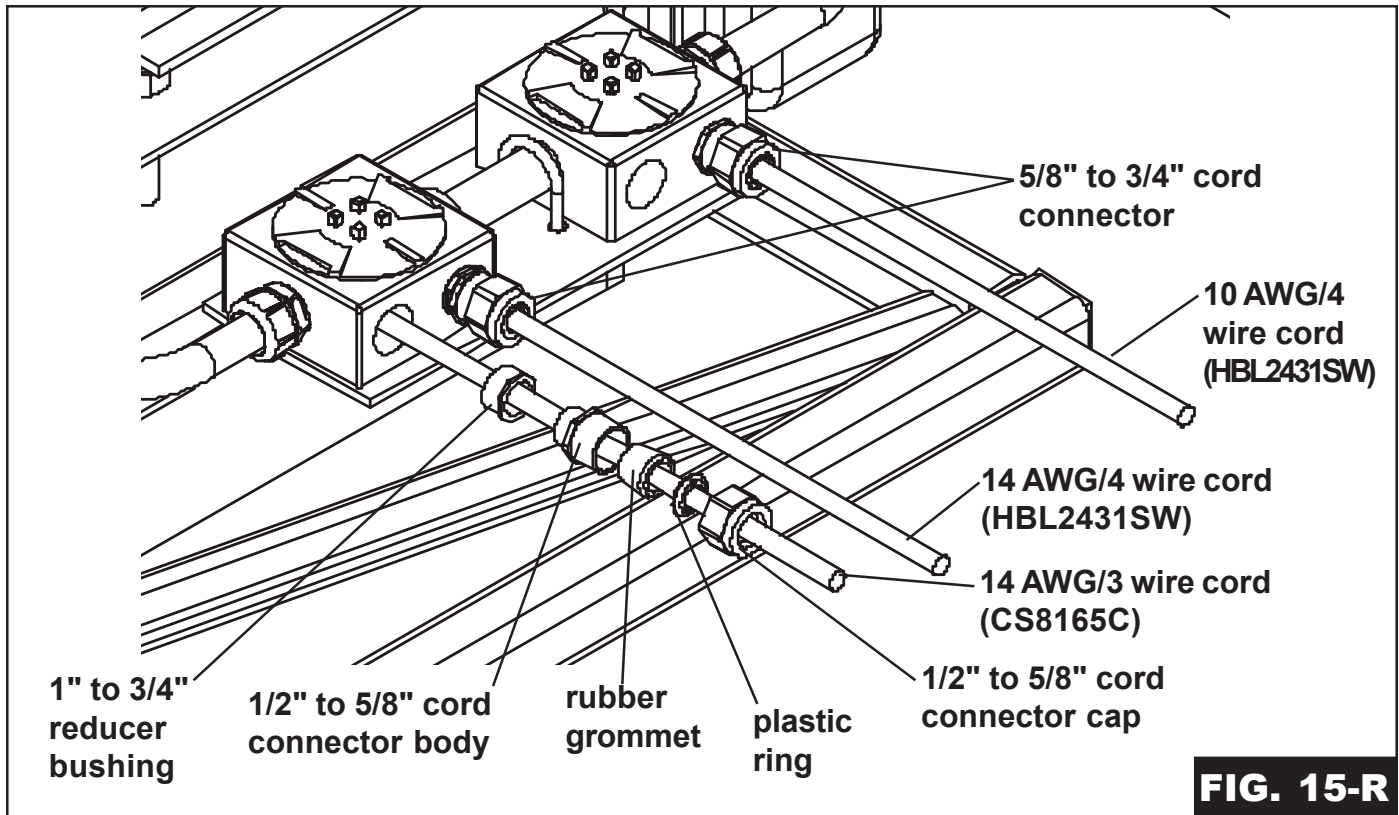


FIG. 15-R

- R. Assemble the cord plugs to the other end of each cord. The 14 AWG/4 wire cord requires the "HBL2431SW" plug. The 10 AWG/4 wire cord requires the "CS8165C" plug. The 14 AWG/3 wire cord requires the "HBL2311SW" plug.



The plugs are different for each cord and **MUST** be assembled correctly. This is done so the cords can not be plugged into the control panel incorrectly.

- S. Mount the control panel outside the bin near the door.



The control panel **MUST** be mounted **OUTSIDE** the bin near the door. The foot switch has to be plugged into the control panel and depressed before the sweep is operational. It has a 10' cord so the sweep can only be monitored from **OUTSIDE** the bin.

16. JACK SUPPORT ASSEMBLY

* Be sure to use the spanner bushings, supplied with the caster wheels, between the caster and the caster plate on each side. (12" Sweeps Only.)

12" Jack Support (See fig. 16-A & 16-C)

- A. Attach one (1) caster wheel to the jack caster assembly using one (1) 3/4" x 5-1/2" hex bolt, lockwasher, and hex nut.
- B. Locate the 2" x 2" x 12" tube to the right of each connecting angle and fasten the jack mount assembly to the sweep frame using one (1) jack mount plate, four (4) 1/2"-13 x 3-3/4" hex bolts, lockwashers, and hex nuts.
- C. Attach the jack caster assembly to the jack assembly using one (1) pin.
- D. Bolt the jack assembly to the jack mount assembly using four (4) 1/2"-13 x 2" hex bolts, lockwashers, and hex nuts.

16" Jack Support (See fig. 16A & 16-C)

- A. Attach one (1) caster wheel to the jack caster assembly using one (1) 3/4" x 5-1/2" hex bolt, lockwasher, and hex nut.
- B. Locate the 2" x 2" x 12" tube to the right of each connecting angle and fasten the jack mount assembly to the sweep frame using one (1) jack mount plate, four (4) 1/2"-13 x 3-3/4" hex bolts, lockwashers, and hex nuts.
- C. Attached 16" Jack Caster Assembly to the swivel caster wheel using four (4) 1/2" x 1-1/2" HHCS bolts, lockwashers, & hex nuts.
- D. Attach the jack caster assembly to the jack assembly using one (1) pin.
- E. Bolt the jack assembly to the jack mount assembly using four (4) 1/2"-13 x 2" hex bolts, lockwashers, and hex nuts.

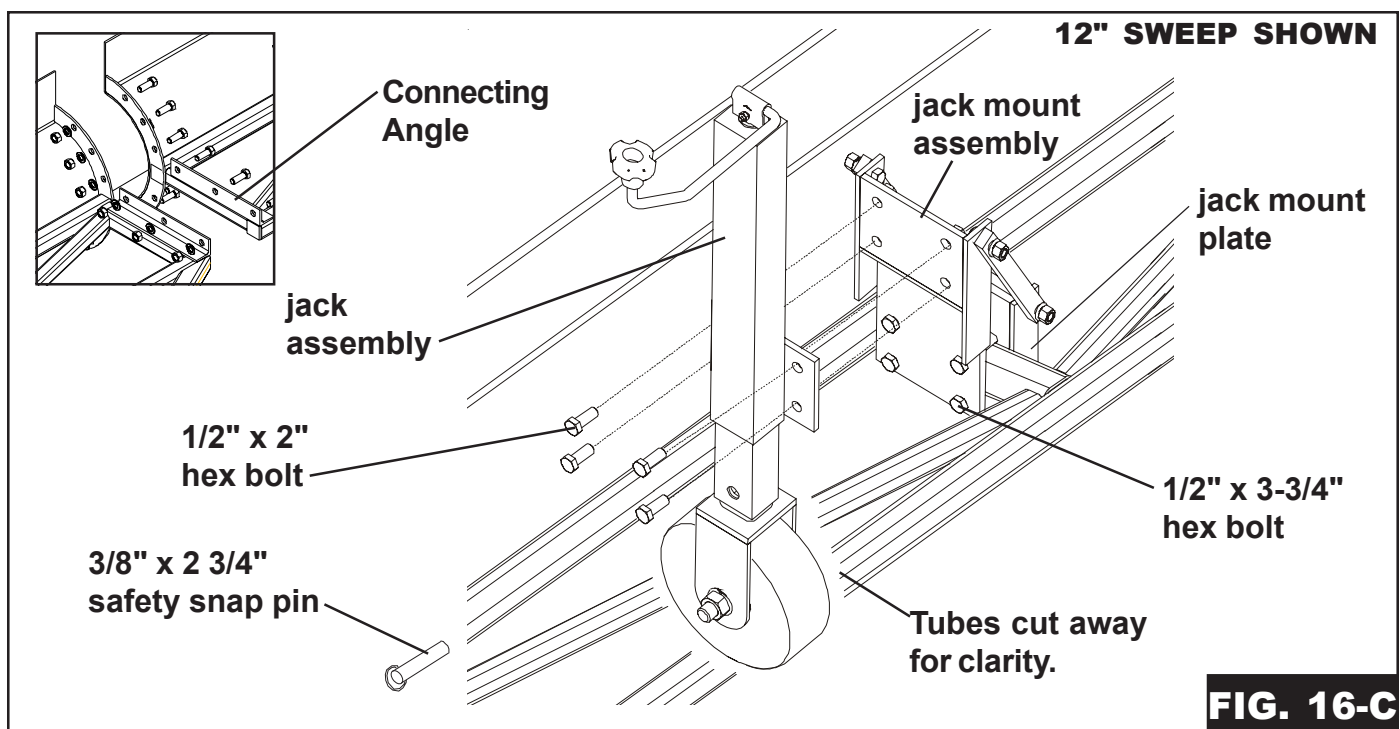
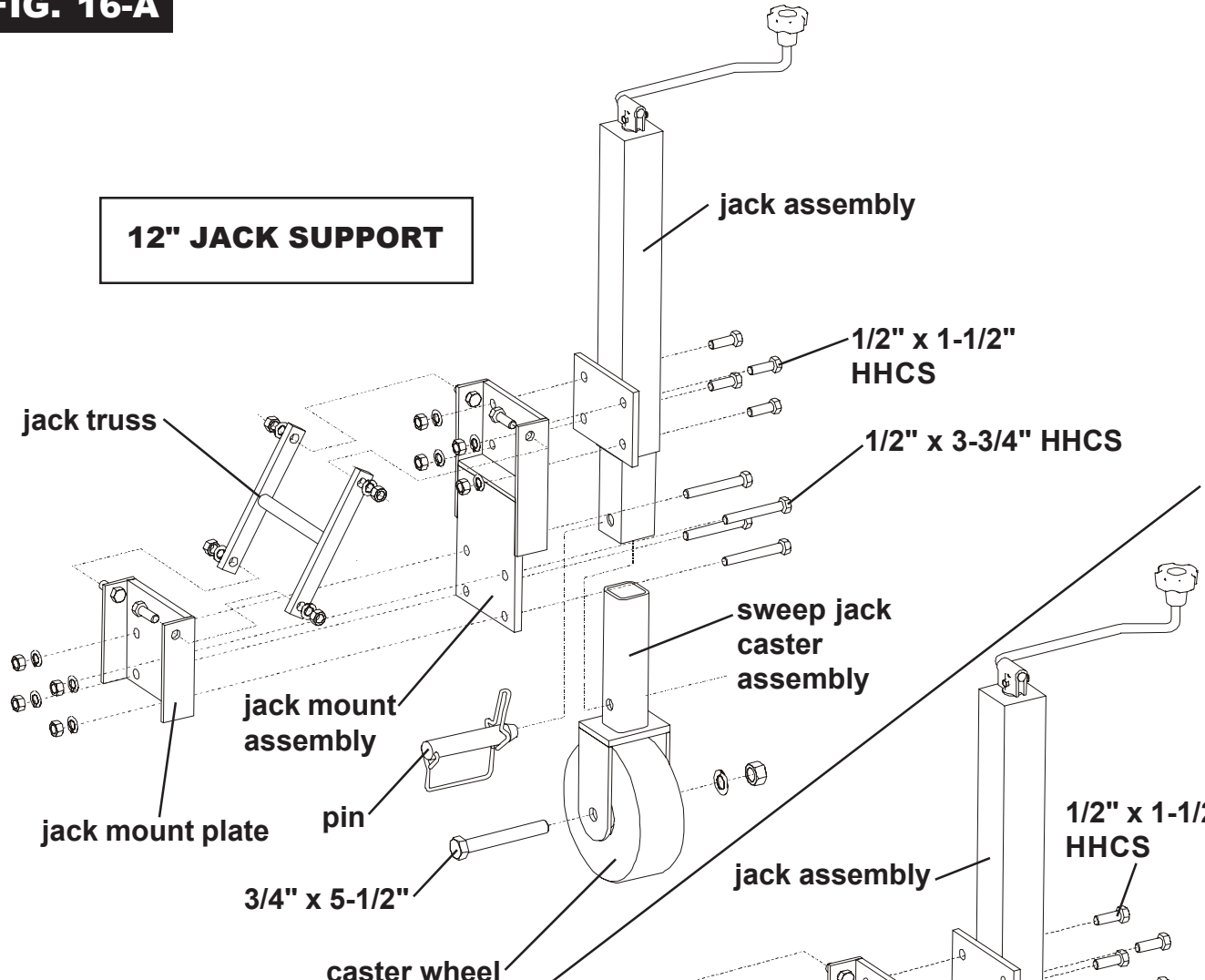
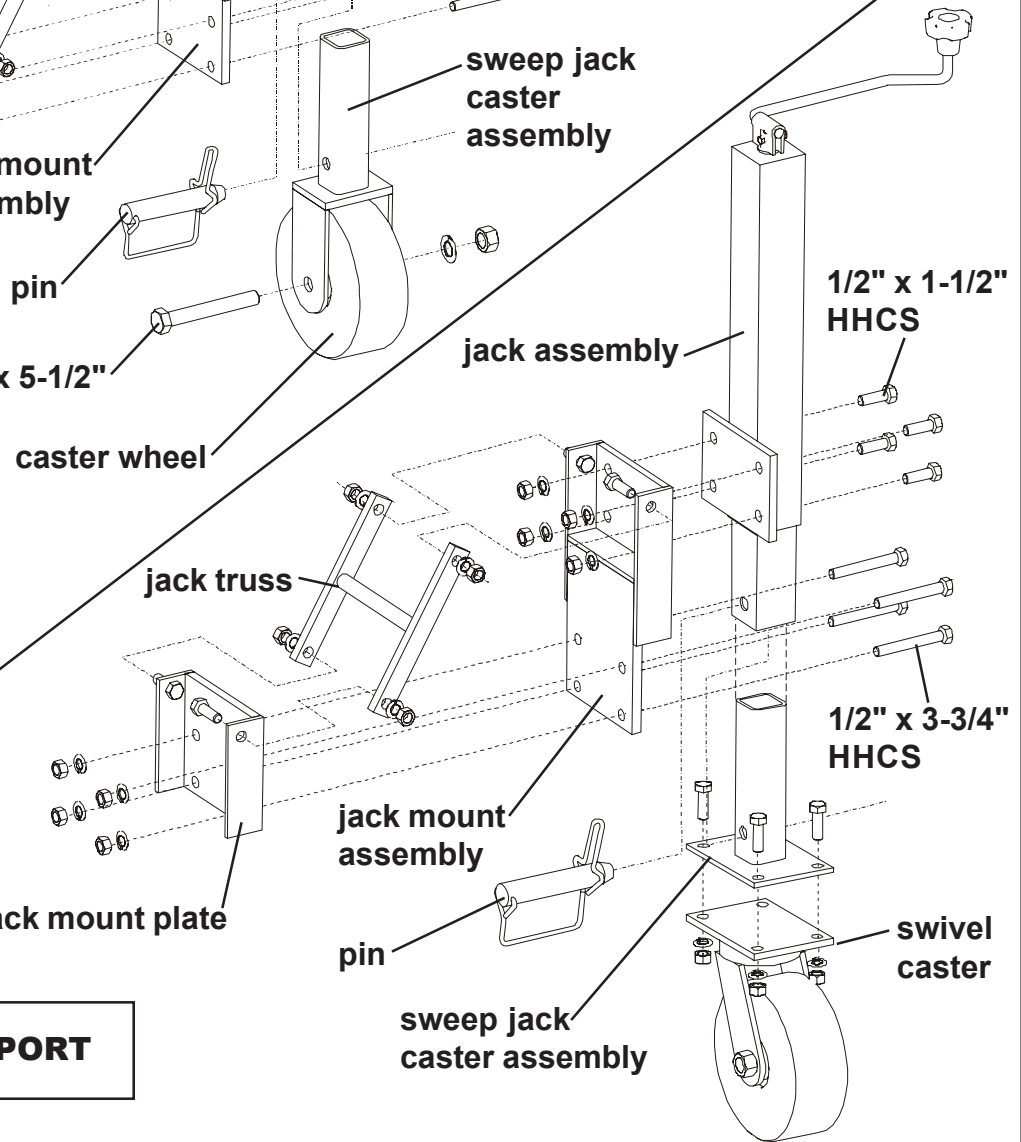


FIG. 16-A

12" JACK SUPPORT



16" JACK SUPPORT



Assembly

17. CENTER PIVOT INSTALLATION

- * If you are only running the cords across the floor, you may skip step 17A and go to step 17B.

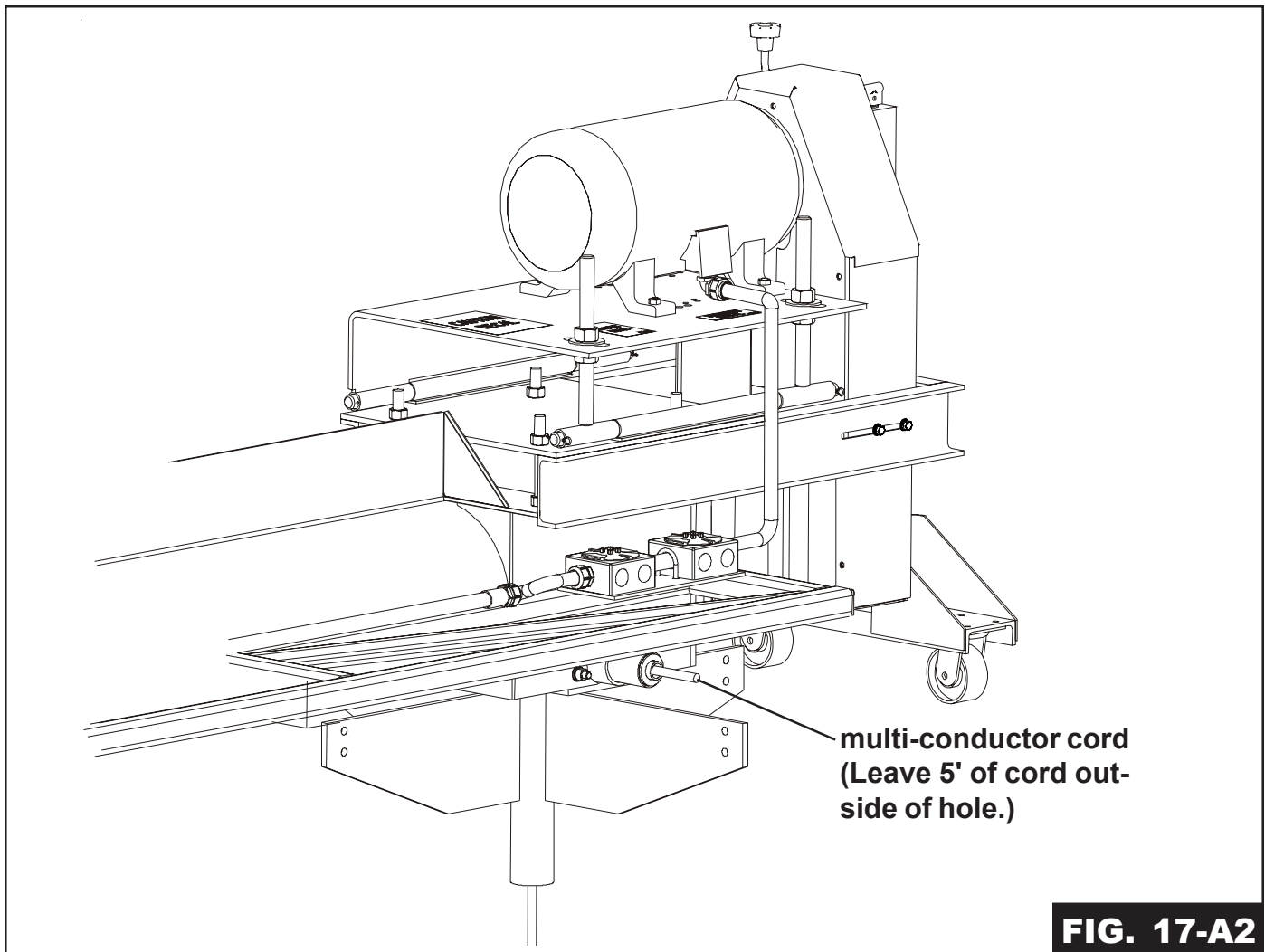
A. Center Pivot With Pivot Kit

1. Use the pivot assembly supplied with the sweep pivot kit and cut it to fit, if needed.



The center pipe of the pivot assembly **MUST** be in the center of the bin. If it is not, the sweep could hit the bin wall.

2. Feed the multi-conductor cord through the hole in the back of the sweep head section leaving five feet (5') of cord outside the hole.



17. CENTER PIVOT INSTALLATION (cont.)

3. Feed the power cord through the pivot tube.
4. Align the hole in the backshield with the pivot tube and push the sweep onto the pivot tube.
5. Connect the pivot plate to the backshield using two (2) 1/2"-13 x 1-3/4" hex bolts, flat washers, lockwashers, and hex nuts.
6. Fasten the pivot rod to the backshield and pivot plate using two (2) 1/2"-13 x 2" hex bolts, lockwashers, and hex nuts.
7. Screw the 45 degree grease fitting into the pivot assembly pipe.

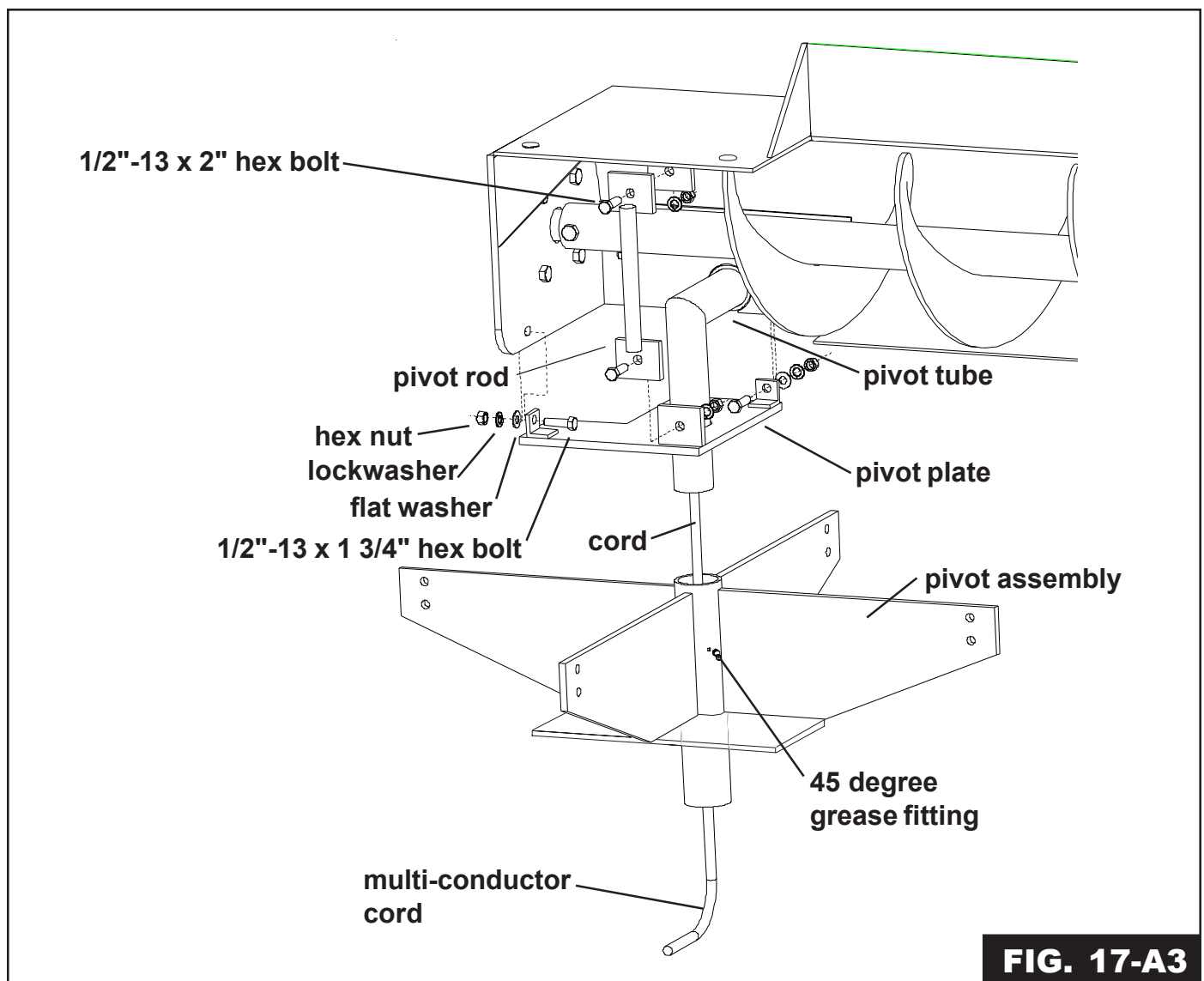
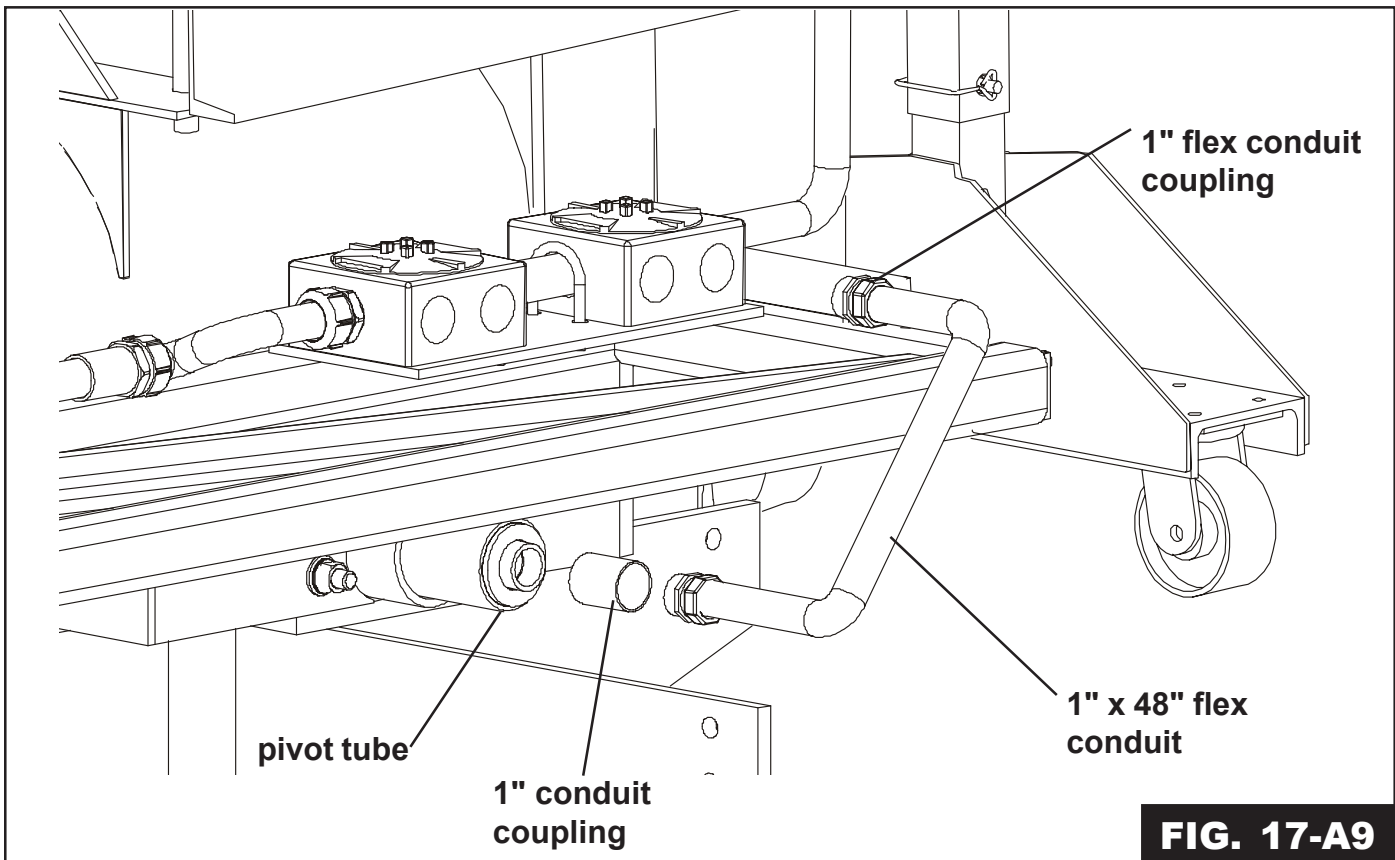


FIG. 17-A3

17. CENTER PIVOT INSTALLATION (cont.)

9. Connect the 1" x 48" liquid-tight flex conduit to the pivot tube using one (1) 1" conduit coupling and one (1) 1" liquid-tight flex conduit coupling.
10. Connect the 1" x 48" liquid-tight flex conduit to one of the junction boxes using one (1) 1" liquid-tight flex conduit coupling. Connect the leads as required.



11. The customer is to provide proper power cord protection between the pivot assembly and the sump transition.
12. The multi-conductor power cord can be connected with the 14 AWG/3 wire, 14 AWG/4 wire, and 10 AWG/4 wire cords in an explosion proof junction box .
13. Use the plugs provided with the junction box to close the holes not being used.
14. Assemble the cord plugs to the other end of each of the cords. The 14 AWG/4 wire cord requires the "HBL2431SW" plug. The 10 AWG/4 wire cord requires the "CS8165C" plug. The 14 AWG/3 wire cord requires the "HBL2311SW" plug.



The plugs are different for each cord and MUST be assembled correctly. This is done so the cords can not be plugged into the control panel incorrectly.

17. CENTER PIVOT INSTALLATION (cont.)

B. Center Pivot For Standard Sweep

- * **The center pivot for a standard sweep must be supplied by the customer. The following are requirements for installation.**



The pivot pin MUST be in the center of the bin. If it is not, the sweep could hit the bin wall.

1. The cross braces must be 1/2" steel plate.
2. The pivot pin must be 1-1/2" diameter steel bar and extend approximately 4" above floor elevation.

18. CONTROL PANEL SETUP

- * **The bin must have grain in it to be able to properly program the control panel.**

- A. Find the desired "High" amp and "Low" amp set points.
 1. High Amp Set Point: The amp load applied to the auger motor with the auger fighting 90% loaded. This will turn off the drive motor.
 2. Low Amp Set Point: The amp load applied to the auger motor with the auger fighting 10% loaded. This will turn on the drive motor.



NEVER program the "High Amp Set Point" greater than the full load running amps of the auger motor.

B. Programming the Amp Meter

1. Setting Input
 - a. Press "PRGM" to "inPut".
 - b. Press "ENTER".
 - c. Press "PRGM" to "i4-20".
 - d. Press "ENTER" to RUN MODE.
2. Setting Setup
 - a. Press "PRGM" to "SEtUP".
 - b. Press "ENTER" to "rdEC"
Use arrow buttons to change the decimal placement. Show .0 Amps.
 - c. Press "ENTER" to "SETLO"
 - d. Press "ENTER"
Value = 0.0
 - e. Press "ENTER" to "SEtHi".

18. CONTROL PANEL SETUP (CONT.)

- f. Press "Enter"
Value = 50
Use arrow buttons to change value.
 - g. Press "ENTER" to "LoCut".
This value = 0
 - h. Press "ENTER" to RUN MODE.
3. Setting Presets
 - a. Press "Pre A".
 - b. Press "PRGM"
This value = "High Amp Set Point".
Use arrow buttons to change value.
 - c. Press "ENTER".
 4. Setting Relays
 - a. Press "PRGM" to "rELAYS".
 - b. Press "ENTER" to "HYS A".
 - c. Press "PRGM"
This value = "High Amp Set Point" - "Low Amp Set Point"
Use arrow buttons to change value.
 - d. Press "ENTER" to RUN MODE.

EXAMPLE: Full Load Running Amps = 21 Amps
High Amp Set Point = 20 Amps
Low Amp Set Point = 12 Amps

Then "HYS A" = 8 Amps (NOTE: This is the difference between the High Amp Set Point and the Low Amp Set Point. [$20 \text{ Amps} - 12 \text{ Amps} = 8 \text{ Amps}$])
And "Pre A" = 20 Amps

C. Locking the Amp Meter

1. Locking the amp meter is not required, but does prevent the meter from being tampered with once it is programmed.
2. In RUN MODE press "LOCK" three (3) times within five (5) seconds.
This value = A number that is easily remembered.
Use arrow buttons to change value.
 - a. Press "ENTER".

D. Unlocking the Amp Meter

1. In RUN MODE press "LOCK" three (3) times within five (5) seconds.
 - a. Enter the "LoC" value.
Use arrow buttons to change value.
 - b. Press "ENTER".

*** It is recommended to write down the "LoC" value and keep it in a safe place in case it is forgotten.**

1. PERFORM PRE-START CHECKS



Warning! To ensure that the drive is not unexpectedly started, turn off and lock out or tag out the power source before proceeding. Failure to observe these precautions could result in bodily injury.



Danger! Failure to perform any or all of these pre-start checks may cause damage to the equipment and/or cause **SERIOUS INJURY** or **DEATH** to those in the work area.

Failure to perform any or all of these pre-start checks may also be a misuse of the equipment. Any misuse of the equipment may void the warranty.

- A. Make sure ALL shields are in place.



ALWAYS keep ALL guards and shields in place, until all the power is disconnected and locked out.

- B. Inspect the drive unit for any problems or potential problems.
- C. Be aware of any emergency shutdown procedures. Two (2) people must always be in a position where the operation of the equipment can be monitored.
- D. Before starting the auger for the first time, make sure that all parts are assembled correctly according to the instructions in this manual.



Be sure to remove the grain from the drive chain and sprockets. If this is not done, damage can occur to the drive system.



Make certain **ONLY** trained operators are in the work area before operating or moving the machine. Two (2) people must always be in a position where the operation of the equipment can be monitored.

2. START THE AUGER

- A. Plug the two (2) motors, foot switch, and thermal protection cords into the bottom of the control panel while making sure they are locked into the receptacles. Each plug is different and can only be plugged into one (1) receptacle to prevent accidental electric shock and/or overloads.
- B. Step on the foot switch and press the "Start" button.



DO NOT start or stop the auger while it is under load.

- B. Run the auger through a "break-in" period, if it is being used for the first time or for the first time of the season.
- C. "Polish" the flighting by running the auger at partial capacity until it is smooth, before attempting full capacity.



Failures may occur if the auger is run full before it has been "polished" during the "break-in" period.



NEVER operate the auger empty. Operating augers empty for any length of time will cause excessive wear. NEVER operate the auger at speeds higher than recommended. Auger flight speed in excess of recommended speed causes excessive wear.



Be aware of any unusual vibration or noises during the initial start-up and "break-in" period. If anything unusual is detected, immediately shutdown the auger, and disconnect and lockout the power supply before servicing.

1. OPERATING THE SWEEP AUGER



Caution! Gear Reducer is shipped without oil. Add the proper amount of the recommended lubricant before operating. Failure to observe these precautions could result in damage to, or destruction of, the equipment.



Danger! Keep out of the bin while the bin sweep auger is in operation. The rapidly moving sweep auger can cause **SERIOUS INJURY** or **DEATH!**



The auger capacity can fluctuate greatly under varying conditions. Moisture content, different commodities, amount of foreign matter, and speeds all play a part in the performance of the auger. Twenty-five percent (25%) moisture may cut capacity by as much as 40% under some conditions.

- A. Make certain there are at least two (2) people in the work area to monitor operations at all times.
- B. Start the bin unloading equipment before starting the bin sweep auger.



Be alert for any unusual vibrations, noises, and the loosening of any fasteners. If anything unusual is detected, immediately shutdown the auger, disconnect and lockout the power source before servicing.

- C. Shutdown the auger as soon as the bin is empty.
- D. Consideration should be given to the proper size auger for any intermittent type operations. When augers are stopped and restarted under full load, it may result in damage to the auger. Using a larger diameter auger and reducing its load level will be far better than subjecting a smaller diameter auger to big loads. If an auger is kept from absolute filling, it will make start-up easier and will convey more efficiently.

1. OPERATING THE SWEEP AUGER (cont.)



NEVER enter the bin while the bin sweep is in operation.



NEVER attempt to control the operation of the bin sweep by depressing the operating controls with shovels, brooms or any other objects.



DO NOT attempt to restrain movement of the bin sweep with ropes, bars or other devices.



NEVER allow an operator to attempt to manually restrain the bin sweep.

2. OPERATING THE SWEEP AUGER CONTROL PANEL

A. The sweep operates in two (2) different "modes".

1. Automatic (The auger motor runs and the drive motor runs using the Amp Meter in the control panel.)

Step on the footswitch and press the "Start" button. The auger motor will turn on and the drive motor will turn on only if the Amp Meter reaches the "Low" set point.

2. Manual (Overrides the Amp Meter and allows the operator to manually move the sweep.)
 - a. Idle (Allows the auger motor to run, but does not move the sweep forward or reverse.)
 - b. Forward (Auger motor will run and moves the sweep towards the grain.)
 - c. Reverse (Stops the auger motor and moves the sweep away from the grain.)

Step on the footswitch and press the "Start" button. The auger motor will turn, but the sweep will not move. Turn the "Manual" switch to "Forward" and the sweep will move forward towards the grain. Turn the "Manual" switch to "Reverse" and the auger motor will shut off and move the sweep backwards away from the grain.

The "Start" button **MUST** be pressed to start the auger motor again.



The footswitch MUST be depressed and the thermal protection cord plugged in before the sweep will operate.

1. NORMAL SHUTDOWN

- A. Before shutting down the unit, be sure the sumps and unload conveyor are empty.
- B. Press the “Stop” button on the control panel.

2. EMERGENCY SHUTDOWN

- A. Know how to shutdown the auger in case of an emergency.
- B. Step off the footswitch and press the “Stop” button.
- C. Disconnect and lockout the power source.



NEVER start the equipment under load. Doing so may cause damage. This type of damage is considered a misuse of the equipment. Any misuse of the equipment may void the warranty.

3. STORAGE PREPARATION

- A. Be sure the sumps and unload conveyor are empty.
- B. Close the sump control gates.
- C. Park the sweep behind the intermediate sumps, so that the sumps are on the auger side of the sweep.
- D. Shutdown the auger.
- E. Make sure all fasteners are tight.
- F. Cover the motors with the tarps supplied with the sweep after first allowing the motors to cool down.
- G. Place blocks under the frame of the sweep to help support the sweep during storage.

Maintenance

1. MAINTAIN THE AUGER



ALWAYS shutdown and disconnect the power supply before adjusting, servicing or cleaning the equipment.

- A. Use caution when repairing or replacing equipment parts.
- B. Make sure ALL decals are legible and tightly attached to the auger. If necessary, replace them **FREE OF CHARGE** by contacting GSI at:

GSI
P.O. Box 20
1004 E. Illinois St.
Assumption, IL 62510
(217) 226-4421

- C. Ensure that ALL electric motors, etc. are operating at the proper speed.
- D. Make sure ALL electrical wiring is not damaged, and that it meets proper wiring codes.
- E. Make sure ALL components are in good working condition before use.



Caution! ALL SPEED REDUCERS ARE SHIPPED DRY. OIL MUST BE ADDED PRIOR TO OPERATION. Do not operate the unit without making sure it contains the correct amount of oil. Do not overfill or underfill with oil, or injury to personnel, unit, or other equipment may result.



Caution! Do not mix non-synthetic and synthetic oil in the unit.

2. LUBRICATION

A. LUBRICATION – ELECTRIC MOTORS

Electric motors supplied for use on Series 2 Sweeps are properly lubricated at the time of their manufacture. It is not necessary to lubricate them at the time of installation unless the motor has been in storage for a long period of time, 1 year or longer. Some motors may be factory lubricated and sealed for the life of the bearings. Overgreasing the bearings can cause premature failure of the motor. The amount of grease added must be carefully controlled.

B. PROCEDURE FOR LUBRICATION OF ELECTRIC MOTORS

- 1.) Stop motor. Disconnect and lock out of service.
- 2.) Follow all safe bin entry procedures and wear all required personal protective equipment.
- 3.) Remove contaminants from grease inlet area.
- 4.) Remove filler and drain plugs.
- 5.) Check filler and drain holes for blockage and clean as necessary.
- 6.) Add proper type and amount of grease. See the following chart for amount of lubricant. Too much grease or injecting grease too quickly can cause premature bearing failure. Take one minute or so to slowly inject the recommended amount of grease.
- 7.) Wipe off excess grease and replace filler and drain plugs. Do not run motor without the grease and drain plugs installed.

Note: It is very important to keep the grease clean. Mixing dissimilar grease is not recommended.

C. TYPE OF LUBRICATION

A polyurea mineral oil NGLI grade 2 type grease is to be used for lubrication of the electric motors. Grease meeting this specification include:

- | | |
|------------------|-------------|
| 1.) Chevron | SRI #2 |
| 2.) Exxon-Mobile | Polyrex EM |
| 3.) Texaco | Polystar RB |

D. FREQUENCY OF LUBRICATION

Motors should be relubricated after storage of one year or more or at the beginning of each season. The following chart gives the amount of grease to be added.

2. LUBRICATION (CONT.)

Lubrication - Electric Motors Quantity of Grease per Frame Size

For Baldor Brand Electric Motors		
NEMA Frame Size	Volume	
	cu. In.	fluid oz
56C		
143TC	0.25	0.14
182TC	0.5	0.28
184TC	0.5	0.28
213T	0.75	0.42
215T	0.75	0.42
254T	1	0.55
256T	1	0.55
284T	1.25	0.69
286T	1.25	0.69
324T	1.5	0.83

For Marathon Brand Electric Motors				
NEMA Frame Size	Volume			
	cu. In.	ounce	gram	teaspoon
56C				
143TC	0.6	0.3	8.4	2
182TC	0.6	0.3	8.4	2
184TC	0.6	0.3	8.4	2
213T	0.6	0.3	8.4	2
215T	0.6	0.3	8.4	2
254T	1.2	0.61	17.4	3.9
256T	1.2	0.61	17.4	3.9
284T	1.2	0.61	17.4	3.9
286T	1.2	0.61	17.4	3.9
324T	1.5	0.81	23.1	5.2

2. LUBRICATION (CONT.)

E. Lubrication – Reducers (Gear Boxes)

Reducers supplied for use on Series 2 Sweeps are shipped without lubricant (dry). The proper lubricant must be added at the time of installation. Over lubrication may cause premature failure of the reducer. The amount of lubricant must be carefully controlled.

F. Procedure for Initial Filling of Reducers

- 1.) Disconnect and lock motor out of service. Do not run gearbox without lubricant.
- 2.) Follow all safe bin entry procedures and wear all required personal protective equipment.
- 3.) Remove contaminants from inlet area.
- 4.) Remove filler and oil level fill plugs.
- 5.) Check filler holes for blockage and clean as necessary.
- 6.) Clean the magnetic drain plug if one was supplied.
- 7.) Add proper type of lubricant to fill level or until oil runs out of oil level fill hole. See the lubrication chart for amounts and types of lubricant.
- 8.) Wipe off excess lubricant and replace filler and oil level fill plugs.

NOTE: It is very important to keep the lubricant clean. Also, mixing dissimilar lubricants is not recommended.

G. Procedure for Changing of Lubricant

- 1.) Stop motor. Disconnect and lock out of service.
- 2.) Follow all safe bin entry procedures and wear all required personal protective equipment.
- 3.) Remove contaminants from inlet and drain area.
- 4.) Remove filler, oil level fill, and drain plugs. Drain old lubricant from reducer.
- 5.) Flush reducer with a nonflammable solvent such as Lubriplate Pure Flush or Whitmore's Flushing Oil.
- 6.) Clean the magnetic drain plug if installed.
- 7.) Carefully replace drain plug.
- 8.) Add proper type of lubricant to fill level or until oil runs out of oil level fill hole. See the lubrication chart for amounts and types of lubricant.
- 9.) Wipe off excess lubricant and replace filler and oil level fill plugs.

NOTE: It is very important to keep the lubricant clean. Also, mixing dissimilar lubricants is not recommended.

H. Frequency of Lubrication

Lubricant should be changed after storage of one year or more or at the beginning of each season.

I. Type of Lubrication

The type and quantity of lubrication required, for each type and size of reducer, is listed in the following chart.

Maintenance

2. LUBRICATION (CONT.)

Lubrication - Gear Boxes Quantity and Type of Lubricant per Box Size

Foote-Jones (Screw Drive) Reducer		
Box Size	Volume	
	Quarts	Liters
8115	0.75	0.7
8203	1	0.95
8207	1.5	1.4
Lubrication Specification		
	Temp 15-60 deg F.	Temp 50-125 deg F
	AGMA 3	AGMA 4
Chevron Oil Company	OC Turb. Oil 100	EP Machine Oil 150
Exxon Oil Company	Terrestic 100	Terrestic 150
Marathon Oil Company	Endurance Oil 30	Endurance Oil 40
Mobile Oil company	DTE-18M	DTE Oil Extra Heavy
Or Equal		

Hub City (Tractor Drive) Reducer		
Box Series	Volume	
	Pints Worm Top	Pints Worm Bottom
320	2.65	1.9
380	3.9	3.2
Lubrication Specification		
Mobile	SHC634-SYNTHETIC	
Or Equal		

EPT Browning (Screw Drive)		
Box Size	Volume (Quarts)	
107-09	2 Approx.	
115-09	2.56 Approx.	
203-09	4 Approx.	
207-09	6.3 Approx.	
215-09	9 Approx.	
Lubrication Specification		
Mineral Oil	Temp 15-60 deg F.	Temp 50-125 deg F
	AGMA 4	AGMA 5
Mobile Oil company	DTE Oil Extra Heavy	DTE-Oil BB
Synthetic Oil	Temp 0-90 deg F.	Temp 15-125 deg F
	AGMA 4	AGMA 5
Mobile Oil company	Mobile SHC 629	Mobile SHC 630

2. LUBRICATION (CONT.)

J. LUBRICATION – BEARINGS, CASTERS, JACKS

The flange bearings, pillow block bearings, and casters supplied for use on Series 2 Sweeps are shipped from the factory lubricated. From time to time a small amount of the proper lubricant must be added. Over lubrication may cause premature failure of the components.

K. PROCEDURE FOR LUBRICATING FLANGE AND PILLOW BLOCK BEARINGS

- 1.) Disconnect and lock motors out of service.
- 2.) Follow all safe bin entry procedures and wear all required personal protective equipment.
- 3.) Remove contaminants from the grease zerk and surrounding area.
- 4.) Add proper type of lubricant. See the lubrication chart for types of lubricant.
- 5.) Wipe off excess lubricant.

NOTE: It is very important to keep the lubricant clean.

L. PROCEDURE FOR LUBRICATING CASTERS.

- 1.) Disconnect and lock motors out of service.
- 2.) Follow all safe bin entry procedures and wear all required personal protective equipment.
- 3.) Remove contaminants from the grease zerk and surrounding area.
- 4.) Add proper type of lubricant. See the lubrication chart for the types of lubricant.
- 5.) Wipe off excess lubricant.

NOTE: It is very important to keep the lubricant clean.

M. PROCEDURE FOR LUBRICATING JACKS

- 1.) Disconnect and lock motors out of service.
- 2.) Follow all safe bin entry procedures and wear all required personal protective equipment.
- 3.) Lubricate the gears using the grease zerk at the top of the jack. Rotate the jack handle to distribute the grease.
- 4.) Lightly grease the inner tube of the jack using the same type grease.
- 5.) Apply a light weight oil to the handle unit at both sides of the tube.
- 6.) Apply a light weight oil to the small hole at the upper end of the jack to lubricate the nut and screw assembly.

N. FREQUENCY OF LUBRICATION

The tractor drive pillow block bearings and the end flange bearing, along with the casters, should be lubricated after each use of the Series 2 Sweep. If possible, lubricate all the components at the beginning of each season, or after long term storage.

O. TYPE OF LUBRICATION

The type of lubrication required, for each component, is listed in the following chart.

Maintenance

2. LUBRICATION (CONT.)

Lubrication - Bearings, Casters and Misc. Equipment		
Type of Lubricant		
Equipment	Lubrication Specification	
Tractor Drive Pillow Blocks	Shell Oil Company	Alvania #2 (or equivalent)
End Flange Bearing	Shell Oil Company	Alvania #2 (or equivalent)
Nylon Flight Bearings	None Required	None Required
Head End Casters	Shell Oil Company	Alvania #2 (or equivalent)
Jack Casters	Shell Oil Company	Alvania #2 (or equivalent)
Jacks	Shell Oil Company	Alvania #2 (or equivalent)



Caution! Too much oil will cause overheating and too little will result in gear failure. Check oil level regularly.



Caution! Extreme pressure (EP) lubricants are not recommended for average operating conditions. Failure to observe these precautions could result in damage to, or destruction of, the equipment.



Under extreme operating conditions, such as rapid rise and fall of temperatures, dust, dirt, chemical particles, chemical fumes, or oil sump temperatures above 200°F, the oil should be changed every one to three months, depending on severity of conditions.



Caution! If the unit is used in the food or drug industry (including animal food) consult the petroleum supplier for recommendations on lubricants which meet the specifications of the FDA, USDA, and/or other authoritative bodies having jurisdiction. Standard lubricants are not suitable for these applications or these industries.

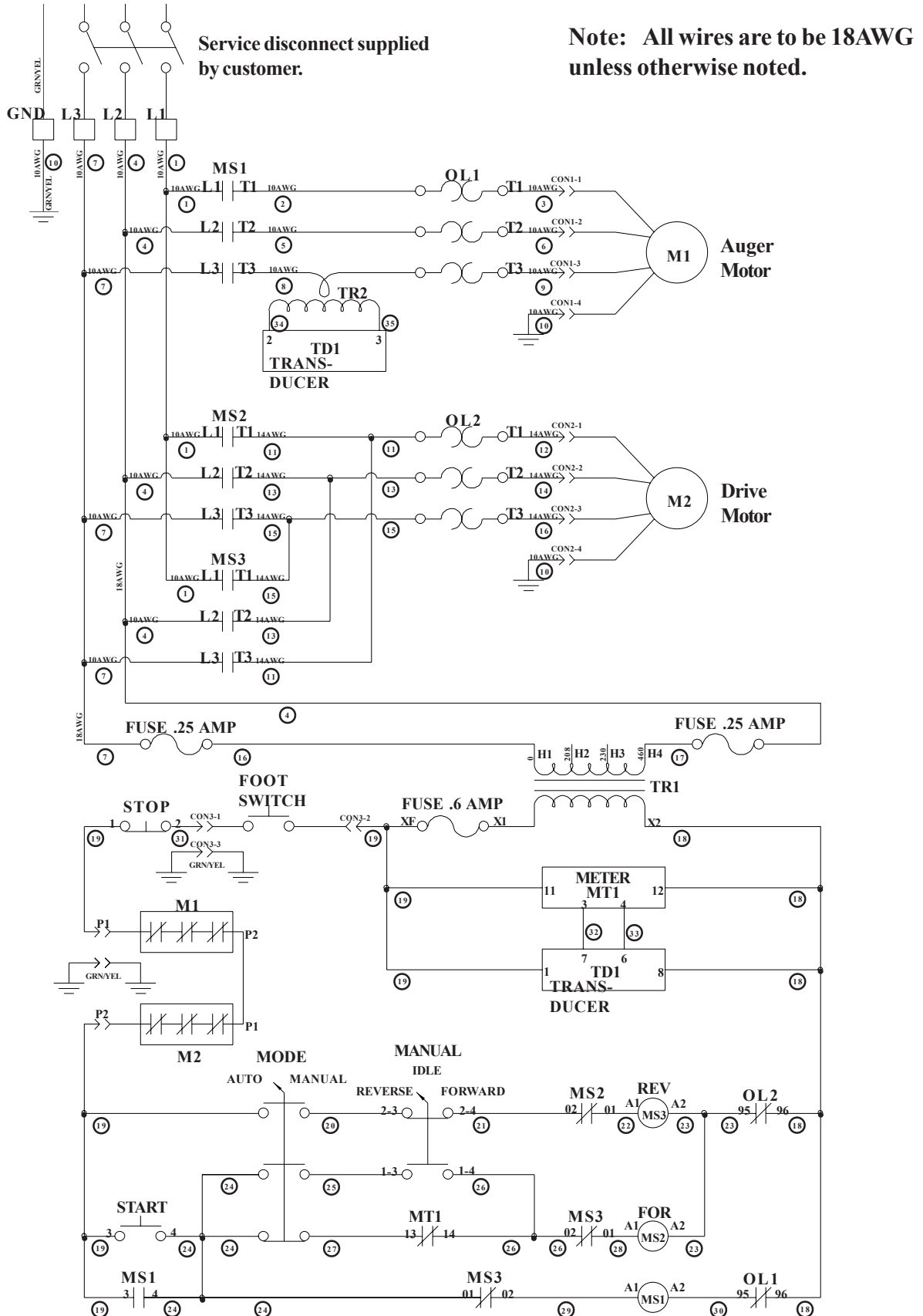


The pour point of the lubricant selected should be at least 10°F lower than the expected minimum ambient starting temperature. Extreme pressure (EP) lubricants are not recommended for average operating conditions.



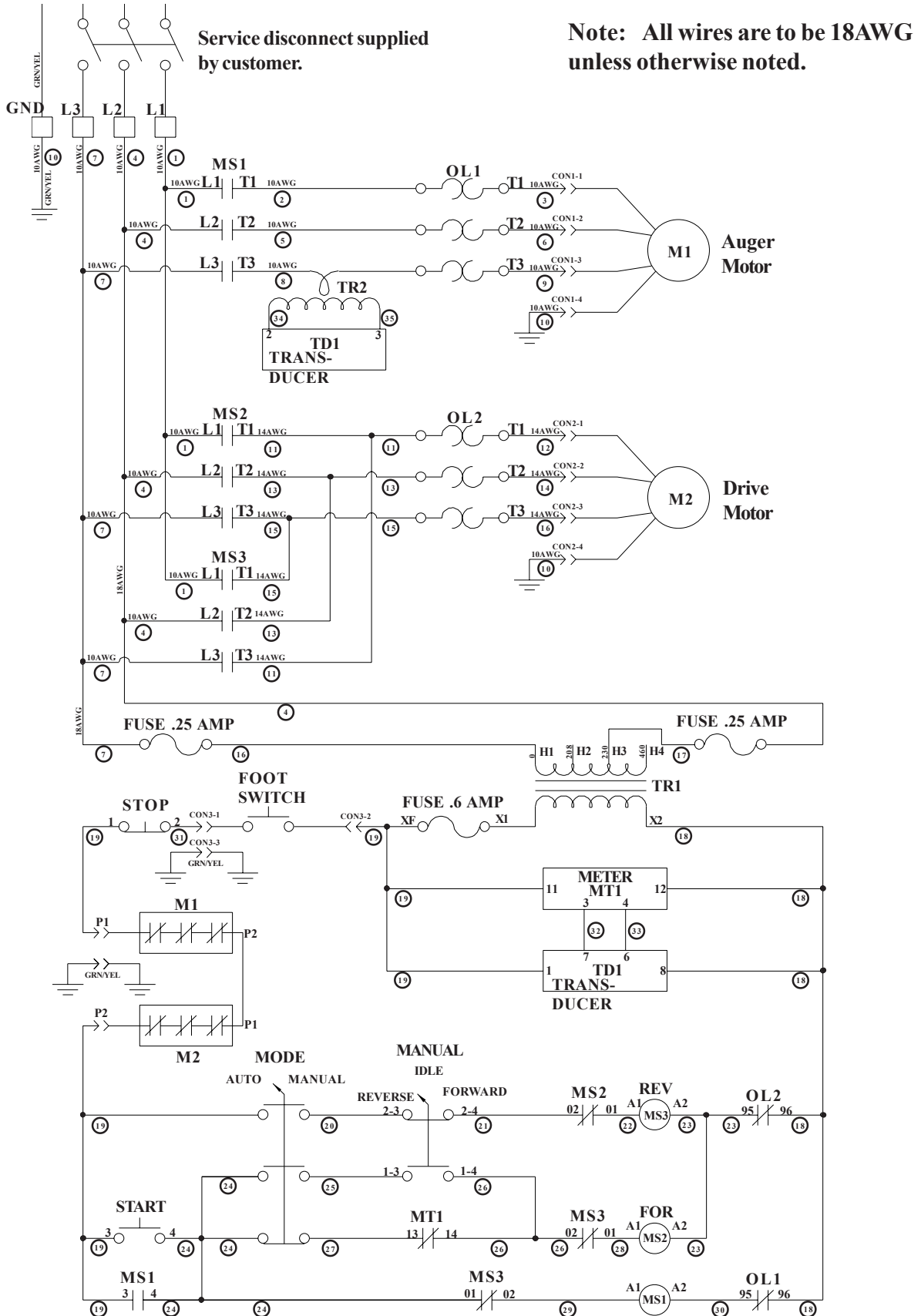
Warning! Oil, housings, and other components can reach high temperatures during operation, and can cause severe burns. Use extreme care when removing lubrication plugs and vents while servicing the unit.

1. CONTROL PANEL SCHEMATIC (460/3/60)

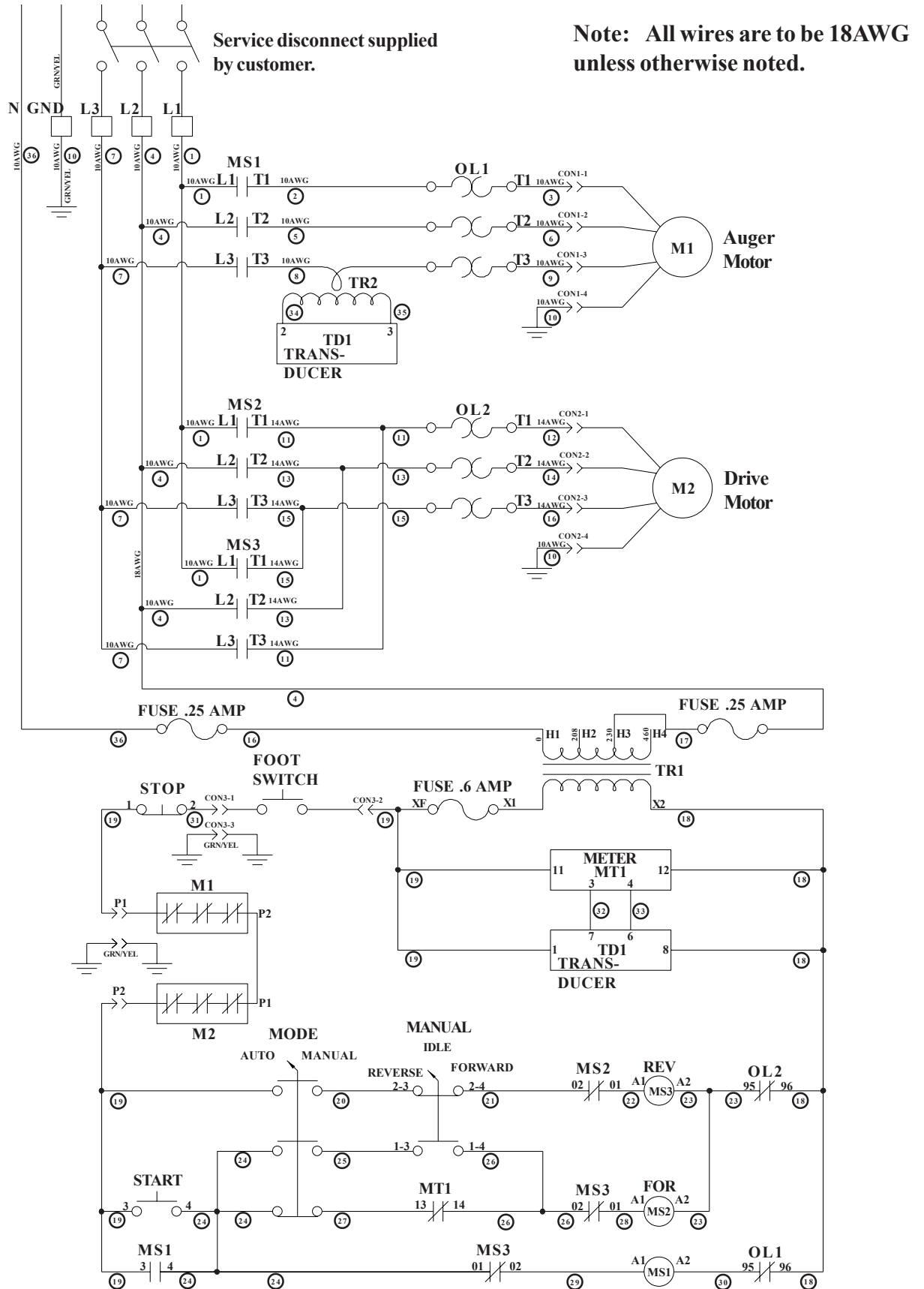


Control Panel Diagrams

2. CONTROL PANEL SCHEMATIC (230/3/60)



3. CONTROL PANEL SCHEMATIC (380/3/50)

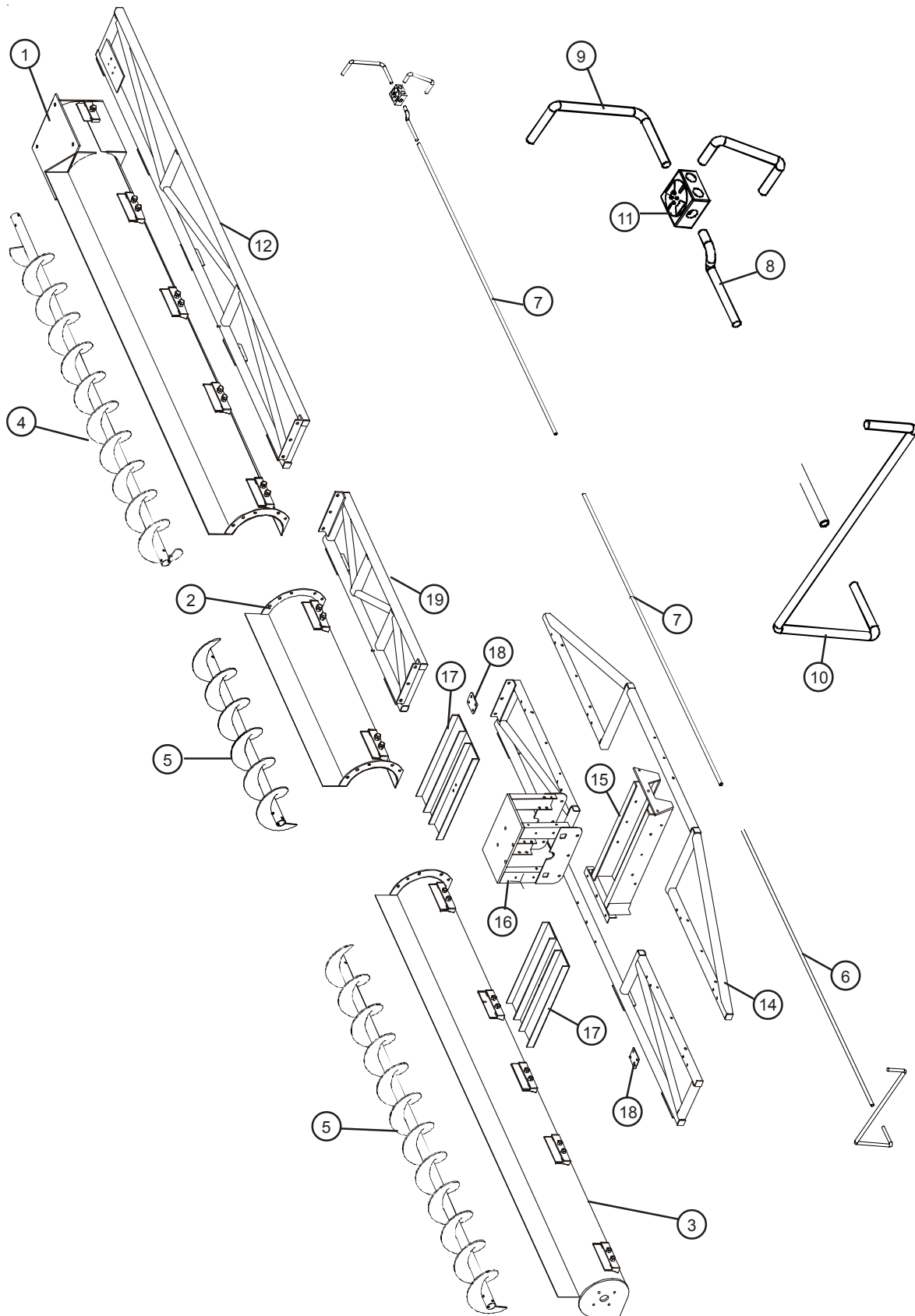


Troubleshooting

Problem	Possible Cause	Solution
1 Sweep will not run.	a.) Power cords may be unplugged. b.) Foot switch may not be actuated. c.) Overloads may be tripped. d.) Adjustable overloads not set correctly	a.) Plug in the power cords. b.) Make sure the foot switch is depressed and the switch is operating properly. c.) Reset the overloads. d.) Set overload to value listed on motor name plate for Full Load Amps.
2 Low capacity.	a.) The auger may not be fully loaded. b.) The auger is moving too slowly.	a.) Make sure the grain is flowing into the auger, making it fully loaded. b.) Check the auger speed. Low capacity will result from speeds slower than recommended.
3 Sweep will not move around the bin.	a.) The control panel may not be in "Automatic Mode". b.) The amp meter is not properly adjusted. c.) The drive chain may be broken.	a.) Turn the switch to "Automatic Mode". b.) Set the amp meter so the running amps of the auger motor will turn on the drive motor. c.) Repair the drive chain.
4 The sweep is vibrating.	a.) The auger may have foreign materials in it. b.) The hanger bearings may be worn. c.) The flight connections may be loose. d.) The fighting may be worn.	a.) Remove the foreign material. b.) Replace the hanger bearing. c.) Tighten all of the flight connecting bolts. d.) Replace all the fighting sections that are worn.

PART LISTS

MAIN AUGER COMPONENTS

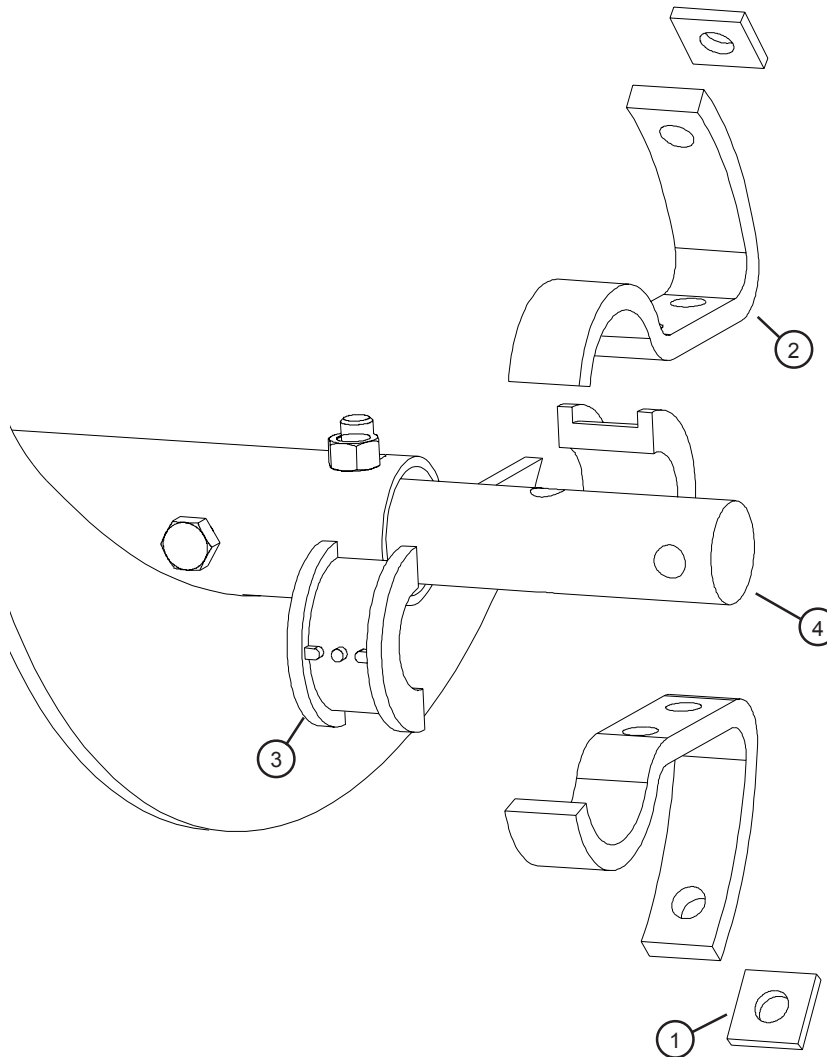


MAIN AUGER COMPONENTS

Ref #	Part #	Description	
1	GC 10258	S2 Sweep Section, Head	12" X 72" - STD
	GC 10274	S2 Sweep Section, Head	12" X 144" - STD
2		S2 Sweep Section, Interm.	
3	GC 10259	S2 Sweep Section, Tail	12" STD
N/S		S2 Sweep Section, Exten.	
4	GC 06609	S2 Sweep Flight, Head	12" X 68.75"
	GC 06465	S2 Sweep Flight, Head	12" X 140.75"
5	GC 06466	S2 Sweep Flight, Int/Tail	12" X 142"
N/S		S2 Sweep Flight, Ext.	
6	GC 06722	Conduit, Rigid	3/4" X 12"
	GC 07533	Conduit, Rigid	3/4" X 24"
	GC 06934	Conduit, Rigid	3/4" X 48"
	GC 03798	Conduit, Rigid	3/4" X 60"
	GC 06075	Conduit, Rigid	3/4" X 72"
	GC 06877	Conduit, Rigid	3/4" X 84"
	GC 03492	Conduit, Rigid	3/4" X 96"
	GC 03797	Conduit, Rigid	3/4" X 108"
7	S- 6197	Conduit, Rigid	3/4" X 120"
8	GC 07523	Conduit, Flex	3/4" X 12"
9	GC 04862	Conduit, Flex	3/4" X 40"
10	GC 03800	Conduit, Flex	3/4" X 48"
N/S	S- 6196	Conduit Coupling	3/4"
N/S	S- 6198	Conduit Coupling, Flex	3/4"
N/S	S- 8411	Conduit Clamp	1" - 1 Hole
N/S	S- 4422	Conduit Elbow, Flex	3/4" X 90 deg.
N/S	S- 8513	Conduit Reducer Bushing	1" to 3/4"
N/S	GC 07744	Conduit Nipple	4" X 4 3/4"
N/S	S- 4284	Cord Connector	5/8" to 3/4" Dia
N/S	S- 4283	Cord Connector	1/2" to 5/8" Dia
11	GC 07521	Explosion Proof Junction Box	
12	GC 10257	Head Frame Asy	72"
	GC 10271	Head Frame Asy	144"
13	GC 10256	Front Tail Frame Asy	
14	GC 10011	Rear Tail Frame Asy	144"
15	GC 10252	Tractor Mount Asy	
16	GC 10023	Tractor Drive Stand	
17	GC 10028	Counter Weight Channel Asy	
18	GC 10260	Splice Plate	
19		Intermediate Frame Assy	

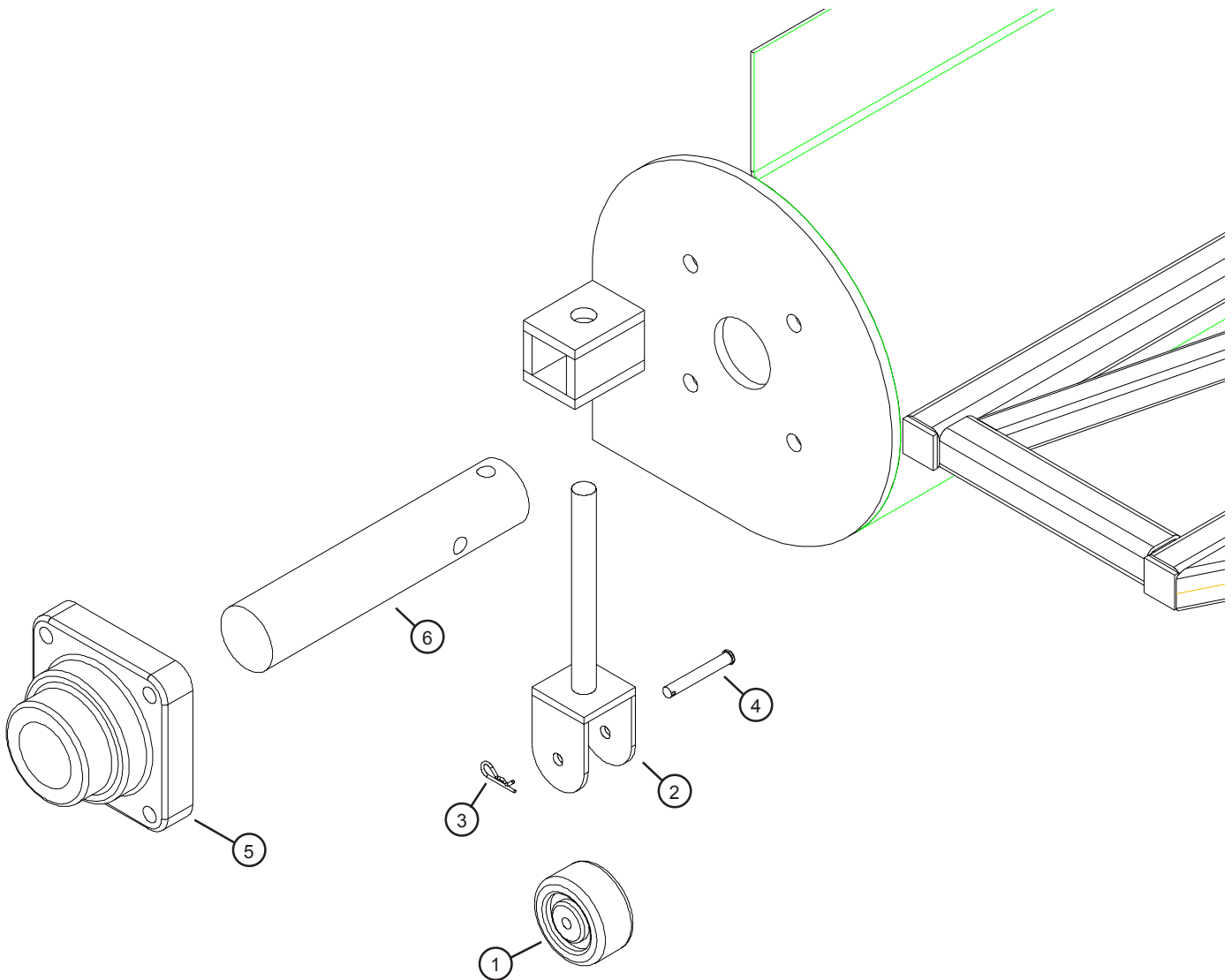
Parts List

FLIGHT CONNECTION COMPONENTS



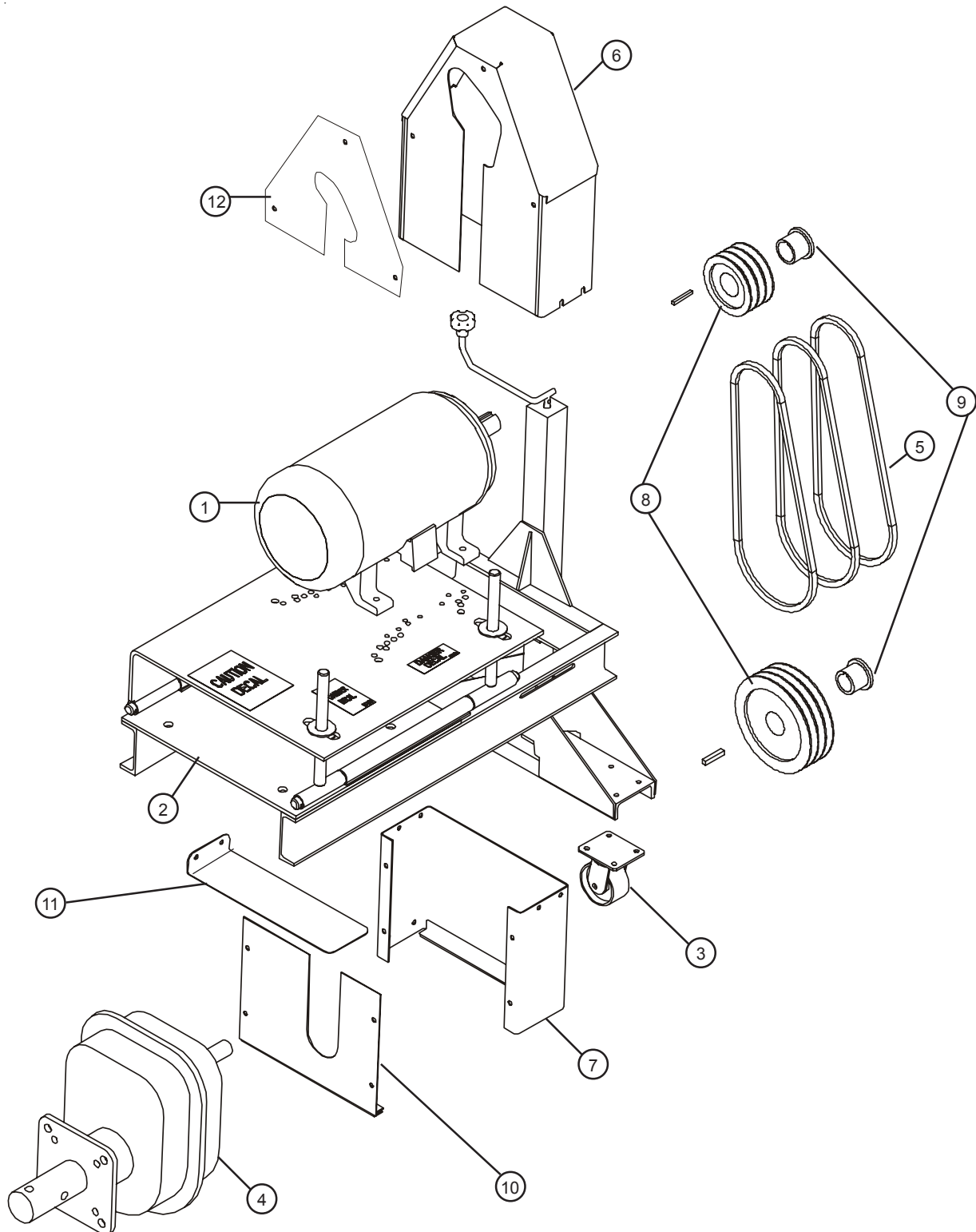
Ref. #	Part #	Description
1	S-8423	Washer, Flat Square 5/8" ZN
2	GC06000	Hanger Bracket, 2" (12" Sweeps)
	GC04064	Hanger Bracket, 3" (16" Sweeps)
3	GC07701	Nylon Bearing Insert Half 2" (12" Sweeps)
	GC07702	Nylon Bearing Insert Half 3" (16" Sweeps)
4	GC03956	Connecting Stub 2" x 11 1/2" (12" Sweeps)
N/S	S-7011	Bolt HHCS 5/8"-11 x 3 1/2" ZN GR8 (12" Flighting)
N/S	S-6494	Nut Lock 5/8"-11 ZN GR2 (12" Flighting)
4	GC03559	Connecting Stub 3" x 13" (16" Sweeps)
N/S	S-6638	Bolt HHCS 3/4"-10 X 5 1/2" ZN GR8 (16" Flighting)
N/S	S-6639	Nut Lock 3/4"-10 ZN GR2 (16" Flighting)

END BEARING COMPONENTS



Ref. #	Part #	Description
1	GC03385	Caster 2" x 4" x 1/2" Axle (16" Sweeps)
2	GC03480	End Caster Assembly (16" Sweeps)
3	GC03387	Hairpin, 1 15/16" x .125" Wire (16" Sweeps)
4	GK1522	Washer Head Pin 1/2" Dia. x 3 1/2" (16" Sweeps)
5	GC06870	Flange Bearing 2" End Cap (12" Sweeps)
	GC03577	Flange Bearing 3" End Cap (16" Sweeps)
6	GC03957	End Stub 2" x 12" (12" Sweeps)
	GC03556	End Stub 3" x 14 7/8" (16" Sweeps)

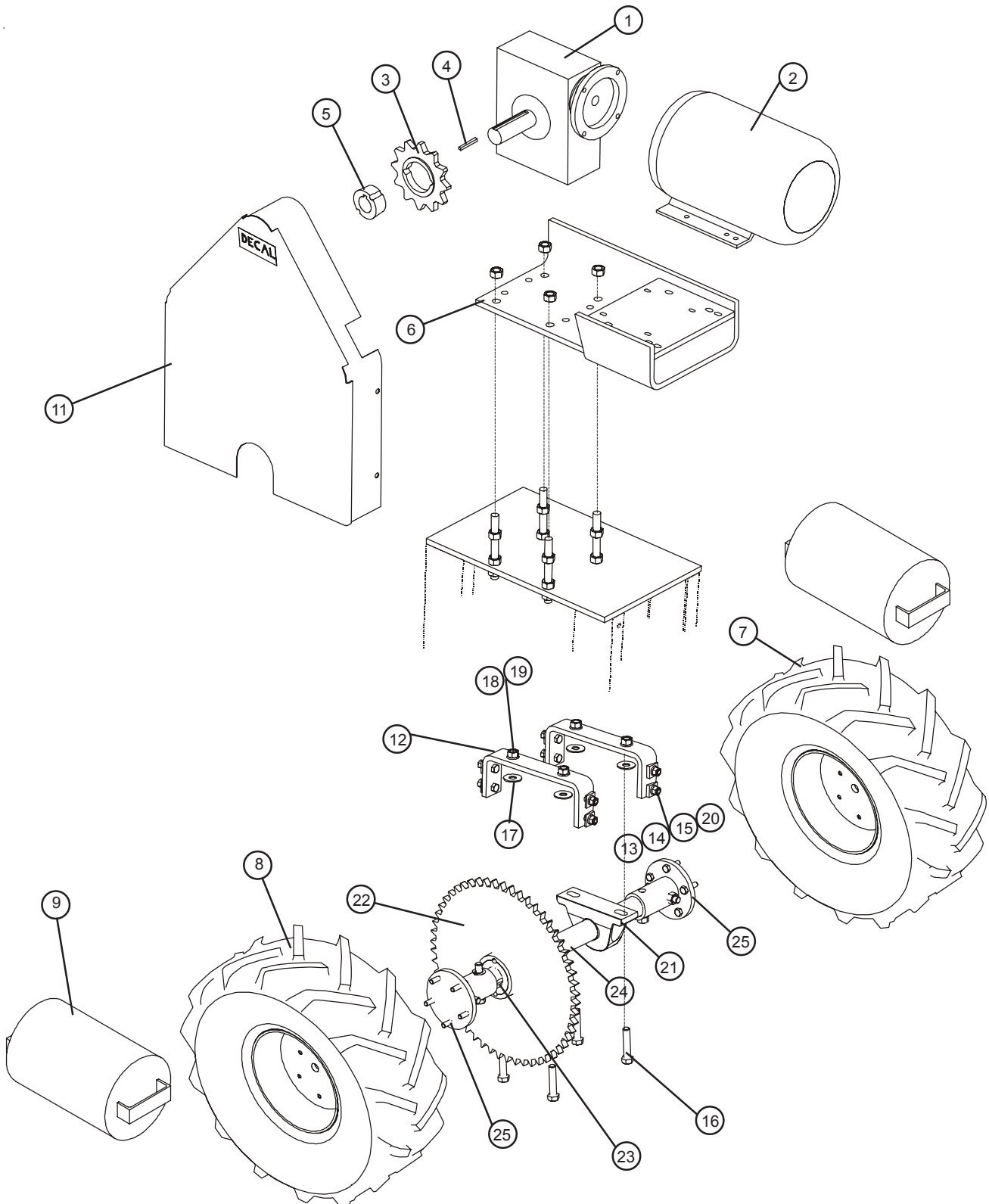
AUGER DRIVE COMPONENTS



AUGER DRIVE COMPONENTS

Ref #	Part #	Description
1	NA GK3663 GK3655 GK3536 GK3659 GK4023	Motor:XPFC, Class 2 Group F & G 7.5 hp - 213T Frame 10 hp - 215T Frame 15 hp - 254T Frame 20 hp - 256T Frame 25 hp - 284T Frame
2	GC09993 GC09986 GC09992	Motor Mount Assembly w/Jack Motor Mount Base Assembly Motor Jack Assembly
3	GC03436	Swivel Caster 1 1/2" x 4"
4	NA GC09585 GC09587 GC09809 GC09586 GC09810 GC09588 GC09589 GC09591	Reducer:w/CEMA Adapter and Output Shaft 107 - 2" 203 - 2" 115 - 2" 107 - 3" 115 - 3" 203 - 3" 207 - 3" 215 - 3"
5	NA	Belt BX Style
6	GC09770	Belt Guard Assembly, Top
7	GC09764	Belt Guard Assembly, Bottom
8	NA	Sheave
9	NA	QD Bushing
N/S	GC03654	Motor Cover 39" x 35" x 20"
10	GC09762	Belt Guard Bottom Back Plate
11	GC09759	Belt Guard Bottom Pan
12	N/A GC09875 GC09876 GC09877 GC09878 GC09879	Belt Guard Motor Specific Plate 184T Frame 213/215T Frames 254/256T Frames 284/286T Frames 324T Frame

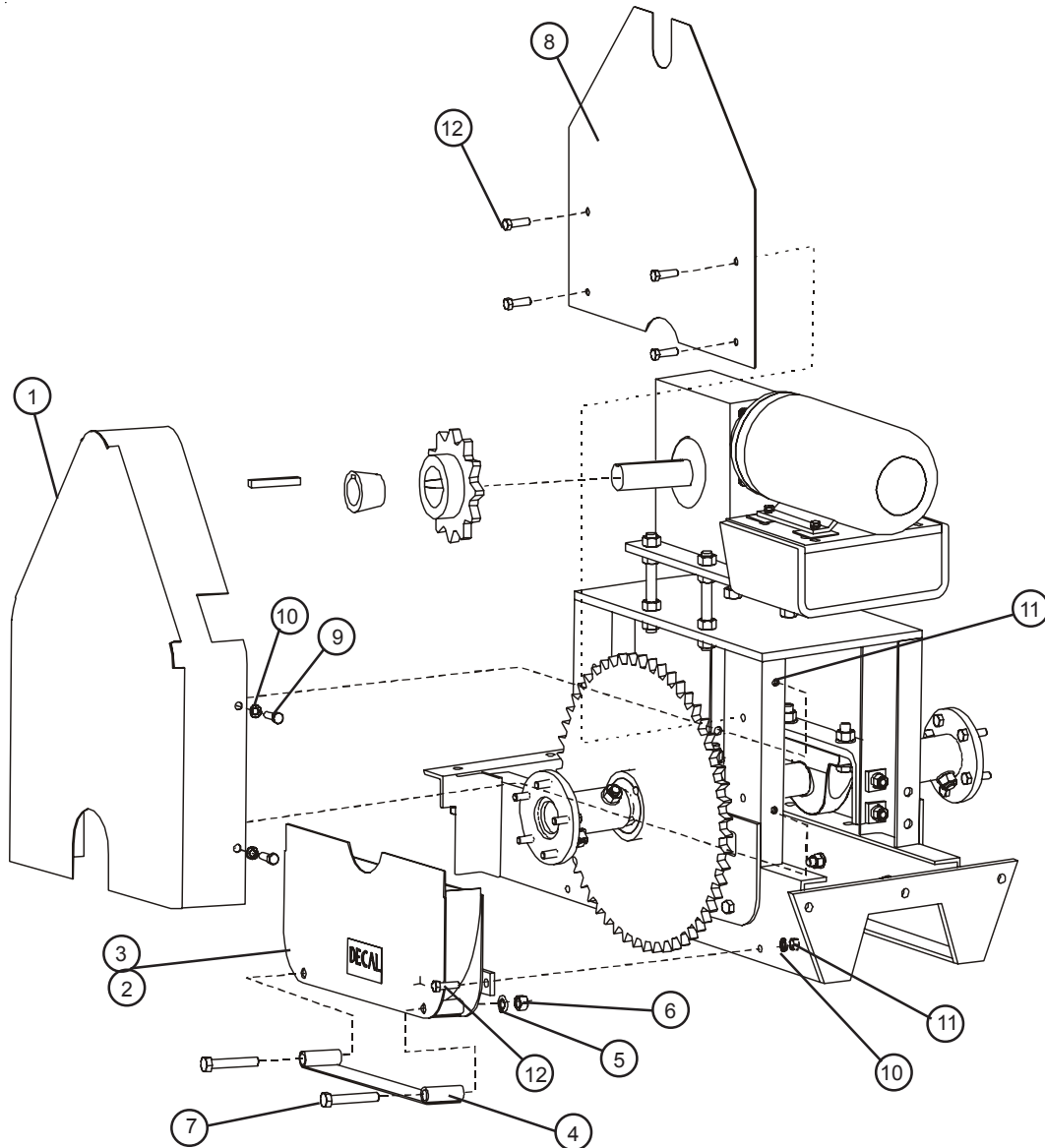
DRIVE ASSEMBLY



DRIVE ASSEMBLY

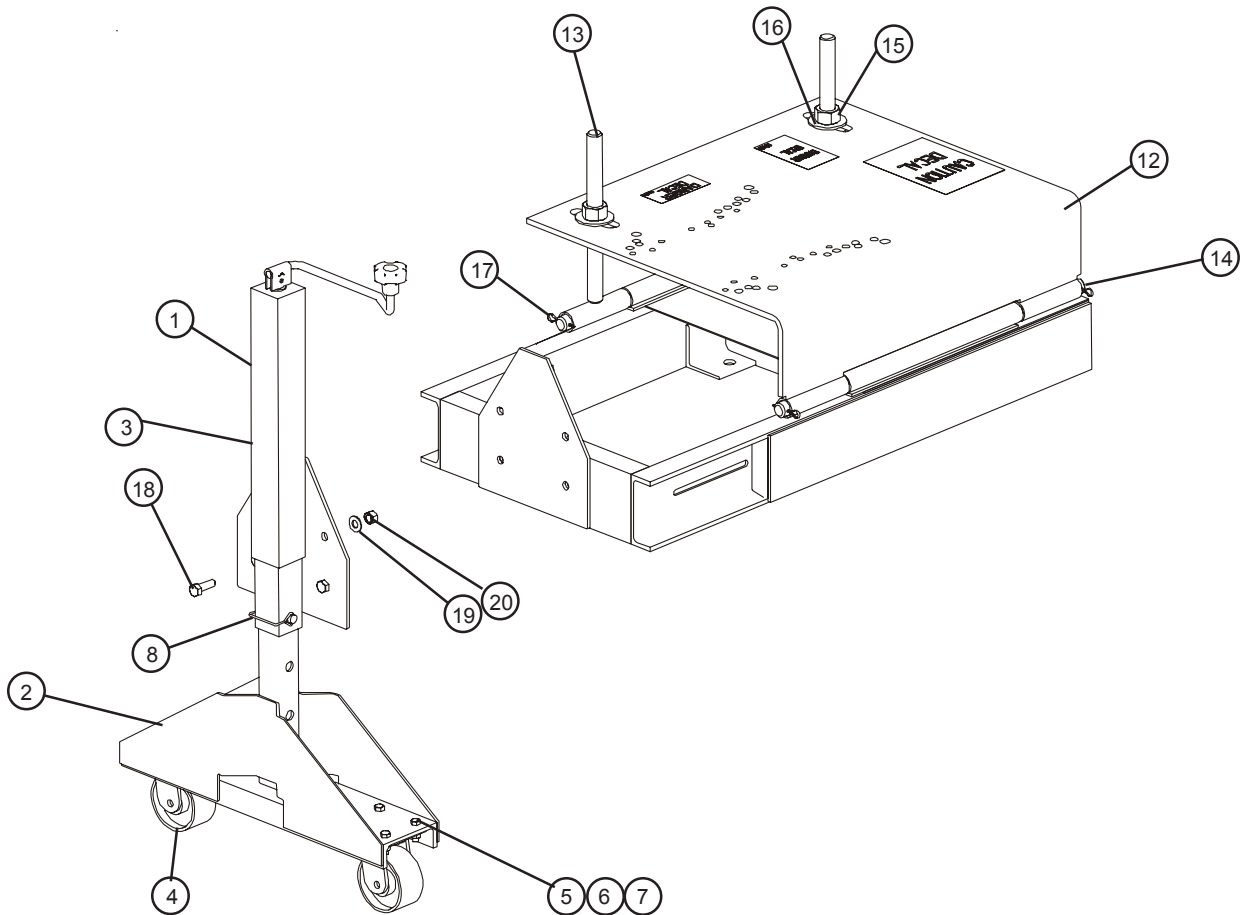
Item #	P/N	Qty	Description
1	GC06631	1	Reducer, 324 Model, 40:1 Style B, 56C Frame (Used with 1 HP Motors, 56C Frame)
	GC03651	1	Reducer, 384 Model, 40:1 Style B, 143TC Frame (Used with 2 HP Motors, 143TC Frame)
	GC06477	1	Reducer, 384 Model, 40:1 Style B, 182TC Frame (Used with 3 HP Motors, 182TC Frame)
2	GC09775	1	Motor: XPFC, Class 2 Group F & G, 1 HP 1760 RPM 460/3/60 56C Frame w/Feet
	GC09743	1	Motor: XPFC, Class 2 Group F & G, 2 HP 1760 RPM 460/3/60 143TC Frame w/Feet
	GC09776	1	Motor: XPFC, Class 2 Group F & G, 3 HP 1760 RPM 460/3/60 182TC Frame w/Feet
	GC09932	1	Motor: XPFC, Class 2 Group F & G, 5 HP 1760 RPM 460/3/60 184TC Frame w/Feet (380V Only)
3	GC07467	1	Sprocket, #80 12 Tooth
4	GC04494	1	Key, Square 3/8" x 3" (for Model 384 Reducer)
	S-8430	1	Key, Square 5/16" x 2" (for Model 324 Reducer)
5	GC07468	1	Bushing, 1615 x 1 3/8" Bore Taper Lock
	GC07469	1	Bushing, 1615 x 1 1/2" Bore Taper Lock
6	GC09827	1	324 Reducer Mount Plate (for 1 HP Motor)
	GC09670	1	384 Reducer Mount Plate (for 2 HP Motor)
	GC09661	1	384 Reducer Mount Plate (for 3 & 5 HP Motors)
7	GC03476	1	Tire, Mounted, 12-8x23" Right Hand Tractor Tread-Foam Filled
8	GC06508	1	Tire, Mounted, 12-8x23" Left Hand Tractor Tread-Foam Filled
9	GC03490		175 Lb Counter Weight
10	GC10195	1	Drive Axle Assembly - Bolt on Hubs
11	GC10044	1	Top Chain Guard Assembly
12	GC09899	2	Bearing Support Bracket
13	S-3883	8	Bolt HHCS 1/2-13 X 1 3/4
14	S-236	8	Washer Lock Split 1/2
15	S-3729	8	Nut Hex 1/2-13
16	S-8429	4	Bolt HHCS 5/8-11 X 2 1/2
17	S-858	4	Washer Flat 5/8
18	S-3208	4	Washer Lock Split 5/8
19	S-4110	4	Nut Hex 5/8-11
20	S-9242	4	5/8" Beveled Washer
21	GC03475	2	Bearing , Pillow Block 2" ID
22	GC03681	1	Sprocket #80 54 Tooth for Axle
23	GC03682	1	Bushing, 2" #2517 Taper Lock
24	GC08849	1	Bolt-on Drive Axle
25	GC09505	2	Bolt-on Hub Assembly
26	GC03811	1	Key, Square 1/2" x 2 1/4"
N/S	GC06866	1	Roller Chain #80 x 71"
N/S	GC03684	1	Connecting Link #80
N/S	GC03685	1	Offset Link #80
N/S	GC03653	1	Motor Cover 57" x 35" x 20"

Tractor Chain Guard Parts



Item #	P/N	Qty	Description
1	GC10044	1	Top Chain Guard Assembly
2	GC10048	1	Bottom Chain Guard Assembly
3	GC10036	1	Bottom Chain Guard Weldment
4	GC10047	1	Bottom Chain Guard Trap
5	S-236	2	Washer, Split Lock 1/2"
6	S3729	2	Nut, Hex 1/2-13
7	S7722	2	Bolt, 1/2-13 x 3"
8	GC10035	1	Guard Plate
9	S-7520	4	BOLT HHCS 3/8-16 X 1
10	S-1054	10	WASHER LOCK SPLIT 3/8
11	S-456	10	NUT HEX 3/8-16
12	S-2071	6	BOLT HHCS 3/8-16 X 1 1/4

Motor Mount Jack & Base Assembly (GC09993)



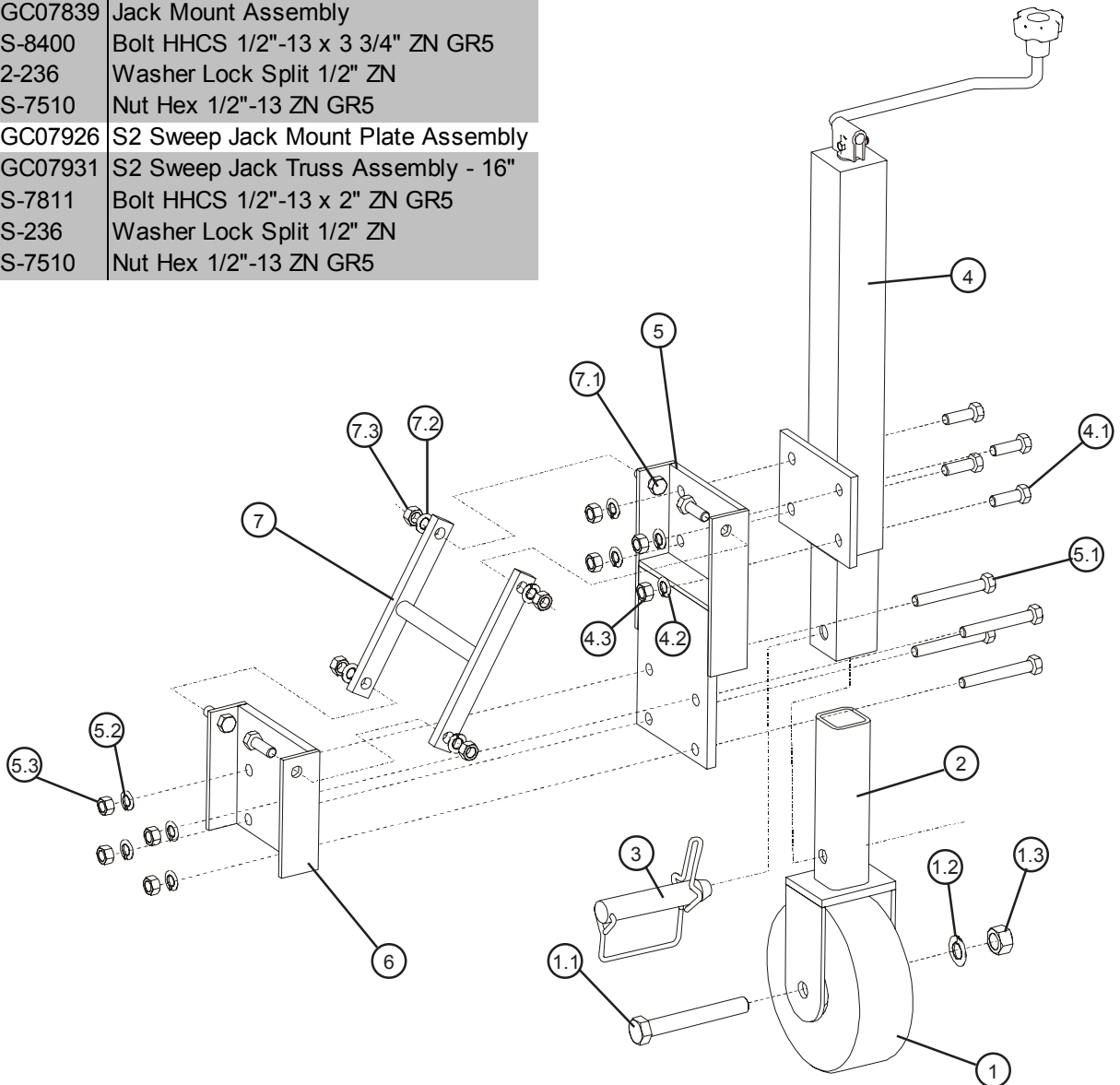
Motor Jack Assembly (GC09992)			
Ref No.	Part No.	Qty.	Description
1	GC09991	1	Jack Housing Assembly
2	GC09479	1	Jack/Caster Mount Base
3	GC03435	1	Jack-Complete
4	GC03436	2	Swivel Caster
5	S-1054	8	Washer, Lock 3/8
6	S-2071	8	Bolt, 3/8-16 x 1 1/4
7	S-456	8	Nut, Hex 3/8-16
8	S-8441	1	Jack Clevis Pin

Motor Mount Base Assembly (GC09986)			
Ref No.	Part No.	Qty.	Description
11	GC09984	1	Frame Weldment
12	GC09756	1	Top Plate Assembly
13	GC09755	2	Adjuster Assembly
14	GC09757	2	Pivot Shaft
15	S-240	4	Nut, Hex 1"-8
16	S-7835	4	Washer, Flat 1"
17	S-7241	4	Cotter Pin 1/8" x 1 1/4
18	S-8760	4	Bolt, 1/2-13 X 1 1/2
19	S-2120	4	Washer, Flat 1/2
20	S-3729	4	Nut, Hex 1/2-13

12" JACK SUPPORT ASSEMBLY

12" Sweep Jack Support

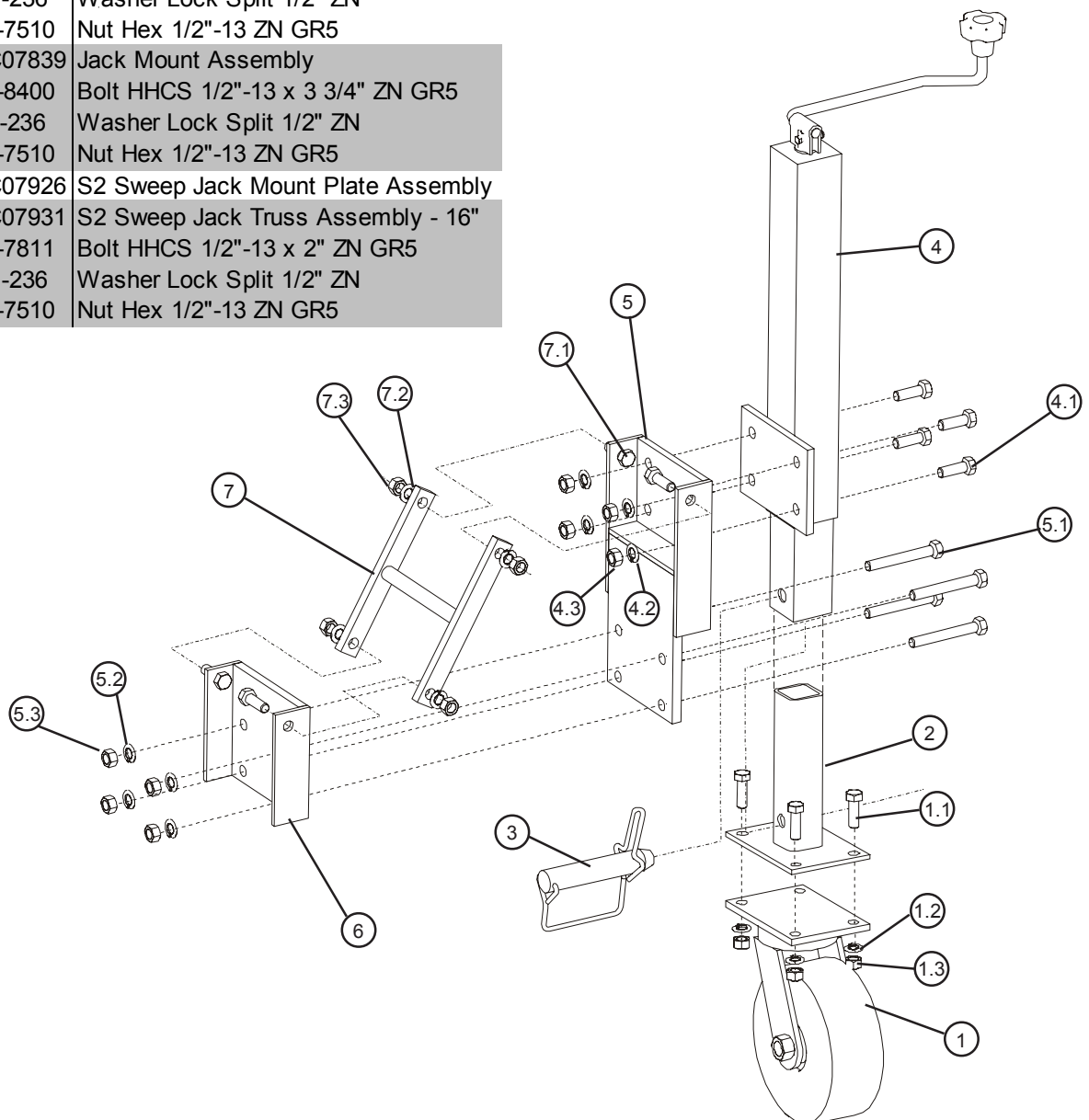
Item	Qty.	Part No.	Description
1	1	GC06974	Caster Wheel 3" x 8" Dia x 3/4" Axle
1.1	1	S-6638	Bolt HHCS 3/4"-10 x 5 1/2" ZN GR8
1.2	1	S-233	Washer Lock Split 3/4" ZN
1.3	1	S-234	Nut Hex 3/4"-10 ZN GR5
2	1	GC08507	S2 Sweep Jack Caster Assembly - 12"
3	1	S-8441	Pin
4	1	GC07934	S2 Sweep 7000# Jack Assembly
4.1	4	S-7811	Bolt HHCS 1/2"-13 x 2" ZN GR5
4.2	4	S-236	Washer Lock Split 1/2" ZN
4.3	4	S-7510	Nut Hex 1/2"-13 ZN GR5
5	1	GC07839	Jack Mount Assembly
5.1	4	S-8400	Bolt HHCS 1/2"-13 x 3 3/4" ZN GR5
5.2	4	2-236	Washer Lock Split 1/2" ZN
5.3	4	S-7510	Nut Hex 1/2"-13 ZN GR5
6	1	GC07926	S2 Sweep Jack Mount Plate Assembly
7	1	GC07931	S2 Sweep Jack Truss Assembly - 16"
7.1	4	S-7811	Bolt HHCS 1/2"-13 x 2" ZN GR5
7.2	4	S-236	Washer Lock Split 1/2" ZN
7.3	4	S-7510	Nut Hex 1/2"-13 ZN GR5



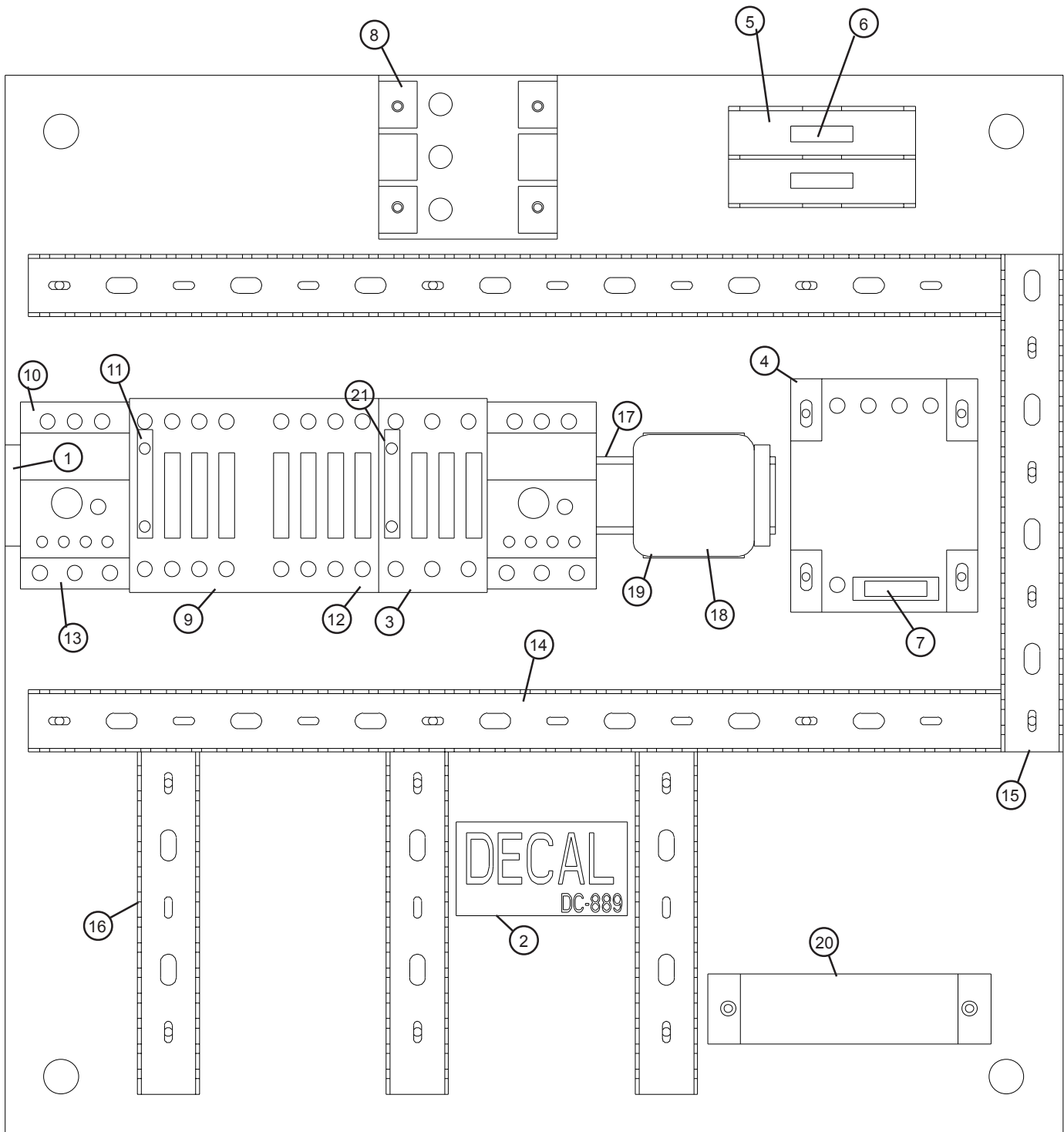
16" JACK SUPPORT ASSEMBLY

16" Sweep Jack Support

Item	Qty.	Part No.	Description
1	1	GC07904	Swivel Caster 3" x 8" Dia
1.1	4	S-7528	Bolt HHCS 1/2"-13 x 1 1/2" ZN GR5
1.2	4	S-236	Washer Lock Split 1/2" ZN
1.3	4	S-7510	Nut Hex 1/2"-13 ZN GR5
2	1	GC07908	S2 Sweep Jack Caster Assembly - 16"
3	1	S-8441	Pin
4	1	GC07934	S2 Sweep 7000# Jack Assembly
4.1	4	S-7811	Bolt HHCS 1/2"-13 x 2" ZN GR5
4.2	4	S-236	Washer Lock Split 1/2" ZN
4.3	4	S-7510	Nut Hex 1/2"-13 ZN GR5
5	1	GC07839	Jack Mount Assembly
5.1	4	S-8400	Bolt HHCS 1/2"-13 x 3 3/4" ZN GR5
5.2	4	2-236	Washer Lock Split 1/2" ZN
5.3	4	S-7510	Nut Hex 1/2"-13 ZN GR5
6	1	GC07926	S2 Sweep Jack Mount Plate Assembly
7	1	GC07931	S2 Sweep Jack Truss Assembly - 16"
7.1	4	S-7811	Bolt HHCS 1/2"-13 x 2" ZN GR5
7.2	4	S-236	Washer Lock Split 1/2" ZN
7.3	4	S-7510	Nut Hex 1/2"-13 ZN GR5



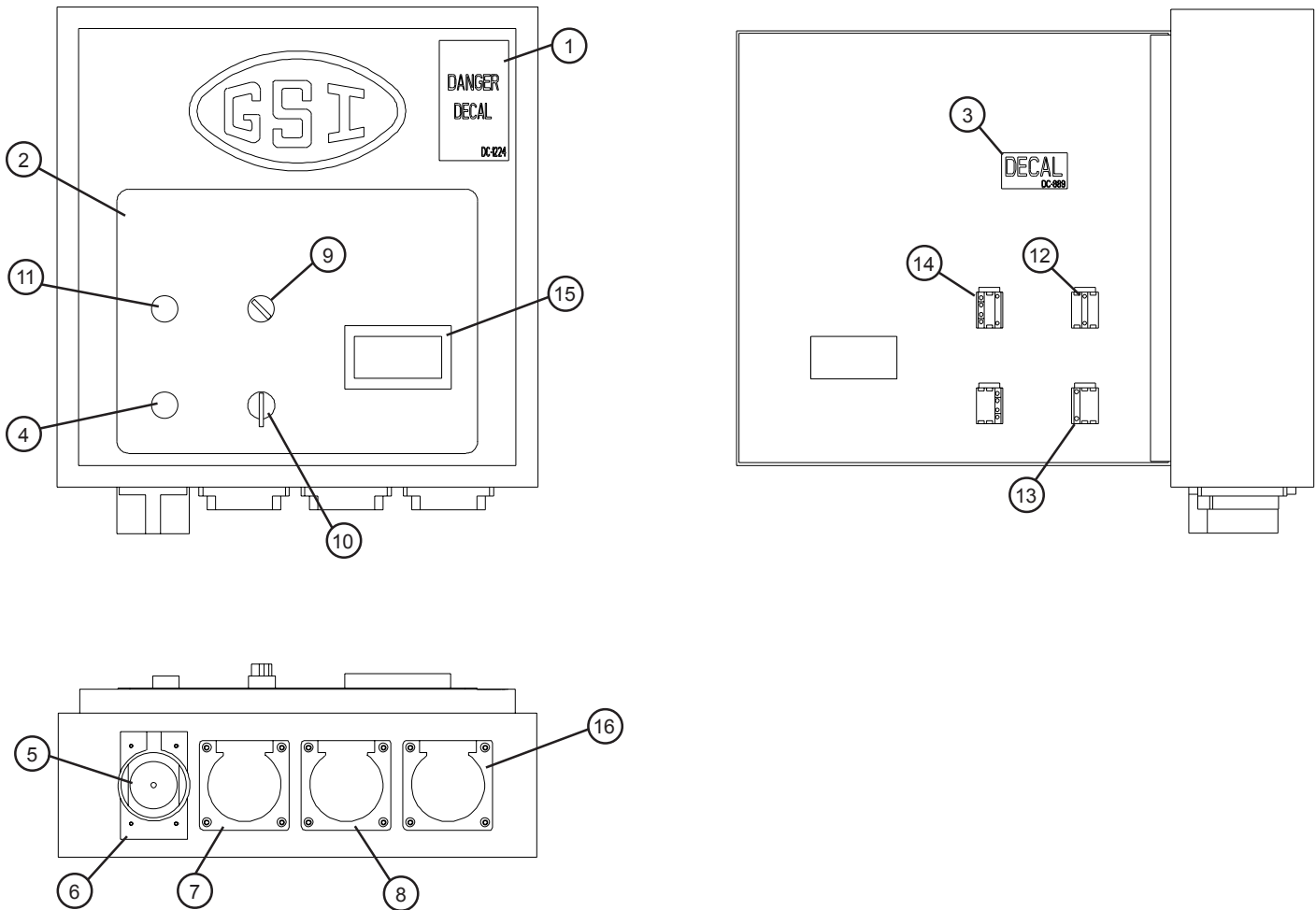
CONTROL PANEL COMPONENTS



CONTROL PANEL COMPONENTS

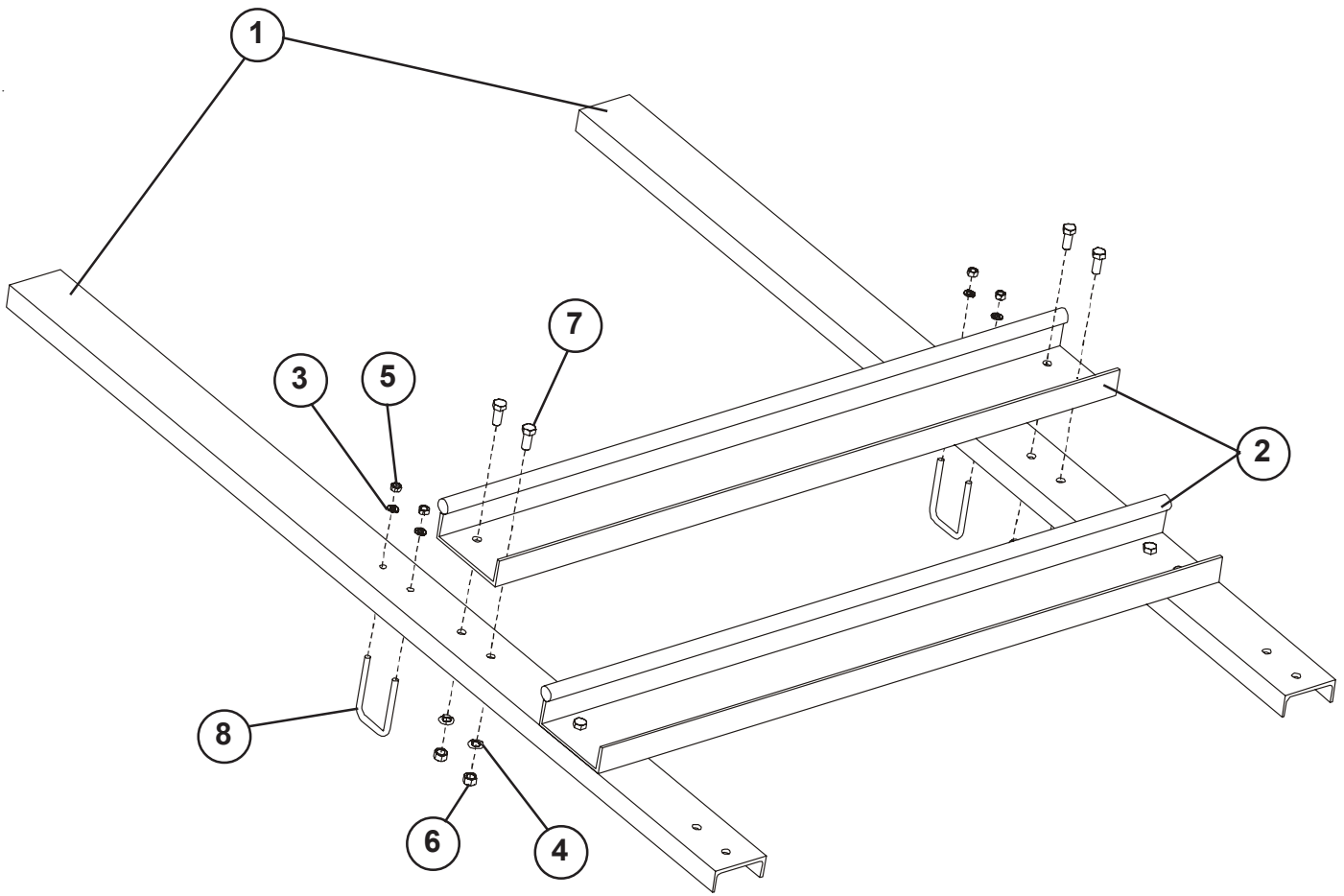
Ref. #	Part #	Description
1	D01-0533	Din Rail End Stop
2	DC-889	Decal, DANGER! High Voltage
3	D03-0491	Starter 3-Pole Cont 22 Amps
	GCO7038	Starter 3-Pole Cont 32 Amps
	D03-0494	Starter 3-Pole Cont 48 Amps
	D03-0495	Starter 3-Pole Cont 62 Amps
	D03-0498	Starter 3-Pole Cont 96 Amps
4	GC03673	Transformer, 50-VA 50/60Hz, 230/380/460
	GC07950	Transformer, 50-VA 50Hz, 380V
	GC09386	Transformer, 50-VA 60Hz, 200/120V
	GC09509	Transformer, 50-VA 50Hz, 415V
5	GC03676	Fuse Block 2-Pole
6	GC03677	Fuse, 600V Midget TD 1/4 Amp
7	GC03679	Fuse, 250V Midget TD 6/10 Amp
8	C-8018	3-Pole Power Distribution Block
9	GC06951	Contact 5HP Reversing 120V 60Hz Coil
10	GC06953	Panel Mount for Over Loads
11	GC06967	Contact Block 1-Pole NC
12	GC06984	IEC O/L Relay 10.0-16.0 Amps
	GC06952	IEC O/L Relay 17.5-22.0 Amps
	GC07862	IEC O/L Relay 21.0-26.0 Amps
	GC06983	IEC O/L Relay 25.0-32.0 Amps
	D03-0482	IEC O/L Relay 30.0-43.0 Amps
	D03-0483	IEC O/L Relay 42.0-55.0 Amps
	D03-0485	IEC O/L Relay 64.0-82.0 Amps
13	GC06986	IEC O/L Relay 1.8-2.7 Amps
	GC06982	IEC O/L Relay 2.5-4.1 Amps
	GC03658	IEC O/L Relay 4.0-6.3 Amps
	GC07795	IEC O/L Relay 5.5-8.5 Amps
14	GC06987	Wire Duct 1" x 2" x 15 5/8"
15	GC06988	Wire Duct 1" x 2" x 8"
16	GC06989	Wire Duct 1" x 2" x 5 1/2"
17	GC06993	Din Rail 12 3/8"
18	GC07509	AC Current Transducer
19	GC07510	AC Current Transducer Socket
20	GC07511	Current Transformer 50:5 Amp
	GC09250	Current Transformer 75:5 Amp
21	GC07591	Contact Block 1-Pole NO

CONTROL PANEL COMPONENTS



Ref. #	Part #	Description
1	DC-1224	Decal, DANGER! Hi Voltage
2	DC-1536	Decal, Series 2 Sweep Panel Overlay
3	DC-889	Decal, DANGER! Hi Voltage
4	GC03659	Std-Round-Push Button-Plastic-Flush-Red
5	GC03666	Hubbell Locking Receptacle - 3-Pole 4-Wire 50 Amps 480 Voltage
6	GC03667	Hubbell Wdl Open Lift Cover
N/S	GC03668	Hubbell Locking Plug - 3-Pole 4-Wire 50 Amps 480 Voltage
7	GC03669	Hubbell Locking Receptacle - Nema L16-20R
N/S	GC03670	Hubbell Locking Plug - Nema L16-20P
8	GC06954	Hubbell Locking Receptacle - Nema L7-20R
9	GC06956	2 Position - Maint - Plastic - Black
10	GC06957	3 Position - Lever - SL - Sw - Momentary
11	GC06958	Std-Round-Push Button-Plastic-Flush-Green
12	GC06959	Cnt Bkck/1NO/SCR
13	GC06960	Cnt Bkck/1NC/SCR
14	GC06961	Cnt Bkck/SCR
15	GC07585	Series 2 Sweep Amp Meter
16	GC03671	Hubbell Locking Receptacle - Nema L5-20R
N/S	GC03672	Hubbell Locking Plug - Nema L5-20P
N/S	GC06857	Series 2 Sweep Safety Footswitch Assembly

WEIGHT EXTENSION KIT



Weight Channel Kit		
Ref. No.	Part No.	Description
1	GC08141	S2 Sweep Adjustable Center Weight Channel
2	GC08143	S2 Sweep Center Weight Channel Weldment
3	S-1054	3/8" Split Lock Washer Zinc
4	S-236	1/2" Split Lock Washer Med Zinc
5	S-456	3/8"-16 Hex Nut Zinc YDP Gr5
6	S-7510	1/2"-13 Hex Nut Zinc Gr2
7	S-7534	1/2"-13 x 1-1/4" HHCS Bolt Zinc Gr5
8	S-8666	3/8"-16 x 2-7/16" U-Bolt Zinc

NOTES

WARRANTY

THE GSI GROUP, INC. ("GSI") WARRANTS ALL PRODUCTS MANUFACTURED BY GSI TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USAGE AND CONDITIONS FOR A PERIOD OF 12 MONTHS AFTER RETAIL SALE TO THE ORIGINAL END USER OF SUCH PRODUCTS. GSI'S ONLY OBLIGATION IS, AND PURCHASER'S SOLE REMEDY SHALL BE FOR GSI, TO REPAIR OR REPLACE, AT GSI'S OPTION AND EXPENSE, PRODUCTS THAT, IN GSI'S SOLE JUDGMENT, CONTAIN A MATERIAL DEFECT DUE TO MATERIALS OR WORKMANSHIP. ALL DELIVERY AND SHIPMENT CHARGES TO AND FROM GSI'S FACTORY WILL BE PURCHASER'S RESPONSIBILITY. EXPENSES INCURRED BY OR ON BEHALF OF THE PURCHASER WITHOUT PRIOR WRITTEN AUTHORIZATION FROM AN AUTHORIZED EMPLOYEE OF GSI SHALL BE THE SOLE RESPONSIBILITY OF THE PURCHASER.

EXCEPT FOR THE ABOVE STATED EXPRESS LIMITED WARRANTIES, GSI MAKES NO WARRANTY OF ANY KIND, EXPRESSED 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 PRODUCT OR PRODUCTS.

IN NO EVENT SHALL GSI BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSS OF ANTICIPATED PROFITS OR BENEFITS. PURCHASER'S SOLE AND EXCLUSIVE REMEDY SHALL BE LIMITED TO THAT STATED ABOVE, WHICH SHALL NOT EXCEED THE AMOUNT PAID FOR THE PRODUCT PURCHASED. THIS WARRANTY IS NOT TRANSFERABLE AND APPLIES ONLY TO THE ORIGINAL PURCHASER. GSI SHALL HAVE NO OBLIGATION OR RESPONSIBILITY FOR ANY REPRESENTATIVE OR WARRANTIES MADE BY OR ON BEHALF OF ANY DEALER, AGENT OR DISTRIBUTOR OF GSI.

GSI ASSUMES NO RESPONSIBILITY FOR FIELD MODIFICATIONS OR ERECTION DEFECTS WHICH CREATE STRUCTURAL OR STORAGE QUALITY PROBLEMS. MODIFICATIONS TO THE PRODUCT NOT SPECIFICALLY COVERED BY THE CONTENTS OF THIS MANUAL WILL NULLIFY ANY PRODUCT WARRANTY THAT MIGHT HAVE BEEN OTHERWISE AVAILABLE.

THE FOREGOING WARRANTY SHALL NOT COVER PRODUCTS OR PARTS WHICH HAVE BEEN DAMAGED BY NEGLIGENT USE, MISUSE, ALTERATION OR ACCIDENT. THIS WARRANTY COVERS ONLY PRODUCTS MANUFACTURED BY GSI. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. GSI RESERVES THE RIGHT TO MAKE DESIGN OR SPECIFICATION CHANGES AT ANY TIME.

PRIOR TO INSTALLATION, PURCHASER HAS THE RESPONSIBILITY TO RESEARCH AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES WHICH MAY APPLY TO THE LOCATION AND INSTALLATION.

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.



P.O. Box 20
1004 E. IL. St
Assumption IL. 62510
(217) 226-4421
(217) 226-4429
