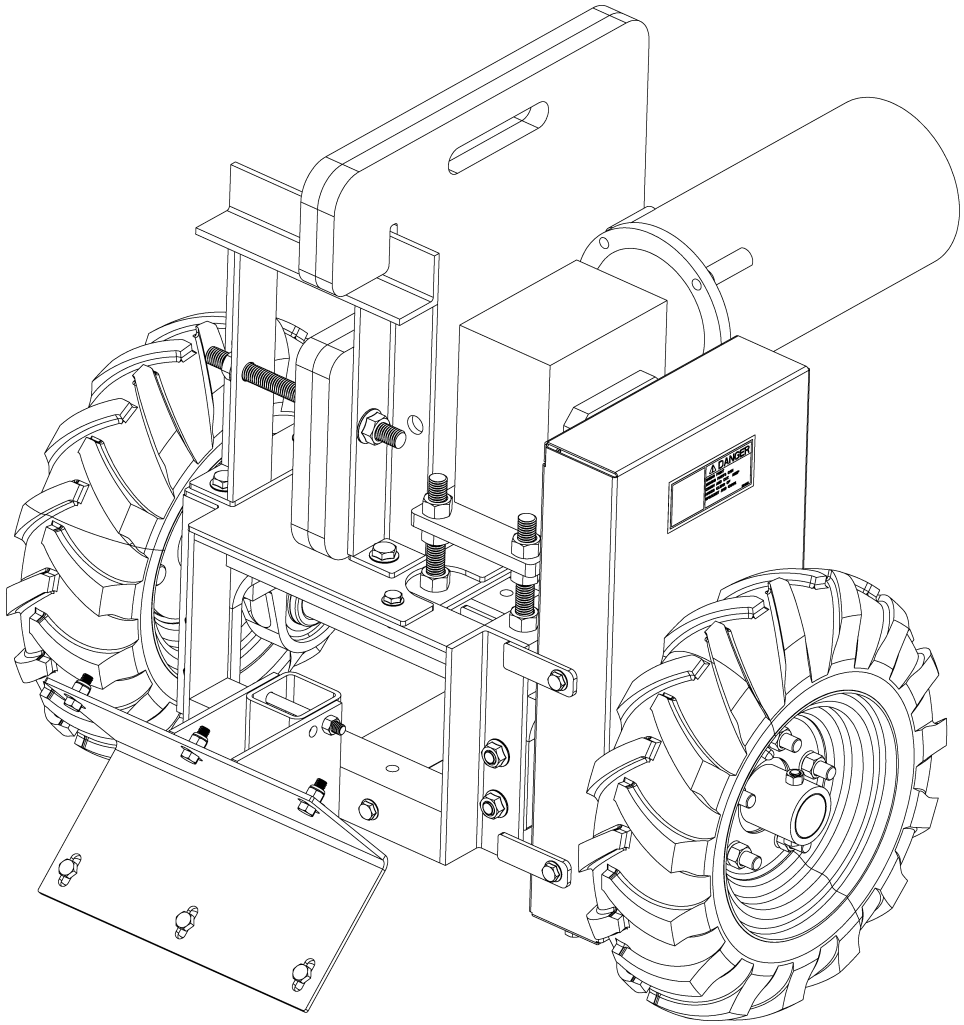


Sweep Tractor and Control Panel Assembly Instructions

Instruction Manual

PNEG-1597

Date: 10-22-13

GSI GROUP

PNEG-1597

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.

Contents

General Information

1. We reserve the right to improve our 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.
2. The Sweep Tractor has been designed and manufactured to give years of dependable service. The care and maintenance of this machine will affect the satisfaction and service obtained. By observing the instructions and suggestions we have recommended, the owner should receive competent service for many years. If additional information or assistance should be required, please contact the factory or your local dealer.
3. **Receiving Merchandise and Filing Claims**
    a. When receiving merchandise, 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.

For Claims Contact:

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

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

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

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

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

Safety Instructions

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

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

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

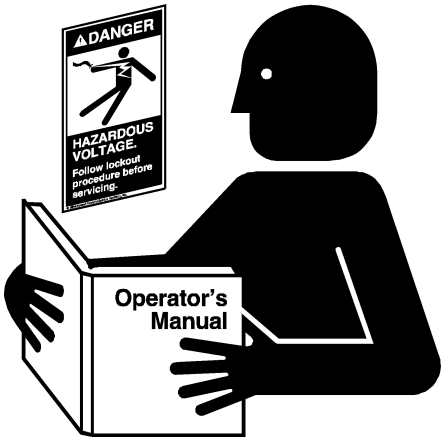
Follow Safety Instructions

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

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

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

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



Read and Understand Manual

Practice Safe Maintenance

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

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

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

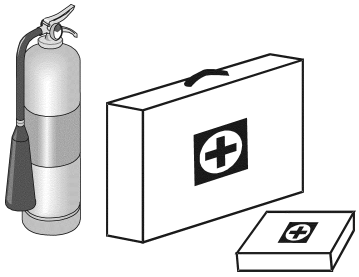
Maintain Equipment and Work Area

Prepare for Emergencies

Be prepared if fire starts.

Keep a first aid kit and fire extinguisher handy.

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



Keep Emergency Equipment Quickly Accessible

Wear Protective Clothing

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

Remove all jewelry.

Tie long hair up and back.

Wear safety glasses at all times to protect eyes from debris.

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

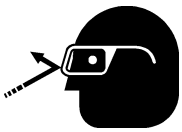
Wear steel-toed boots to help protect your feet from falling debris. Tuck in any loose or dangling shoestrings.

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

Wear a hard hat to help protect your head.

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

Eye Protection



Gloves

Steel-Toed Boots

Respirator

Hard Hat

Fall Protection

Operate Unload Equipment Properly

Operate Unload Equipment Safely

- Untrained operators subject themselves and others to **SERIOUS INJURY** or **DEATH**. **NEVER** allow untrained personnel to operate this equipment.
- **NEVER** work alone.
- Keep children and other unqualified personnel out of the working area at **ALL** times. Refer to the **Start-Up** section of this manual for diagrams of the work area.
- Make sure **ALL** equipment is locked in position before operating.
- **NEVER** start equipment until **ALL** persons are clear of the work area.
- Keep hands and feet away from the auger intake and other moving parts.
- **NEVER** attempt to assist machinery operation or to remove trash from equipment while in operation.
- Be sure all operators are adequately rested and prepared to perform all functions of operating this equipment.
- **NEVER** allow any person intoxicated or under the influence of alcohol or drugs to operate the equipment.
- Make sure someone is nearby who is aware of the proper shut down sequence in the event of an accident or emergency.
- **ALWAYS** think before acting. **NEVER** act impulsively around the equipment.
- **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.
- Use ample overhead lighting after sunset to light the work area.
- Keep area around intake free of obstacles such as electrical cords, blocks, etc., that might trip workers.
- **NEVER** drive, stand or walk under the equipment.
- Use caution not to hit the auger when positioning the load.
- **ALWAYS** lock out **ALL** power to the equipment when finished unloading a bin.
- 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.

Operator Qualifications

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

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

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

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

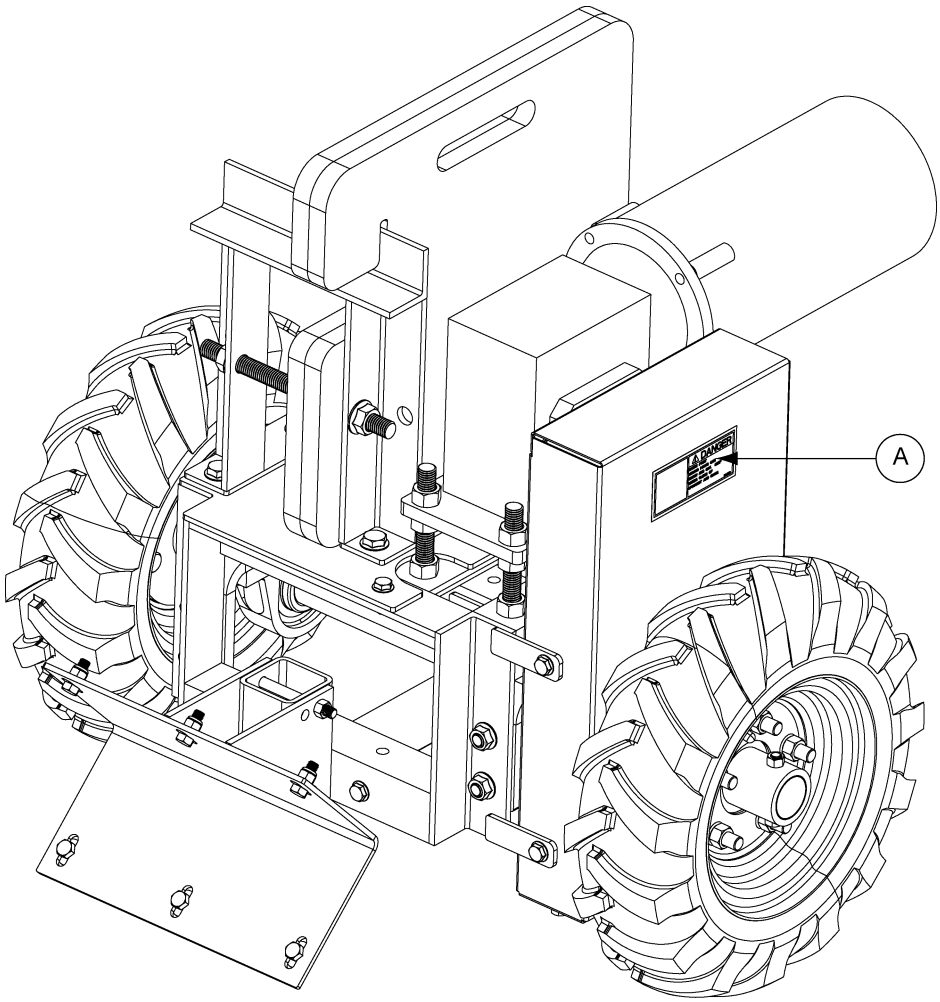
iv. O.S.H.A. (Occupational Safety and Health Administration) regulations state: “At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which the employee is, or will be involved”. (Federal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

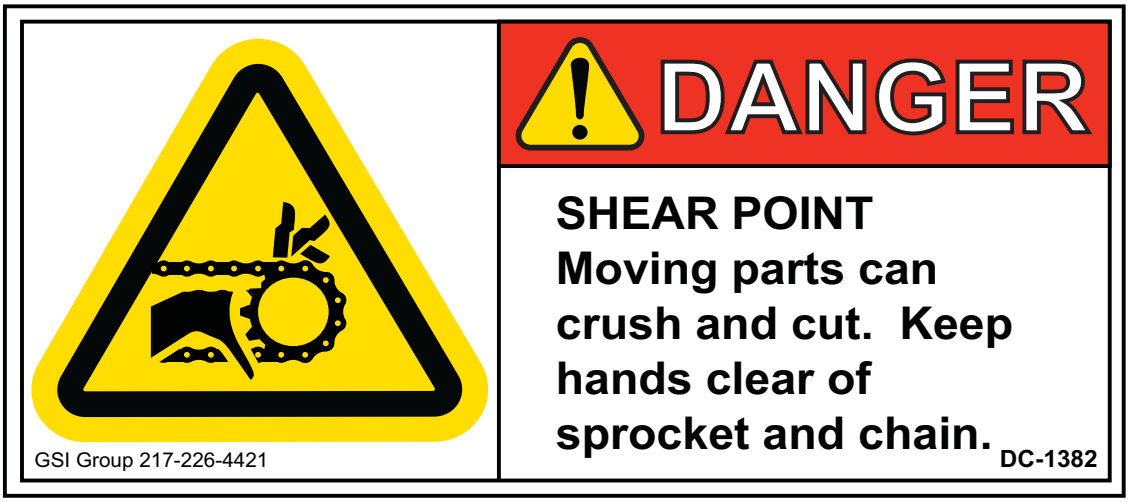
B. As a requirement of O.S.H.A., it is necessary for the employer to train the employee in the safe operating and safety procedures for this auger. The sign-off sheet is provided for your convenience and personal record keeping. All unqualified persons are to stay out of the work area at all times. It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

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

3. Safety Decals

Check components shown below to ensure that the safety decals are in place and in good condition. If a decal cannot be easily read for any reason or has been painted over, replace it immediately. Contact your dealer or the manufacturer to order a replacement decal free of charge.





DC-1382

A

Decals located on outside of chain guards.

Sweep Tractor Assembly

1. Place the tractor frame (A) on plain flat ground.
2. Bolt each pillow block bearing (E) to a bearing mount bracket (D) using two (2) 1/2"-13 x 2" hex head cap screws (G), two (2) flat washers (F) and serrated flanged nuts (C).
3. Bolt each bearing mount bracket (D) to the tractor frame (A) using two (2) 1/2"-13 x 1-1/4" flange bolts (B) and serrated flanged nuts (C). *(See Figure 4A.)*

   NOTE: *Lock collar flanges for each pillow block bearing (E) must be to the inside of frame.*

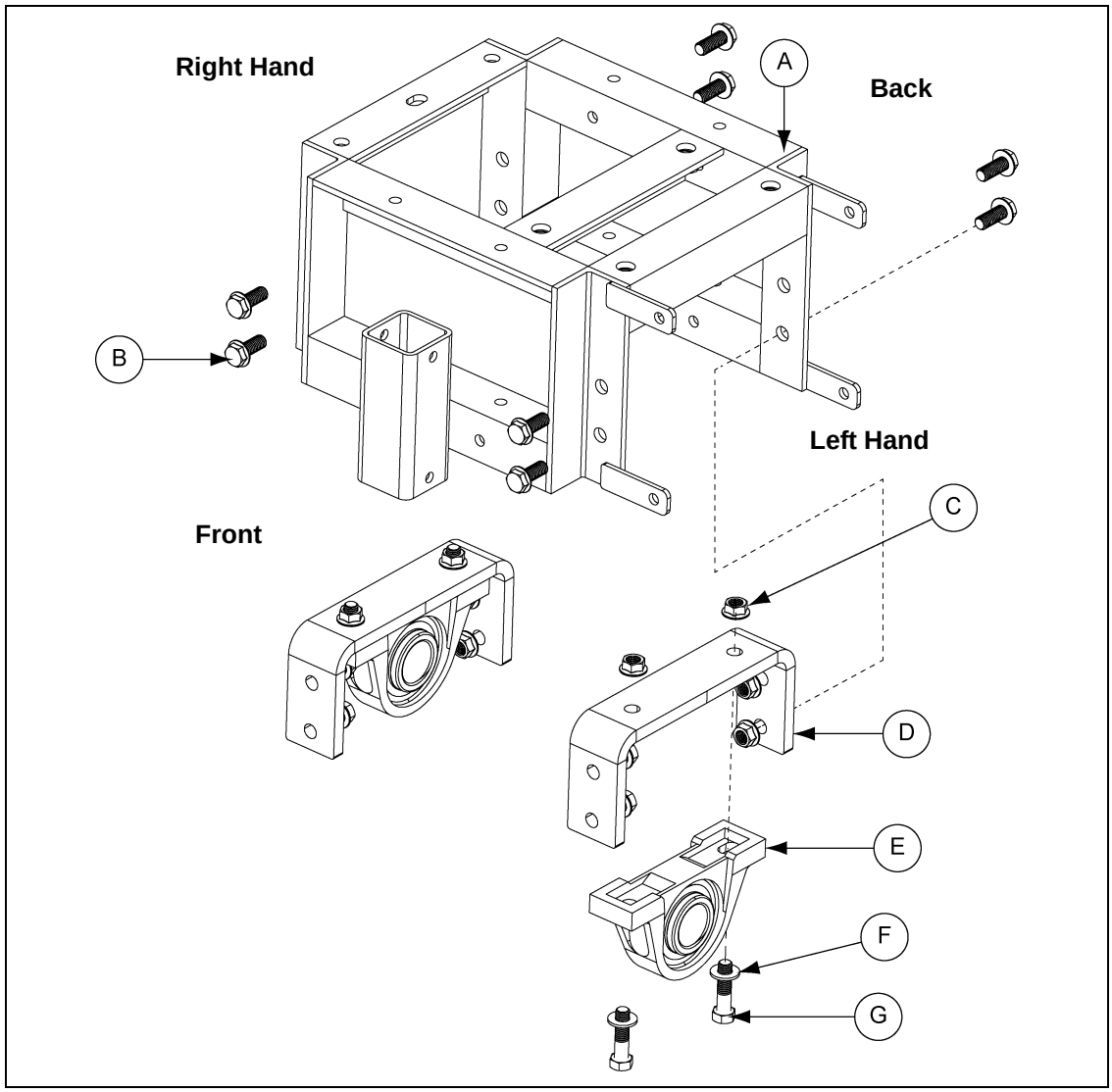


Figure 4A

Ref #	Description
A	Tractor Frame
B	1/2" x 1-1/4" Flange Bolt
C	1/2" Serrated Flange Nut
D	Bearing Mount Bracket

Ref #	Description
E	Pillow Block Bearing
F	1/2" Flat Washer
G	1/2" x 2" HHCS Bolt

4. Slide the tractor axle through the left side of the pillow block bearing and the lock collars so as to pass through the right side of the pillow block bearing. Make sure the keyway of the shaft is on the left hand side of the tractor.

   NOTE: *Do not tighten the pillow block bearing lock collars yet.*

5. Assemble the 40 tooth sprocket (I) to the tractor axle using a 3/8" square x 1-3/4" key (H). Temporarily tighten the sprocket to the key and the shaft. Final adjustment of the sprocket placement will occur after the chain is installed.

6. Mount the wheel hubs to the tractor axle using 3/8"-16 x 2-1/2" hex head cap screws (J) and stover lock nuts (K). *(See Figure 4B.)*

   NOTE: *Lock collars on inside of frame.*

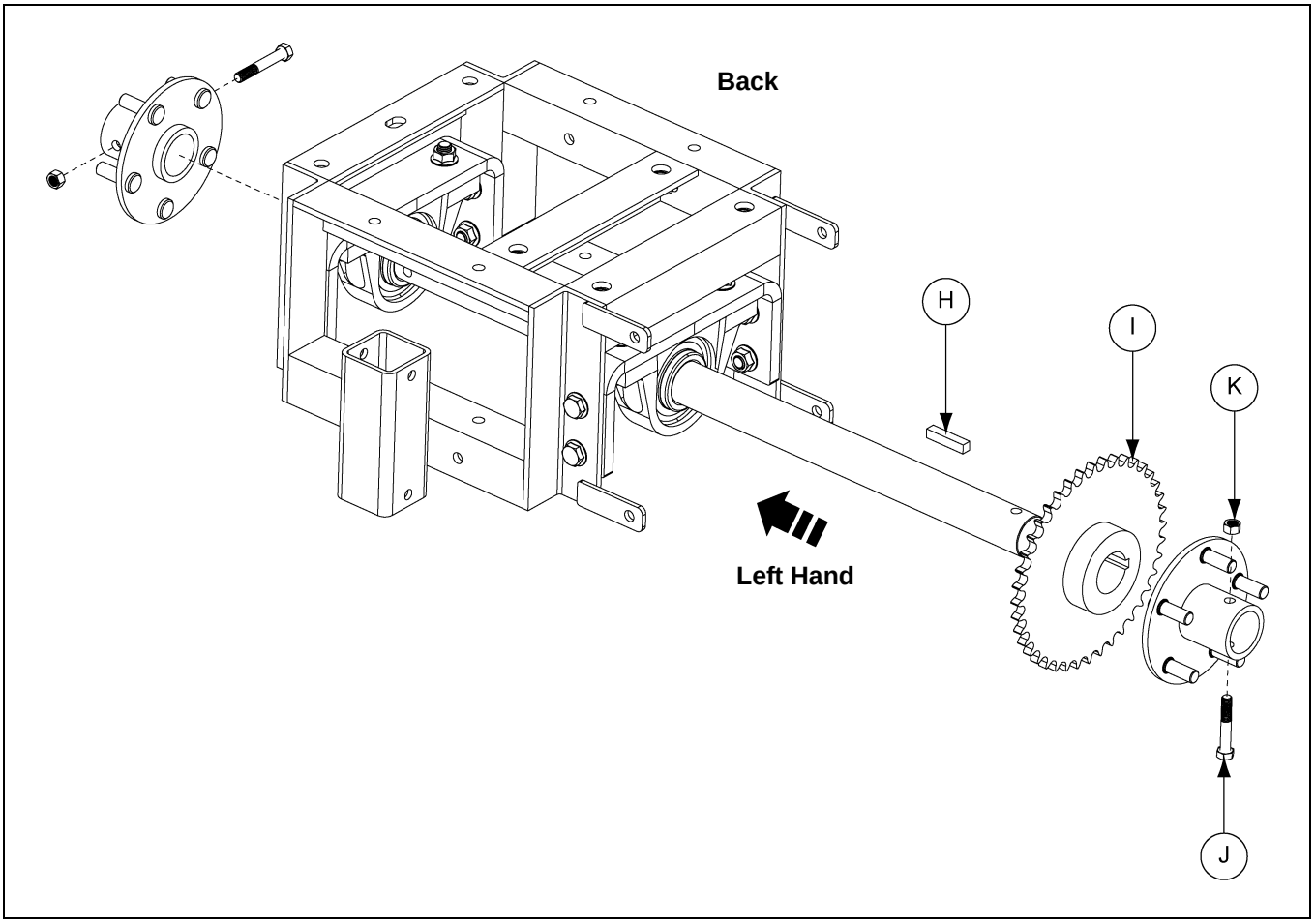


Figure 4B

Ref #	Description
H	3/8" x 1-3/4" Square Key
I	40 Tooth Sprocket
J	3/8" x 2-1/2" HHCS Bolt
K	3/8" Stover Nut

7. Assemble the tire and wheel assemblies securely to the wheel hubs using five (5) 1/2" flat washers (F) and fine thread hex nut (O).

   NOTE: *Remove the screws or nails that are present in the tires to contain the foam in the tires when they are made. The treads of the tires should be in the forward direction. Figure 4C shows the proper orientation of the tire and wheel assemblies.*

8. Assemble the strut bracket (M) to the tractor frame using four (4) 3/8"-16 x 1" flange bolts (L) and serrated flange nuts (N). *(See Figure 4C.)*

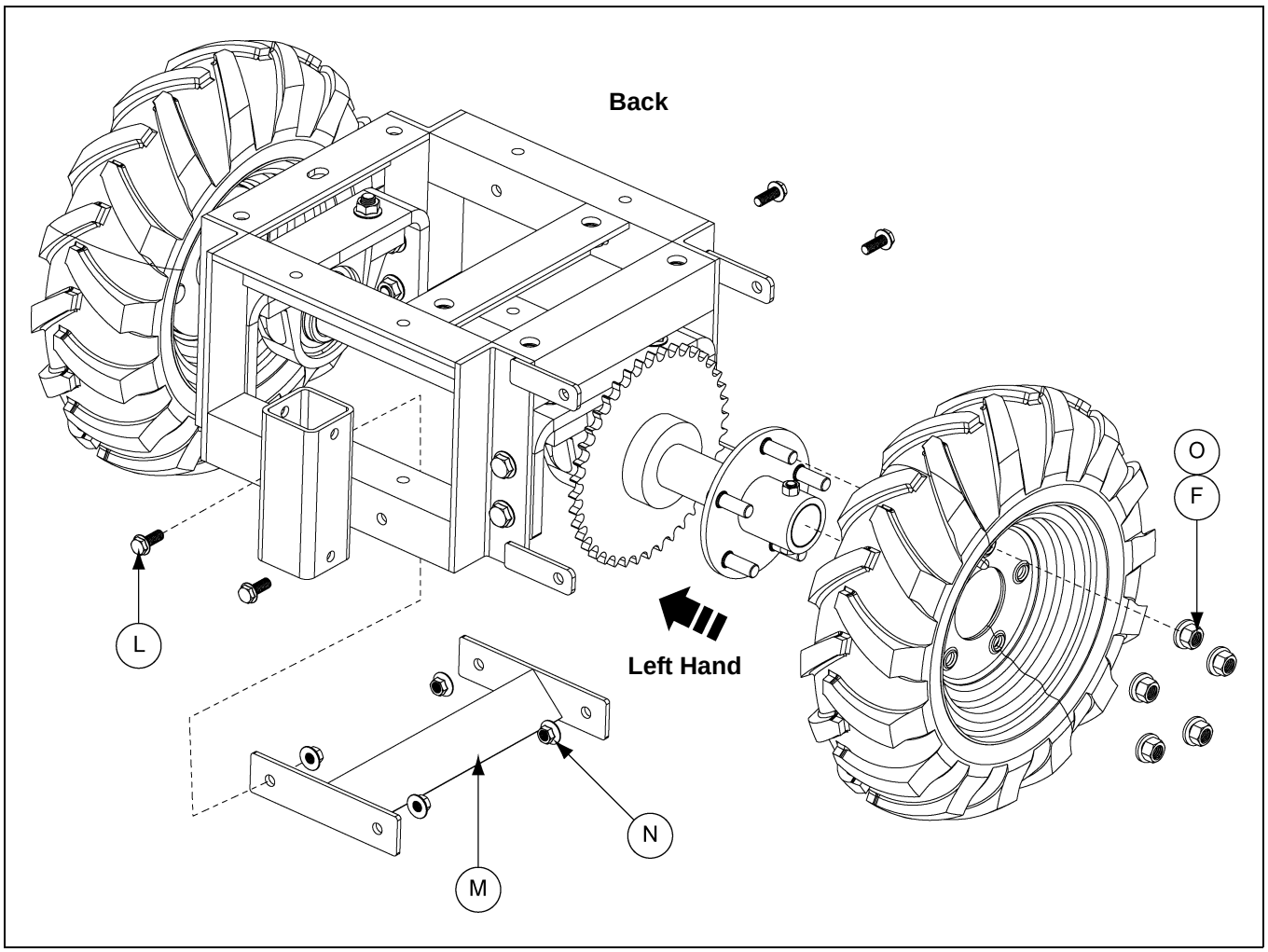


Figure 4C

Ref #	Description
F	1/2" Flat Washer
L	3/8" x 1" Flange Bolt
M	Strut Bracket
N	3/8" Serrated Flange Nut
O	1/2" Fine Thread Hex Nut

9. Bolt the shield bracket to the front of the tractor frame using two (2) 3/8"-16 x 3-1/2" hex head cap screws (K), two (2) flat washers (R) (only on the bottom slot of the bracket) and hex nuts (Q).
10. Attach the weight plate (P) to the tractor frame using two (2) 3/8"-16 x 1" flange bolts (L) and serrated flange nuts (N). *(See Figure 4D.)*

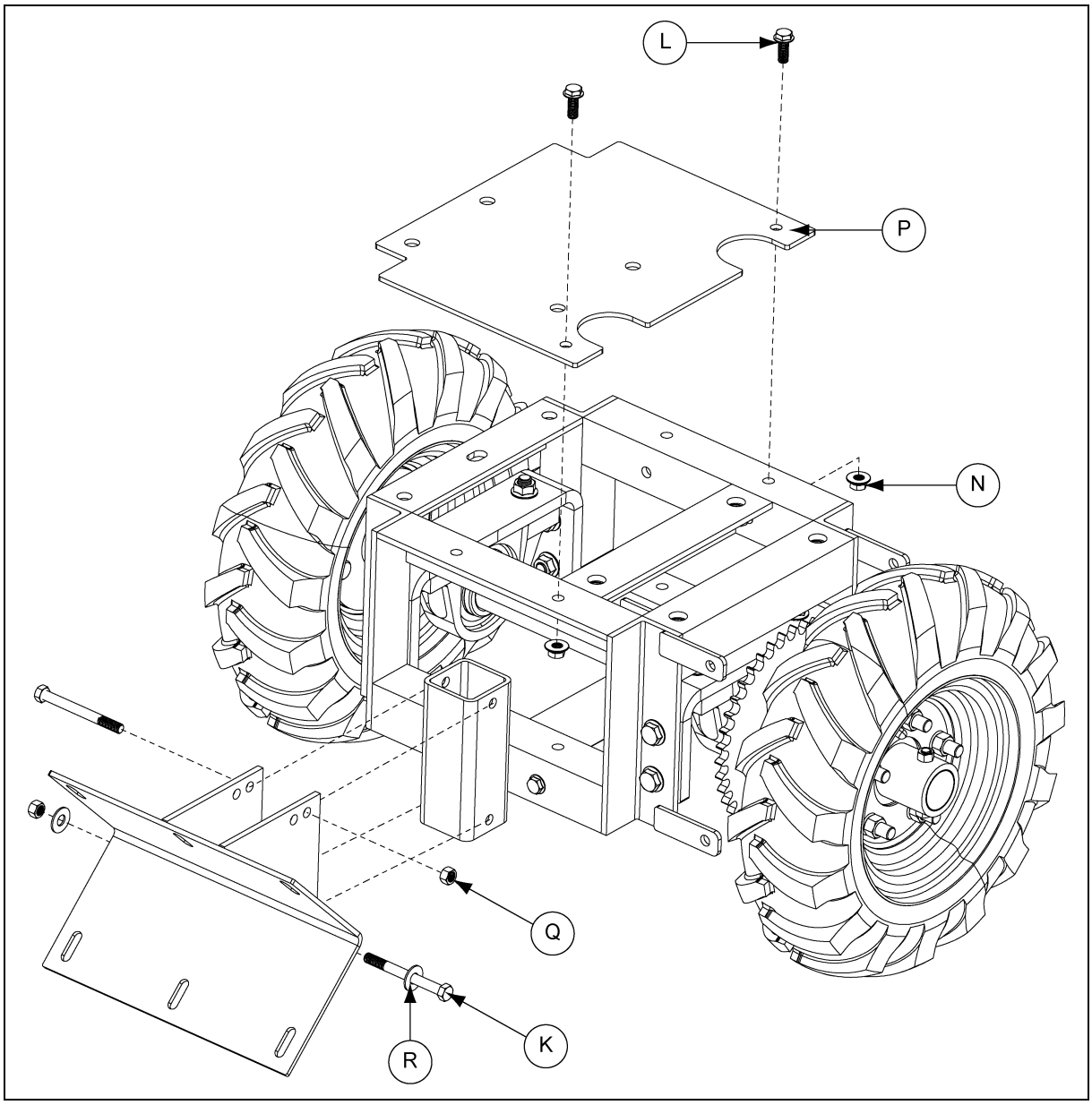


Figure 4D

Ref #	Description
K	3/8" x 3-1/2" HHCS Bolt
L	3/8" x 1" Flange Bolt
N	3/8" Serrated Flange Nut
P	Weight Plate
Q	3/8" Hex Nut
R	3/8" Flat Washer

11. Bolt the four (4) 5/8"-11 x 6" threaded rods (S) to the tractor frame using one 5/8"-11 hex nut (T) for each rod. *(See Figure 4E.)*

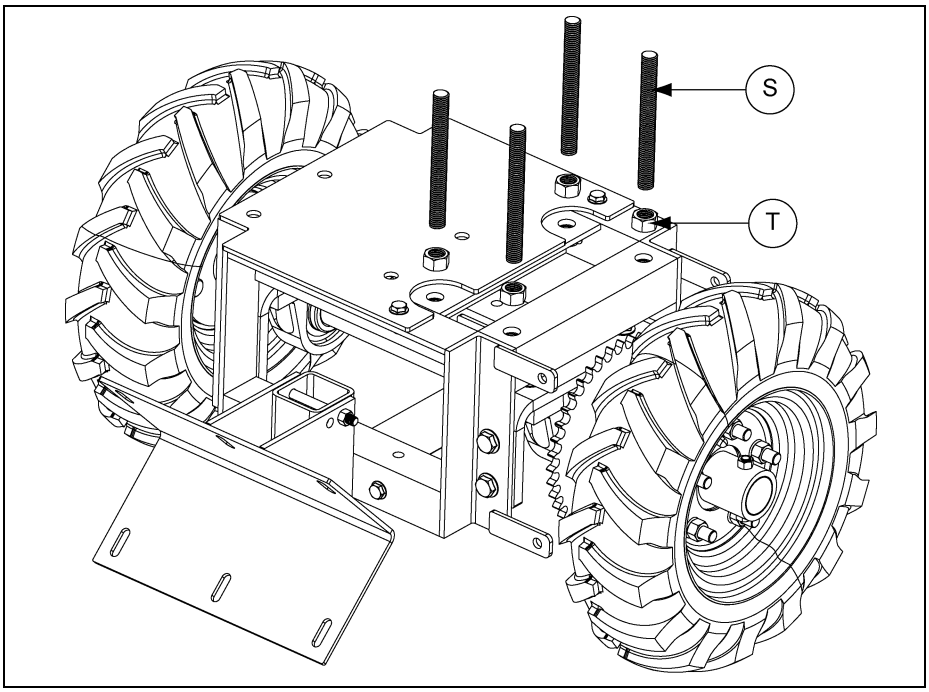


Figure 4E

12. Place one 5/8"-11 hex nut (T) onto each rod in a temporary position. These will hold the motor plate in place. *(See Figure 4F.)*

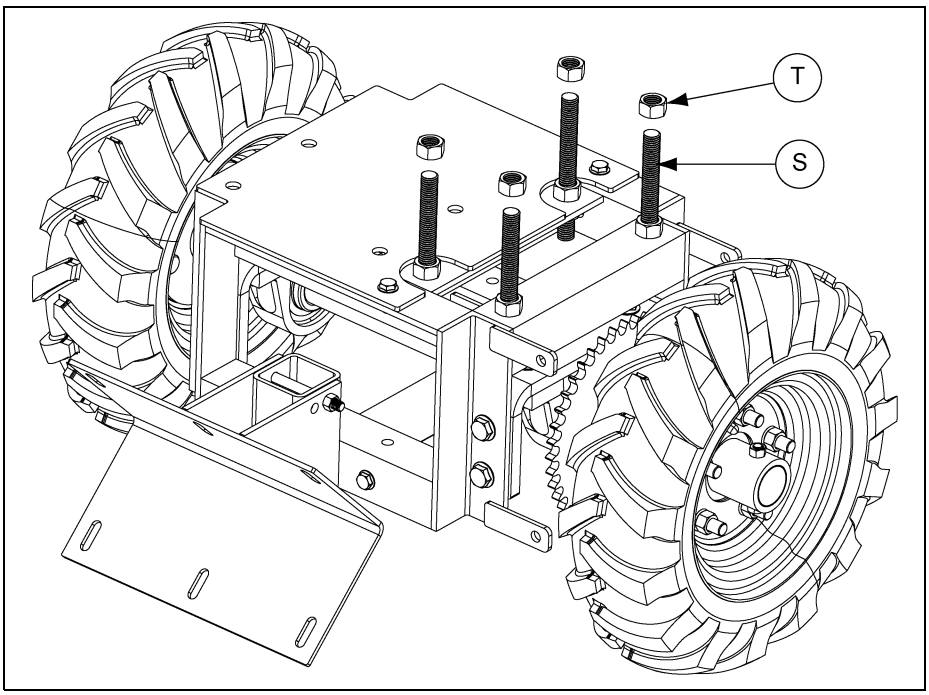


Figure 4F

Ref #	Description
S	5/8" x 6" Threaded Rod
T	5/8" Hex Nut

13. Mount the drive assembly to the gearbox plate using four (4) 3/8"-16 x 1" flange bolts (L). Place the gearbox plate and motor assembly (U) over the threaded rods (S), resting on the hex nuts. *(See Figure 4G.)*

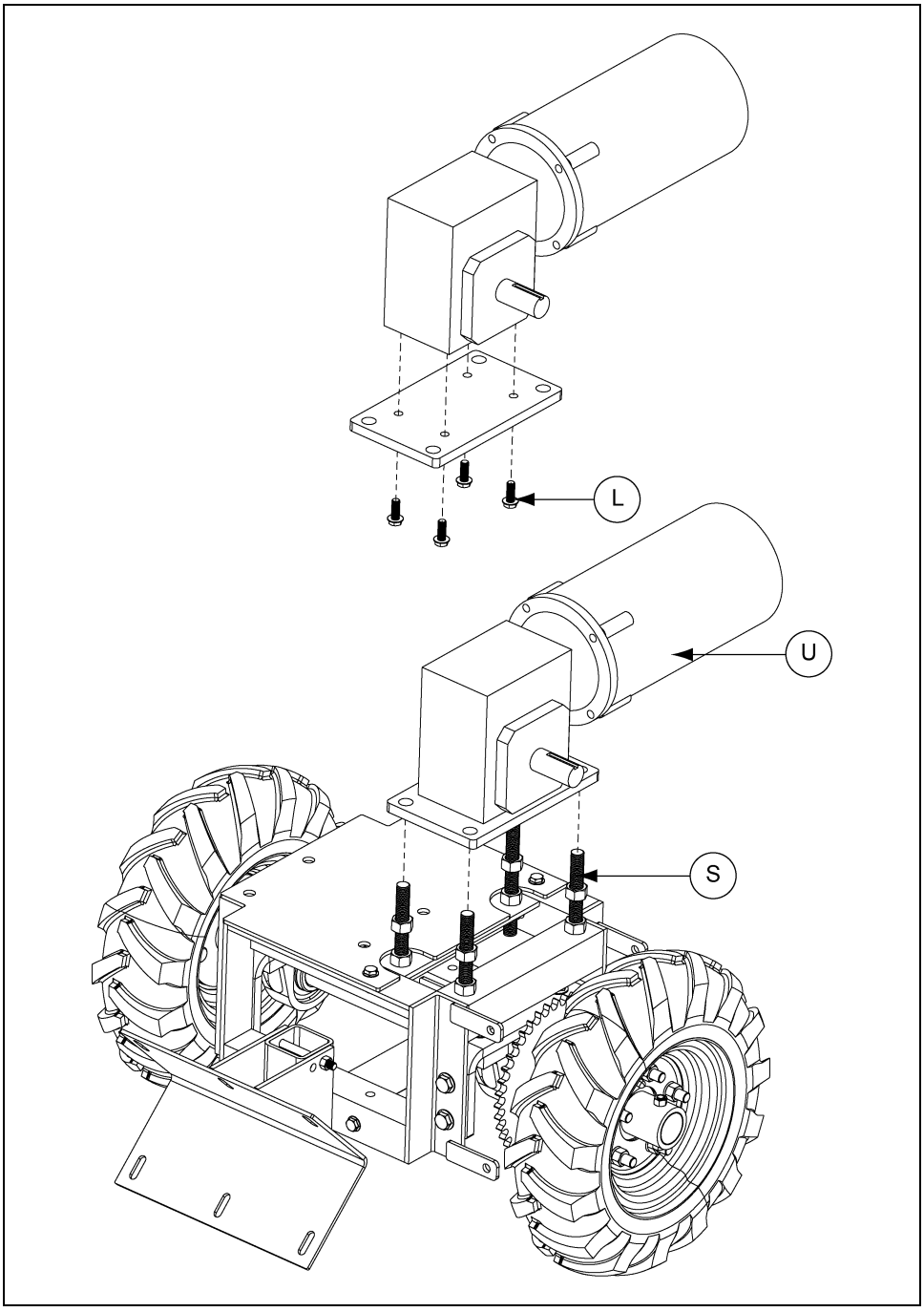


Figure 4G

Ref #	Description
L	3/8" x 1" Flange Bolt
S	5/8" x 6" Threaded Rod
U	Gear Motor Assembly

14. Mount the gearbox plate and motor assembly to the 5/8"-11 x 6" threaded rod installed to the tractor frame using four (4) 5/8"-11 hex nuts (T).

15. Attach the weight stand (V) to the weight plate and tractor frame with four (4) 1/2"-13 x 1-1/4" flange bolts (B) and serrated flange nuts (C). *(See Figure 4H.)*

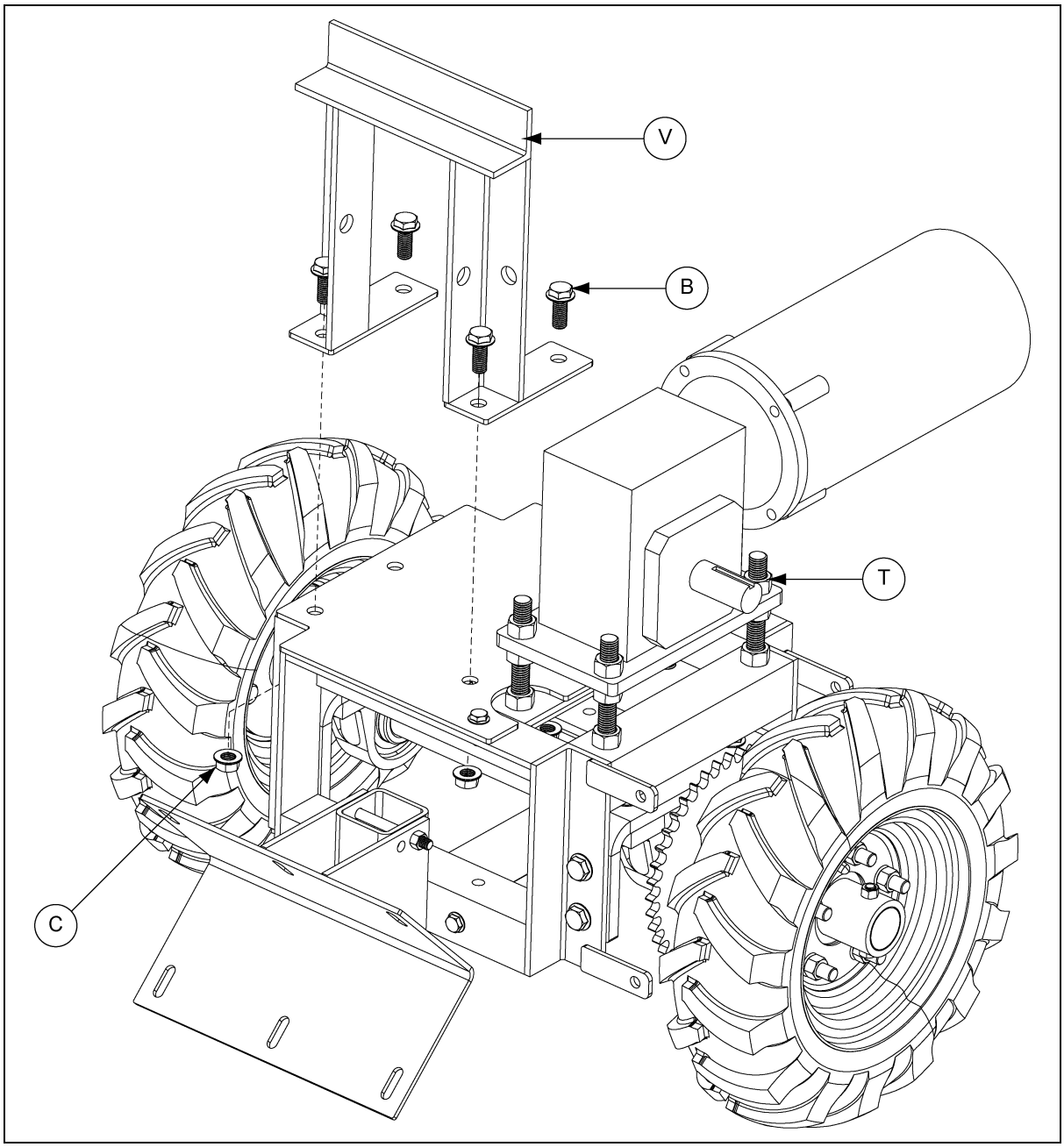


Figure 4H

Ref #	Description
B	1/2" x 1-1/4" Flange Bolt
C	1/2" Serrated Flange Nut
T	5/8" Hex Nut
V	Weight Stand

16. Assemble the 13 tooth sprocket (X) to the motor shaft using a 1/4" square x 1" key (W).
17. Install the roller chain around both sprockets. Adjust the position each sprocket or the tractor axle (if necessary) to correctly align the chain.
18. Tighten all the sprocket set screws.
19. Tension the roller chain (Y) as required by adjusting the nuts on the 5/8"-11 x 6" threaded rods. *(See Figure 4I.)*

NOTE: *Tighten both pillow block bearing lock collars at this time.*

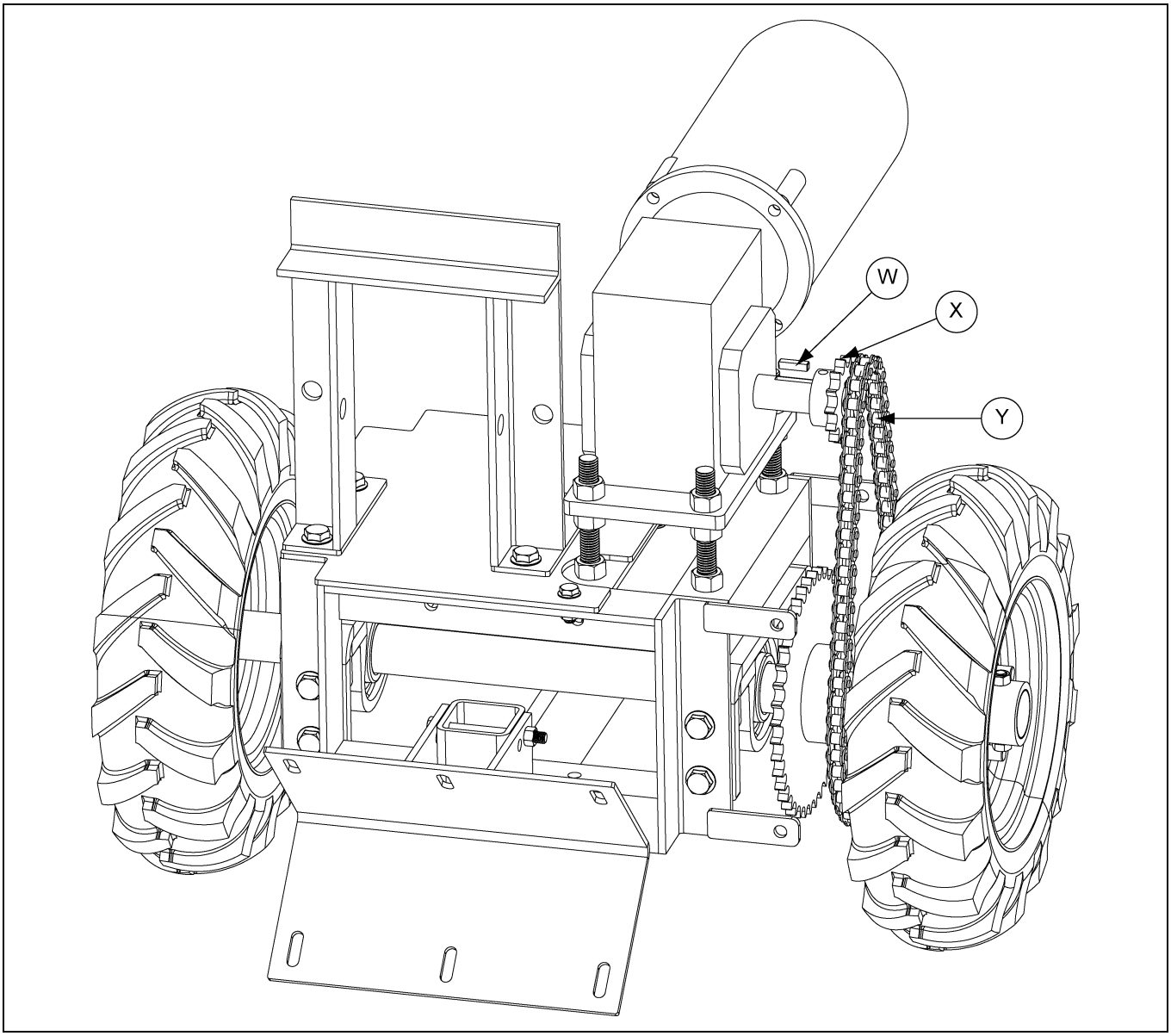


Figure 4I

Ref #	Description
W	1/4" x 1" Square Key
X	13 Tooth Sprocket
Y	Roller Chain

20. Install the top chain guard assembly (Z) to the tractor frame using four (4) 3/8"-16 x 1" flange bolts (L). Slide the bottom chain guard assembly (AA) through the slot on the top chain guard and secure it with a 3/8"-16 x 3/4" flange bolt (AB). *(See Figure 4J.)*

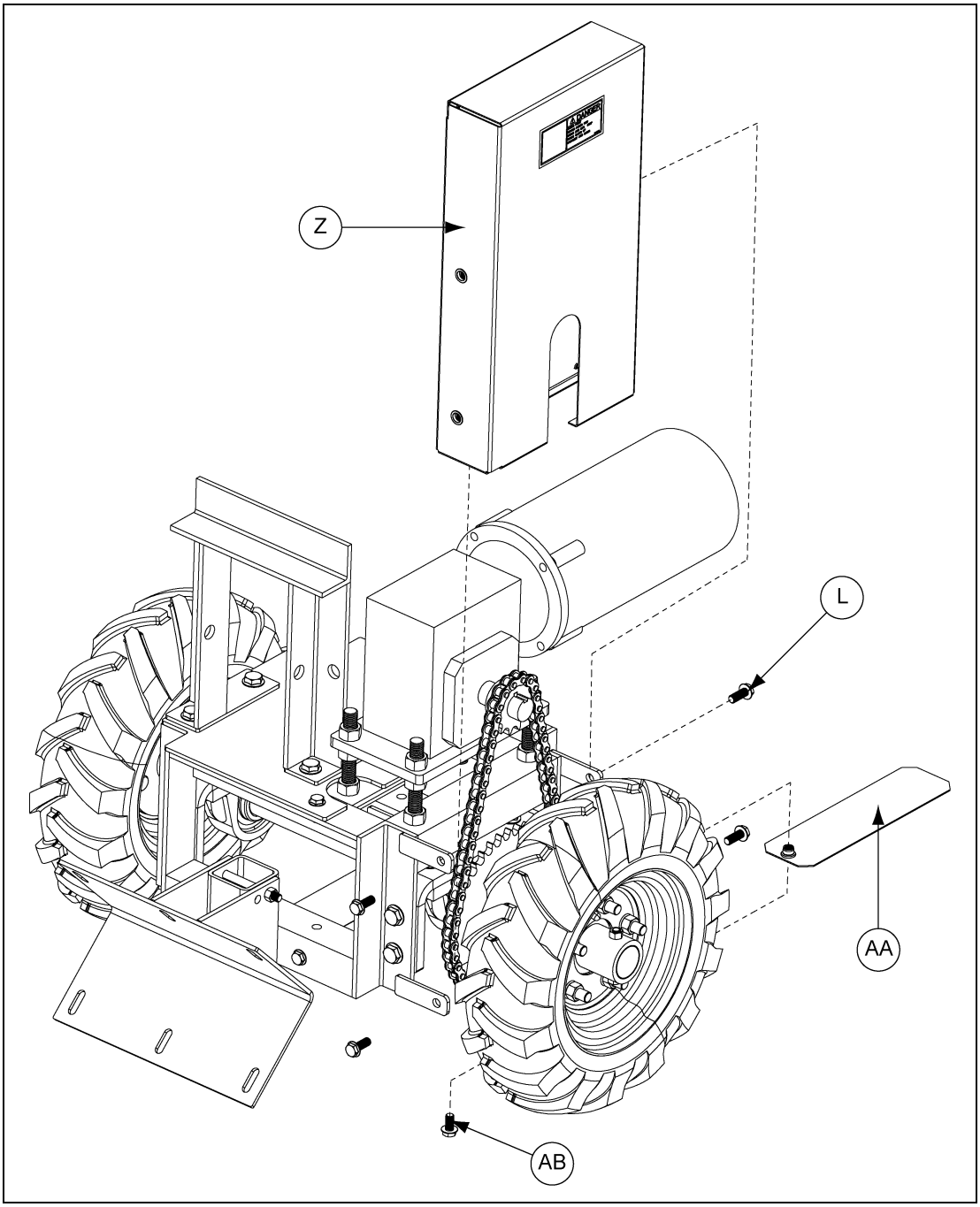


Figure 4J

Ref #	Description
L	3/8" x 1" Flange Bolt
Z	Chain Guard Top Assembly
AA	Chain Guard Bottom Assembly
AB	3/8" x 3/4" Flange Bolt

21. Mount the weights (AC) to the weight stand using one 5/8"-11 x 8-1/2" threaded rod (AD) and three (3) flange nuts (AF) and one flat washer (AE). *(See Figure 4K.)*

NOTE: *Install the weights against the left hand of the weight stand so the weight is in the middle of the tractor assembly. The weight stand can be reversed so that the weights hang over the front of the frame, if necessary. Adjust the weights to the inside of the frame to center the weight on the frame when the weight stand is reversed as described above.*

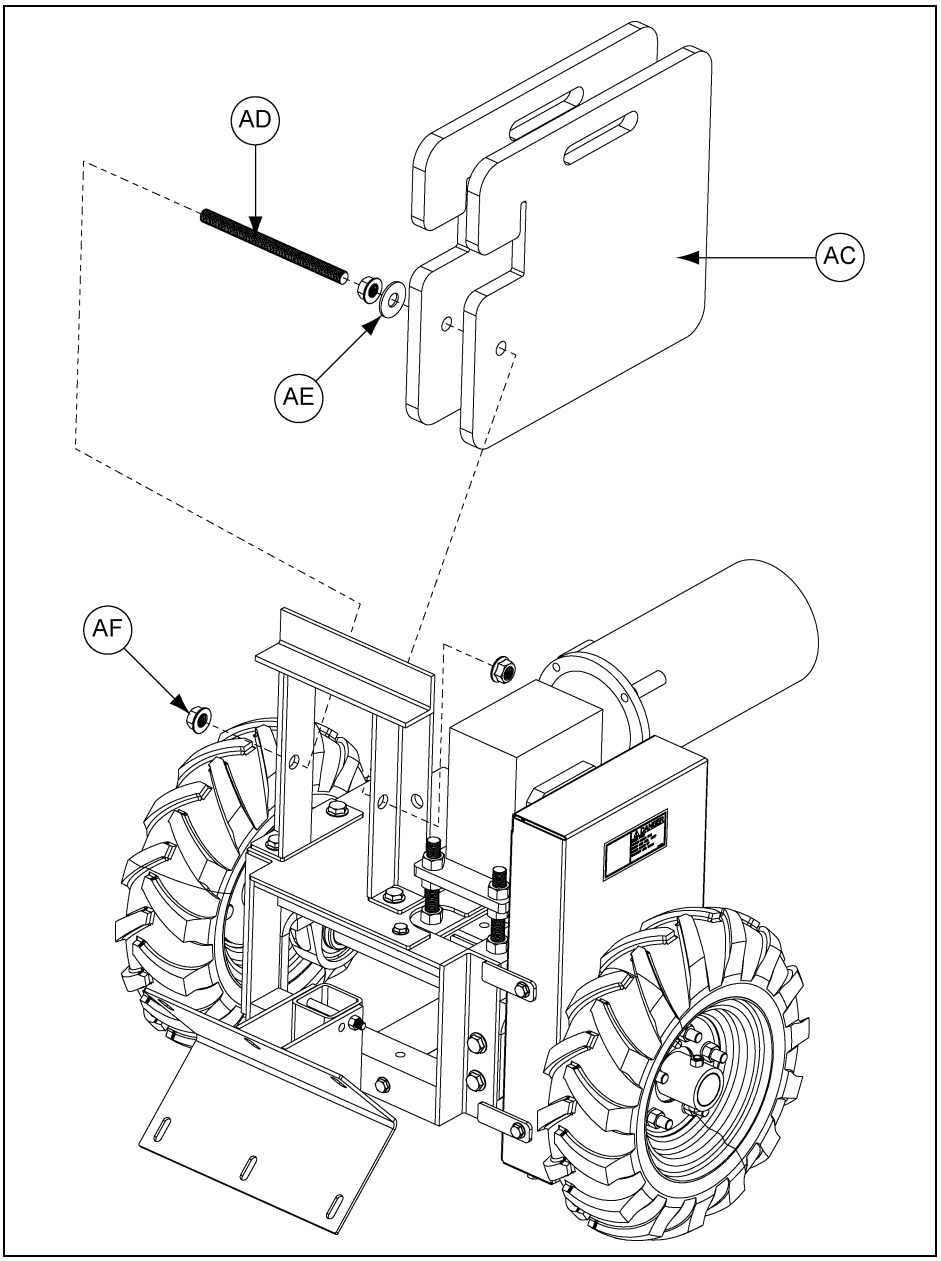


Figure 4K

Ref #	Description
AC	50 Lbs. Tractor Weight
AD	5/8" x 8-1/2" Threaded Rod
AE	5/8" Flat Washer
AF	5/8" Serrated Flange Nut

End Wheel Assembly

NOTE: *If installing sweep tractor to an existing sweep, the current end wheel components must be removed.*

1. Connect the stub shaft (E) into the sweep flight (F) using a 5/8"-11 x 4" hex head cap screw and 5/8" stover nut.
2. Install the bearing stand assembly (D) onto the stub shaft (E) and bolt it to the sweep shield using two (2) 3/8" x 3" carriage bolts, flat washers and nylock nuts.
3. Install the end wheel (B) and collar (C) onto the end of the stub shaft (E). Pin the collar in place with a 1/2" x 3-1/2" hex head cap screw and prevailing torque lock nut. *(See Figure 4L.)*

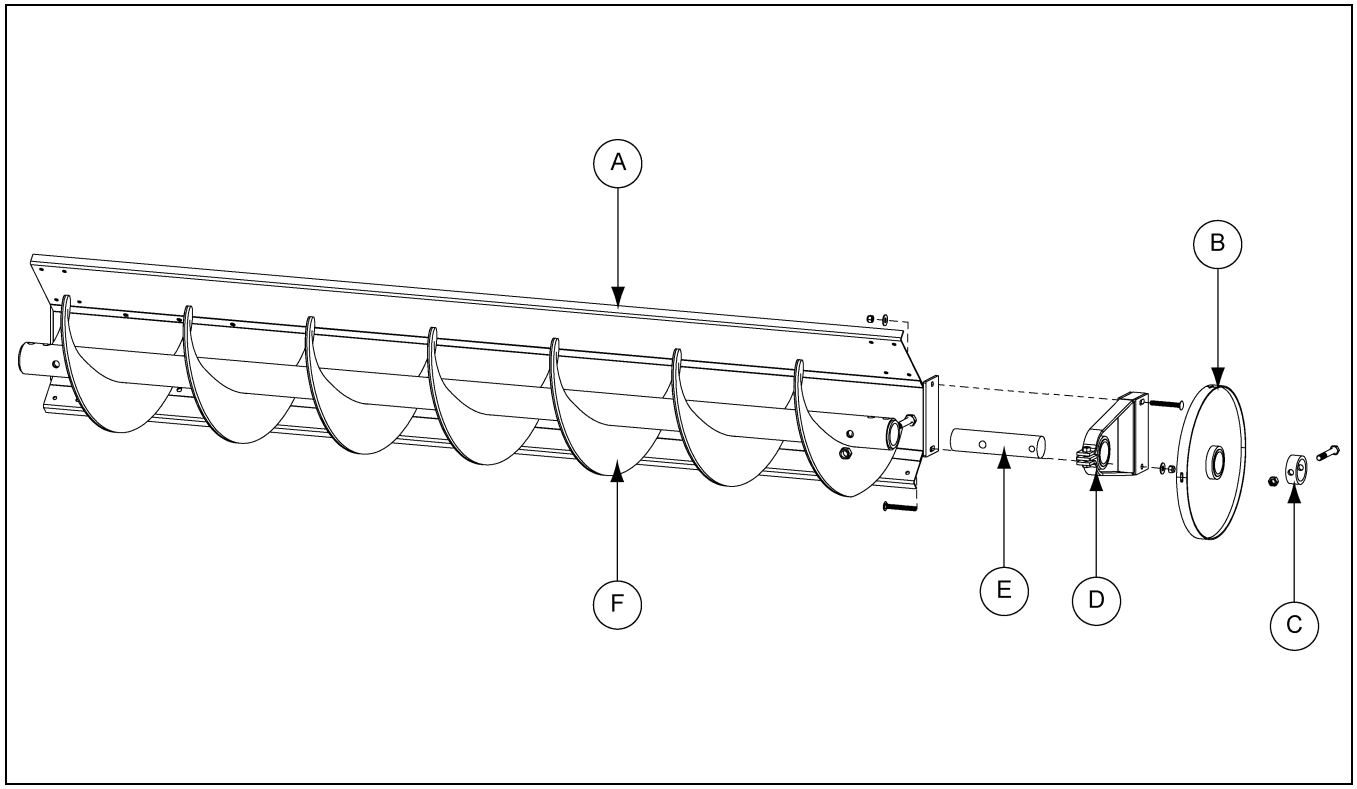


Figure 4L *End Wheel Assembly*

Ref #	Description
A	Sweep Back Shield
B	End Wheel
C	Collar
D	Bearing Stand Assembly
E	Stub Shaft
F	Sweep Flight

Sweep Tractor to Shield Assembly

1. Position sweep tractor against the sweep shield approximately 3' from the end wheel.
2. Use the bracket on the sweep tractor to mark the location where the holes need to be drilled into the sweep shield.
3. The bolts that attach the sweep bracket to the tractor frame may need to be adjusted so that height and angle of the sweep back shield and the shield bracket are matched.
4. After marking the hole locations, drill six (6) 7/16" holes and attach the sweep tractor to the back shield (B) using six (6) 3/8" x 1" hex head cap screws, flat washers and nylock nuts.
5. Install electric wiring for motor and controls. *(See Figure 4M.)*

> **CAUTION** ***All electrical wiring shall be installed by a qualified electrician and must meet the standards set by the National Electric Code and all local and state codes.***

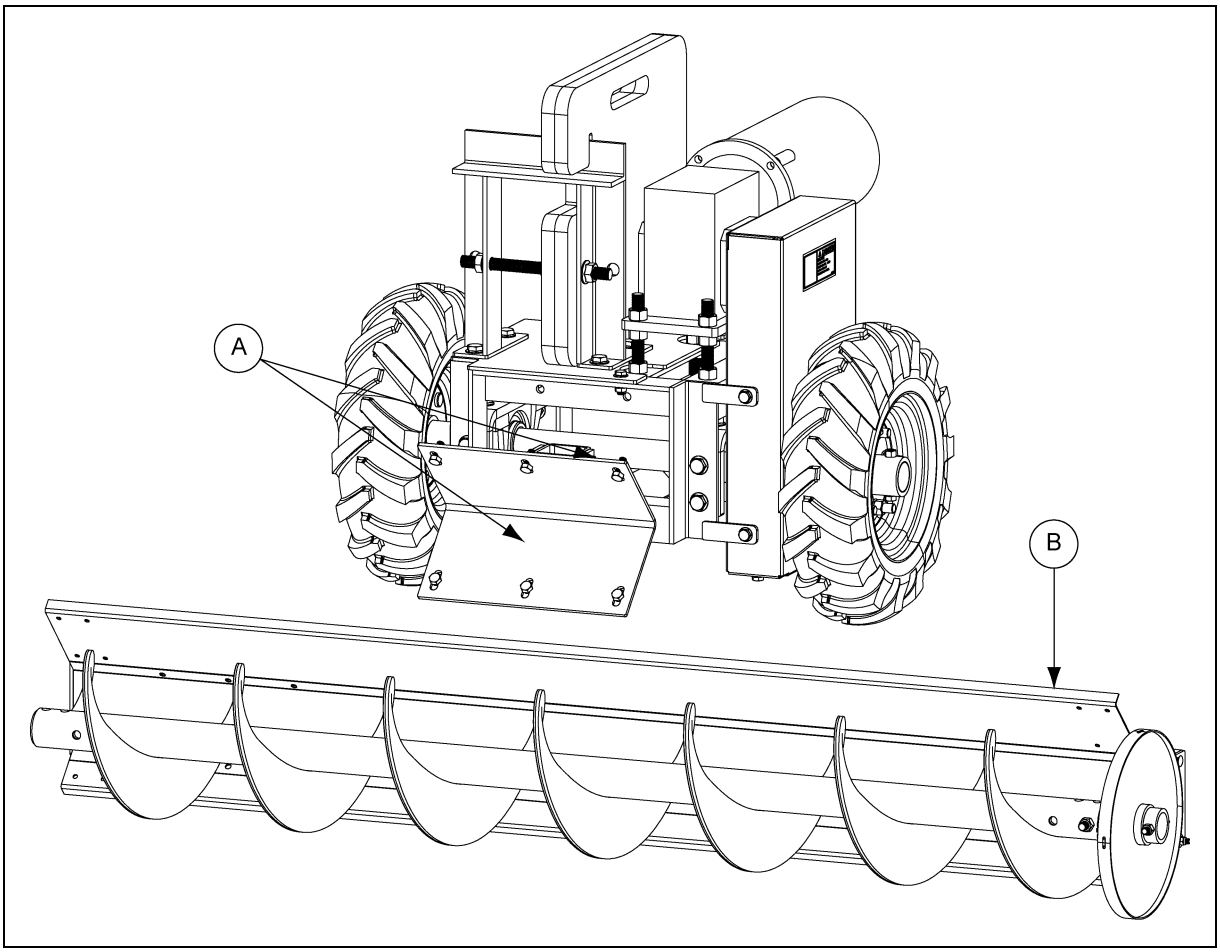


Figure 4M *Sweep Tractor to Shield Assembly*

Ref #	Description
A	Adjustment bolts for adjusting the angle and height of the bracket (3/8" x 1" HHCS bolt with flat washer and nylock nut).
B	Sweep Back Shield

Programming

Control Panel Calibration

Observe the tractor drive motor nameplate and the auger drive motor nameplate.

Record the full load amp (FLA) value for the specific voltage on each motor.

Auger drive motor full load amps: ____
Tractor drive motor full load amps: ____

Unlock and open the control panel.

Adjust the FLA dial screw on the tractor drive motor contactor (M2) and the auger drive motor contactor (M1) so that the indicator arrowhead is set slightly higher than the full load amp value listed on the nameplates.

Tractor drive motor contactor (M1) FLA adjustment dial: ____
Auger drive motor (M2) FLA adjustment dial value: ____

Close and lock the control panel.

Initial Display Setup

NOTE: *If no keys are activated for 2 minutes, the display returns to the default state without saving any configuration changes. At each value, after 5 seconds of inactivity, a description of the current state will scroll across the display.*

NOTE: *Pressing and hold OK will return to the previous menu or return to the default state without saving the changed values or parameters.*

Press OK on the display unit.

(IN) should be displayed on the unit.

Press ▲ or ▼ on the display unit until (CURR) is shown (not VOLT, POTM or TEMP).

Press OK.

(RANG) should be displayed on the unit.

Press ▲ or ▼ on the display unit until 4-20 is shown (not 0-20).

Press OK.

(DEC.P) should be displayed on the unit.

Press ▲ or ▼ on the display unit until 11.11 is shown (not 1111, 111.1, 1.111 or .1111).

Press OK.

(DI.LO) should be displayed on the unit.

Press ↑ or ↓ on the display unit until 0 is shown.

Press OK.

(DI.HI) should be displayed on the unit.

The DI.HI value will match the amperage range selection switch value on the current transducer (30, 60 or 90). Refer part # AS-0736 *on Page 39*.

Press ↑ or ↓ on the display unit until the correct value is shown.

Press OK repeatedly until "-----" is displayed. This indicates the programming described above has been saved.

Make sure no individual is inside the bin.

Make sure the sweep will not contact any obstruction and cause damage.

Have an employee observe the sweep from outside the bin, through the open door.

Have another employee operate the control panel.

Switch the Run Mode switch so that Manual is selected (not Auto).

Switch the Manual Mode switch to idle (not reverse or forward).

Press the Start button on the control panel.

NOTE: *If any damage is observed or there is abnormal operation of the sweep, shut it down immediately. There are three (3) ways to accomplish this. 1) Remove the pressure on the safety foot switch. 2) Press the Stop button on the control panel. 3) Press in on the Enable/Disable button so that it collapses appropriately. Switch the disconnect switch on the panel to OFF (not ON). Lock out the panel before entering the bin to service the sweep.*

Observe the no load amps (NLA) displayed on the meter on the front of the panel.

Auger drive motor no load amps: ____

The tractor motor operation (forward and stop) in automatic is dictated by the amp reading on the auger drive motor.

The tractor drive motor is meant to shut off (idle) when the Auger Drive Motor reaches 90% of the nameplate FLA.

90% of full load amps: ____

The tractor motor is meant to reactivate (forward) when the auger drive motor reaches 110% of the no load amps (amperage observed when the auger flight turns freely in absence of grain).

110% of no load amps: ____

Final Display Setup

NOTE: *If no keys are activated for 2 minutes, the display returns to the default state without saving any configuration changes. At each value, after 5 seconds of inactivity, a description of the current state will scroll across the display.*

Press OK repeatedly until RELU is displayed on the unit.

Press ↑ or ↓ on the display unit until DISP is shown (not PERC).

Press OK.

REL1 should be displayed on the unit.

Press ↑ or ↓ on the display unit until SET is shown (not SKIP or OFF).

Press OK.

SETP should be displayed on the unit.

Press ↑ or ↓ on the display unit the 90% of FLA value is shown.

Press OK.

ACT1 should be displayed on the unit.

Press ↑ or ↓ on the display unit until INCR is shown (not DECR).

Press OK.

HYS1 should be displayed on the unit.

For this control panel hysteresis (HYS1) is measured as the different between 90% of full load amps and 110% of no load amps.

90% of full load amps: ____ minus 110% of no load amps: ____

Press ↑ or ↓ on the display unit until the correct value is shown.

Press OK.

ERR1 should be displayed on the unit.

Press ↑ or ↓ on the display unit until DEAC is shown (not HOLD, ACTI or NONE).

Press OK.

ON.DE should be displayed on the unit.

Press ↑ or ↓ on the display unit until 0 is shown.

Press OK.

OF.DE should be displayed on the unit.

Press ▲ or ▼ o the display unit until 20 is shown.

Press OK.

REL2 should be displayed on the unit.

Press ▲ or ▼ on the display unit until OFF is shown (not SET or SKIP).

Press OK.

E.PAS should be displayed on the unit.

Press ▲ or ▼ on the display unit until NO is shown.

Press OK.

This function will allow the values that were entered to be locked.

NOTE: *Using a password will stop access to the menu and parameters. There are two (2) levels of password protection. Passwords between 0000 and 4999 allow access to the fast set point adjustment and relay test. (Using this password stops access to all other parts of the menu.) Passwords between 5000 and 9999 stop access to all parts of the menu, fast set point adjustment and relay test. (Current set point is still shown.) By using the master password 2008, all configuration menus are available.*

If you select NO, press OK.

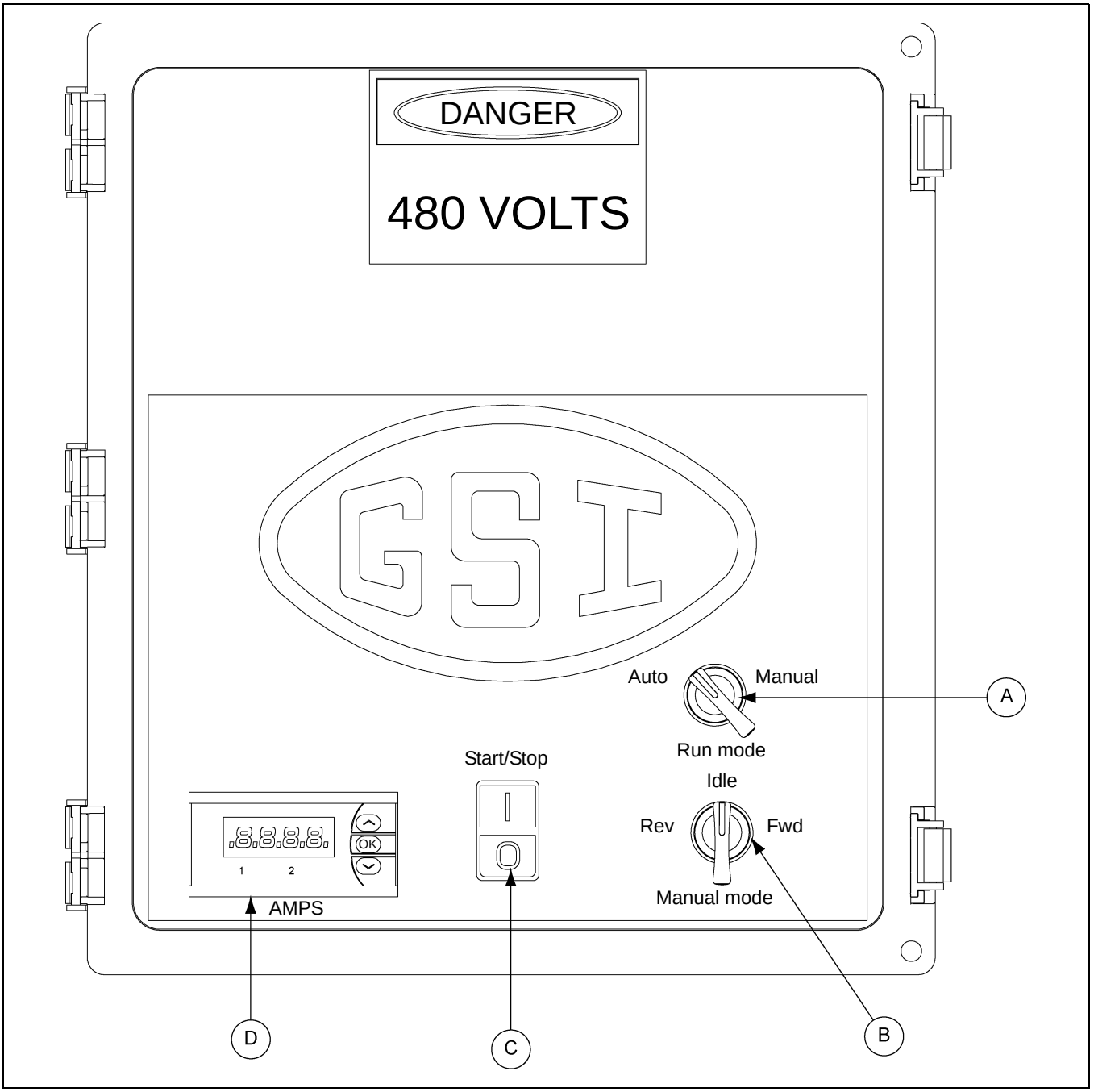
If you select YES, N.PAS will be displayed. Press ▲ or ▼ on the display unit until your password is shown. Press OK. Document this password.

The password will be necessary if there needs to be changes to many of the configuration values.

NOTES

Sweep Tractor Control Box Definitions

Commercial Sweep Control Panel

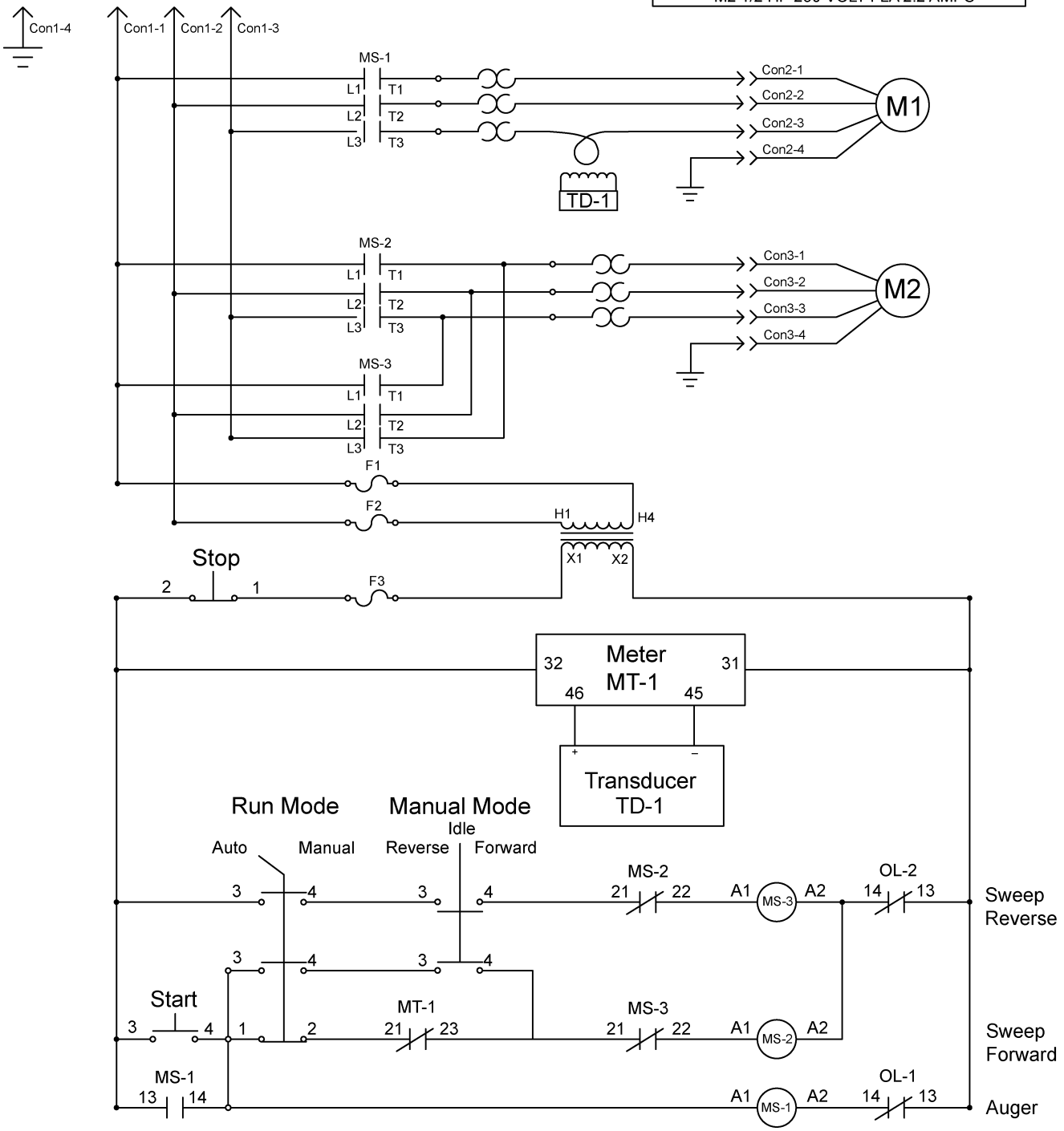


Ref #	Part #	Description
A	GC20181	2 Position Control Switch
B	GC20182	3 Position Control Switch
C	C-8716	Start/Stop Switch
D	GC20171	Digital Amp Meter

Schematic - Control Panel GCS Sweeps 230V 3 HP (GCSTP2-03)

Type	Volts	FLA	Phase	Frequency
1, Nema 3R	230	14.7	3	60
Rev	Fuse F1 and F2		Fuse F3	
1	ATMR-1		ATMR-2	
M1 3 HP 230 VOLT FLA 9.6 AMPS				
M2 1/2 HP 230 VOLT FLA 2.2 AMPS				

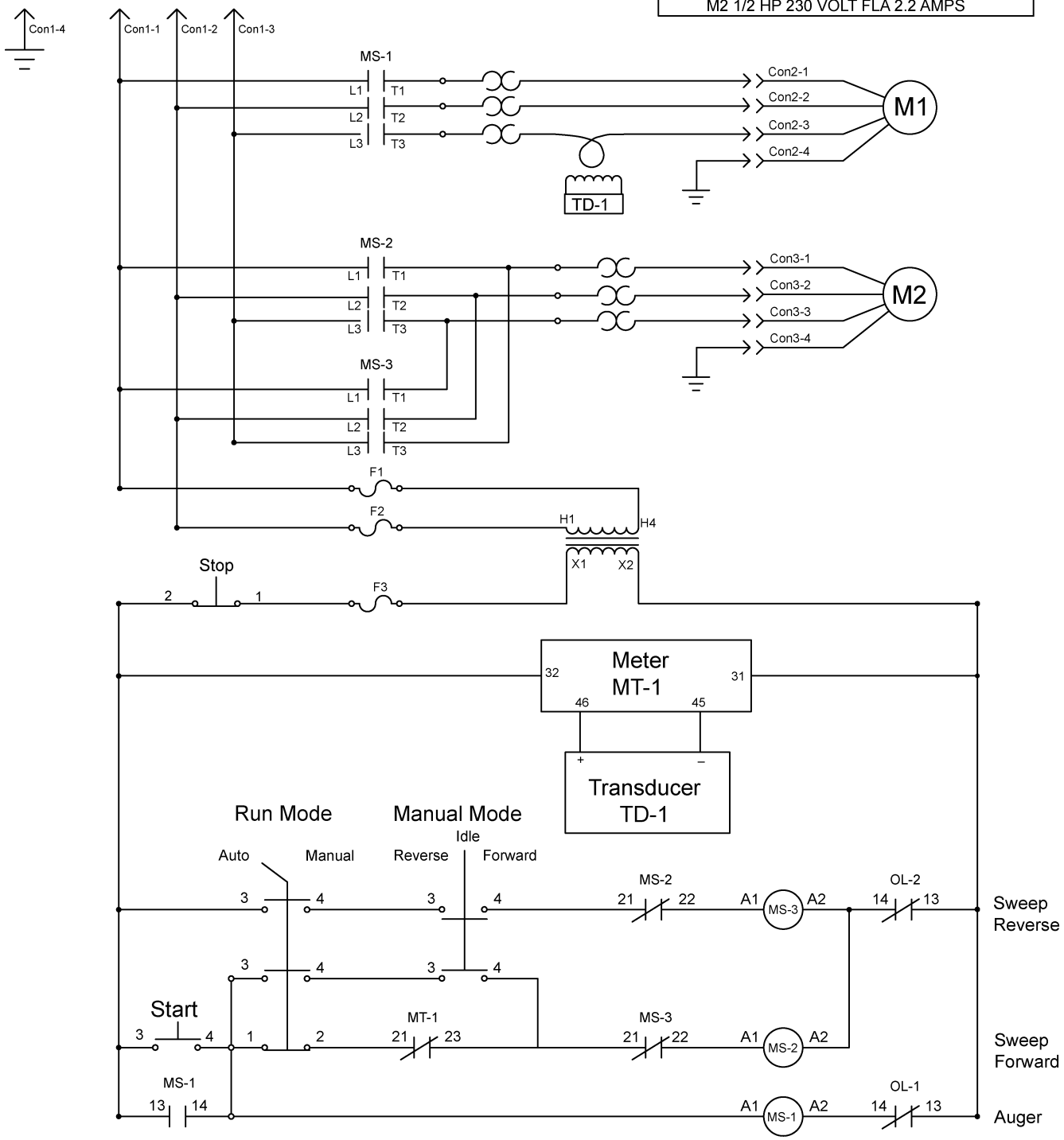
Service disconnect supplied by others.



Schematic - Control Panel GCS Sweeps 230V 5 HP (GCSTP2-05)

Type	Volts	FLA	Phase	Frequency
1, Nema 3R	230	21.7	3	60
Rev	Fuse F1 and F2		Fuse F3	
1	ATMR-1		ATMR-2	
M1 5 HP 230 VOLT FLA 15.2 AMPS				
M2 1/2 HP 230 VOLT FLA 2.2 AMPS				

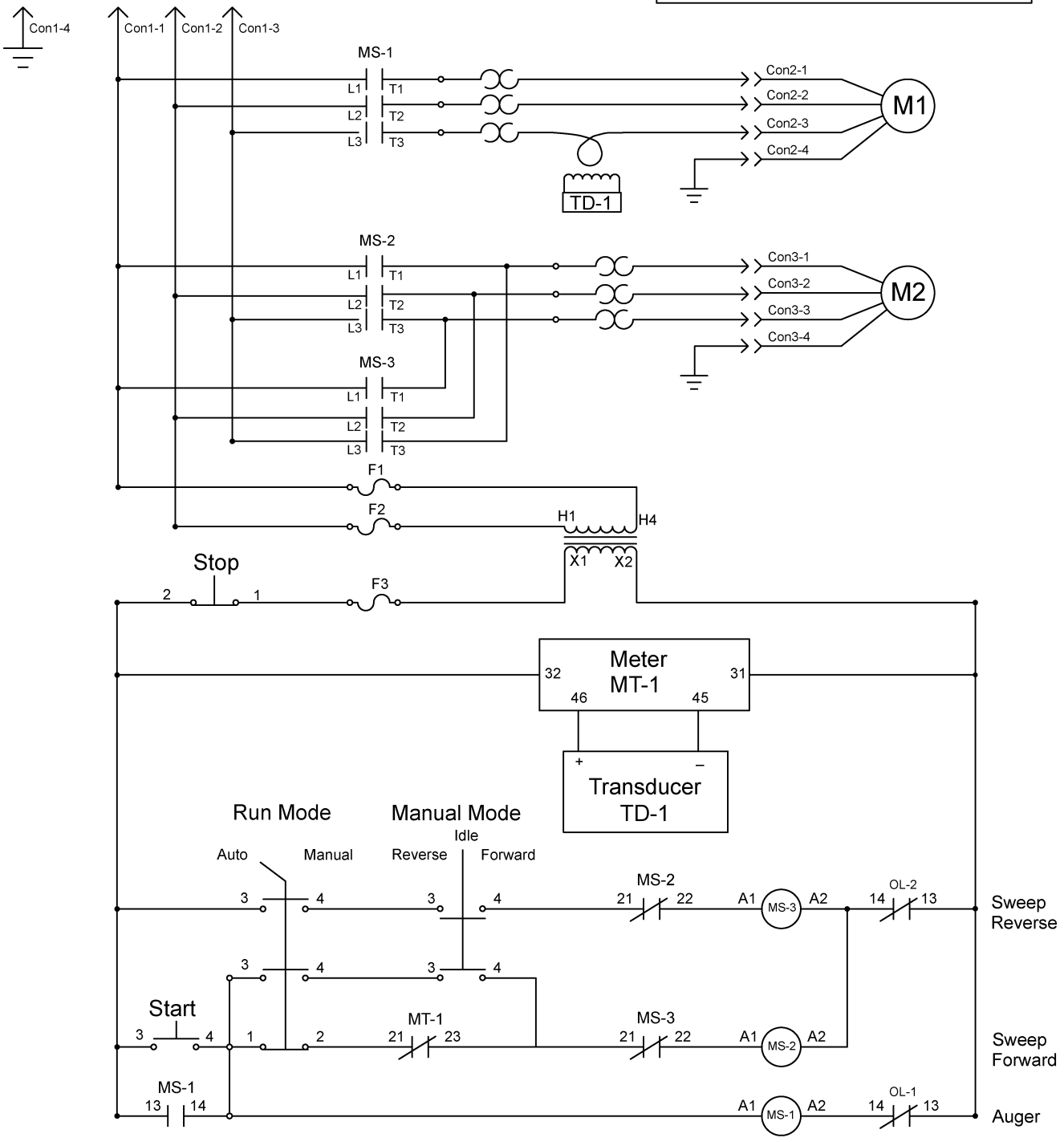
Service disconnect supplied by others.



Schematic - Control Panel GCS Sweeps 230V 7.5 HP (GCSTP2-75)

Type	Volts	FLA	Phase	Frequency
1, Nema 3R	230	30	3	60
Rev	Fuse F1 and F2		Fuse F3	
1	ATMR-1		ATMR-2	
M1 7.5 HP 230 VOLT FLA 22 AMPS				
M2 1/2 HP 230 VOLT FLA 2.2 AMPS				

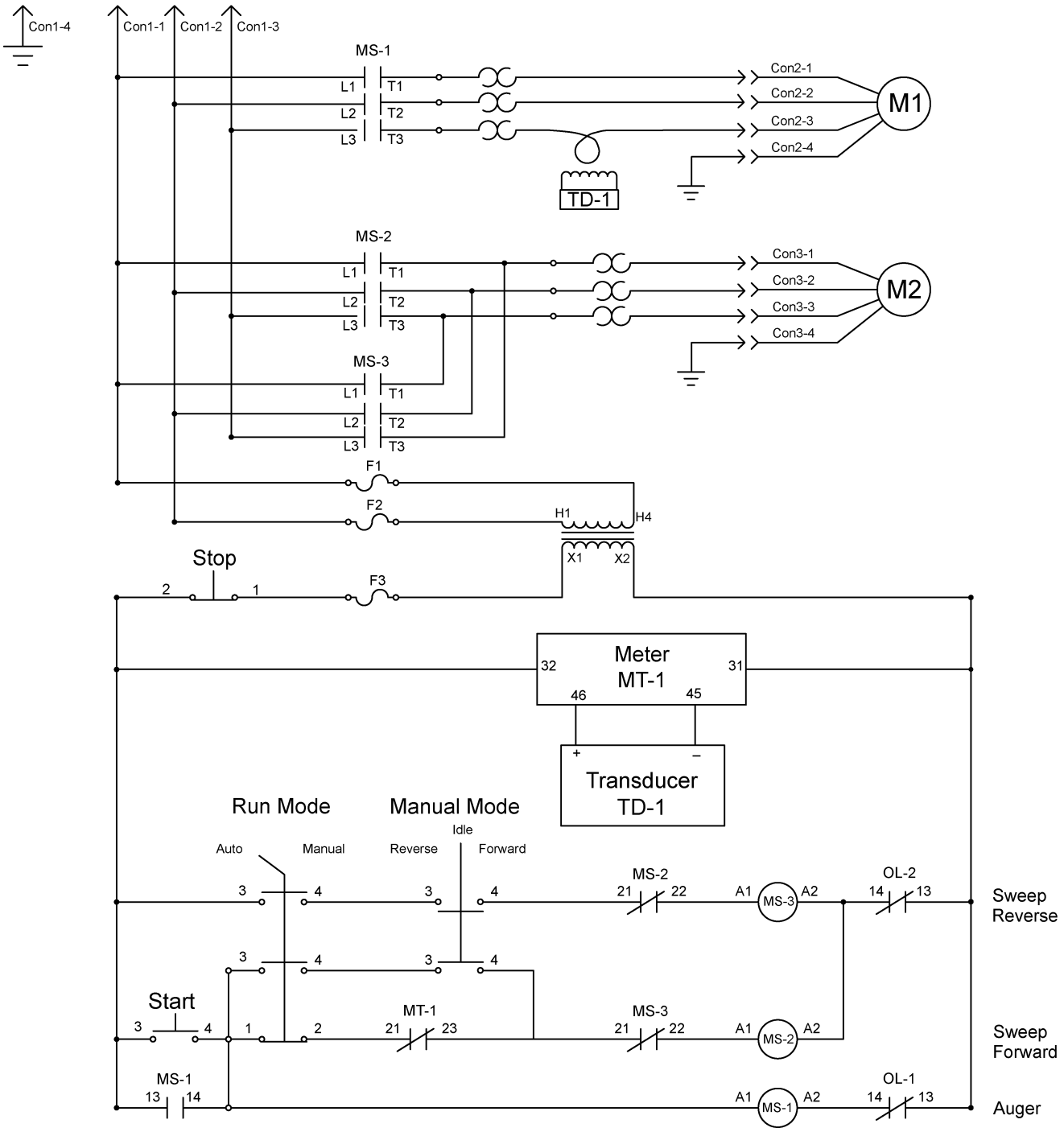
Service disconnect supplied by others.



Schematic - Control Panel GCS Sweeps 230V 10 HP (GCSTP2-10)

Type	Volts	FLA	Phase	Frequency
1, Nema 3R	230	37.7	3	60
Rev	Fuse F1 and F2		Fuse F3	
1	ATMR-1		ATMR-2	
M1 10 HP 230 VOLT FLA 28 AMPS				
M2 1/2 HP 230 VOLT FLA 2.2 AMPS				

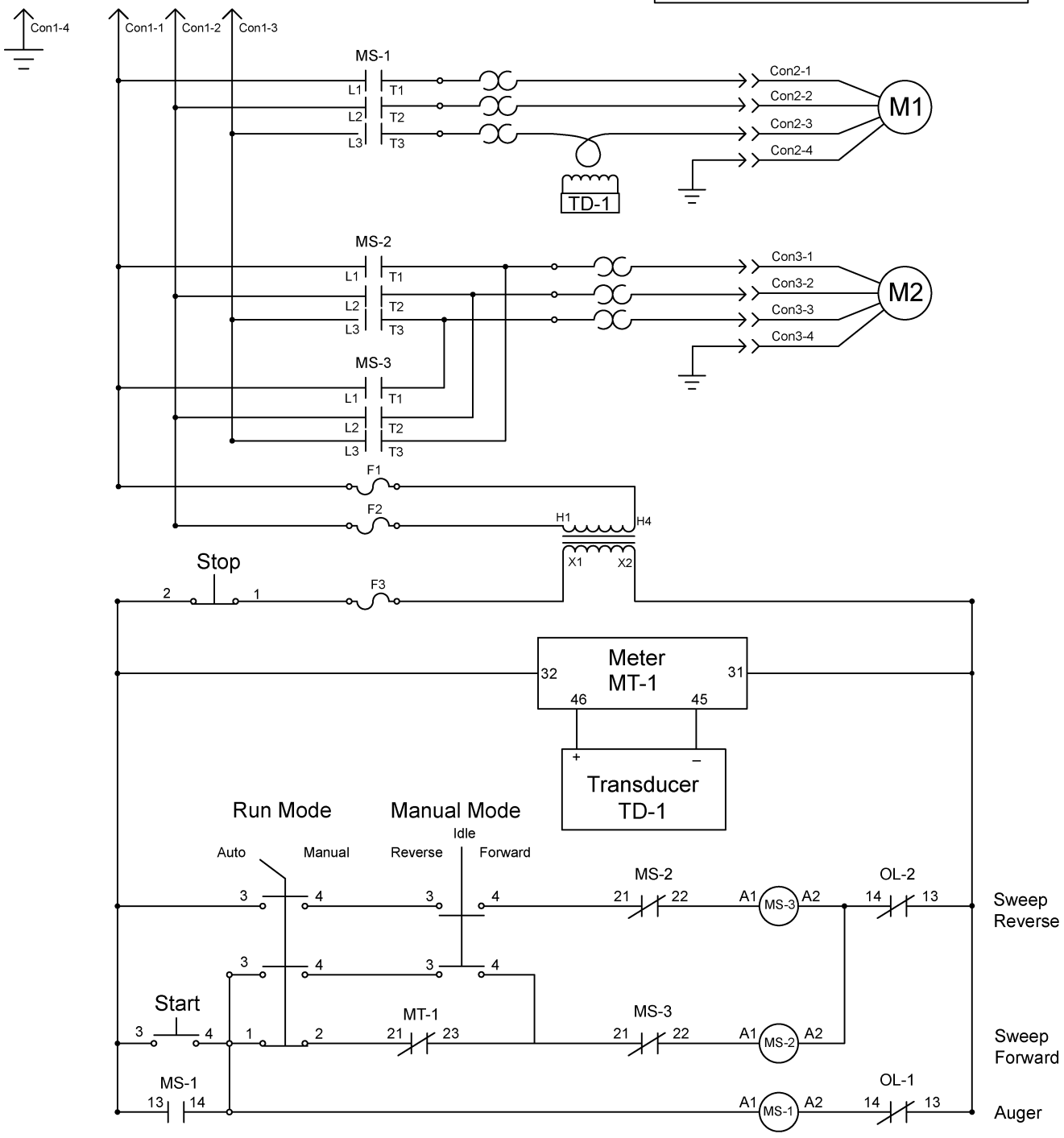
Service disconnect supplied by others.



Schematic - Control Panel GCS Sweeps 460V 3 HP (GCSTP4-03)

Type	Volts	FLA	Phase	Frequency
1, Nema 3R	480	7.6	3	60
Rev	Fuse F1 and F2		Fuse F3	
1	ATMR-1		ATMR-2	
M1 3 HP 480 VOLT FLA 4.8 AMPS				
M2 1/2 HP 480 VOLT FLA 1.1 AMPS				

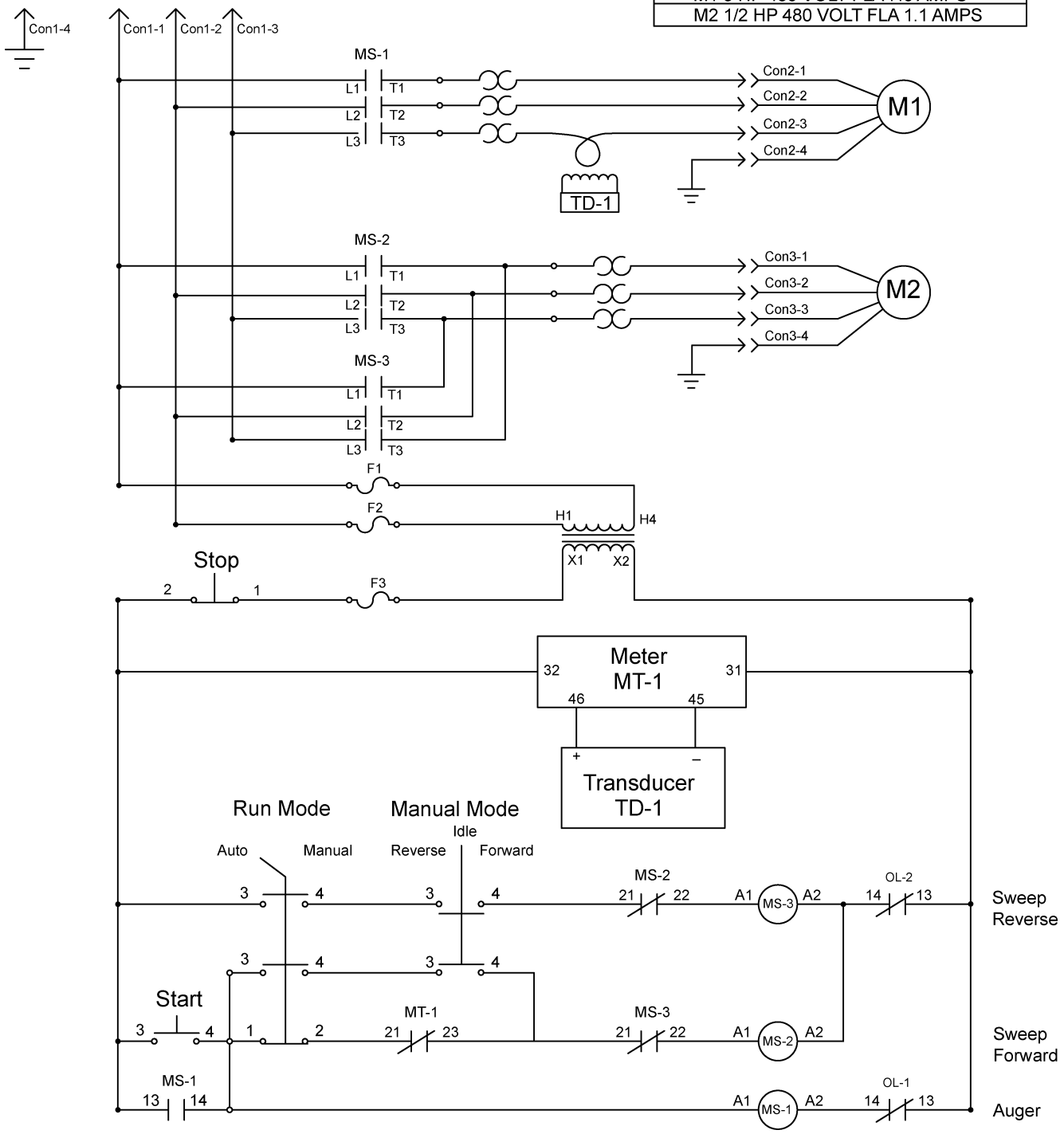
Service disconnect supplied by others.



Schematic - Control Panel GCS Sweeps 460V 5 HP (GCSTP4-05)

Type	Volts	FLA	Phase	Frequency
1, Nema 3R	480	11.1	3	60
Rev	Fuse F1 and F2		Fuse F3	
1	ATMR-1		ATMR-2	
M1 5 HP 480 VOLT FLA 7.6 AMPS				
M2 1/2 HP 480 VOLT FLA 1.1 AMPS				

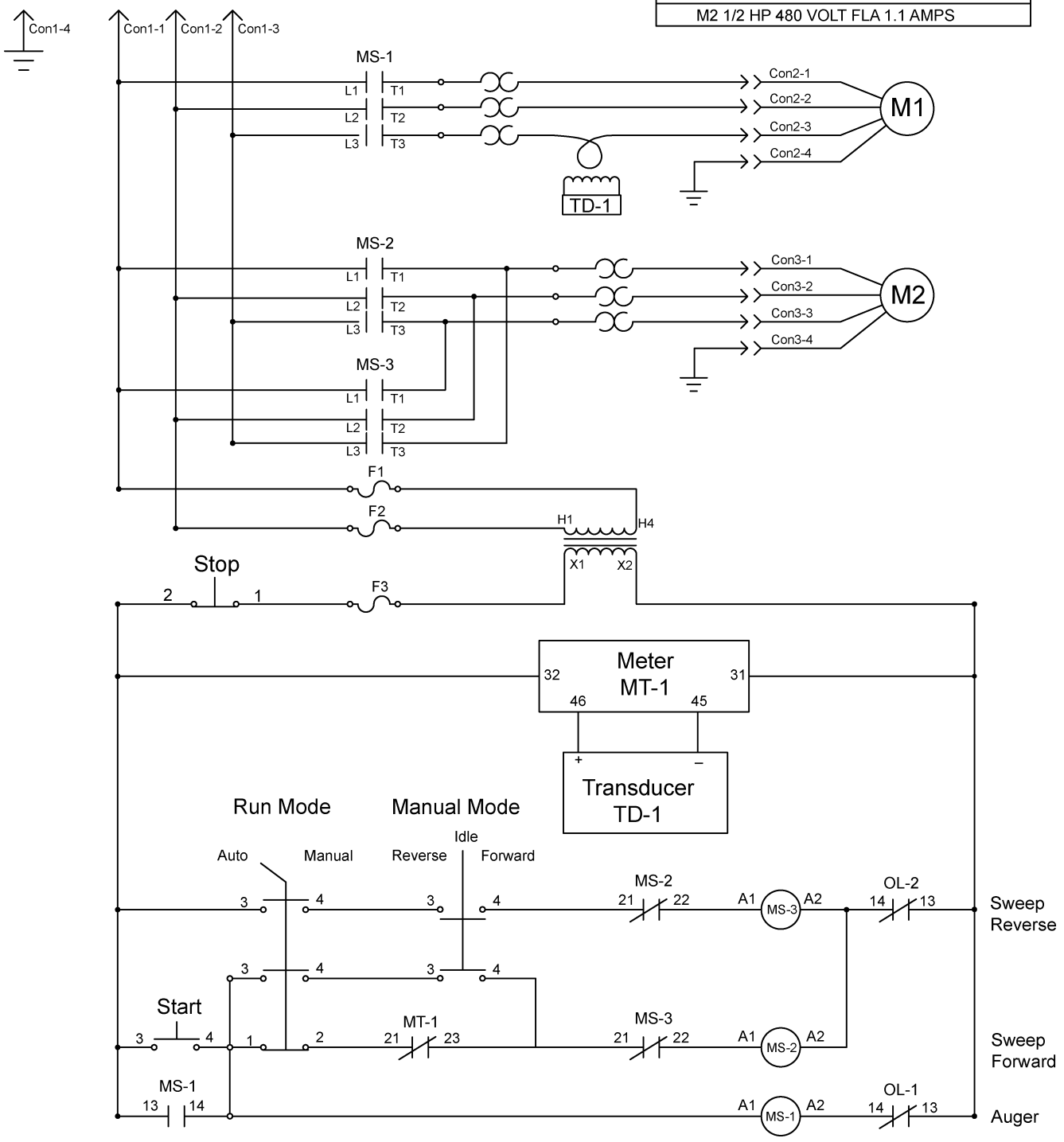
Service disconnect supplied by others.



Schematic - Control Panel GCS Sweeps 460V 7.5 HP (GCSTP4-75)

Type	Volts	FLA	Phase	Frequency
1, Nema 3R	480	15.35	3	60
Rev	Fuse F1 and F2		Fuse F3	
1	ATMR-1		ATMR-2	
M1 7.5 HP 480 VOLT FLA 11 AMPS				
M2 1/2 HP 480 VOLT FLA 1.1 AMPS				

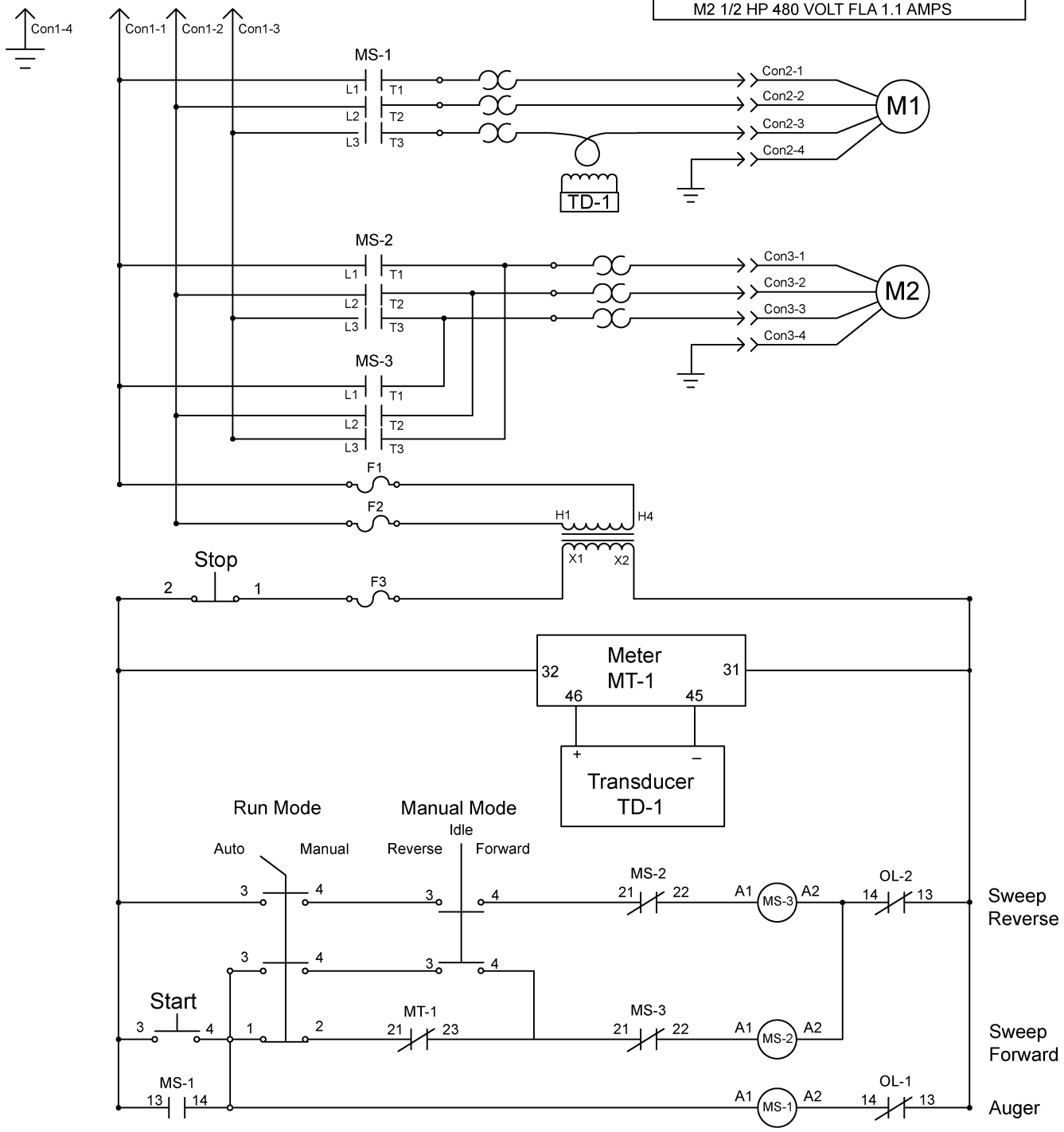
Service disconnect supplied by others.



Schematic - Control Panel GCS Sweeps 460V 10 HP (GCSTP4-10)

Type	Volts	FLA	Phase	Frequency
1, Nema 3R	480	19.1	3	60
Rev	Fuse F1 and F2		Fuse F3	
1	ATMR-1/2		ATMR-2	
M1 10 HP 480 VOLT FLA 14 AMPS				
M2 1/2 HP 480 VOLT FLA 1.1 AMPS				

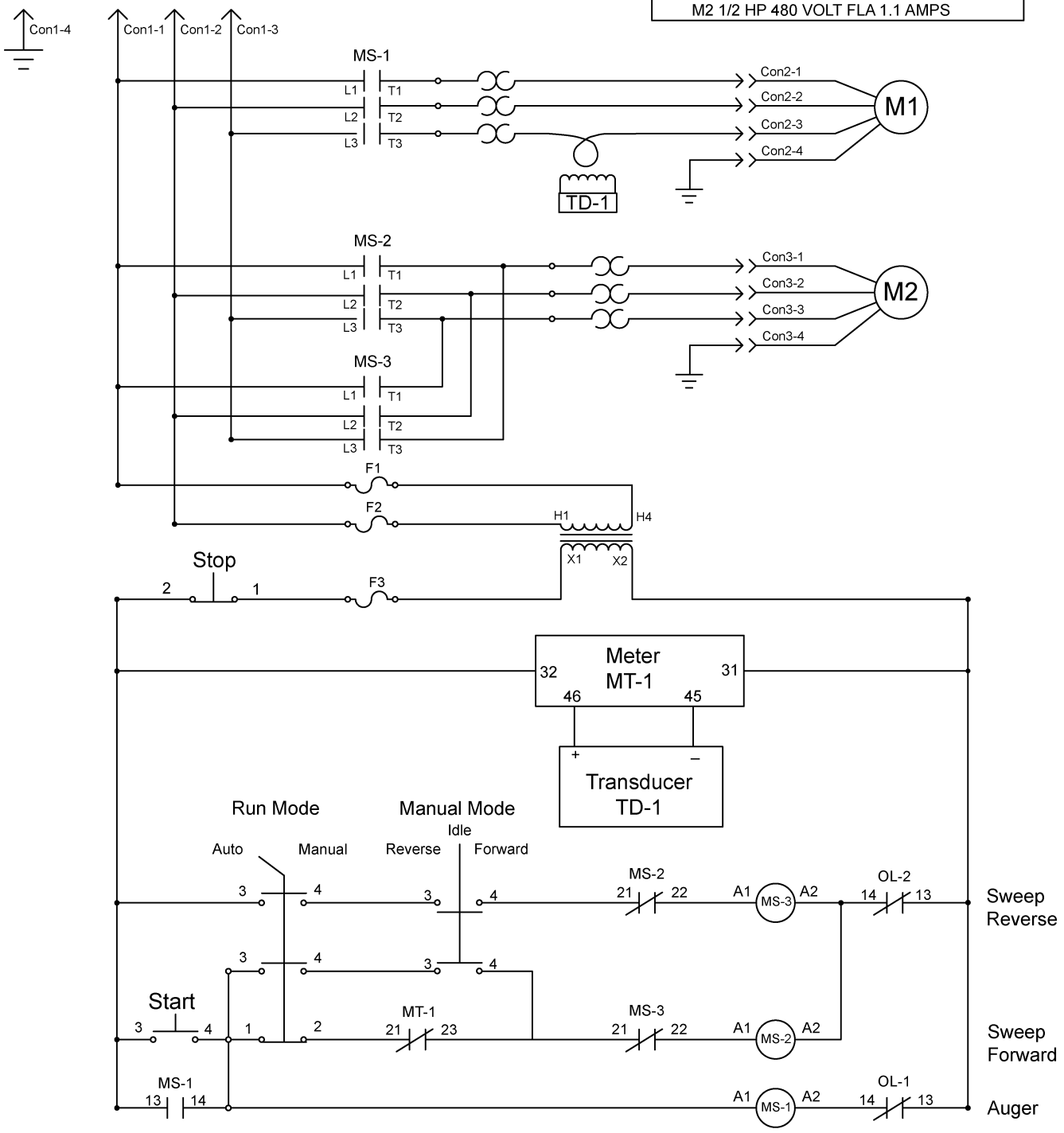
Service disconnect supplied by others.



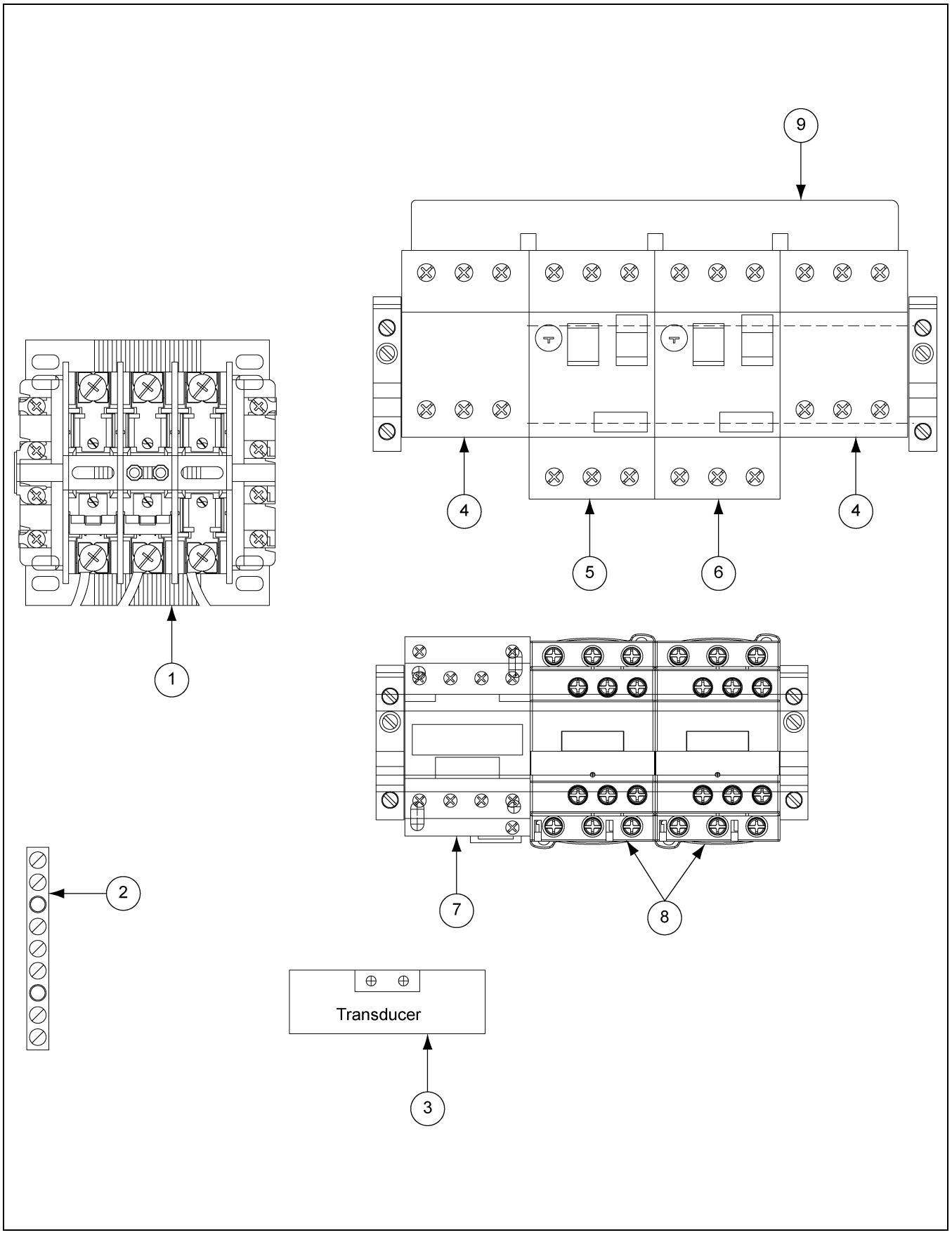
Schematic - Control Panel GCS Sweeps 460V 15 HP (GCSTP4-15)

Type	Volts	FLA	Phase	Frequency
1, Nema 3R	480	27.85	3	60
Rev	Fuse F1 and F2		Fuse F3	
1	ATMR-1		ATMR-2	
M1 15 HP 480 VOLT FLA 21 AMPS				
M2 1/2 HP 480 VOLT FLA 1.1 AMPS				

Service disconnect supplied by others.



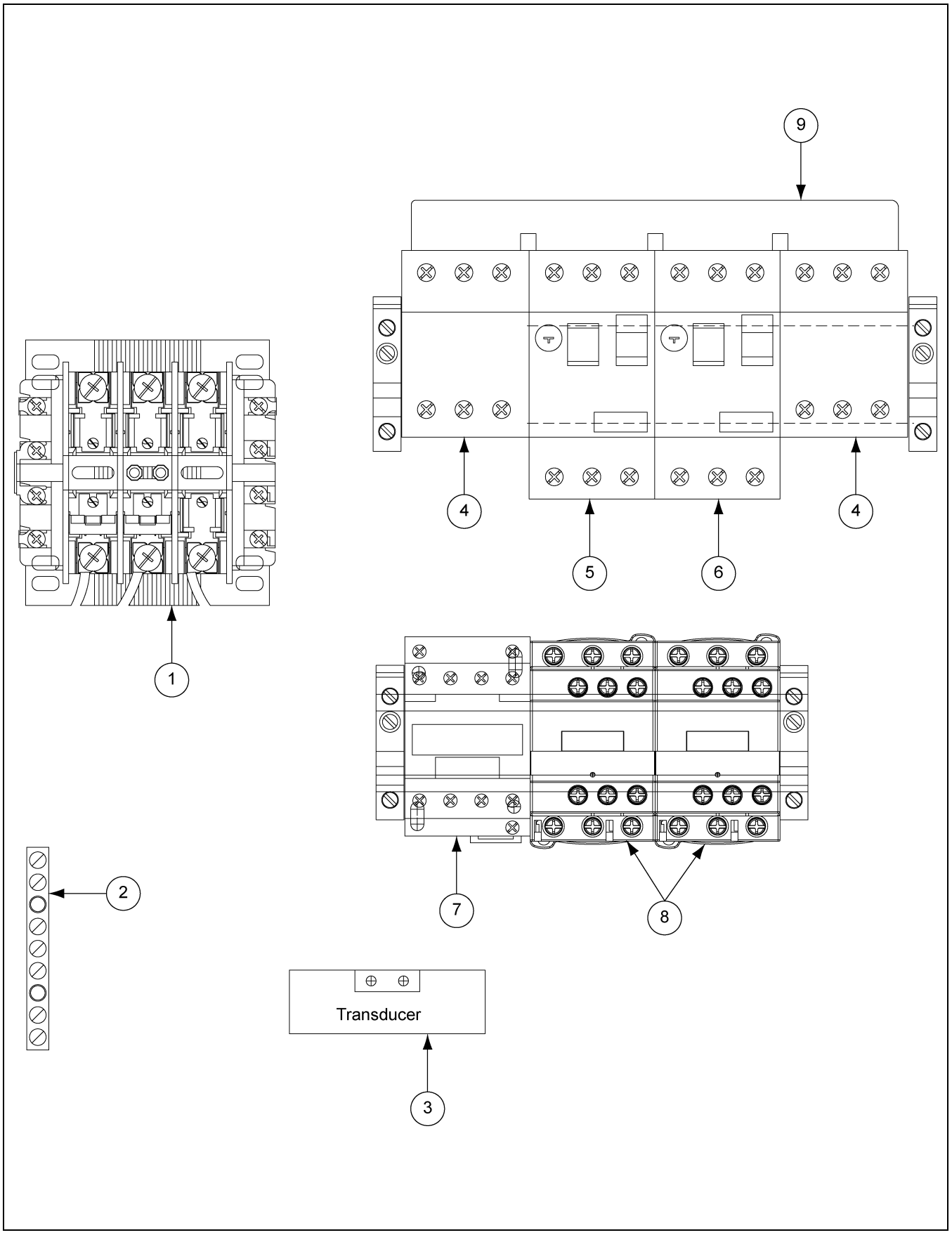
Standard Control Panel Assembly 230V 3 Phase



Standard Control Panel Assembly 230V 3 Phase Parts List

Ref #	Part #	Description	Qty			
			GCSTP2-03	GCSTP2-05	GCSTP2-75	GCSTP2-10
			3 HP	5 HP	7.5 HP	10 HP
1	C-8711	Transformer	1	1	1	1
2	GC20176	Ground Bar Kit	1	1	1	1
3	AS-0736	Current Transducer	1	1	1	1
4	GC20170	Manual Starter Terminal Block	2	2	2	2
5	GC20184	Auger Motor Starter and Protector	1	1	1	1
6	GC20186	Auger Motor Starter and Protector	1	-	-	-
6	GC20187	Auger Motor Starter and Protector	-	1	-	-
6	GC20188	Auger Motor Starter and Protector	-	-	1	-
6	GC20189	Auger Motor Starter and Protector	-	-	-	1
7	056-1942-4	Auger Relay	1	-	-	-
7	056-1949-9	Auger Relay	-	1	-	-
7	056-1969-7	Auger Relay	-	-	1	-
7	056-1941-6	Auger Relay	-	-	-	1
8	GC20168	Reverse Contactor	1	1	1	1
9	GC20169	Starter Cable Busbar	1	1	1	1

Standard Control Panel Assembly 460V 3 Phase

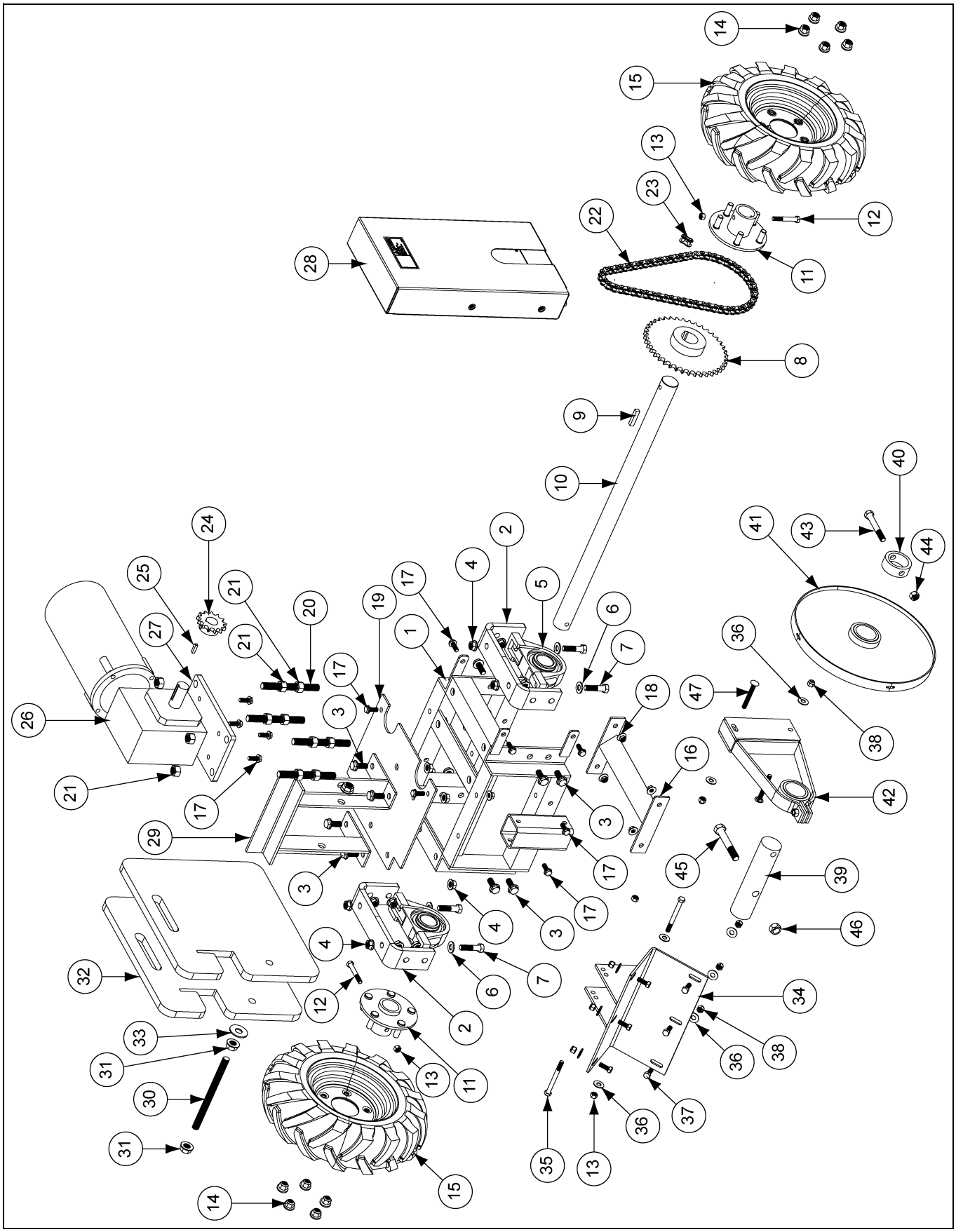


Standard Control Panel Assembly 460V 3 Phase Parts List

Ref #	Part #	Description	Qty				
			GCSTP4-03	GCSTP4-05	GCSTP4-75	GCSTP4-10	GCSTP4-15
			3 HP	5 HP	7.5 HP	10 HP	15 HP
1	C-8711	Transformer	1	1	1	1	1
2	GC20176	Ground Bar Kit	1	1	1	1	1
3	AS-0736	Current Transducer	1	1	1	1	1
4	GC20170	Manual Starter Terminal Block	2	2	2	2	2
5	GC20185	Motor Starter and Protector	1	1	1	1	1
6	GC20190	Auger Motor Starter and Protector	1	-	-	-	-
6	D03-0964	Auger Motor Starter and Protector	-	1	-	-	-
6	GC20186	Auger Motor Starter and Protector	-	-	1	-	-
6	GC20187	Auger Motor Starter and Protector	-	-	-	1	-
6	GC20188	Auger Motor Starter and Protector	-	-	-	-	1
7	056-1948-1	Auger Relay	1	1	-	-	-
7	056-1942-4	Auger Relay	-	-	1	-	-
7	056-1969-7	Auger Relay	-	-	-	1	1
8	GC20168	Reverse Contactor	1	1	1	1	1
9	GC20169	Starter Cable Busbar	1	1	1	1	1

NOTES

Sweep Tractor Parts

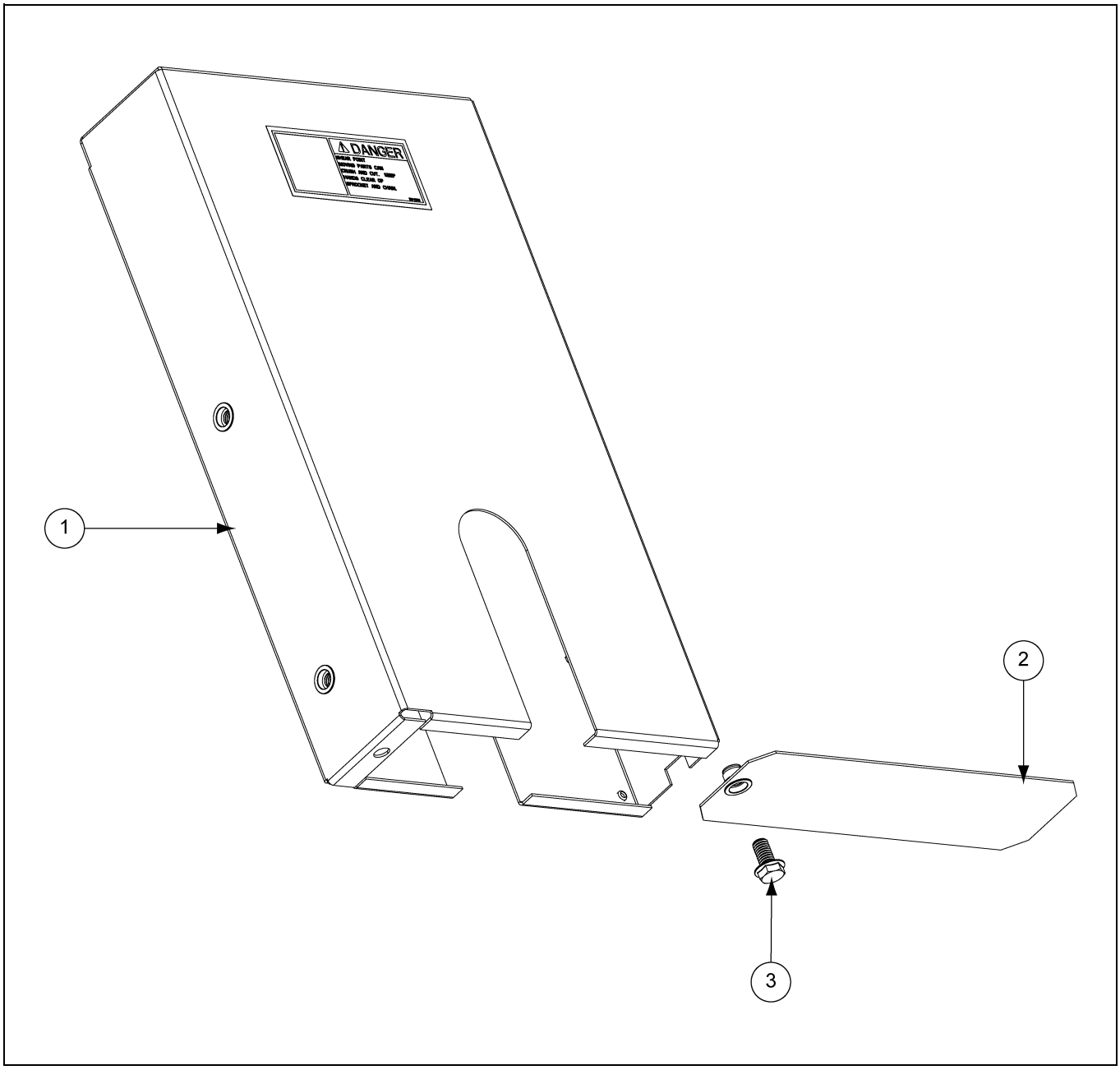


Sweep Tractor Parts List

Ref #	Part #	Description
1	GK7714	Tractor Frame
2	GK7716	Bearing Mounting Bracket
3	S-9062	1/2"-13 x 1-1/4" Flange Bolt Zinc Grade 5
4	S-8506	1/2"-13 Serrated Flange Nut Zinc
5	017-1486-4	Bearing: 1-5/8" Bore Pillow Block
6	S-2120	1/2" Flat Washer SAE Zinc
7	S-7811	1/2"-13 x 2" HHCS Bolt Zinc Grade 5
8	GK7724	Sprocket, #50, 40 Tooth, 1-5/8" Bore, Type B
9	S-9179	3/8" Square x 1-3/4" Key
10	GK7715	Tractor Axle
11	GK7718	Wheel Hub
12	S-6762	3/8"-16 x 2-1/2" Hex Bolt Zinc Grade 5
13	S-8251	3/8"-16 Stover Nut Zinc Grade C
14	S-8133	Hex Nut 1/2"-20 ZN
15	GK7748	Tire and Wheel: 4.80-8 5-Lug, Foam Filled
16	GK80116	Strut Bracket
17	S-9065	3/8"-16 x 1" Flange Bolt Zinc Grade 5
18	S-968	3/8"-16 Wide Serrated Flange Nut Zinc Grade 5
19	GK80115	Weight Support Plate
20	GC03552	5/8"-11 x 6" Threaded Rod
21	S-4110	5/8"-11 Hex Nut Zinc Grade 5
22	GK7883	Roller Chain, #50, 61 Pitch
23	D32-0015	Roller Chain Connecting Link, #50
24	GK4978	Sprocket, #50, 13 Tooth, 1-1/8" Bore, Type B
25	S-9168	1/4" Square x 1" Key
26	GK4985	Drive Motor Assembly - 1 PH, 60 Hz, 115/230V, TEFC
	GK7828	Drive Motor Assembly - 1 PH, 60 Hz, 115V/208V-230V, XPFC
	GK5481	Drive Motor Assembly - 3 PH, 60 Hz, 230V/460V, TEFC
	GK6387	Drive Motor Assembly - 3 PH, 60 Hz, 208V-230V/460V, XPFC
	GK7720	Drive Motor Assembly - 3 PH, 60 Hz, 575V, XPFC
	GK6827	Drive Motor Assembly - 3 PH, 50 Hz, 220V/380V/460V, TEFC
27	GK7719	Drive Assembly Plate
28	GK80029	Chain Guard Assembly
29	GK80117	Weight Bracket

Ref #	Part #	Description
30	GK7725	5/8"-11 x 8-1/2" Threaded Rod
31	S-9259	5/8"-11 Serrated Flange Nut Zinc
32	GK7717	Tractor Weight - 50 Lbs.
33	S-858	5/8" Flat Washer USS Zinc
34	GK80172	Shield Bracket - GCS6-8
	GK80173	Shield Bracket - GCS8-10
	GK4975	Shield Bracket - GCS10-12 and GCS12-14
35	S-8989	3/8"-16 x 3-3/4" HHCS Bolt Zinc Grade 5
36	S-248	3/8" Flat Washer YDP
37	S-7469	3/8"-16 x 1" HHCS Bolt Zinc Grade 5
38	S-7383	3/8"-16 Nylock Nut Zinc Grade 5
39	GK80165	Stub Shaft - GCS6-8
	GK80166	Stub Shaft - GCS8-10
	GK4952	Stub Shaft - GCS10-12 and GCS12-14
40	GK80163	Stub Collar - GCS6-8
	GK80164	Stub Collar - GCS8-10
	GK4951	Stub Collar - GCS10-12 and GCS12-14
41	GK80161	End Wheel with Bearing - GCS6-8
	GK80162	End Wheel with Bearing - GCS8-10
	GK6457	End Wheel with Bearing - GCS10-12
	GK4954	End Wheel with Bearing - GCS12-14
42	GK2107	Bearing Stand Assembly - GCS6-8
	GK1954	Bearing Stand Assembly - GCS8-10
	GK2047	Bearing Stand Assembly - GCS10-12
	GK80084	Bearing Stand Assembly - GCS12-14
43	S-8314	1/2"-13 x 3-1/2" HHCS Bolt YDP Grade 8
	S-7372	Bolt, HHCS 7/16"-14 x 2-1/2" ZN Grade 8 - GCS6
44	S-8315	1/2"-13 Prevailing Torque Lock Nut Zinc Grade C
	S-8317	Stover Nut 7/16"-14 ZN Grade C - GCS6
45	S-7893	5/8"-11 x 4" HHCS Bolt YDP Grade 8
	S-8316	Bolt, HHCS 7/16"-14 x 3 ZN YDP Grade 8 - GCS6
46	S-8606	5/8"-11 Stover Nut Zinc Grade C
	S-8317	Stover Nut 7/16"-14 ZN Grade C - GCS6
47	S-8055	3/8"-16 x 3" Carriage Bolt Zinc Grade 5

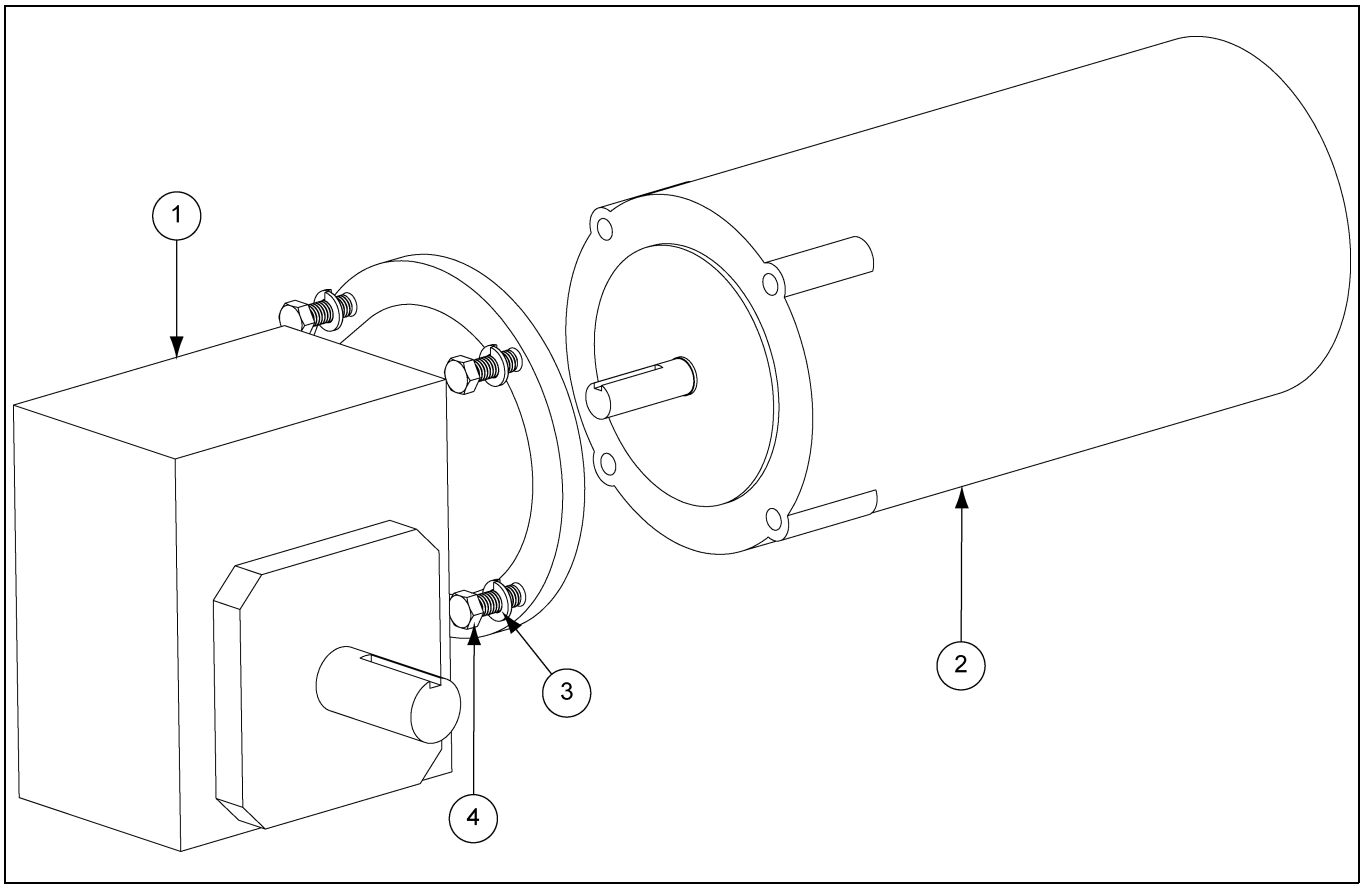
Chain Guard Assembly



Chain Guard Assembly Parts List

Ref #	Part #	Description
1	GK7712	Chain Guard Top Assembly
2	GK7713	Chain Guard Bottom Assembly
3	S-9067	3/8"-16 x 3/4" Flange Bolt Zinc Grade 5

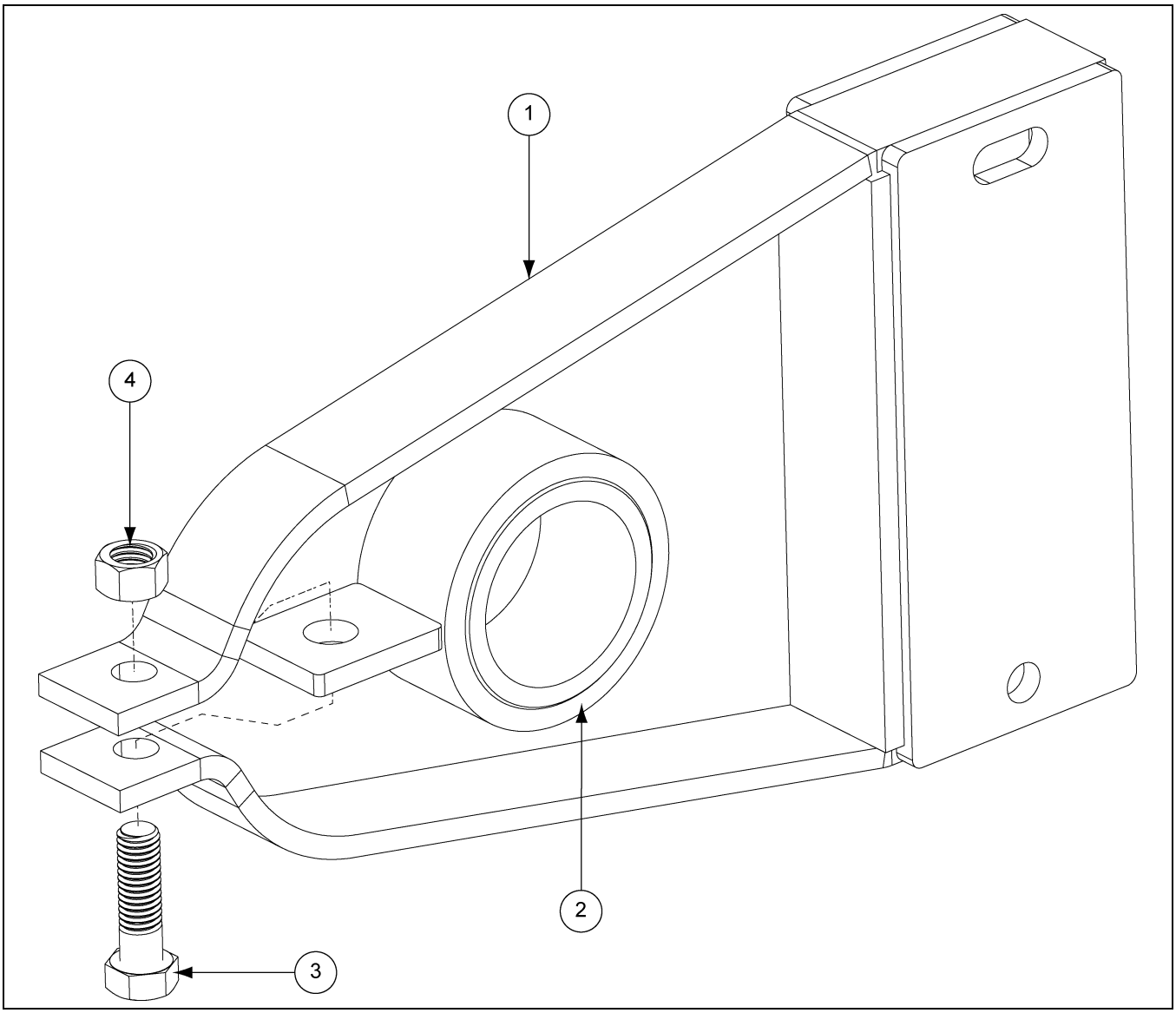
Drive Motor Assembly



Drive Motor Assembly Parts List

Ref #	Part #	Description
1	GK4987	Worm Gear Reducer, 60:1, 56C, LO, S23
2	CFDL3504M	Motor - 1/2 HP, 1 PH, 60 Hz, 1725 RPM, 115/230V, TEFC, 56C
2	FLX-4021-1PH	Motor - 1/2 HP, 1 PH, 60 Hz, 1725 RPM, 115/208-230V, XPFC, 56C
2	FLX-3547	Motor - 1/2 HP, 3 PH, 60 Hz, 1725 RPM, 230/460V, TEFC, 56C
2	FLX-4021	Motor - 1/2 HP, 3 PH, 60 Hz, 1725 RPM, 208-230/460V, XPFC, 56C
2	012-3E-575XP	Motor - 1/2 HP, 3 PH, 60 Hz, 1725 RPM, 575V, XPFC, 56C
2	002-1408-0	Motor - 1/2 HP, 3 PH, 50 Hz, 1725 RPM, 220/380/460V, TEFC, 56C
3	S-1054	3/8" Split Lock Washer Zinc
4	S-7469	3/8"-16 x 1" HHCS Bolt Zinc Grade 5

Bearing Stand Assembly



Bearing Stand Assembly Parts List

Ref #	Part #	Description
1	GK1626	Bearing Stand - GCS8
1	GK1679	Bearing Stand - GCS10
1	GK2049	Bearing Stand - GCS12
1	GK2172	Bearing Stand - GCS14
2	GK1680	Bearing Stand Bearing Assembly - GCS8
2	GK1955	Bearing Stand Bearing Assembly - GCS10
2	GK2050	Bearing Stand Bearing Assembly - GCS12
2	GK2163	Bearing Stand Bearing Assembly - GCS14
3	S-7837	7/16"-14 x 1-1/2" HHCS Bolt Zinc Grade 5
4	S-8317	Stover Nut 7/16"-14 ZN Grade C

GSI Group, LLC Limited Warranty

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

Warranty Extensions:

The Limited Warranty period is extended for the following products:

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

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

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

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

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

Conditions and Limitations:

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

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

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

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

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

9101239_1_CR_rev7.DOC (revised July 2009)

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.

GSI GROUP

GSI

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Printed in the USA

CN-309029